SECTION 3

Scope of Maintenance Responsibilities and Other Service

3.1 Service and Maintenance

3.1.1 Maintenance Responsibilities (see attachment 8.12)

The workload for the Roads and Grounds Department is dominated by seasonal routine maintenance responsibilities. These seasonal activities are divided into growing season and winter season maintenance. The growing season responsibilities would include all routine mowing, trimming, turf care, ornamental care and all other "green" related seasonal care. Also, during the growing season or warmer season, maintenance functions such as routine bison fence repair and replacement, pothole filling, herbicide applications and any other routine activities requiring warmer temperatures are performed. During the winter season the workload consists primarily of snow removal related functions and routine tree care and removal activities. Roads and Grounds accepts financial responsibility for our routine maintenance activities described above. More detail about specific Roads and Grounds maintenance responsibilities is provided below from section 3.2 through 3.12.

3.1.2 Other Service Requests

A much smaller portion of the workload for Roads and Grounds is generated by other service requests from customers. A Work Order Database is maintained to track these requests. This amount of the total workload is estimated to be about 10%. Many times when a customer's request is received, it is for a service that is not within the scope of what is normally considered a Roads and Grounds funded maintenance responsibility as described in 3.1.1. Examples of these would be major improvements, major modifications, new installations or any major work that cannot be considered funded and routine groundskeeping responsibilities. In

these cases the requestor will be financially responsible. When this type of work is requested, the work is normally done on overtime or it pushes Roads and Grounds normal workload into an overtime situation. Outsourced service providers are also considered for these job requests especially if the work is technically or operationally outside of Roads and Grounds' capabilities. A Task Number will be requested for funding these projects. The requestor will also supply the TM/CC/SC for subcontracted services. Outside funding for Roads and Grounds labor hours are submitted and tracked in the Effort Reporting System (see attachment 8.13).

3.2 Turf and Brome Fields

Roughly 250 acres of the site are established turf areas. These areas are mowed normally on a weekly basis from April through October. Weed whip trimming and herbicide applications are also done routinely in these areas. Some fertilizing is done in high-visibility areas. Brome fields dominate the eastern half of the site. Around 2100 acres of brome grass fields are currently maintained by a biennial mowing cycle. This is designed to prevent the invasion of woody vegetation. Roadway shoulders are also mowed. These are mowed typically 1 –2 times per month during the growing season.

3.3 Ornamental Areas

Numerous ornamental plantings are maintained across the site. These are typically around the most visible areas including Wilson Hall, the main entry gates and other primary buildings. Mulching, seasonal removal, weed control, watering, cutting back dead vegetation and planting replacements are routine activities in these areas.

3.4 Tree and Shrub Care and Removal

Native trees provide habitat for a large variety of insects upon which many birds and higher trophic-level organisms depend. In addition, a standing dead tree that is posing no safety hazard provides many benefits to wildlife. Only under careful consideration should trees be removed that are located within land management units.

However, some trees need to be removed to facilitate the safety and operations of the Lab. Safety issues have warranted the large-scale removal of ash trees killed by the non-native, invasive Emerald Ash Borer (EAB). Ash trees and other species adjacent to roadways, parking lots, buildings, and residential areas at Fermilab may need to continue to be removed if they pose a hazard. Due to prolific seed dispersion and high

germination rates, trees such as cottonwood (Populus deltoides) and box elder (Acer negundo) can negatively impact waterways, cooling ponds, and Industrial Cooling Water (ICW) systems at Fermilab. Trees and brush growing on berms within the Main Ring, Main Injector, and Experimental Area are controlled annually by Roads & Grounds. In addition, periodic removal of trees encroaching agricultural tract boundaries should be carried out in order to maintain field edges.

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3.5 Grounds Operations Support (see attachment 8.14)

Grounds Operations Support refers to activities such as administrative assistance, buildings maintenance planning and scheduling, supervision, annual maintenance reporting, medical activities, Task Manager related duties and support for other FESS operations including FESS/Building Services support, FESS/Engineering requests and FESS/Operations related requests.

3.6 Snow Removal

Snow removal is a large part of the Roads and Grounds Department operations during the winter months. The Roads and Grounds Department clears snow from all paved surfaces and all necessary gravel surfaces throughout the site. In addition specific walks and entrances are the responsibility of the Roads and Grounds Department. The Manager of Roads and Grounds meets with, or at a minimum, talks to every Building Manager on the site prior to the snow season to learn the customer's priorities and to discus what walks will be the responsibility of the Building Manager's group. The need for, and scope of, parking lot snow removal is also discussed with the Building Managers to better prioritize snow crew coverage. After the site wide priorities are gathered, they are presented to the Roads and Grounds snow crew at a Tuesday Tool-Box Meeting before the season begins. These priorities often change during the season based on frequent communications with Building Managers. The changes are also communicated to the snow crew (see attachment 8.15). When all snow crew members are needed there are 17 full-time employees and 4 or 5 On-Call or employees and temps available. There are also 3-5 subcontracted workers available for snow removal.

