

BOARD APPROVED

Case No: 2008-0422

Date: 01-18-2010

W/Conditions: X

W/Out Conditions:

VILLAGE OF ORLAND PARK

Reporting

The developer will provide the Village with notification 24-hours prior to the start of planting installation.

Following substantial completion, the developer will submit documentation that natural area landscape revegetation has been completed. Nursery packing lists indicating the species and quantities of materials installed will accompany this notice.

The annual report will include a location map, a summary of annual monitoring observations, a description of management performed during the year, a tabular summary of annual progress relative to acceptance standards, representative photographs, and a list of recommendations for management during the upcoming year.

Naturalized Landscape Acceptance Criteria

Within three months of seed installation (or three months after the start of growing season following dormant seeding), at least 90 percent of the seeded area, as measured by aerial cover, will be vegetated or otherwise stabilized against erosion.

Naturalized landscapes shall have no more than 0.25 square-meter devoid of vegetation, as measured by aerial coverage.

Seeded areas shall have no rills or gullies greater than four inches wide by four inches deep, and basin shorelines shall not have more than six inches of cut as a result of erosion.

Areas seeded to turfgrass or low-maintenance turf shall have 95 percent ground cover.

Emergent areas shall have minimum 35 percent ground cover (average 50 percent) and other wetland and prairie areas shall have a minimum 35 percent ground cover (average 60 percent) by perennial species in the approved plant list and/or native species with native coefficient of conservation (C-) value of at least 2 (per Swink and Wilhelm 1994 or more current version).

Naturalized landscapes shall have a minimum 30 percent presence by perennial species seeded or planted for the permanent matrix and/or native species with C- value of at least 2 (per Swink and Wilhelm 1994 or more current version).

Installed woody materials shall be alive, in healthy condition, and representative of the species.

No more than 25 percent cover in any specific plant community (e.g., emergent zone, prairie slope zone) shall be individually or collectively dominated by non-native or weedy species.

None of the three-most dominant species may be non-native or weedy, including but not limited to Canada Thistle (Cirsium arvense), Common Reed (Phragmites australis), Red Canarygrass (Phalaris arundinacea), Sweetclover (Melilotus spp.), Kentucky Bluegrass (Poa pratensis), Purple Loosestrife (Lythrum salicaria), Barnyard Grass (Echinochloa crus-galli) or Sandbar Willow (Salix interior) unless otherwise indicated on the approved planting plan.

Cottails (Typha spp.) do not count towards the 25 percent weed criterion provided they represent no more than 20 percent cover.

All 100 percent of the woody plantings installed within natural areas shall be alive, healthy, and representative of the species.

A long-term Operation and Management (O&M) plan will be submitted for Village review and approval as a condition of landscape performance acceptance.

Responsible Parties

The permittee will be responsible for ensuring vegetation establishment is progressing and for funding and implementing the three-year (minimum) "near-term" management and maintenance plan for establishing a naturalized landscape associated with the proposed project. The permittee may elect to contract management and maintenance services to a third party to ensure proper implementation.

Following Village verification that the site has achieved the landscape acceptance criteria, management of the naturalized landscape in the long-term will be performed by the Village of Orland Park.

Monitoring Methodology

Monitoring shall be performed for a minimum of three years after planting is substantially complete, and until acceptance standards are met, as verified by the Village of Orland Park.

Annual vegetation monitoring will occur in August, September, or early October.

Meander survey methodology will involve taking five to 10 representative site photographs (total) and a review of at least 20 percent of each vegetative community to identify the following:

- the limits of all vegetation areas by general community type and dominant species within each planting zone (e.g., wetland and prairie zones),
- all plant species (native and non-native) in each planting zone,
- the five most dominant species within each planting zone,
- the percent survival of planted species,
- the approximate percent ground cover by perennial species (with C- value of 2 or higher) within each planting zone,
- erosion and sedimentation problems,
- water level or drainage problems,
- areas of bare soil larger than 0.25 square-meter, and
- observations on specific management strategies necessary to achieve acceptance requirements.

Near-Term Management

Undesirable Plant Control - Various means of weed control will be employed, as appropriate, and may include mechanical control, chemical control, and/or biological control.

- Mechanical Control:** Mechanical control of nuisance plant species typically includes cutting, mowing and/or digging up individual plants by hand. In many cases, cutting or mowing a plant before its seeds mature will minimize further spread. For general mowing of weeds of vegetation, mowers should be set to a height of 12+ inches above the ground surface or to a height that treats weedy species yet minimizes impacts on desirable plants.
- Chemical Control:** For aggressive weeds, an appropriate herbicide will be applied. Because of the potential for damage to native plant communities, the use of preventative herbicides will be limited to problem areas and problem species for which manual control is ineffective. Aquatic herbicides will not be used to treat algal blooms. Herbicide use will be in strict compliance with all application rates, procedures, warning labels and applicable codes, standards and best management practices.
- Biological Control:** An alternative to chemical treatment, use of biological controls for Purple Loosestrife will be considered provided site conditions are appropriate to support and maintain the insect population.

