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Falcon Heights Planning Commission

City Hall
2077 W Larpenteur Ave.
7:00 p.m.

AGENDA
May 22, 2012

**Due to a lack of formal action items, this meeting is canceled.
There will be a workshop.**

WORKSHOP AGENDA

7:00 p.m.

This workshop is open to the public.

1. Workshop: Proposed updates to off-street parking ordinance

In June the Commission will consider amendments updating portions of the off-street parking ordinance to help meet the City's storm water management goals. This workshop will provide background information to Commissioners in preparation for next month.

2. Workshop: Special events ordinance

The City has been approached by three business owners interested in occasional "special events" not covered by City Code. The Planning Commission will continue to study the issue in preparation for future action.

3. Workshop: Prairie grass ordinance

The Environment Commission recommended an ordinance defining and allowing certain kinds of natural landscaping not well addressed in the city code. The Council has referred the matter to the Planning Commission for consideration of neighborhood impact and implications for the comprehensive plan. Commissioners will receive background information and prepare for discussion at a future Commission meeting.

If you have a disability and need accommodation in order to attend this meeting, please notify City Hall 48 hours in advance between the hours of 8:00 a.m. and 4:30 p.m. at 651-792-7600. We will be happy to help.



The City That Soars!

REQUEST FOR PLANNING COMMISSION ACTION

Meeting Date	May 22, 2012
Agenda Item	Workshop
Title	Orientation on potential parking requirement changes related to storm water management
Submitted By	Deborah Jones, Staff Liaison

Description	The Commission will receive information from staff on recommended updates to the City's off-street parking ordinances designed to improve management of storm water run-off.
Background	<p>As part of the City's ongoing efforts to promote best practices in the reduction of storm water run-off and the improvement of water quality, staff recommends amending Sections 113-314 and 113-315 of the City Code to reduce the amount of impervious surface required for parking and to allow alternative designs for parking lot margins. These measures are encouraged by the Metropolitan Council.</p> <p>The proposed changes are a reduction in parking space size from 9' x 20' to 9' x 18' and a reduction in minimum required width of parking lot aisles to 24 feet, dimensions in line with today's standards and the recommendations of the Metropolitan Council. The amendment would also allow alternate curbing and pavement edge designs to direct runoff water to filtration basins and rain gardens at the discretion of the zoning administrator and city engineer.</p>
Budget Impact	Unknown
Attachment(s)	<ul style="list-style-type: none"> • Portions of Falcon Heights City Code, Sections 113-314 and 113-315 • Parking Lot Design BMP - Metropolitan Council • Parking Stalls and Driveway Design Guidelines - City of Menlo Park, CA • Parking Lot Design (excerpt) - publication of Asphalt Paving Association of Iowa
Action(s) Requested	<ul style="list-style-type: none"> • None at this time. The purpose of this workshop is to provide information and background in preparation for a public hearing and Commission action in June. The ordinance amendment draft will be provided prior to the hearing.

Subdivision II. - Off-Street Parking

...

Sec. 113-314. - Miscellaneous provisions.

...

(c) *Parking spaces.*

- (1) Each parking space shall not be less than nine feet wide and 20 feet in length exclusive of an adequately designed system of access drives. Smaller spaces for parking to be used only by compact cars may be permitted if approved by the city council.
- (2) Parking lots that separate vehicles based on size may be designed with parking spaces less than or greater than nine feet wide and 20 feet in length depending upon the size of the vehicle as long as adequate space is provided for easy and safe ingress and egress for the vehicle.
- (3) Proposed reductions in or additions to the parking space size must be submitted in a dimensioned site plan with the sizes of the vehicles to use parking spaces indicated to the zoning administrator for review and approval.
- (4) Signs specifying the vehicle size to use the parking space may be required by the zoning administrator.
- (5) Parking spaces for the handicapped shall not be less than 12 feet wide and 20 feet in length.

...

(Code 1993, § 9-13.04(5); Ord. No. 0-91-10, § 1, 6-19-1991; Ord. No. 0-96-01, § 4, 2-28-1996)

Sec. 113-315. - Design and maintenance of off-street parking areas.

...

(b) *Calculating space.* When the calculation of the number of off-street parking spaces required results in a fraction, such fraction shall require a full space.

...

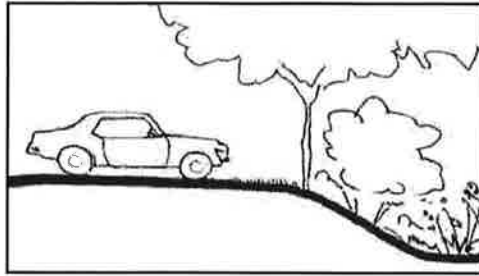
(f) *Curbing and landscaping.* All open off-street parking area designed to have head-in parking along the property line shall provide a bumper curb not less than five feet from the side property line or a guard of normal bumper height no less than three feet from the side property line. When said area is for six spaces or more, a curb or screening not over four feet in height shall be erected along the front yard setback line and grass or planting shall occupy the space between the sidewalk and curb or screening. Wheel guards as approved by the zoning administrator may be utilized.

...

(k) *Determination of areas.* The parking space per vehicle shall not be less than 350 square feet of parking and maneuvering area or an area equal to the width of the parking space multiplied by the length of the parking space plus 15 feet.

...

Impervious Surface Reduction Parking Lot Design



Description

Two main strategies can help reduce runoff volume or provide water quality benefits in parking lots: reducing paved surface area and incorporating plants and infiltration swales into designs.

Reduced Paved Surface

Pavement reduction can be accomplished in three main ways:

- *Changing municipal codes to reduce parking requirements.* To avoid excessive paving, codes should set a minimum *and* maximum number of spaces a development can provide. Parking demand ratios should be based on site-specific parking generation studies.
- *Reducing stall dimensions.* This can be accomplished by creating dedicated compact car spaces and then offering spillover parking areas with pervious surfaces. Determine the most space-efficient design for the site, which may be angle parking (to reduce driving lane width) or conventional stalls.
- *Promoting shared parking lots.* Allow shared lots between businesses with peak parking demand at different times of the day or week. For example, a restaurant that requires parking primarily evenings and weekends could share parking with an office building with weekday parking needs.

Planting Strategies.

Vegetation is an effective and attractive way to reduce runoff, and smaller parking lots free up more space for landscaping.

Leaves, stems and branches intercept rainwater, which then evaporates. A significant amount of stormwater can evaporate from beds of tall grasses, wildflowers, shrubs, and trees. Furthermore, deep-rooted prairie plants create channels that help encourage infiltration (see Figure 1). They also hold up to a half-inch of stormwater on their leaves and in the thatch they create.

Purpose

Water Quantity

Flow attenuation	<input checked="" type="checkbox"/>
Runoff volume reduction	<input checked="" type="checkbox"/>

Water Quality

Pollution prevention	
Soil erosion	<input type="checkbox"/>
Sediment control	<input checked="" type="checkbox"/>
Nutrient loading	<input checked="" type="checkbox"/>
Pollutant removal (<i>only if runoff is directed into planted swales</i>)	
Total suspended sediment (TSS)	<input checked="" type="checkbox"/>
Total phosphorus (P)	<input checked="" type="checkbox"/>
Nitrogen (N)	<input checked="" type="checkbox"/>
Heavy metals	<input checked="" type="checkbox"/>
Floatables	<input checked="" type="checkbox"/>
Oil and grease	<input checked="" type="checkbox"/>
Other	
Fecal coliform	<input type="checkbox"/>
Biochemical oxygen demand (BOD)	<input type="checkbox"/>

<input checked="" type="checkbox"/>	Primary design benefit
<input checked="" type="checkbox"/>	Secondary design benefit
<input type="checkbox"/>	Little or no design benefit

Impervious Surface Reduction Parking Lot Design

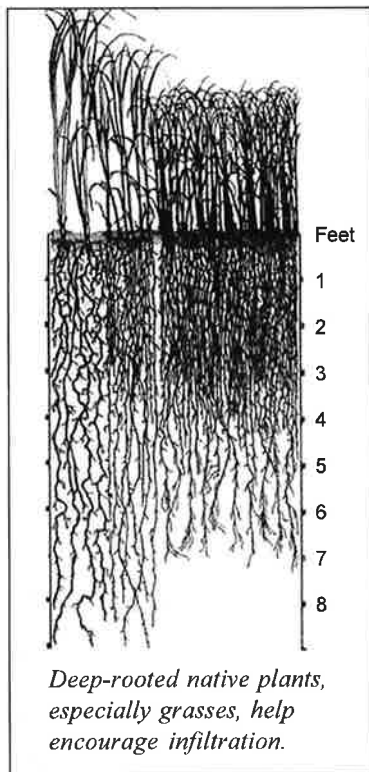


Figure 1

Shallow-rooted turf grass is not nearly so effective; substitute deep-rooted perennial plantings for sod wherever possible.

Even if extensive perennial planting is not possible, include trees to canopy paved areas. In addition to intercepting rainwater, the summer shade they provide helps to reduce the urban heat island effect and make parking lots more pleasant places to be.

Infiltration

Planted areas can also be designed specifically to accept runoff of parking areas (as shown in Figures 2, 3 and 4), providing temporary storage and on-site infiltration. See Rain Garden information in On-Lot Infiltration BMP.

Advantages

- Reducing parking surface reduces the need for stormwater runoff management.
- Less paving means lower development and maintenance costs.
- Grasses, wildflowers, shrubs and trees hold water that is then evaporated, reducing runoff.
- Channels created by deep roots encourage infiltration.
- Shade from trees helps reduce the urban heat island effect and make the area more comfortable for people.

- Planting native vegetation creates wildlife habitat.
- A variety of vegetation creates a more interesting and aesthetically pleasing environment.
- Trees shade impermeable surfaces, keeping stormwater cool and reducing urban heat island effect.

Limitations

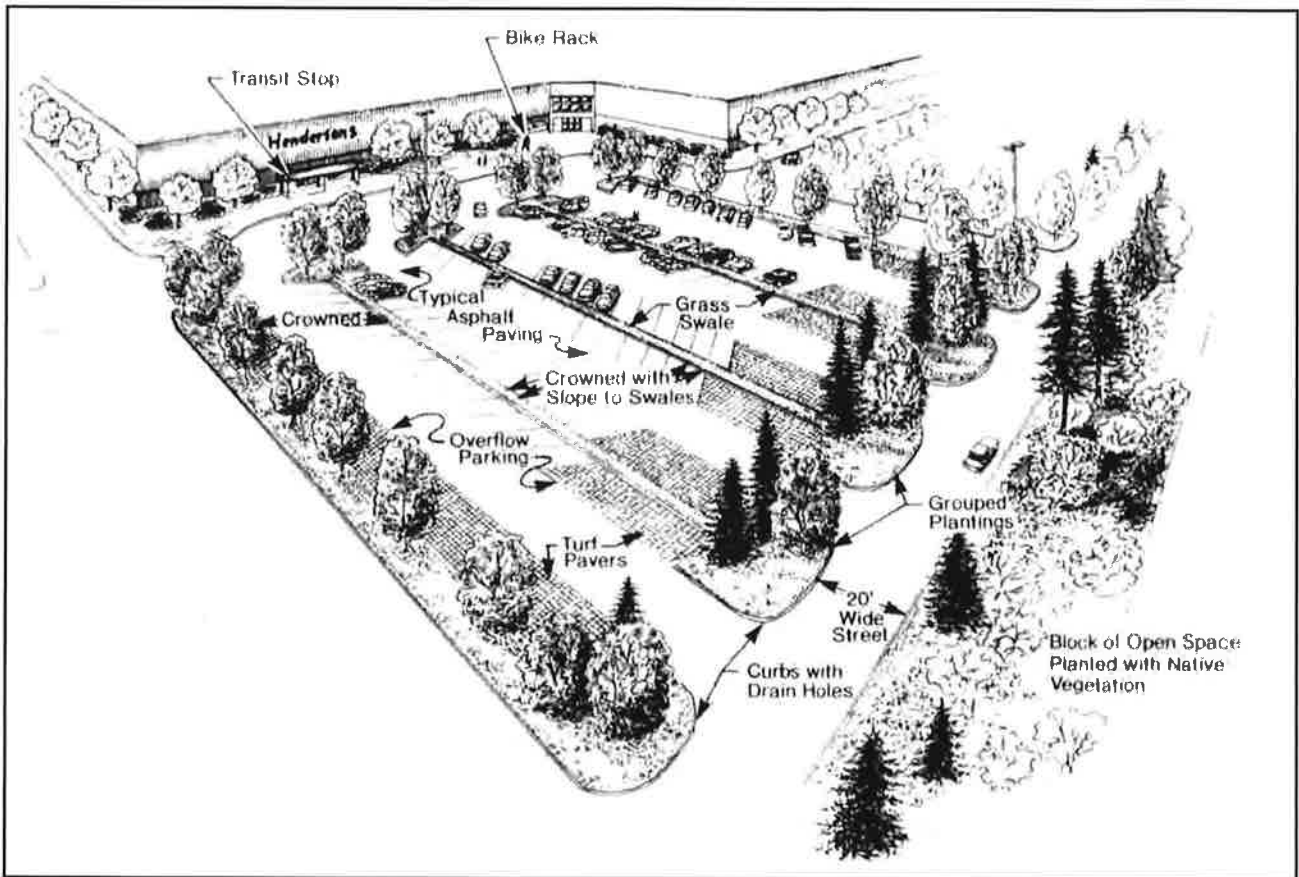
- Municipalities may have firm parking requirement that do not encourage innovation.
- Space allocated for parking lot in a given development may not be sufficient to include significant planted areas.
- Soil type may limit infiltration and/or planting success.