The environmental impacts of ice melting materials are considered when ordering and applying deicing products. Liquid magnesium chloride is used to mix with salt to lessen the impact ice melting materials have on roadside vegetation and because it has melting advantages when compared to sodium chloride. Bagged magnesium chloride is used on walkways wherever possible for the same reasons.

3.7 Restoration Program

The restoration program uses many diverse land management techniques to promote good stewardship. This program tries to provide the best native ecosystems and habitats possible in the more remote, non-technical areas of the site. The restoration program started by Dr. Robert Betz in 1975 involves more than 1500 acres of tall grass prairie, woodlands and wetlands (see attachment 8.16). Some of the land management techniques include tall grass prairie establishment and enrichment, woodland establishment and enrichment and wetland enrichment. Seed harvesting, seed processing, seed trading (with other local Forest Preserve Districts and others), sowing, regular prescribed burning of open prairie and woodlands, annual species surveys and mapping of eco-sensitive areas, the removal of noxious and invasive species are strong requirements of this program. The removal of noxious and invasive species may include herbicide applications to or the physical removal of groups of large trees or brush as well as herbaceous plants by Roads and Grounds and FNA stewards and volunteers.

The late Dr. Robert F. Betz, the Roads and Grounds Department and the Ecological Land Management (ELM) Committee have been the driving forces behind this unique and important program. An ELM Plan is developed by the ELM committee and the work is accomplished by Roads and Grounds and volunteer groups. This restoration program has received both local and national recognition and awards.

3.8 Pest Control (see attachment 8.17)

Integrated Pest Management (IPM) practices will be followed in this program (see attachment 8.17). All pesticide products receive an ES&H review before purchase. Applicators and Operators are required to read product label before using.

Pest control refers to weed control both terrestrial and aquatic, insect control, rodent and other nuisance animal control. All herbicide applications other than some aquatic applications and all non-structural insect control are done by the Roads and Grounds Department members who are licensed by the Illinois Department of Agriculture. Each licensee must re-certify every three years. The most common applications include mosquito adulticiding, mosquito larviciding, weed spraying and algiciding. Sub-contractors are available for structural pest applications and for more involved aquatic weed applications as described below in section 4. Nuisance animal control is done by Roads and Grounds personnel and a sub-contractor. Problematic animals include raccoons, skunks and geese.

3.9 Bison Herd Management (see DOE directive attachment in procedures 8.18)

All herd management activities and the associated facility maintenance are the responsibility of the Roads and Grounds Department. The herd is given a pelletized protein supplement 3 days a week, throughout the year. Hay is provided from late October through early May. In October the animals are rounded up and sorted in the corral system located at Site 52. There they are systematically forced through a crowding circle and through a squeeze chute so that a sub-contracted veterinary doctor can worm, inoculate and give a thorough check-up to each animal. A Hazard Assessment is reviewed and updated prior to this process. These are wild animals and the process requires training, experience and caution. After the round-up, animals to be sold are held in the pens so that buyers wishing to bid on the animals can get a good look at them. The sealed bid sale process is completed by mid-November. Every 6 to 8 years new blood lines are introduced to the herd by replacing the herd bull or herd bulls. The current herd size target is 17 adults, consisting of 2 herd bulls and 15 cows. New calves and sometimes yearlings, kept from previous year, are sold each fall to keep the herd size between 17 and 21 animals.

Fence and corral system maintenance requires a significant effort every year. Many posts and gates need to be replaced or adjusted each year along with whole sections of fence some years. A double fence system, inner and outer, provides additional security for visitors that come to the edge of the pasture to view the animals. Please read 8.18 for directive on herd size and permission for annual sales..

3.10 Equipment Maintenance

3.10.1 Mechanical Maintenance

The Roads and Grounds Department Mechanic performs the mechanical maintenance to all non-licensed equipment. The shop facility is located at Site 37 and an assortment of hand and powered tools, a welder, powered saws and an equipment lift among other resources are available. A limited supply of parts is kept in stock

3.10.2 Preventive Maintenance

The individual operator of each piece of equipment is required to perform the appropriate preventive maintenance each shift. This may include checkout documentation, sharpening, lubricating and fueling.

3.10.3 Purchased Equipment Maintenance

Major repairs for heavy equipment, tractors and for large tire repairs and replacements are normally a purchased service.

