

Plant species selection for wetland creation and enhancement areas:

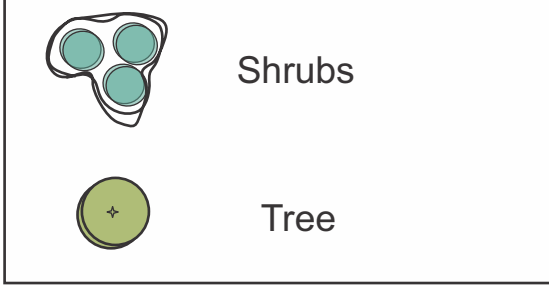
20 Arrowwood - *Viburnum dentatum* (VD)
12 Shadblow - *Amelanchier canadensis* (AC)
19 Redosier dogwood - *Cornus sericea* (CS)
25 Witchhazel - *Hamamelis virginiana* (HV)
28 Spicebush - *Lindera benzoin* (LB)

26 Red Maple - *Acer rubrum* (Aru)
7 Red Oak - *Quercus rubrum* (Qru)
3 Pin Oak - *Quercus palustris* (Qpa)
3 Sweetgum - *Liquidambar styraciflua* (Lst)
6 Sweet Birch - *Betula lenta* (Ble)
3 Black Cherry - *Prunus serotina* (Pse)

Shadblow will be planted in a 5 gallon container, all other shrubs will be planted in a 3 gallon container

Trees will be 2" to 2 1/2" in diameter

Seed mix - ERNST ERNMX-122 FACW Wetland Meadow
Mix or equivalent - applied at 20 lbs/acre



 = Limit of Disturbance
 = Wetland Buffer Disturbance = 32,150 sq ft
 = Wetland Disturbance = 440 sq ft
 = Wetland Mitigation Area = 61,529

Invasive Species Removal Area

Deer fencing will be placed around plantings to prevent deer browsing

Mitigation area = 23,821 sq ft

Wetland Disturbance = 440 sq ft
Mitigation area = 37,708 sq ft

Invasive Species Monitoring and Control Program

Japanese barberry, japanese stilt grass, garlic mustard, and multiflora rose are all noted as present within and adjacent to the wetlands on the project site. These invasive species favor areas of disturbed soils and edge areas. This plan will implement an invasive species monitoring and manual control program for the duration of construction and development of the project. It has been designed to carry over into the needed maintenance plans that will need to be developed and implemented by the Project Owner.

Those areas of the site that are closest to the existing wetlands and watercourses have been disturbed and re-graded over the years. These are the portions of the site that are known to support invasive species which are altering the character of the wetlands and adjacent areas and representing a long term risk to the native vegetative community.

By controlling exotic vegetation and reducing deer populations due to increased human activity on the site, nearby native plants will have less competition and therefore have more resources available for their own growth. An invasive species monitoring and control program will be implemented at the project site as part of the overall development plan. Species targeted from removal include the following:

Multiflora rose (*Rosa multiflora*)
Japanese barberry (*Berberis thunbergii*)
Japanese stiltgrass (*Microstegium vimineum*)
Garlic mustard (*Alliaria petiolate*)

The above listed species and all other invasive non-native plants that are detrimental to the ecology of the project site will be removed during site development to the extent practicable. The goal of this program is to reduce the presence of exotic/invasive species to a threshold of less than ten percent total cover within the areas shown on the Wetland Restoration and Buffer Enhancement Plan (the "Plan"). A qualified biologist/botanist will supervise the removal of invasive species. Invasive species can be removed in several ways, depending on the location and species of the plant.

1. If a shrub is isolated and does not have its root system entwined with other plants, it may be removed mechanically. As much of the root system as possible should be removed to prevent the possibility of the invasive plant sprouting from the root pieces left behind
2. If a shrub is growing amongst other native plants in a way that uprooting it may disturb surrounding native plants warranting preservation, the plant may be most safely and effectively removed by chemical means. To remove by chemical means, the plant shall first be cut back to a few stubs and stumps, about twelve inches from the base. An EPA approved solution of glyphosate (Round-up or equivalent) shall be painted on the ends of the stumps. This technique shall be applied in the early fall months before the onset of plant dormancy. Proper notification must be made prior to the application of all restricted pesticides, and application made by a licensed applicator, if required. During project construction, glyphosate will only be applied by a licensed herbicide applicator, as coordinated with the Environmental Site Monitor. Only hand-cutting and removal will be allowed within the Wetland Controlled Area.
3. Highly invasive groundcovers, such as Japanese honeysuckle, are difficult to eliminate due to their habit of rooting along the stem. Groundcovers of this type will be removed by hand or mechanically. If after the second year of treatment the species persists, it may be sprayed with glyphosate, using a very close and targeted application during the active growing season. If the plant is growing among other herbaceous or shrub material that would be harmed by spraying, the glyphosate shall be applied by brush or mechanical removal should be considered. Repeated treatments may be necessary to remove the plant completely.
4. Highly invasive annuals, such as garlic mustard, are difficult to eliminate due to their growth from seed that is widespread among the soil seed bank where the plants are found. Several methods may be utilized in removing this type of invasive plants. If the species is growing densely without other plants, the area will be sprayed with glyphosate during the active growing season, following the manufacturer's recommendations. Species will also be removed by hand. Both methods should be performed before plants set seed. Both methods shall be performed multiple times over a season and possibly over several seasons to completely eradicate the target species.