Land Use	"Better Site Design" Parking Ratio
Single family home	2 spaces or less per dwelling unit (driveway spaces count)
Professional offices	3.0 spaces or less per 1,000 ft. ² gross floor area
Retail	4.0 - 4.5 spaces or less per 1,000 ft. ² gross floor area

Table 1

Source: Adapted from CWP, 2000.

Impervious Surface Reduction Parking Lot Design



Source: Robert W. Droll, ASLA, in Wells 1994.

Requirements Design

- Revise outdated, overly generous parking ratio requirements. (See Table 1.)
- Use minimum stall dimensions.
- Use the most space-efficient stall configuration for the site (See Turf Pavers BMP).
- In larger commercial parking lots, design 30 percent of the spaces for compact cars only.
- Use pervious surfacing in summer spillover parking areas.
- If soils are suitable, drain parking lot runoff into infiltration islands using curb cuts or flat curbs.
- If soils are unsuitable, excavate to a depth of 3 feet and fill with a planting soil mix.
- Plant native or vigorous nonnative perennials rather than turfgrass over as much of non-paved surfaces as possible. See Plant List on following page.

Impervious Surface Reduction Parking Lot Design

- Aim to have canopy trees at maturity cover at least 50 percent of paved surfaces. Since tree height and spread will generally be smaller than normal in parking lot growing conditions, compensate by planting more trees closer together.
- Irrigation systems are usually necessary for parking lot island plantings, unless sufficient runoff is directed into them..

Requirements Construction

- To avoid compaction, do not drive on planting areas during construction.
- After construction, loosen soils in planting areas to a depth of 24 inches, to a maximum compaction of 85 percent standard proctor density. Till the upper 10 inches of soil.

Maintenance

- Planted areas must be weeded monthly during the first two to three years. After that, weeding once or twice a growing season may suffice.
- Regular watering will be necessary during dry spells. Limit irrigation to a maximum of two inches per week.
- ~~During winter plowing, push street snow away from swales whenever possible in order to avoid accumulation of road sand.~~

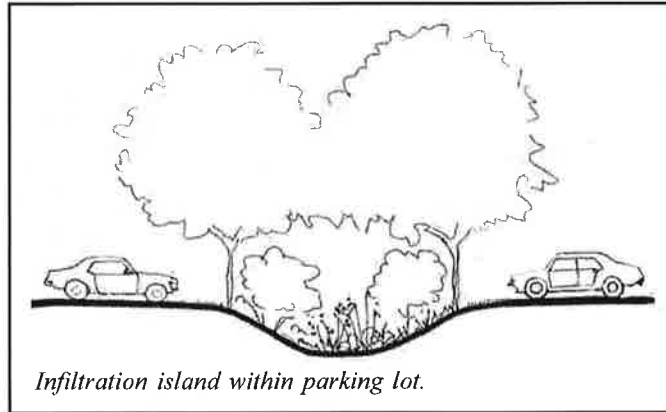


Figure 3
Source: VBWD, 2000

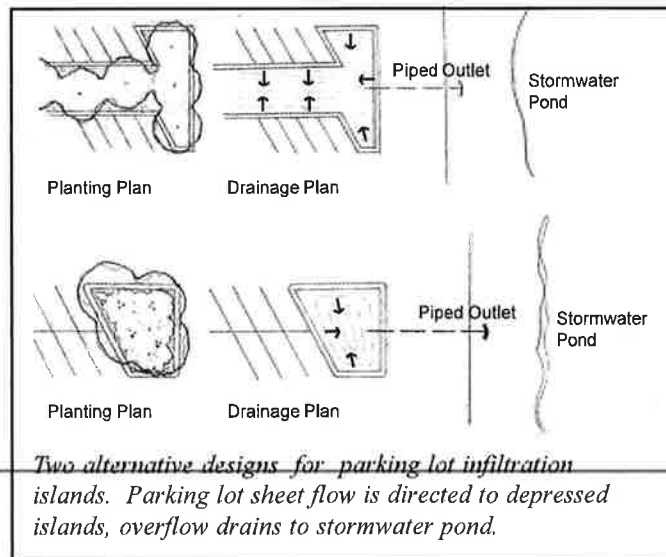


Figure 4
Source: VBWD, 2000

Impervious Surface Reduction Parking Lot Design

Rainwater Gardens Plant List

Source: Fred Rozumalski, Barr Engineering

Mesic-Dry Soils (Sunny)

Native

Butterfly Flower	<i>Asclepias tuberosa</i>
Purple Prairie Clover	<i>Dalea purpureum</i>
Purple Coneflower	<i>Echinacea purpurea</i>
Bee balm	<i>Monarda fistulosa</i>
Little Bluestem	<i>Schizachyrium scoparium</i>
Spiderwort	<i>Tradescantia bracteata</i>

Non-Native

Yarrow 'Coronation Gold'	<i>Achillea 'Coronation Gold'</i>
Feather Reed Grass 'Karl Foerster'	<i>Calamagrostis 'Karl Foerster'</i>
Daylily	<i>Hemerocallis spp.</i>
Blazingstar 'Kobold'	<i>Liatris 'Kobold'</i>
Silverfeather Grass	<i>Miscanthus sinensis</i>
Garden Phlox	<i>Phlox paniculata</i>
Black-Eyed Susan 'Goldsturm'	<i>Rudbeckia fulgida 'Goldsturm'</i>

Mesic-Dry Soils (Shady)

Native

Wild Columbine	<i>Aquilegia canadensis</i>
Wild Geranium	<i>Geranium maculatum</i>
Obedient Plant	<i>Physostegia virginiana</i>
Jacob's Ladder	<i>Polemonium reptans</i>
Solomon's Seal	<i>Polygonatum biflorum</i>
Zig Zag Goldenrod	<i>Solidago flexicaulis</i>
Canada Violet	<i>Viola canadensis</i>
Culver's Root	<i>Veronicastrum virginicum</i>

Non-Native

White Comfrey	<i>Symphytum grandiflorum</i>
Tufted Hair Grass	<i>Deschamsia caespitosa</i>
Bigroot Geranium	<i>Geranium macrorrhizum</i>
Daylily	<i>Hemerocallis spp.</i>
Hosta 'Royal Standard'	<i>Hosta 'Royal Standard'</i>
Tigerlily	<i>Lilium tigrinum</i>

Wet Soil (Sunny)

Native

Giant Hyssop	<i>Agastache foeniculum</i>
Canada Anemone	<i>Anemone canadensis</i>
Marsh Milkweed	<i>Asclepias incarnata</i>
New England Aster	<i>Aster novae-angliae</i>
Turtlehead	<i>Chelone glabra</i>
Joe-Pye Weed	<i>Eupatorium maculatum</i>
Obedient Plant	<i>Physostesia virginianum</i>
Boneset	<i>Eupatorium perfoliatum</i>
Queen of the Prairie	<i>Filpendula rubra</i>
Blueflag Iris	<i>Iris versicolor</i>
Great Blue Lobelia	<i>Lobelia siphilitica</i>
Switchgrass	<i>Panicum virgatum</i>
Mountain Mint	<i>Pycnanthemum virginianum</i>
Tall Meadow Rue	<i>Thalictrum dasycarpum</i>
Culvers Root	<i>Veronicastrum virginicum</i>
Golden Alexander	<i>Zizia aurea</i>

Non-Native

Joe-Pye 'Gateway'	<i>Eupatorium purpurescens 'Gateway'</i>
Daylily	<i>Hemerocallis spp.</i>
Siberian Iris	<i>Iris sibirica</i>
Tigerlily	<i>Lilium tigrinum</i>
Switchgrass 'Heavy Metal'	<i>Panicum virgatum 'Heavy Metal'</i>

-list continued on next page-

Impervious Surface Reduction Parking Lot Design

Plant List (continued)

Wet Soils (Shady)

Native

Cardinal Flower	<i>Lobelia cardinalis</i>
Ostrich Fern	<i>Matteuccia struthiopteris</i>
Virginia Bluebells	<i>Mertensia virginica</i>
Sensitive Fern	<i>Onoclea sensibilis</i>

Non-Native

Pink Turtlehead	<i>Chelone layonii</i>
Daylily	<i>Hemerocalis spp.</i>
Obedient Plant	<i>Physostegia virginiana</i>

Shrubs (Sunny)

Black Chokeberry	<i>Aronia melanocarpa</i>
Red-Osier Dogwood	<i>Cornus sericia</i>
Low Bush Honeysuckle	<i>Diervilla Ionicera</i>
Annabelle Hydrangea	<i>Hydrangea arborescens</i> 'Annabelle'
Pussy Willow	<i>Salix discolor</i>
High Bush Cranberry	<i>Viburnum trilobum</i>

Shrubs (Shady)

Black Chokeberry	<i>Aronia melanocarpa 'alata'</i>
Red-Osier Dogwood	<i>Cornus sericia</i>
Low Bush Honeysuckle	<i>Diervilla Ionicera</i>
Annabelle Hydrangea	<i>Hydrangea arborescens</i> 'Annabelle'

Trees (consider soils when making selections)

Autumn Blaze Maple	<i>Acer x freemanii 'Jeffersred'</i>
Black Ash	<i>Fraxinus nigra 'Fallgold'</i>
Seedless Green Ash	<i>Fraxinus pennsylvanica 'Marshall's Seedless'</i>
Swamp White Oak	<i>Quercus bicolor</i>
Kentucky Coffeetree	<i>Gymnocladus dioica</i>

Sources

1. Center for Watershed Protection. 2000. "An Introduction to Better Site Design" in *Watershed Protection Techniques*. Vol. 3, No. 2. Ellicott City, MD.
2. Center for Watershed Protection. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Ellicott City, MD.
3. Schueler, Tom. 1995. *Site Planning for Urban Stream Protection*. Center for Watershed Protection, Silver Spring, MD.
4. Valley Branch Watershed District. 2000. *Alternative Stormwater Best Management Practices Guidebook*. Lake Elmo, MN.
5. Well, Cedar. 1994. "Skinny Streets and One Sided Sidewalks: A Strategy for Not Paving Paradise" in *Watershed Protection Techniques*, Vol 1. No 3. Center for Watershed Protection. Ellicott City, MD.