3.11 Fermilab Sponsored Club Support

The clubs that Fermilab sponsors and supports are the Model Airplane Club, the Garden Club and the Horse Club. The Roads and Grounds Department provides services for these groups that include mowing, plowing, and manure hauling and processing.

3.12 Wilson Hall Building Services Support

The Roads and Grounds Department provides manpower to the Wilson Hall Building Management effort. This may include garbage compactor removal and installation, monthly emergency light checks, limited package delivery, ceiling tile repair and replacement and other miscellaneous duties as needed. The level of this assistance depends on the current Roads and Grounds workload. More support is available during winter months than is available during the growing season.

3.13 Agricultural Lease Management (see attachment 8.19)

Fermilab has 2100 acres that are licensed for agricultural use. This lease agreement is competed every 3 to 5 years. The lease holder is required to provide Fermilab with herbicide application information and yield totals annually. The Roads and Grounds Department provides management support for this lease process. Interface between Fermilab and the license holder or his sub-contractors is a Roads and Grounds Department responsibility. Associated maintenance responsibilities include tree removal along edges of fields, drainage system repairs including field tiles, working with subcontractor to map field tile locations to improve drainage and production, agricultural field marking post maintenance and large rock collection and removal.

3.14 Infrastructure Maintenance

3.14.1 Asphalt Surface Maintenance

Asphalt maintenance performed by the Roads and Grounds Department consists of pothole filling throughout the year and relatively small asphalt patches that require saw cutting, asphalt removal, filling, leveling and compacting hot asphalt.

Roads and Grounds also applies lead-free striping paint to roads and parking lots. These stripes require reapplication every 3 to 4

years depending on traffic volume. 55 degree pavement surface temperatures are required for this activity.

3.14.2 Gravel Surface Maintenance

Gravel roads and gravel storage handstands require grading and maintenance periodically. There are several miles of gravel roads on site. These roads include Old Kautz Rd. Holter Rd, Feldott Road, Power Line Rd. North and Power Line Rd. South.

3.14.3 Sign Maintenance and Fabrication

The Roads and Grounds Department maintains all traffic and directional signs and pavement markings on the site. Sign construction and fabrication is performed in the sign shop at site 37. High reflectivity vinyl sheeting is used for all traffic signs.

Roads and Grounds often receives requests for custom interior and exterior signs. This customer service function is also completed in the sign shop at site 37. A task number is supplied by requestors for custom signs.

3.14.4 Guard Rails

Roads and Grounds often receives requests for guardrails to protect buildings, transformers and other utilities and structures. These requests are completed using concrete cylinders specially designed to support guardrail systems. A task number is requested for guardrail installation requests.

Because of a recent history of frequent vehicle accidents on site involving protective concrete cylinders and landscape rocks, Roads and Grounds now recommends the installation of steel bollard posts rather than rocks or concrete cylinders around parking lots, hardstands and roadways where backing occurs. Bollards installed at four feet or higher are much more visible to drivers than the other previously used barrier choices. These bollard installations are available through the T&M office.

3.14.5 Drainage System Maintenance

Ditches, swales, field tiles, culverts and catch basins require periodic maintenance and repair. The Roads and Grounds Department is responsible for maintenance and minor repair of these systems. Ditch cleaning is covered in 3.14.6. Erosion control products will be used on disturbed slopes near waterways or on flat

surfaces where there is no vegetative strip near a ditch or waterway to prevent erosion.

Roads and Grounds uses wood fiber hydro-mulch and straw blanket materials on recently disturbed or freshly landscaped areas to minimize erosion and sediment release.

3.14.6 Process Waterways Maintenance

Fermilab's industrial cooling water system conducts a large volume of water above ground in process waterways. Erosion, sluff-off and aggressive vegetation problems require constant monitoring of this system. Roads and Grounds repairs and stabilizes ditch banks, applies herbicides and removes woody vegetation in these areas. Roads and Grounds will use excavation permit procedures which includes a Julie Permit when cleaning processed waterways and drainage system maintenance. Roads and Grounds will survey ditches to be cleaned and submit an ERF (Environmental Review Form) online. Roads and Grounds will work closely with GIS to document new items not presently identified in the system and reference the GIS maps with the Julie Permit by the personnel doing the work.
The same erosion control methods are used in these operations as mentioned above in 3.14.5.

3.14.7 GIS Support

The Roads and Grounds Group works with the Engineering Group to develop and improve GIS system capabilities within FESS. A GIS rover is based at site 37 and is used frequently by Roads and Grounds staff. There is now a GIS Department upstairs at Site 37.