Monitoring and Maintenance Schedule

Following development of the site, a maintenance plan will include the regular inspection of undisturbed areas as shown on the Plan, and removal of these species as necessary. This represents the transitional areas that are most susceptible to opportunistic settling of invasive species. It is anticipated that a schedule of inspections three times a year for the first three years following full project build out (early, mid and late growing season) will be adequate for the identification and removal of the invasive species in this area.

All activities related to invasive species control, monitoring and assessment of achievement of the 10 percent tolerance threshold for coverage by all invasive species on the project site will be coordinated with the Environmental Site Monitor. These inspections will include the mapping and identification of locations and extent of cover of invasive species, and identify the methods to be used for the subsequent removal. Following treatment, a brief report outlining extent, location and removal method for each species shall be prepared and filed with the Town.

NOTE:

1. THIS IS NOT A SURVEY. ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY LINK LAND SURVEYOR, P.C., DATED 01/11/25. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

F:\2025\22-01 MJM SUBDIVISION, GOMER ST. JOHN GERRARD, ALUM SUBD 3032 GOMER STOWING\22-01 MJM SITE PLAN.DWG, 1/16/2025 2:19:52 PM

Plant choices for the wetland buffer enhancement were made according to existing site conditions and locally common species.

All planting will proceed by hand. Materials will be brought to the site in good condition (see below) and then placed in central drop locations. The materials will then be hand-carried to their planting locations and in turn, planted by hand. Only rounded, shallow planting shovels will be used in this effort.

Criteria for selecting plant material will include (1) the plant's ability to withstand the expected light and saturation conditions; (2) its demonstrated survival on this site and other nearby sites; (3) the plant must be native and non-invasive; and (4) whether the plant material is available at nurseries in the same region as the site. See Table 1 for complete plant species list. Seed mix was chosen based on the species' ability to survive in moist areas adjacent to the road with some sun.

Planting will be done in spring or early summer (between April 1 and July 1). Shrubs may also be planted in the late summer to early fall (September 1 to October 30). In all cases, a hole will be dug twice as deep as the root ball. The only shovels allowed are rounded, shallow spades. The hole will then be backfilled with a thin layer (two to four inches) of rich, organic topsoil, the plant placed inside, the hole backfilled to the top and then gently tamped down.

Container-grown plant material delivered to the job site will be inspected to assure moist soil/root masses. Any dry and light weight plants will not be accepted. If not planted immediately the container will be stored out of the sun and wind and kept moist (i.e., a means of watering will be provided and watering will occur daily). When removed from the containers, the plants will be the size of the specified container. If in leaf, the plants will appear healthy with no spots, leaf damage, discoloration, insects or fungus. If not in leaf, the buds will be firm and free of damage, discoloration, insects or fungus. Containers will be a minimum of quart size for shrubs and gallon size for trees.

Plants not having an abundance of well developed terminal buds on the leaders and branches will be rejected. The stems and branches of all plants will be turgid and the cambium healthy or the plants rejected.

Seeding within wetland areas should not be completed when there is more than two inches of standing water, or in areas that are likely to be flooded. Seeds should be broadcast by hand or knapsack seeder using the proper seeding rate (13 pounds per acre), and carefully proportioning seed for the entire area. Cover with a light layer of straw following seeding.

Plan Notes

1. Prior to commencement of site work, silt fence is to be placed at limit of disturbance.
2. Spread straw and seed area of buffer enhancement with Pinelands Riparian Buffer Mix or equivalent. Companion seed with annual ryegrass as per grower's recommendations.
3. Shrubs will be planted within the proposed buffer enhancement area as specified on the plan and the table.
4. A deer fence will be placed around plantings to prevent deer browsing.

Mitigation Plantings Maintenance and Monitoring

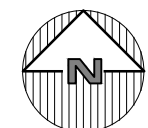
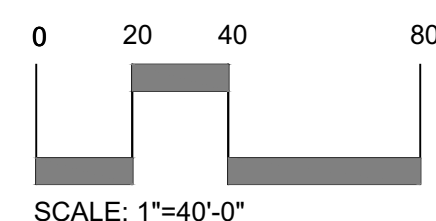
At least one pre-construction meeting will occur between the chosen grading and/or planting contractor/subcontractor and the site environmental systems planner prior to beginning construction on site. The construction monitor will have experience in wetland construction and a Bachelors of Science degree in Natural and/or Physical Resources.

Monitoring and maintenance efforts for the mitigation plantings will take place over a five year period following construction. This will include bi-weekly visits for the first growing season, and then twice a year for the next two years, with additional inspections as required depending on conditions. The applicant's environmental monitor will conduct a survey of the site and site conditions will be noted and adjusted as necessary.

Plantings will meet or exceed an 85 percent survival rate by the end of the second growing season. If this goal is not met, the site will be re-evaluated, and re-grading and/or replanting will be completed as necessary.



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NYS Lic. No. 64431

Revisions:
No. Date Description
1. 1/17/2025 Submission to Planning Board

SCALE: 1" = 40'
DRAWN BY: AKM
DATE: 02/28/25

SITE PLAN
PREPARED FOR:
MJM LAND
DEVELOPMENT CORP.

Westchester County, NY
3222 Gomer Street
Town of Yorktown

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