PARKING STALLS AND DRIVEWAY DESIGN GUIDELINES

On March 18, 1996, the Planning Commission adopted guidelines for parking stalls and driveways. The guidelines standardize parking stall width dimensions and establish design criteria for review of driveway and parking lot circulation requests.

General Considerations

Parking Stall Dimensions:

Changes in the vehicle size have changed the parking space dimensions necessary to accommodate large cars and small cars. These vehicle changes have also reduced the aisle width requirements to access a parking stall. Large cars typically need approximately 9 feet of stall width to provide sufficient door opening width, and small cars need approximately 8 feet of stall width.

The one-size-fits-all designs are easier to execute for several reasons: 1) most drivers do not know the size of the vehicle or whether it is a large or small car; 2) most drivers take the first available space regardless of size; and 3) large cars parked in small-car spaces create problems by encroaching on adjacent spaces and possibly on the adjoining aisles.

- The Parking guidelines utilize a one-size-fits-all width of 8 feet 6 inches.

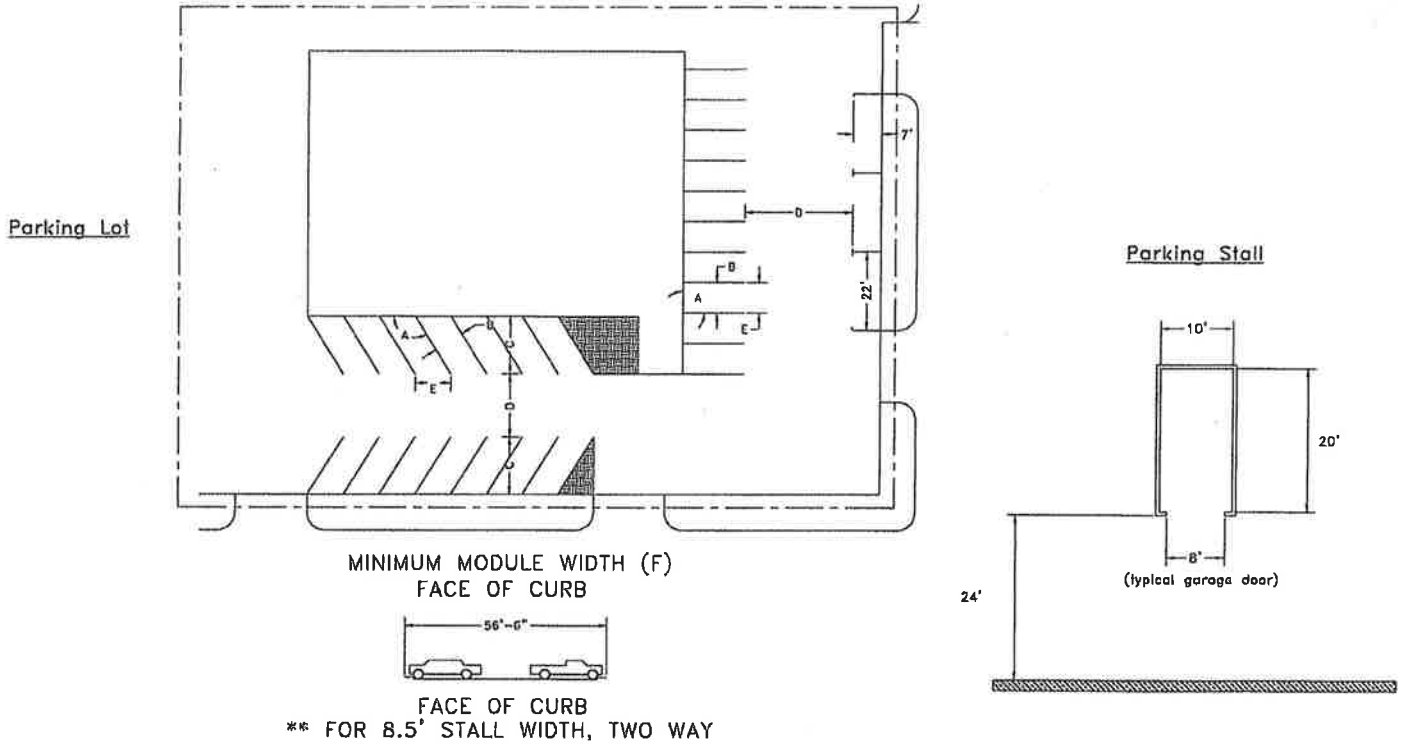
Driveway Design:

The safety and efficiency of a street depends on the amount and character of interference affecting vehicles moving along it. Significant interference is caused on most roads by vehicles entering, leaving, or crossing at intersecting streets and driveways. In order to minimize accidents and to assure best overall use of the road by the general public, it is necessary to regulate vehicle movements in and out of abutting developments and cross streets.

- The conflict effect of driveways is a function of traffic and pedestrian flow along the street and at the driveway.
- A low volume driveway causes relatively little conflict on a major street, and a high volume driveway causes little conflict on a minor route.
- In areas of high pedestrian activity, designs for low speed vehicular entry and exit may be based on radii and restricted total widths.
- Driveways should be designed for curb lane access with minimal encroachment on travel lanes.
- Design elements of each driveway (location, spacing, sight distance, throat width, radii, angles, and grades) should be based on expected volumes and vehicle characteristics.
- For right-turn entry and exit, the driveway radius should be consistent with the design vehicles sweep path requirements.
- Most driveway design elements are directly related to the layout of the parking area, amount of reservoir space, types of loading facility, circulation pattern, and building placement within the site.

Please refer to the attached *Parking Area Design Guidelines, Handicap Parking Design Guidelines, Driveway Design Guidelines, and Driveways Grade Guidelines* information sheets for specifications and detailed information.

Source: The Dimensions of Parking - Urban Land Institute
National Parking Association, 1993



Angle (Degrees) A	Width of Stall (B)	Stall 90 to Aisle (C)	Minimum Width of Aisle (D)		Width Stall, Parallel to Aisle (E)	Minimum Module Width (F)	
			One Way	Two Way		One Way	Two Way
0 (parallel)	7'-0"	22'-0"	-	-	-	-	-
45	8'-6"	16'-6"	12'-6"	20'	12'	45'-6"	53'
60	8'-6"	18'	14'-6"	20'	9'-10"	50'-6"	56'
75	8'-6"	18'	18'-6"	20'	8'-10"	54'-6"	56'
90	8'-6"	16'-6"	N/A	23'	8'-6"	N/A	56'

1. The Planning Commission reserves the right to modify the parking lot layout if, in their opinion, the layout illustrates a poor design but complies with the parking guidelines.
2. The Transportation Manager shall have the authority to alter these design guidelines if, in the opinion of the Transportation Manager, it is in the best interest of public safety.
3. Parking stalls that are adjacent to physical obstructions such as walls or utility devices must have an additional 1 foot of width for the parking stall.
4. Parking stalls in a single or two car garage should have minimum dimensions of 10' x 20' each. The back up area should be a minimum of 24' for an 8 foot garage door.

prkstd6b.dwg

Transportation Division
CITY OF MENLO PARK
PARKING AREA DESIGN GUIDELINES

APPROVED: *[Signature]*
Transportation Manager
DATE: 3/28/95

Chapter 5

Parking Lot Design

GENERAL CONSIDERATIONS

The parking lot is the first - and the last - part of a building complex to be viewed by the user. It is the gateway through which all customers, visitors, and employees pass. This first impression is very important to the overall feeling and atmosphere conveyed to the user.

Developers want their new facilities to be attractive, well designed, and functional. Though many hours are spent on producing aesthetically pleasing building designs, the same design consideration for the parking area

is often overlooked. Pavements in parking areas that are initially under-designed can experience excessive maintenance problems and a shortened service life.

When properly designed and constructed, parking areas can be an attractive part of the facility that is also safe, and most important, usable to the maximum degree. In addition, parking areas should be designed for low maintenance costs and easy modification for changes in use patterns.

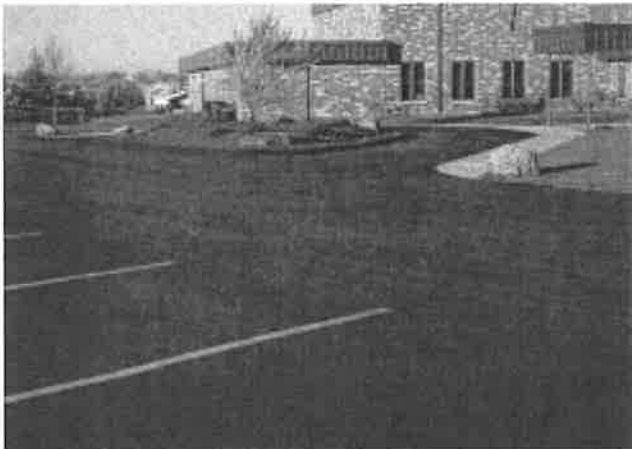


5-2 Parking Lot Design

The information in this chapter will provide a general guide to proper parking area design, construction, and facility layout. Minimum pavement thickness designs are given for various size parking lots, heavily-loaded areas, and industrial parking lots. In addition, this chapter gives comparable designs for both full depth asphalt pavements and asphalt over untreated aggregate base.

General Planning

In developing the parking area plan, several important details should be considered. First and foremost in the mind of the developer may be providing the maximum parking capacity in the available space while ensuring convenience and safety.



If the locality does not have a zoning ordinance identifying specific requirements for off-street parking, the general recommendations in Table 5-1 may be useful.

Rules have been developed for optimizing parking area space. Among them are the following:

1. Use rectangular areas where possible.
2. Make the long sides of the parking areas parallel.
3. Design so that parking stalls are located along the lot's perimeter.
4. Use traffic lanes that serve two rows of stalls.

Table 5-1. Recommended Parking Requirements

Land Use	Spaces/Unit
Residential	
Single-Family	2.0/Dwelling
Multifamily	
Efficiency	1.0/Dwelling
1 -2 Bedroom	1.5/Dwelling
Larger	2.0/Dwelling
Hospital	1.2/Bed
Auditorium/Theater/Stadium	0.3/Seat
Restaurant	0.3/Seat
Industrial	0.6/Employee
Church	0.3/Seat
College/University	0.5/Student
Retail	4.0/1000 GFA
Office	3.3/1000 GFA
Shopping Center	5.5/1000 GLA
Hotels/Motel	1.0/Room
	0.5/Employee
Senior High Schools	0.2/Student
	1.0/Staff
Other Schools	1.0/Classroom

GFA, sq. ft. of gross floor area
GLA, sq. ft. of gross leasable area

Special attention should be given to the flow of traffic in and out of the lot as well as circulating routes inside the lot. Keep entrances far away from busy street intersections and from lines of vehicles stopped at a signal or stop sign. Be sure that the entering vehicles can move into the lot on an internal aisle, thereby avoiding entering congestion caused by involvement with turning vehicles. A pedestrian traffic-flow study is important to provide information about both safety and convenience.



Parking Angle

The most popular angles for parking stalls are 60°, 45°, and 90°. The most common angle for parking is the 60° angle because of the ease of operation it provides. This angle permits reasonable traffic lane widths and eases entry and exit of the parking stall.

Where lot size restricts the dimensions available for aisles and stalls, a 45° angle may be used. The smaller change of direction required to enter and back-out of the stall space permits use of narrower aisles. The 45° angle reduces the total number of parking

spaces for a given area but is the only acceptable angle for a herringbone parking lot pattern.