Wildlife Management

- Pesticides will not be used broadly or routinely at the mitigation site other than for mosquito abatement (should that be necessary). Pesticides will be used only for specific and localized problem areas as determined by a Village-approved landscape restoration specialist with experience in installation and development of native plant communities, should such areas occur. Standard application procedures and precautions for chemical application in wetland areas will be followed.
- Control of nuisance species such as geese and ducks may be performed if monitoring indicates such species are responsible for poor plant establishment and performance. The method will be determined by a Village-approved landscape restoration specialist.

Debris Management - Debris (e.g., paper, plastic, metal, concrete, etc.) will be removed from the developed area every other month between March and November. Debris will be disposed of at an appropriate off-site trash receptacle or hauled to an approved dumpsite.

Fertilizer Application - Turf management chemicals will not be used within areas of naturalized plantings unless specifically prescribed by and per the direction of a Village-approved landscape restoration specialist. If used, special care will be taken to not apply fertilizers when inclement weather is forecast.

Near-Term Management Schedule

The following provides a general schedule of management and maintenance tasks for installation and establishment of naturalized landscapes. The actual schedule and tasks performed in any given year may differ based on specific recommendations from a Village-approved landscape restoration specialist.

Year 1 Management Actions

- Mowing to a height of 6 to 8 inches may be performed when vegetation reaches a height of 12 inches. (Note: Weekly mowing at turf lawn height will NOT be performed.) If clippings shade the ground or smother the remaining plants, they will be bagged for off-site disposal or otherwise dispersed. The last mow will be timed so that vegetation can grow to a height of 8 to 10 inches before winter.
- Weeding will avoid damaging the native plantings and be timed to prevent development of weed seeds. For aggressive biennial and perennial weeds, herbicide will be selectively applied (e.g., wick application, not spraying). Turf management chemicals will not be used on native plantings except as directed by a Village-approved landscape restoration specialist.
- Debris and litter (e.g., paper, plastic, metal, concrete, grass clippings, brush, etc.) will be removed every other month between 1 March to 31 October to prevent floating materials from clogging the outlet. Debris will be disposed of at an appropriate off-site trash receptacle.
- Other potential responsibilities may include, but are not limited to, access restriction enforcement, insect/pest control, erosion repairs, and wildlife management (e.g., control of carp, muskrats, geese, etc. as needed). The need for other management actions will be determined on a quarterly basis when performing general maintenance visits for dam embankments and control structures.

Year 2 Management Actions

- Seeded areas will be mowed close to the ground as possible in early spring and the cuttings raked or bagged. If annual weeds remain a problem, an additional mow will be performed during mid- to late June, with the mow height set to 12 inches.
- Weed management will emphasize control of biennial and perennial weeds. Biennial weeds targeted for control include Sweetclovers (Melilotus spp.), Queen Anne's Lace (Daucus carota), and Tansy (Tanacetum spp.). Proper weed control may require multiple treatments and will be performed at times that will provide maximum treatment effectiveness.
- Other management practices will include debris and litter removal, access restriction enforcement, and erosion control and repairs (as needed). Additional management tasks may include insect/pest control, reseeding/replanting in targeted areas, wildlife management as determined on a quarterly basis when performing general maintenance visits for dam embankments and control structures.
- If there is sufficient fuel, a prescribed burn may be attempted at the end of the second growing season, provided proper permits from the Illinois Environmental Protection Agency are obtained and notice is provided to the Village and local authorities.