The 90° parking angle provides the most parking spaces for a given area. The high degree of difficulty for entering and leaving these parking stalls makes this type of parking more suited to all-day parking, such as employee parking. This angle is generally not preferred for "in and out" lots such as those of fast food restaurants and banks.

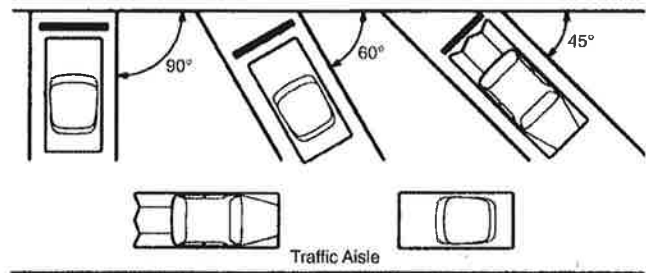


Figure 5-1. Parking lot angles

Parking Space Dimensions

Typical parking stall dimensions vary with the angle at which the stall is arranged in relation to the aisle. Stall widths (measured perpendicular to the vehicle when parked) range from 8-1/2 to 9-1/2 feet. The minimum width for public use parking spaces is 9 feet by 19 feet. Recommended stall dimensions for compacts and similar-sized vehicles are 7-1/2 feet by 15 feet. If a number of such spaces are to be provided, they should be grouped together in a prime area to promote their use. Stall widths for parking lots where shoppers generally have large packages, such as supermarkets and other similar parking facilities, should be 9-1/2 feet or even 10 feet wide.

5-4 Parking Lot Design

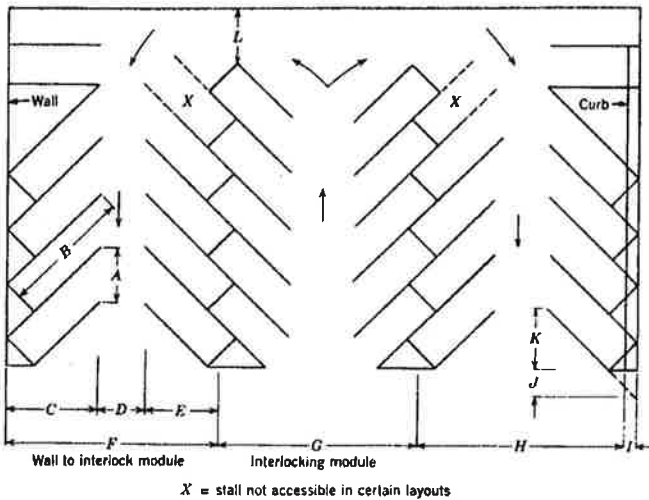


Figure 5-2.

Table 5-2. Parking layout dimensions (ft) for 9 ft stalls at various angles.

STALL LAYOUT ELEMENTS

Dimension	On diagram	Angle			
		45°	60°	75°	90°
Stall width parallel to aisle	A	12.7	10.4	9.3	9.0
Stall length of line	B	25.0	22.0	20.0	18.5
Stall depth to wall	C	17.5	19.0	19.5	18.5
Aisle width between stall lines	D	12.0	16.0	23.0	26.0
Stall depth, interlock	E	15.3	17.5	18.8	18.5
Module, wall to interlock	F	44.8	52.5	61.3	63.0
Module, interlocking	G	42.6	51.0	61.0	63.0
Module, interlock to curb face	H	42.8	50.2	58.8	60.5
Bumper overhang (typical)	I	2.0	2.3	2.5	2.5
Offset	J	6.3	2.7	0.5	0.0
Setback	K	11.0	8.3	5.0	0.0
Cross aisle, one-way	L	14.0	14.0	14.0	14.0
Cross aisle, two-way	M	24.0	24.0	24.0	24.0

Parking Lot Markings

Markings are a very important element of a good parking lot. The parking area should be clearly marked to designate parking spaces and to direct traffic flow. As specified in the Manual on Uniform Traffic Control Devices (MUTCD), parking on public streets should be marked out by using white traffic paint, except for dangerous areas, which should be marked in yellow.



However, yellow lines are commonly used in off-street parking lots. All pavement striping should be 4 inches in width.

New asphalt surfaces can be marked with either traffic paint or cold-applied marking tape. For best results with paint application, allow the Asphalt Concrete to cure for several days.

Construction Practices

Drainage Provisions

Drainage problems are frequently a major cause of parking area pavement failures. It is critical to keep water away from the subgrade soil. If the subgrade becomes saturated, it will lose strength and stability, making the overlying pavement structure susceptible to breakup under imposed loads.

Drainage provisions must be carefully designed and should be installed early in the construction process. Parking area surfaces should have a minimum slope of 2 percent or 1/4 inch per foot. They should be constructed so water does not accumulate at the pavement edge. Areas of high natural permeability may require an underdrain system to carry water away from the pavement substructure. Any soft or spongy area encountered during construction should be immediately evaluated for underdrain installation or for removal and replacement with suitable materials.



The City That Soars!

REQUEST FOR PLANNING COMMISSION ACTION

Meeting Date	May 22, 2012
Agenda Item	Workshop
Title	Consideration of a possible ordinance to provide for "special" or limited events in Falcon Heights
Submitted By	Deborah Jones, Staff Liaison

Description	In response to inquiries received from local businesses, the City Council has requested that Planning Commission provide a recommendation regarding the adoption of an ordinance regulating special events in the City.
Background	<p>The City has been approached by three food service related businesses – Stout’s Pub, The Coffee Grounds, and Dino’s Gyros – inquiring whether these businesses would be allowed to host some variation of tented event, such as a “beer garden”, on a limited basis. That is, they are interested in doing this as a one-time or occasional or annual event.</p> <p>The city code does not make any provision for this type of event. The city attorney confirms that it is not allowed. Many cities have special event ordinances to allow events under special permits. The City Council has asked the Planning Commission to study the issue and make a recommendation.</p> <p>At a preliminary informational workshop in April, Planning Commissioners asked staff to prepare a matrix or worksheet to list issues related to special events and provide space for Commissioners to organize their thoughts. A worksheet was distributed early in May and is included in this packet.</p>
Budget Impact	Unknown
Attachment(s)	<ul style="list-style-type: none"> • Matrix worksheet on special event issues and topics to be considered • City of Plymouth special event ordinance • City of North St. Paul special event ordinance • Special event permit application for North St. Paul <p>(Commissioners were previously provided with portions of the Falcon Heights City Code that already address some elements of the sample ordinances above.)</p>
Action(s) Requested	<ul style="list-style-type: none"> • Discuss, with the following goals: <ul style="list-style-type: none"> ○ Consensus on whether or not to proceed with drafting a special event ordinance for Falcon Heights ○ Direction to staff for additional research, if needed ○ Direction to the city attorney to prepare a draft ordinance

Special Event Issues

It is assumed that the City will take an “allow by administrative permit” approach. Please use the blank rows to insert related questions.

Issues	Recommendations & Comments
WHAT	
What kinds of events does this ordinance address? Examples	
What kinds of events does this ordinance address? Descriptive	
What kinds of events does this ordinance NOT include?	
What kinds of events shall be exempt from having to get a permit under this ordinance	
“Legal and moral” clause? “are of such a nature as to be acceptable to the general public with regard to morals, safety features and the conduct of event participants” (Farmington Hills, MI)	
WHEN	
Date restrictions? (e.g. no State Fair, etc.)	
Restrictions on hours of operations?	
Hours with alcohol?	
Hours for outdoor music?	
How many events can a property owner have per year?	
How close together can separate events be held (if >1 allowed)?	
Duration of a single permitted event in days?	

WHERE	
Restrictions by Zone? Include residential?	
Include public land? Apply to events in parks?	
Include parks events under certain conditions? What conditions? (bouncy castle, etc)	
WHO	
Property owner/regular tenant only? Or allow “outside” temporary occupant, “hosted” by owner or not?	
Distinction between open to public/not open to public?	
Age restrictions in general?	
HOW	
Site Plan for outdoor component(s) of event?	
Temporary structures rules?	
Event security plan?	
Impose parking restrictions in ordinance? Or by individual permit?	
Require parking plan?	
Traffic control plan?	
Emergency vehicle access plan?	
Sanitation facilities/porta potties?	
Event security?	
Temporary outdoor lighting?	
Spotlights?	

Alcohol?	
Smoking?	
Noise: PA system, outdoor DJ, outdoor live music?	
Health Department permits? Require before event application? Deadline?	
PERMIT	
Fees?	
Lead time prior to event for application?	
Indemnification for City?	
Additional permits to be required? (alcohol, food safety, etc.)	
Inspections?	

City of Plymouth – Event Ordinance (Administrative Permit)

21455.11. USES BY ADMINISTRATIVE PERMIT: Subject to applicable provisions of this Section, performance standards established by this Chapter, and processing requirements of Section 21025, the following are uses allowed in the C-1 District by administrative permit as may be issued by the Zoning Administrator:

Subd. 8. Temporary events and outdoor sales subject to the following criteria:

(a) Special Promotional Events (except Carnivals).

(1) Such activity is directed towards the general public and includes grand openings, business events, craft shows, flea markets, mechanical and animal rides, and outdoor display of materials.

(2) The event shall not exceed the period specified in the administrative permit and in no case shall exceed three (3) consecutive calendar days per event.

(3) There shall be no more than two (2) special events per calendar year per property. However, each tenant in a multi-tenant building shall be permitted one (1) special event per year. Multi-tenant buildings with less than five (5) lease-spaces shall be considered as a single property for purposes of this provision.

(b) Carnivals.

(1) The applicant must submit an amusement license application as required by Section 1100 of the City Code.

(2) The event shall not exceed the period specified in the administrative permit and in no case shall exceed seven (7) consecutive calendar days per event.

(3) There shall be no more than one (1) carnival per calendar year per property.

(c) Outdoor Sales, including but not limited to transient merchants and transient produce merchants (excluding Christmas Tree Sales):

(1) Such activity is directed towards the general public and includes warehouse sales, sidewalk sales, inventory reduction or liquidation sales, distressed merchandise sales, sales of fireworks, seasonal merchandise sales (except Christmas trees), and transient merchant and transient produce merchant sales.

(2) The following specific standards shall apply to all proposed temporary outdoor sales activities allowed by this paragraph and by City Code business licensing provisions in addition to other applicable building and safety code requirements as determined by the Zoning Administrator.

a. The maximum total time for temporary outdoor sales activities shall be the period specified in the administrative permit and, in no case, shall exceed ninety (90) days per calendar year per property.

b. There shall be no more sales activities than those specified in the administrative permit and, in no case, shall there be more than ten (10) sales activities per year per property

c. Sales activities may be conducted within a required yard provided the area is paved and the activity does not interfere with parking, traffic circulation or emergency vehicle access. Temporary sales on unpaved landscaped areas is prohibited.

d. Sales of fireworks shall also be regulated by Section 1110 of the City Code.

(d) Outdoor Christmas Tree Sales.

(1) Such activity is directed towards the general public and consists of the outdoor sales of cut evergreen trees, boughs, wreaths and other natural holiday decorations and related products.

(2) The following specific standards shall apply to all proposed outdoor Christmas tree sales allowed by this paragraph and by City Code business licensing provisions in addition to other applicable building and safety code requirements as determined by the Zoning Administrator.

a. The maximum total time for sales activities shall be the period specified in the administrative permit and, in no case, shall exceed forty-five (45) days per calendar year per property.

~~b. There shall be no more than one (1) sales activity per year per property, which shall be in addition to any special events or other outdoor sales permitted on the property.~~

c. Sales activities may be conducted within a required yard provided the area is paved and the activity does not interfere with parking, traffic circulation or emergency vehicle access. Sales on unpaved landscaped areas is prohibited.

(e) General Standards applying to all temporary events and outdoor sales.

(1) The event or sale shall be accessory to or promoting the permitted or conditional use approved for the site.)

(2) Tents, stands, and other similar temporary structures may be used, provided they are clearly identified on the submitted plan and provided that it is determined by the Zoning Administrator that they will not impair the parking capacity, emergency access, or the safe and efficient movement of pedestrian and vehicular traffic on or off the site.

(3) The submitted plan shall clearly demonstrate that adequate off-street parking for the proposed event can and will be provided for the duration of the event. Determination of compliance with this requirement shall be made by the Zoning Administrator who shall consider the nature of the event and the applicable parking requirements of Section 21155. Consideration shall be given to the parking needs and requirements of other occupants in the case of multi-tenant buildings. Parking on public right-of-way and streets is prohibited; except that parking on local streets may be allowed on Saturday and Sunday only, provided that the petitioner arranges for traffic control by authorized enforcement officers, as approved in writing by the Police Chief, at the petitioner's expense.

(4) Signage related to the event or sale shall be in compliance with the temporary sign standards of Section 21155 and shall be allowed for the duration of the event. The Zoning Administrator may authorize special signage for purposes of traffic direction and control; the erection and removal of such signage shall be the responsibility of the applicant.

(5) The approved permit shall be displayed on the premises for the duration of the event.

(6) All activity related to the event or sale must take place within the time permitted in the administrative permit. No buildings, equipment or materials may be erected or displayed prior to the start date identified in the permit application and all structures, equipment and displays must be removed by the end date identified in the administrative permit.

(7) Not more than one (1) such event or sale shall be allowed per property at any given time.

North Saint Paul, MN Code of Ordinances

CHAPTER 122: SPECIAL EVENT PERMITS

Section

- 122.01 Purpose and intent
- 122.02 Definitions
- 122.03 Permit required
- 122.04 Requirements for issuance of a permit
- 122.05 Application procedures
- 122.06 Fees
- 122.07 Granting a permit
- 122.08 Denial of permit
- 122.09 Transferability
- 122.10 Enforcement and penalties
- 122.11 Revocation of permit
- 122.12 Special event vendors

§ 122.01 PURPOSE AND INTENT.

~~The purpose of this chapter is to promote the orderly, compatible and safe use of property for temporary special events and to assure adequate provision of parking, traffic, sanitary facilities, utilities, peace and tranquility of residential neighborhoods and safety services.~~

(Ord. 668, passed 5-6-08)

§ 122.02 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

~~**APPLICANT.** Any individual, partnership, corporation, association, society or group seeking and/or receiving a special event permit from the city.~~

OUTDOOR. Activity conducted outside of a permanent structure or building.

PERMIT. A permit issued by the city to allow a special event.

PERSON. Any person, association, partnership, firm, business trust, corporation or company.

SPECIAL EVENT. Any temporary, outdoor privately-sponsored event open to the general public and held on public or privately owned property. **SPECIAL EVENT** shall not apply to the following:

(1) Any permanent place of worship, stadium, athletic field, arena, theatre, auditorium, or fairs conducted pursuant to M.S. Chapter 38.

(2) Special events or activities permitted or permitted by other state laws or regulations of the City of North St. Paul, including publicly-sponsored activities in the local park system and any other established special event operating prior to adoption of this chapter.

(3) Family gatherings, including family reunions, graduation parties, baptisms, confirmations, weddings, and the like.

(4) Garage sales.

(5) Events such as but not limited to National Night-Out established through the City of North St. Paul.

(Ord. 668, passed 5-6-08)

§ 122.03 PERMIT REQUIRED.

No person on or after the effective date of this chapter shall conduct or allow to be conducted any special event as defined in this chapter without first obtaining a special event permit.

(Ord. 668, passed 5-6-08)

§ 122.04 REQUIREMENTS FOR ISSUANCE OF A PERMIT.

The following standards shall apply to all special events:

(A) *Maximum number of people.* The permittee shall not sell tickets to nor permit attendance at the permit location of more than the maximum number of people stated in the special event permit.

(B) *Sound equipment.* Sound producing equipment, including but not limited to public address systems, radios, phonographs, musical instruments and other recording devices, shall not be operation on the premises of the special event so as to be unreasonably loud or be a nuisance or disturbance to the peace and tranquility of the citizens of North St. Paul.

(C) *Sanitary facilities.* In accordance with Minnesota State Board of Health regulations and standards and local specifications, adequate sanitary facilities must be provided which are sufficient to accommodate the projected number of person expected to attend the event.

(D) *Security.* The permittee shall employ at his or her own expense such security personnel as are necessary and sufficient to provide for the adequate security and protection of the maximum number of persons in attendance at the special event and for the preservation of order and protection of property in and around the event site. No permit shall be issued unless the city's Chief of Police is satisfied that such necessary and sufficient security personnel will be provided by the permittee for the duration of the event.

(E) *Food service.* If food service is made available on the premises, it shall be delivered only through concessions permitted by the Ramsey County Health Department.

(F) *Fire protection.* The permittee shall, at his or her own expense, take adequate steps to insure fire protection as determined by the City of North St. Paul Fire Chief.

(G) *Duration of special event.* The permittee shall operate the special event only on those days and during the hours specified on the permit.

(H) *Cleanup plan.* The special event applicant is responsible for clean up. Any clean up required by the city may be charged to the applicant. Any city service that requires overtime will be at the expense of the applicant.

(I) *Waiver.* The City Council may grant a waiver from the requirements of this chapter in any particular case where the applicant can show that strict compliance with this chapter would cause exceptional and undue hardship by reason of the nature of the special event or by reason of the fact that the circumstances make the requirement of this chapter unnecessary. Such waiver must be granted without detriment to the public health, safety or welfare and without impairing the intent and purpose of these regulations.

(J) *Insurance.* Before the issuance of a permit, the permittee shall obtain public liability insurance and property damage insurance with limits determined by the City Manager. Such insurance shall remain in full force and effect in the specified amounts for the duration of the permit. Evidence of insurance shall include an endorsement to the effect that the insurance company will notify the City Clerk in writing at least ten days before the expiration or cancellation of the insurance.

(K) *Miscellaneous.* Prior to the issuance of a permit, the City Council may impose any other conditions reasonably calculated to protect the health, safety and welfare of persons attendant or of the citizens of the City of North St. Paul.

(Ord. 668, passed 5-6-08)

§ 122.05 APPLICATION PROCEDURES.

A written application for a special event permit shall be filed on forms provided by the city with the City Manager not less than 30 days before the date proposed for holding the special event. The written application shall be signed by the person, persons, or parties conducting the event and shall be accompanied by the fee payable hereunder. Upon submission of an application for a special event permit, City Staff will review the request and advise the applicant of the need for additional information, if any.

(Ord. 668, passed 5-6-08)

§ 122.06 FEES.

The fee for a special event license shall be as established by the City Council.

(Ord. 668, passed 5-6-08)

§ 122.07 GRANTING A PERMIT.

The City Council, in its sole discretion, reserves the right to review and determine whether or not a request for a special event and/or street closing is acceptable. It is the stated purpose of the City Council that all such special events and/or street closing shall be for family-friendly activities only. Special event activities must be inclusive of events and activities for both adults and children. In the event the City Council determines the activity does not meet these criteria, such application shall be denied.

(Ord. 668, passed 5-6-08)

§ 122.08 DENIAL OF PERMIT.

The City Council shall have the right to deny the permit if, in the judgment of the City Council, the granting of a license would adversely affect the safety, health and welfare of the citizens of North St. Paul. The applicant shall be notified of such denial and may appear before the City Council to appeal such denial.

(Ord. 668, passed 5-6-08)

§ 122.09 TRANSFERABILITY.

No permit granted under this chapter shall be transferred to any other person or place without consent of the City Council, upon written application made therefore.

(Ord. 668, passed 5-6-08)

§ 122.10 ENFORCEMENT AND PENALTIES.

(A) The Police Department and other such officers, employees, or agents as the City Council or City Manager may designate, shall enforce the provisions of this chapter.

(B) The holding of a special event in violation of any provision of this chapter shall be deemed a public nuisance and may be abated as such.

(C) Any person violation any provision of this chapter is guilty of a misdemeanor and upon conviction shall be subject to the penalties set forth in Minnesota Statutes.

(Ord. 668, passed 5-6-08)

§ 122.11 REVOCATION OF PERMIT.

The permit for a special event may be revoked by the City Council at any time if any of the conditions necessary for the issuing of or contained in the license are not complied with or if any of the provisions of this chapter are violated.

(Ord. 668, passed 5-6-08)

§ 122.12 SPECIAL EVENT VENDORS.

(A) *Definition.* For the purpose of this section, the following definition shall apply unless the context clearly indicates or requires a different meaning.

VENDORS. A person who temporarily sets up business on public or private property for purposes of selling or delivering goods in conjunction with a City approved Special Event.

(B) *License.* All special event vendors shall be licensed by the city.

(C) *Process.* The City Manager shall determine appropriate requirements to safeguard the health, safety and welfare of the community and its inhabitants. Forms shall be determined by the City Manager to gather the necessary information to assure safety.

(D) *Fees.* All special event vendors shall pay an inspection fee to the city as determined by the City Council. Exception to the fee following shall be exempt from the city fee:

- (1) All public charities as defined by IRS Code 501C(3);
- (2) Any governmental institution; and
- (3) Any business headquartered in the City of North St. Paul.

(E) *Umbrella fee.* Any special event conducted by a public charity as defined by IRS Code 501C(3) is subject to one special event vendor fee for all vendors conducting business at the special event.

(Ord. 668, passed 5-6-08)

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Return To: Teri Werner – Community Development Dept.

2400 Margaret Street

Phone: 651-747-2460 Fax: 651-747-2435

SPECIAL EVENT PERMIT APPLICATION – 2012

Important Notice: Certificate of Liability Insurance (if applicable) and any required attachments (maps, diagrams, etc.) must be submitted with this application. Failure to include these items will mean an automatic rejection of the application.

I. TITLE AND BRIEF DESCRIPTION OF EVENT:

II. APPLICANT INFORMATION: *The Applicant will be responsible for answering all questions, including inquiries from the media and citizens.*

Applicant:

Title:

Address:

Business/Organization Name:

Daytime Phone:

Evening Phone:

Emergency Phone:

E-Mail Address: _____

III. EVENT TIMETABLE:

Requested day and date:

Requested hours of operation, from

a.m./p.m. to

a.m./p.m.

Set-up beginning day and date

time

a.m./p.m.

Dismantle by day and date

time

a.m./p.m.

E. Anticipated number of participants

and spectators

IV. INSURANCE:

Attach to this application a certificate of liability insurance, including the policy number and showing liability amounts. The policy must state that any outside area to be used for an event is covered and must also show evidence that the requested event is not excluded from insurance liability. If the event is to be held on public property, the City of North St. Paul must be listed as the Certificate Holder.

V. REQUESTED CITY SERVICES - (CHECK ALL THAT APPLY):

	Use of Community Center (check with Nate Ehalt at 747-2595);
	Trash containers (indicate number/location below)
	Portable toilet facilities (indicate number/location below)
	Electricity (The cost of the electrical hook-up is the applicant's responsibility. Payment must be made to the City of North Saint Paul. Please contact Brian Frandle at 747-2472.)
	Police Officers / Reservists
	Fire Department Personnel / Vehicles
	Barricades
	Recycling Containers
	Other - Please describe:

VI. CHECK ALL ITEMS WHICH APPLY TO YOUR EVENT:

	Event participant and/or spectator parking areas (describe):
	Entertainment or stage locations (provide to-scale drawing)
	Construction/erection of temporary structure(s) (may need permit, check with Community Development) – indicate location.
	Trash containers (indicate number/location)
	Portable toilet facilities (indicate number/location)
	Barricades (indicate number/location)
	First aid facilities (indicate who is providing)
	Parade and/or parade floats (may need permit, check with Fire Department)
	Fireworks or pyrotechnics site (may need permit, check with Fire Department)
	Cooking facilities, open flame, or vehicle fuels (may need permit, check with Fire Department)
	Other - Please describe:

VII. CHARITABLE GAMBLING (CHECK IF APPLIES):

Charitable Gambling - Please contact the Chief of Police at 651-747-2406 for forms and details. All charitable gambling requires a city permit application and some may also require a State permit application. This will be given separate consideration for approval by the City Council.