Year 3 Management Actions

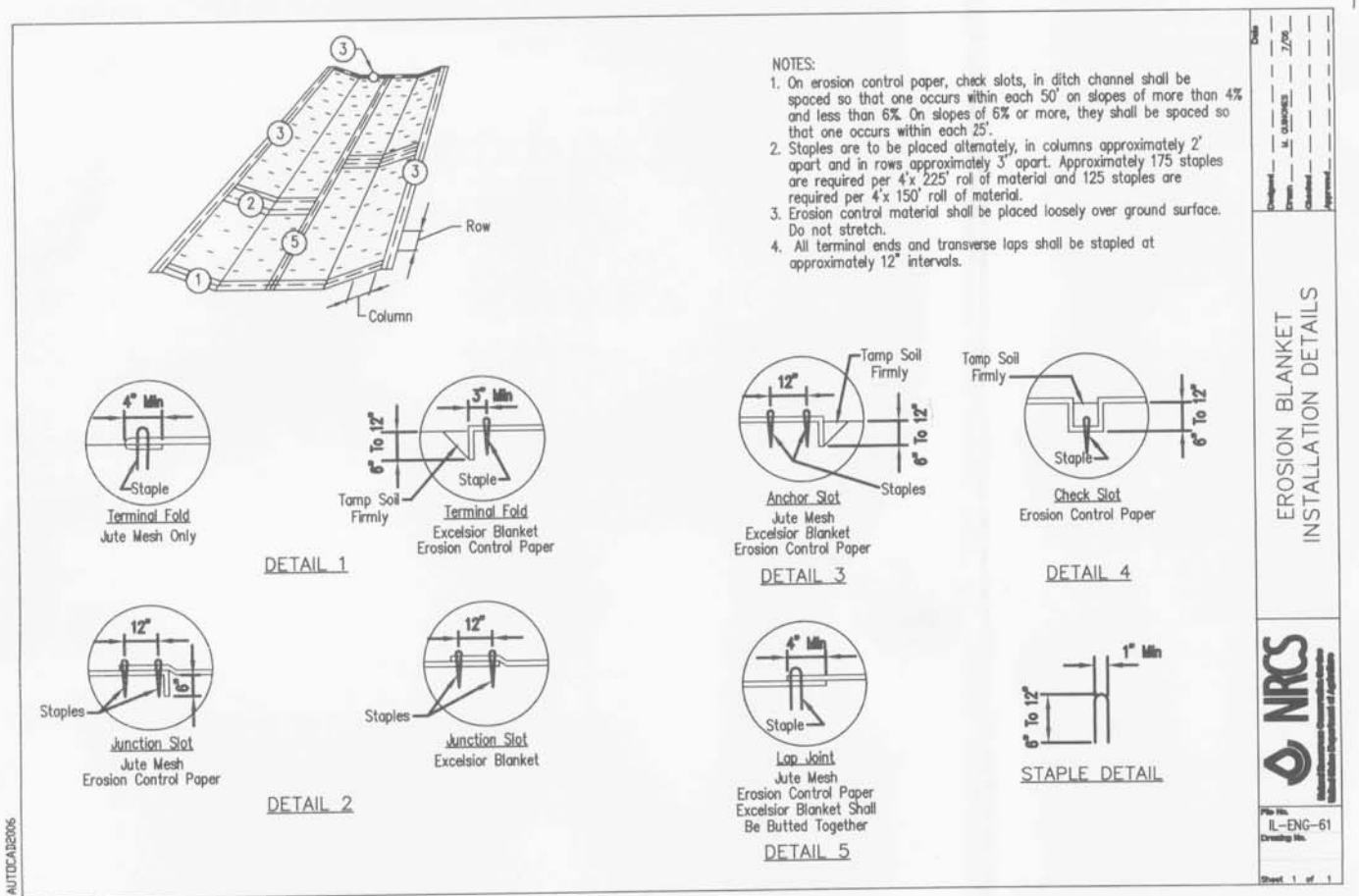
- Typical management beginning in the third growing season involves the use of prescribed fire in combination with mechanical and chemical methods for controlling aggressive biennial and perennial weeds.
- Prescribed burns for naturalized landscapes require a permit from the Illinois Environmental Protection Agency and are typically conducted between mid-October and April as weather and site conditions permit. A permit will be obtained from the Illinois Environmental Protection Agency prior to conducting a prescribed burn. The Village and local authorities will be contacted prior to conducting a prescribed burn. If prescribed burning is not practical, mowing in late fall or very early spring will be substituted for burning. The burn-replacement mow will occur at a height of two inches, with cut material bagged for off-site disposal.
- Management of aggressive weeds will continue. Other management practices will include debris and litter removal, access restriction enforcement, and erosion control and repairs (as needed). Additional management tasks may include insect/pest control, reseeding/replanting in targeted areas, wildlife management as determined on a quarterly basis when performing general maintenance visits for dam embankments and control structures.

Planting Times

The following provides an optimum guideline for Time of Year for Plantings

Spring: May 1 - June 1
Fall: October 15 - November 15

Erosion Control Blanket shall be placed (with or without seed) at other times in order to protect the side slopes of the detention basin until plantings are established. Per Village of Orland Park Ordinance.



REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
13	11-24-09	PER LORI VIEROW, PLANNING RESOURCES			
4	11-04-09	Per Village Review (PRI) 10.30.09			
3	09-29-09				
2	5-28-09	Per Village Review 5-21-09			
1	4-20-09	PER VILLAGE REVIEW 4-03-09			

NATIVE LANDSCAPE AREAS
MONITORING AND MAINTENANCE PROGRAM

RETAIL DEVELOPMENT
NEC 159th STREET AND WOLF ROAD
ORLAND PARK, ILLINOIS

Craig R. Knoche & Associates

Civil Engineers, P.C.

24 N. Bennett Street • Geneva, IL 60134 • phone (630) 845-1270 • fax (630) 845-1275

Civil Engineers

Surveyors

Land Planners

DATE: 3-04-09

FILE: 4041-c40

JOB NO: 4-041

C4.2

SHEET NO.

Illinois Design Firm License No. 184.003763