VIII. VENDORS OR CONCESSIONAIRES:

List what vendors/concessionaires you will have at your event:

Note: Vendors/concessionaires setting up on public property (streets, sidewalks, public parking lots) must have a Special Event Vendors License from the City of North St. Paul. Applications are available on our website at www.northstpaul.net or by calling 651-747-2407.

IX. FOOD, NON-ALCOHOLIC BEVERAGES AND/OR ENTERTAINMENT:

Will food and/or non-alcoholic beverages be served? Yes No

If yes, describe sanitation measures and food handling procedures:

--

If food will be served outside of a licensed establishment; a Temporary Food Service Establishment license may be required. Contact the Ramsey County Department of Health at 651.266.1199 for requirement and licensing information.

If your event includes music, live entertainment, sound amplification or any other noise impact, please describe, including the intended hours of the music, sound or noise.

If you intend to cook food in the event area, describe your area layout, including fuel or electrical sources to be used:

--

X. ALCOHOLIC BEVERAGES:

Will alcoholic beverages be served? Yes No

If Yes Name of Liquor Establishment:

For service of alcohol outside a licensed premise, include a diagram showing the defined area of the alcohol concession service and attach a copy of your certificate of liquor liability insurance covering the limits of the alcohol service area.

If serving alcohol, describe how you will ensure that alcoholic beverages will be possessed and consumed only by those persons 21 years or older. Describe all security measures in place:

If you are a licensed establishment requesting an extension to your liquor license premises, you must complete an application for an extension with the Chief of Police. This will be given separate approval by the City Council.

*Title XI, Chapter 117, Section 117.120(B)(2)

If you are a licensed establishment requesting a temporary permit you must submit a completed Temporary Liquor License Application and all required documentation to the Chief of Police. This will be given separate approval by the City Council.

*Title XI, Chapter 117, Section 117.120(D)(1-9)

Have you submitted the required documentation to the Chief of Police? Yes No

XI. SECURITY AND SAFETY PROCEDURES:

Describe your proposed procedures for security and crowd control:

If the event is to occur at night, describe how you are going to light the event area in order to increase the safety of participants and spectators coming to and leaving the event:

XII. CLEAN-UP:

List persons responsible for clean-up duties:	

XIII. MITIGATION OF THE IMPACT ON OTHERS:

Describe how you intend to mitigate the impact of the special event on businesses, churches, neighbors, motorists, and others:

NOTE: Any condition which causes adverse impacts may be cause to revoke the Special Event Permit.

Acknowledgement and Signature: The undersigned hereby applies for a Special Event as described above and states the information submitted is true and correct.

Applicant Signature: _____ Date of Application: _____

FOR OFFICE USE ONLY

Received		
By		
Date		
Mail		
Fax		
In Person		

Documentation	Required	Received
Certificate of Insurance		
Entertainment / Stage Location		
Temporary Tent Permit		
Fireworks/Pyrotechnics Permit		
Cooking Facilities Permit		
Alcohol Service Diagram		

City Services	Requested	Approved
Police Reserves		
Fire Department Personnel/Equip		
Trash Cans		
Barricades		
Portable Toilets		
Recycling Containers		
Electricity		
Use of Community Center		
Other:		



The City That Soars!

REQUEST FOR PLANNING COMMISSION ACTION

Meeting Date	May 22, 2012
Agenda Item	Workshop
Title	Ordinance amending the Falcon Heights code to regulate natural landscaping.
Submitted By	Deborah Jones, Staff Liaison

Description	The Falcon Heights Environment Commission recommends adoption of an ordinance allowing and regulating varied landscaping styles in Falcon Heights, including prairie gardens, meadow gardens and rain gardens.
Background	<p>Fairview Avenue resident Todd Miller has approached the City about converting part of his yard to a prairie garden. Because the Falcon Heights city code does not address this kind of landscaping specifically (other than a restriction of grass height to six inches) and assumes that yards will be landscaped with traditional turf grass, and because there is potential for abuse and neighborhood disagreement with respect to non-traditional yards, staff suggested that Mr. Miller look for support from the Environment Commission and the City Council.</p> <p>The Environment Commission took up this discussion at the March, 2012, meeting, which Mr. Miller attended. In April, the Environment Commission developed a consensus to take an approach similar to the City of Minnetonka's ordinance: explicitly allowing these types of yards within limits, as long as they are well-maintained, but declining to impose an up-front permitting requirement as certain other cities have done. Environment Commissioners acknowledged that some public education would have to be undertaken by the city if this ordinance is adopted.</p> <p>Based on the Commission's changes to the Minnetonka model, the city attorney created a draft which was submitted to the City Council on May 9. The proposed ordinance provides a significant addition to Chapter 54 Vegetation and removes parts of the nuisance and blight ordinance in Chapter 22 that would now be covered by the new sections in Chapter 54.</p> <p>The City Council had concerns about neighborhood impacts from the proposed ordinance as written and decided to refer the matter to the Planning Commission for study and recommendation, with special attention to potential impacts on neighborhood character and implications for the comprehensive plan.</p>

Budget Impact	Unknown
Attachment(s)	<ul style="list-style-type: none"> • Falcon Heights City Code Chapter 54 Vegetation (existing) • Draft Ordinance 12-0_ regulating prairie gardens and other natural landscaping. • City of Minnetonka original ordinance used as a model by the Environment Commission. • For comparison, native plant ordinance from the City of Golden Valley, which does require permitting for this type of landscaping. • "Establishing and Maintaining a Prairie Garden" from the University of Minnesota Extension Service, provided for background information.
Action(s) Requested	<ul style="list-style-type: none"> • Discuss planning and zoning aspects of the proposed ordinance, especially possible neighborhood impacts and implications for the comprehensive plan • Provide feedback and recommendations to the City Council

ORDINANCE NO. 12-04

**CITY OF FALCON HEIGHTS
RAMSEY COUNTY, MINNESOTA**

**AN ORDINANCE AMENDING CHAPTERS 22 AND 54 OF
THE CITY CODE CONCERNING VEGETATION**

THE CITY COUNCIL OF FALCON HEIGHTS ORDAINS:

SECTION 1. Chapter 54 of the Falcon Heights City Code is amended by adding Section 54-41 to provide as follows:

Sec. 54-41. Vegetation Maintenance.

(1) Intent and Purpose. The city council finds that there are a variety of landscapes in the city that add diversity and richness to the quality of life. Certain areas in the city have been left, or allowed to go, unmaintained. These have been accepted by the vast majority of the city residents as appropriate and as part of the unique quality of life in this community. There are community expectations, however, that once an area has been disturbed, landscaped, or otherwise maintained, that area will continue to be maintained in a consistent manner. When vegetation in that area is not continually maintained, it becomes aesthetically unpleasing and violates community standards. Property that appears neglected may decrease the value of adjacent properties. In addition, if vegetation is not properly maintained, there may be the following adverse impacts on public health, safety, and welfare:

- a. undesirable vegetation such as common buckthorn, quackgrass, and other weeds may invade and threaten to supplant other more desirable vegetation;
- b. vegetation that causes allergic reactions, such as ragweed, may develop; and
- c. tall vegetation along driveways and public roads may impair visibility when entering or exiting public roads.

The city council also finds that it is in the public interest to allow citizens to choose the type of landscaping on their properties and to make changes in that vegetation. As a protection for the larger community, however, this change in vegetation must be properly managed and maintained and the length of the transition period must be minimized.

The council finds that the establishment of prairie and meadow plant communities is an acceptable landscape treatment in the city. This requires special consideration, however, because weeds will grow during the first few years of transition before the new vegetation predominates and will appear like neglect. Therefore, the council finds that this type of vegetation is acceptable if it is properly maintained to shorten the transition period and if notice is given of the intended result.

In contrast, the transition to trees and other woody species does not require special consideration because untended grass or weeds are not a necessary part of that transition period. Rather, the transition period is shortened by eliminating competition around the seedlings through such techniques as organic mulch.

The city council enacts this section to balance the public interest in a variety of vegetation with the public need to ensure proper maintenance of that vegetation. The council finds that establishing a height limitation for certain vegetation is in the best interest of the public health, safety, and welfare as outlined above and is a reasonable maintenance standard.

(2) Definitions. For purposes of this section the following words have the meanings specified below.

a. "Meadow vegetation" is grasses and flowering broad-leaf plants that are native to, or adapted to, the state of Minnesota, and that are commonly found in meadow and prairie plant communities, except weeds.

b. "Noxious weeds" are those plants so designated by the state of Minnesota under Minn. Stat. § 18.171, subd. 5.

c. "Regularly cut" means mowing or otherwise cutting the vegetation so that it does not exceed 6 inches in height.

d. "Turf grasses" are grasses commonly used in regularly cut lawn areas, such as bluegrass, fescue and rye grass blends, and non-woody vegetation interspersed with them.

e. "Weeds" include all noxious weeds, buffalobur, burdock, common cocklebur, jimsonweed, quackgrass, common and giant ragweed, and velvetleaf. Weeds also include anything that is horticulturally out of place. For example, a tree seedling is a weed in a vegetable garden. A property owner may establish that a plant or plants are not horticulturally out of place by providing a written landscape plan to the City for the area in question, complete with a listing and locations of plant species. The plants specifically listed above may not be included within the landscape plan. Vegetation that does not comply with this plan are weeds.

(3) Maintenance standard. The maintenance standard in this section applies to property that has been developed with a building as defined in the building code,

including vacant property combined with developed property for tax purposes, and a parcel of property that has been completely or partially disturbed by demolition, grading or other means in preparation for development or redevelopment.

a. All turf grasses and weeds must not exceed a height of 6 inches, measured from the base at ground level to the tip of each stalk, stem, blade, or leaf.

b. This requirement does not apply to the following:

(1) a wetland or floodplain designated in the zoning ordinance and wetland buffers voluntarily created by a private land owner when compatible with the character of the neighborhood;

(2) a drainage pond or ditch that stores or conveys stormwater;

(3) an area in which the land and vegetation appears not to have been graded, landscaped, mowed, or otherwise disturbed by human or mechanical means at any time. Determination of what constitutes this type of area will be based on a reasonable judgment of the present appearance of the area. The recent history of the area may be relevant to this determination; and

(4) an area established with meadow vegetation if:

(a) the prior vegetation is eliminated and the meadow vegetation is planted through transplanting or seed by human or mechanical means;

(b) the area is cut at least once per year to a height of no more than 6 inches;

(c) a sign is posted on the property in a location likely to be seen by the public, advising that a meadow or prairie is being established. This sign is required only if the meadow vegetation is in an area likely to be seen by the public. This sign must be in addition to any sign permitted by the sign ordinance but must be no smaller than ten inches square, no larger than one square foot, and no higher than three feet tall; and

(d) the area is set back a minimum of 10 feet from the street curb.

(4) Declaration of public nuisance. The following are public nuisances subject to abatement under this chapter:

a. noxious weeds; and

b. vegetation that does not meet the maintenance standard specified in paragraph 3 above.

SECTION 2. Subsection 22-19, Subdivision 4 of the Falcon Heights City Code is amended to provide as follows:

No owner agent or occupant of any premises shall permit upon his or her premises fallen trees, dead trees, tree limbs or items which are a fire hazard or otherwise detrimental to the health or appearance of the neighborhood.

SECTION 3. Effective Date. This ordinance shall take effect from and after its passage.

ADOPTED this _____ day of _____, 2012, by the City Council of Falcon Heights, Minnesota.

CITY OF FALCON HEIGHTS

BY: _____
Peter Lindstrom, Mayor

ATTEST:

Bart Fischer, City Administrator/Clerk

Minnetonka Code of Ordinances

845.030. Special Provisions - Lawn Maintenance.

1. Preamble. The city council finds that there are a variety of landscapes in the city that add diversity and a richness to the quality of life. Certain areas in the city have been left, or allowed to go, unmaintained. These have been accepted by the vast majority of the city residents as appropriate and as part of the unique quality of life in this community. There are community expectations, however, that once an area has been disturbed, landscaped, or otherwise maintained, that area will continue to be maintained in a consistent manner. When vegetation in that area is not continually maintained, it becomes aesthetically unpleasing and violates community standards. Property that appears neglected may decrease the value of adjacent properties. In addition, if vegetation is not properly maintained, there may be the following adverse impacts on public health, safety, and welfare:

- a. undesirable vegetation such as common buckthorn, quackgrass, and other weeds may invade and threaten to supplant other more desirable vegetation;
- b. vegetation that causes allergic reactions, such as ragweed, may develop; and
- c. tall vegetation along driveways and public roads may impair visibility when entering or exiting public roads.

The city council also finds that it is in the public interest to allow citizens to choose the type of landscaping on their properties and to make changes in that vegetation. As a protection for the larger community, however, this change in vegetation must be properly managed and maintained and the length of the transition period must be minimized.

The council finds that the establishment of prairie and meadow plant communities is an acceptable landscape treatment in the city. This requires special consideration, however, because weeds will grow during the first few years of transition before the new vegetation predominates and will appear like neglect. Therefore, the council finds that this type of vegetation is acceptable if it is properly maintained to shorten the transition period and if notice is given of the intended result.

In contrast, the transition to trees and other woody species does not require special consideration because untended grass or weeds are not a necessary part of that transition period. Rather, the transition period is shortened by eliminating competition around the seedlings through such techniques as organic mulch.

The city council enacts this ordinance to balance the public interest in a variety of vegetation with the public need to ensure proper maintenance of that vegetation. The council finds that establishing a height limitation for certain vegetation is in the best interest of the public health, safety, and welfare as outlined above and is a reasonable maintenance standard.

2. Definitions. For purposes of this section the following words have the meanings specified below.

- a. "Meadow vegetation" is grasses and flowering broad-leaf plants that are native to, or adapted to, the state of Minnesota, and that are commonly found in meadow and prairie plant communities, except weeds.
- b. "Noxious weeds" are those plants so designated by the state of Minnesota under Minn. Stat. §

18.171, subd. 5.

c. "Regularly cut" means mowing or otherwise cutting the vegetation so that it does not exceed 10 inches in height.

d. "Turf grasses" are grasses commonly used in regularly cut lawn areas, such as bluegrass, fescue and rye grass blends, and non-woody vegetation interspersed with them.

e. "Weeds" include all noxious weeds, buffalobur, burdock, common cocklebur, crabgrass, dandelions, jimsonweed, quackgrass, common and giant ragweed, field sandbur, velvetleaf, and wild sunflower. Weeds also include anything that is horticulturally out of place. For example, a tree seedling is a weed in a vegetable garden. A property owner may establish that a plant or plants are not horticulturally out of place by providing a written landscape plan for the area in question, complete with a listing and locations of plant species. The plants specifically listed above may not be included within the landscape plan. Vegetation that does not comply with this plan are weeds.

3. Maintenance standard. The maintenance standard in this section applies to property that has been developed with a building as defined in the building code, including vacant property combined with developed property for tax purposes, and a parcel of property that has been completely or partially disturbed by demolition, grading or other means in preparation for development or redevelopment.

a. All turf grasses and weeds must not exceed a height of 10 inches, measured from the base at ground level to the tip of each stalk, stem, blade, or leaf.

b. This requirement does not apply to the following:

(1) a wetland or floodplain designated in the zoning ordinance and required wetland buffers or those voluntarily created by a private land owner when compatible with the character of the neighborhood and the intent of the wetland ordinance, Section 300.23;

(2) a drainage pond or ditch that stores or conveys stormwater;

(3) a pasture that is (a) currently being used only for the exercise or feeding of domestic hoofed animals, (b) physically surrounded by a permanent fence that separates the pasture from property used for other purposes, (c) at least one-half acre in size, and (d) undeveloped with any habitable buildings;

(4) an area in which the land and vegetation appears not to have been graded, landscaped, mowed, or otherwise disturbed by human or mechanical means at any time. Determination of what constitutes this type of area will be based on a reasonable judgment of the present appearance of the area. The recent history of the area may be relevant to this determination; and

(5) an area established with meadow vegetation if:

(a) the prior vegetation is eliminated and the meadow vegetation is planted through transplanting or seed by human or mechanical means;

(b) the area is cut at least once per year to a height of no more than 10 inches, if weeds cover more than 25 percent of the area; and

(c) a sign is posted on the property in a location likely to be seen by the public, advising that

a meadow or prairie is being established. This sign is required only if the meadow vegetation is in an area likely to be seen by the public. This sign must be in addition to any sign permitted by the sign ordinance but must be no smaller than ten inches square, no larger than one square foot, and no higher than three feet tall. The sign is no longer required when weeds cover 25 percent or less of the area.

4. Declaration of public nuisance. The following are public nuisances subject to abatement under this chapter:

- a. noxious weeds;
- b. vegetation that does not meet the maintenance standard specified in paragraph 3 above; and
- c. vegetation that violates the sight-distance standards in section 300.15, subd. 9(e) and section 300.28, subd. 20 of this code.

(Amended by Ord. #99-28, adopted November 8, 1999)

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Section 10.51: Lawn Maintenance

Subdivision 1. Purpose

The purpose of this Section is to establish minimum standards for lawn maintenance while recognizing that a variety of landscapes within a community adds diversity and richness to the quality of life for all residents. Turf grass lawns continue to be recognized as the dominant feature in the landscape; however, alternatives to this traditional type of lawn are recognized as important parts of a diverse and successful landscape.

Subdivision 2. Definitions

- A. **Maintenance Plan:** A document submitted with an application for a Native Vegetation Permit demonstrating a precise course of maintenance for numerous individual plants in a landscape over months and seasons.
- B. **Native Vegetation:** Those indigenous trees, shrubs, wildflowers, grasses and other plants that have naturally adapted themselves to the climate and soils of the area but require cultivation and maintenance to remain viable.
- C. **Native Vegetation Permit:** A permit issued by the City pursuant to this Section allowing an owner or occupant to cultivate Native Vegetation upon his/her property, subject to the restrictions of this Section. A Native Vegetation Permit exempts an owner or occupant from Subdivision 3(C) of this Section.
- D. **Natural Habitat:** Specially uncultivated valued and sensitive habitat whereupon native vegetation exists in a pristine state and provides habitat for a variety of species native to the area. Such vegetation shall maintain itself in a stable condition with minimal human intervention.
- E. **Noxious Weeds:** An annual, biennial, or perennial plant designated by the MN Commissioner of Agriculture or the Council as injurious to public health, the environment, public roads, crops, livestock, or other property.
- F. **Rank Vegetation:** Uncultivated vegetation growing at a rapid rate due to unplanned, unintentional, or accidental circumstances.
- G. **Turf Grass:** Cultivated vegetation consisting of a highly maintained surface of dense grass underlain by a thick root system.
- H. **Weeds:** Unsuitable, unwanted, or uncultivated vegetation, often causing injury to the desired vegetation type.

Subdivision 3. General Requirements

- A. All lot areas not designated for buildings, pedestrian or vehicle, parking, recreation, and storage shall be provided with Turf Grass, Native Vegetation, or combined ground cover of cultivated vegetation, garden, hedges, trees, and shrubbery.
- B. No owner or occupant of any lot shall allow to grow any Noxious Weeds on any part or portion of said lot as designated by Minn. Stat. Sec. 18.78.
- C. No owner or occupant shall allow any Turf Grass, Weeds, Native Vegetation or Rank Vegetation to grow to a height greater than eight (8) inches on a majority of any lot or parcel of land.

Subdivision 4. Exemptions

- A. Vacant Land. The owner of vacant and unoccupied land consisting of a contiguous tract of one (1) acre or more is exempt from Subdivision 3(C) of this Section, provided that Weeds, Turf Grass, Native Vegetation, and Rank Vegetation thereon are cut twice annually. The first cutting shall not be later than June 1, and the second cutting shall be made between July 15 and September 15.
- B. Natural Habitat.
 - 1. All private lands designated by the Council as Natural Habitat shall be exempt from Subdivision 3(C) of this Section.
 - 2. All public lands designated in the City's Comprehensive Plan as Natural Habitat shall be exempt from Subdivision 3(C) of this Section.
- C. Native Vegetation.
 - 1. Native Vegetation Permit. Upon satisfaction and completion of all the requirements of this Section, the City Manager or designee shall approve all applications for a Native Vegetation Permit and issue such permit. A Native Vegetation Permit shall grant any property owner or occupant so interested the ability to cultivate Native Vegetation on his/her property and exempt the owner and occupant from the requirements of Subdivision 3(C) of this Section. A Native Vegetation Permit shall be valid for five (5) years from the date of approval. The City Manager or designee shall approve no Native Vegetation Permit for any owner or occupant having unresolved City code violations or administrative citations.
 - 2. Application. The Application for a Native Vegetation Permit and Renewal Application, which shall be provided by the City Manager or designee shall contain the following:

- a. Statement of intent and purpose in cultivating Native Vegetation;
 - b. Site plan showing lot lines, buildings, location of proposed Native Vegetation, the property's legal description, corner visibility requirements as defined by Section 7.04 of City Code, and right-of-way requirements as defined by Section 7.05 of City Code.
 - c. Latin and common names of the species the property owner or occupant plans to cultivate;
 - d. Maintenance requirements for said species;
 - e. Name and address of a Professional Landscaping Company which has been hired to perform maintenance on the Native Vegetation; or the name, address, and qualifications of the person(s) who will be responsible for maintenance of the Native Vegetation.
 - f. A Maintenance Plan, which shall contain the following:
 - 1.) Planting diagram showing the location and mature height of all specimens of Native Vegetation; and
 - 2.) Detailed information on the upkeep of each specimen; and
 - 3.) Details of any long-term maintenance required for the Native Vegetation.
3. Revocation. The City Manager or designee may regularly inspect any property holding a Native Vegetation Permit for compliance with the Maintenance Plan on file with the City for the property. For any property out of compliance with the Maintenance Plan, the City Manager or designee shall give notice to the holder of the Native Vegetation Permit by US Mail stating that the property must be in compliance with the Maintenance Plan within thirty (30) days. Should that period pass without action by the holder of the Native Vegetation Permit, the City Manager or designee shall:
- a. Revoke the Native Vegetation Permit;
 - b. Remove all improperly maintained Native Vegetation;
 - c. Declare the property ineligible for a Native Vegetation Permit, unless sold, for a period of two (2) years; and
 - d. Assess the property for all fees associated with inspection of the property and any removal of improperly maintained Native Vegetation in accordance with Subdivision 5 of this Section.

Subdivision 5. Violations

- A. On or before May 1 of each year, the Clerk shall publish once in the official newspaper a notice directing owners and occupants of property within the City to remove all Turf Grass, Weeds, Noxious Weeds, Rank Vegetation, and Native Vegetation not covered by a Native Vegetation Permit exceeding eight (8) inches in height. Said notice shall state that if such vegetation is not removed within ten (10) days after publication of said notice, it may be removed by the Weed Inspector or his/her designee at the expense of the property owner which may be assessed against the property in accordance with Minn. Stat. Sec. 429.101.

*Source: Ordinance No. 324, 2nd Series
Effective Date: 3-25-05*

- B. The Weed Inspector or his/her designee shall, seven (7) days prior to removing any Turf Grass, Weeds, Noxious Weeds, Rank Vegetation, or and Native Vegetation not covered by a Native Vegetation Permit send by U.S. Mail a letter notifying the property owner of the upcoming removal and stating that unless such is removed in accordance with this Section, such shall be removed and the costs of removal shall be assessed against the property in accordance with Minn. Stat. Sect. 429.101. Notwithstanding the foregoing, any failure of the Weed Inspector or his/her designee to send such a letter or for such a letter to be received by the property owner shall not make notice ineffective. For properties for which there have been two (2) or more notices issued within the prior twelve (12) month period, a mailed notice is not required. For those properties, the second notice issued within a twelve (12) month period shall contain a general notice that the City may abate future violations without providing additional specific notice of violation.

*Source: Ordinance No. 407, 2nd Series
Effective Date: 8-29-08*

- C. Property owners shall be notified by U.S. Mail immediately thereafter of any work performed and all administrative and removal work costs involved and that such will be assessed against the property. The Weed Inspector or his/her designee shall keep a record of all properties whereupon removal was necessary and the number of times it was necessary, and, by October 1 of each year, he/she shall give copies of such records to the Clerk to file as special assessments against each said property which shall become liens on such lots or lands. This shall be an additional remedy and not in lieu of any other penalty provided for in City Code or state law.

*Source: Ordinance No. 324, 2nd Series
Effective Date: 3-25-05*

Establishing and Maintaining a Prairie Garden

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NOTE: Figures only available in printed publication.

Introduction

Over the last 150 years more than 99% of the midwestern tallgrass prairies were converted to homesteads, agricultural fields, cities, and highways. In recent years, however, interest in prairies has soared, since people realized the beauty of native grasses and wildflowers. Much of the charm and appeal of prairies comes from wildflowers, such as coneflowers, prairie phlox, false indigo, and orchids. The great beauty of prairie wildflowers and grasses has prompted many people to create prairie gardens in their landscapes. People find prairie gardens attractive, as do many types of birds, butterflies, and other native wildlife. Over the years, prairie gardens may take less time and expense to maintain than conventional lawns, since they reduce the use of pesticides, fertilizers, and mowing.

Even though prairies aren't native to all regions, they can be created in most areas. Prairie management includes removal of weeds and volunteer woody plants that compete with prairie plants for water, light, and space.

Contents:

- What is a prairie?
 - Planting a prairie garden
 - Site selection
 - Site preparation
 - Plant selection
 - Seeds vs. plants
 - Planting dates
 - Prairie maintenance
 - For further information
 - Sources of seeds, plants, and information for prairie plantings
 - Table 1: Prairie Wildflowers and Grasses
-

Planting a prairie garden

1. Site selection:

Prairie plants grow best in full sun and in open spaces. When selecting a site, look for areas with the maximum sun exposure with minimal root competition from trees. Ash, basswood, and maple trees provide more competition for prairie plants because they have many surface roots which compete for water and nutrients. Prairie plants often are more compatible with bur or white oak.

Knowing your soil type and surface drainage is quite important when selecting plants for your prairie. Native prairie soils vary greatly in composition, from dry, gravelly, sandy soils which hold little moisture to silty or heavy clay soils that can hold excessive water. Standing water on a site or water that does not drain from a 1' deep hole within 24 hours are indicators of wet and poorly drained soils. Knowing the soil drainage of your site is really more critical than taking a soil test which is typically done in planting a garden. Although you may have a soil test done, (soil test information is available from your county extension agent or from the University of Minnesota soil testing labs*) it is not critical in establishing a successful prairie garden. Understanding the drainage and sun/shade exposure of your site is essential for selecting plants that thrive in your location.

Determine if there are weed ordinances in your city. These ordinances were originally designed to keep yards more attractive and to control the spread of noxious weeds by keeping lawns cut to a certain height. Ordinances vary from one city to another, so call your city government to find out the specifics on the weed ordinances in your community. Consider using some "elements of care" such as mowed eDGes, signs, bird houses, eDGing fences, etc., near your prairie to show the area is meant to be there.

Also, prairies can be fire hazards during dry weather. Leave at least 20 feet of conventional lawn or noncombustible surface between the prairie and buildings or any other combustible items.

2. Site preparation:

The first step in preparing the site for a prairie garden is removing all existing vegetation. If you try to scatter seeds or put young plants into existing vegetation, you will have a very low likelihood of success. Maximize your success by reducing the existing plant competition.

There are three commonly used procedures to establish a prairie in an existing lawn or area of other vegetation. The first method is to put a dark plastic sheet, tarp, or pieces of plywood over the grass for at least two months before you begin planting. This kills the grass, making it much easier to remove, although tough perennial weeds, such as thistles and quackgrass can survive. Once the vegetation is dead, till the area thoroughly. This

method often works best when begun in the summer or fall to prepare for a spring planting.

The second procedure is to turn the soil and cultivate the area every few weeks for a complete growing season. Turning the soil brings weed seeds to the surface, and cultivating kills the seeds that have germinated since the soil was last turned. Over time, many of the weed seeds present in the soil will germinate and die. If possible, till to a depth of 12" or more and rake the area to create a uniform fine seedbed.

A third method, and probably the most common method of establishment, involves using a nonselective herbicide containing the active ingredient glyphosate, such as Round Up® or Kleenup®, to kill all existing vegetation. As with all herbicides, be sure to read and follow all label directions. When the vegetation has died in about two weeks, till to a depth of 12" or more. If a slit seeder will be used, tilling may be eliminated and the now dead vegetation can be mowed to a 1" - 2" stubble. This dead mat of roots and sod may actually act as a mulch and prevent excessive weed growth.

3. Plant selection:

Always select plants with the characteristics of your particular site in mind, because plants vary in their tolerance of light and moisture. Include grasses because they provide physical support, weed competition, protection for wildflowers, and a source of food and shelter for birds during the winter. Prairies typically consist of 60% - 80% grasses. A brief list of common prairie plants can be found in **Table 1**. For a more complete list see Minnesota Extension Service publication *Plants in Prairie Communities (FO-3238)*.

4. Seeds vs. plants:

You can start a prairie from seeds or plants; each has its own benefits. Starting from seed is more economical, but it will take two to five years for the plants to reach full size. Plants are more expensive, but establish quickly and may flower the first year. Also, some species are available only as live plants. You can control placement of plants, and they can easily be planted anytime from spring through fall. "Prairie-in-a-can" mixes are available from a wide variety of sources, but often contain marginally hardy perennial and annual species that don't return in subsequent years. Better results may be achieved by using seed mixes created for your area by local seed dealers. Be sure that any seeds you purchase are packaged for the year that you will sow them.

5. Planting dates:

The best time to direct sow seeds outdoors is after frost and before the heat of summer. For example, in central Minnesota this is between May 20th and June 20th, although seeds can be sown as soon as the soil can be worked. Dormant seeding in the fall, between mid-October and freezing, is another option.

Even seed distribution and good seed-to-soil contact are vital for successful seed germination. Broadcast seed by hand or use a spreader. For small seeds, mix with a bulking agent such as clean sand or dry sawdust for a more uniform seeding. Seed slowly and make passes from two different directions to cover the area completely. Flower seed can be concentrated in high-priority areas or spread evenly throughout the site. Many seeds are very small and should be spread thinly to achieve the best results. Seeding rates vary due to seed size and germination. As a general rule, use 1/2 lb. of grass seed per 1000 square feet, and 2 ounces of wildflower seed per 1000 square feet. More specific instructions on seeding rates can be obtained from the information provided when purchasing seeds.

Watering after seeding improves germination, but is not essential. Covering with a thin mulch of clean, weed-free straw prevents drying out, reduces exposure to wind and animals, and is important in preventing erosion on slopes. Grouping several plants of the same species together can make a showy display and can increase pollination and seed set.

Prairie Maintenance

Your biggest task in the first few years of a prairie planting is **weed control**. Weeding, burning, and mowing are the most effective ways to control weeds.

In small areas, removing and cutting back weeds are the most efficient methods. The most challenging aspect of these tasks is distinguishing between prairie plants and weeds. If you aren't sure what a seedling is, wait a week and look again, but be sure to remove the suspected weeds before they flower and set seed. See references for obtaining the slide set, *Prairie Seeds and Seedling Identification* (EP-6725).

The best way to manage a large prairie is through the use of controlled burns. Fire promotes plant growth by keeping down competition from trees and weeds, and by recycling nutrients. Burning is not practical or possible in all situations, as in small lots or within the city limits. Check with your local fire department to see if burning is allowed, and to get the required permits. Burning in April or early May is most advantageous to warm-season prairie plants, because it reduces competition with weeds and the soil heats up more quickly. Most prairies have only portions burned yearly in a cycle where complete burning takes several years. This partial burning fosters survival of overwintering insects that are lying dormant in the form of eggs or cocoons. It also leaves food and shelter for birds. Though burning is quite effective, it is not recommended until at least the third year after planting.

Mowing and removing clippings is a good substitute for burning, particularly on smaller sites. If you start a prairie from seed, mowing is recommended during the first year to control weeds which grow more quickly than prairie plants. For the first few years, set the mower high (4" to 8") to avoid cutting desirable prairie plants. After 4 or 5 years, mowing once a year after the seeds have fallen, or preferably, in the early spring. Remove clippings to expose crowns for regrowth.

Prairie usually needs no herbicides, insecticides, or fertilizers. Dense prairie vegetation will discourage invading weeds although perennial grasses from adjacent turf can invade along the edges of the planting. The wildflowers will provide food for beneficial insects which will aid in controlling pest insect populations.

For additional help in establishing and maintaining your prairie, consult the references below as well as private landscaping companies and, in some midwestern states, the Department of Transportation. For your own enjoyment, take photos from of same spot, on the same dates, several times a year, for several years. This will show you how far your prairie garden has progressed. Note how it changes through the year, including new and different creatures that your garden has attracted. Don't be surprised to see butterflies and native birds like goldfinches. Enjoy the benefits of restoring part of the landscape to what it was not so long ago.

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Table 1. Prairie wildflowers and grasses.

Name	flower color	flowering date	height
wild lupine (<i>Lupinus perennis</i>)	blue	May - June	1-2'
purple coneflower (<i>Echinacea purpurea</i>)	purple	June - Sept.	2-4'
meadow blazing star (<i>Liatris pycnostachya</i>)	purple	Aug. - Sept.	2-4'
prairie phlox (<i>Phlox pilosa</i>)	pink/purple	May - July	1-3'
blue false indigo (<i>Baptisia australis</i>) tralis)	blue	June - July	2-5'
butterfly weed (<i>Asclepias tuberosa</i>)	orange-red	July - Aug.	1-2'
black-eyed Susan (<i>Rudbeckia hirta</i>)	yellow	July - Aug.	2-3'
grey-headed coneflower (<i>Ratibida pinnata</i>)	yellow	July - Sept.	3-6'
large-flowered beardtongue (<i>Penstemon grandiflorus</i>)	pink/purple	May - June	2-3'
hoary puccoon (<i>Lithospermum canescens</i>)	orange	May - June	1-2'
big bluestem (<i>Andropogon gerardii</i>)	bronze; bluish stems	Aug. - Sept.	3-8'
little bluestem (<i>Schizachyrium scoparium</i>)	white; bluish stems	Aug. - Sept.	2-4'
sideoats grama (<i>Bouteloua curtipendula</i>)	orange-purple	July - Sept.	1-3'
Indian grass (<i>Sorghastrum nutans</i>)	golden-brown	Aug. - Sept.	3-6'

* Contact the University of Minnesota soil testing labs by phone at 612-625-3101, or by mail at 1529 Gortner Avenue, St. Paul, MN 55108.