MCM 6: Pollution Prevention and Good Housekeeping

The University of Nebraska Lincoln (UNL) City and East Campuses comprise approximately 617 acres of land (342 on East Campus and 275 on City Campus), upon which 200+ building have been erected to support the nearly 26,000 students, 1700 faculty, and 4500 staff. Building and grounds usage includes parking lots and garages, greenhouses, recreation fields, residential housing, offices, research and teaching laboratories, classrooms, libraries, healthcare, animal housing (indoor and outdoor), equipment storage, vehicle fleet maintenance, steam generation plants, landscaping operations, streets, sidewalks, and green spaces. These campus assets are inventoried in an extensive GIS mapping system that includes all University buildings, grounds, streets, parking lots, recreation areas, and detailed information on infrastructure (e.g., roads, chilled water lines, domestic water lines, sanitary sewer systems, steam lines, gas lines, etc.). The storm sewer mapping feature includes pipes (size and material of construction), inlets, manholes, open channels, box culverts, and outfalls. The GIS system continues to evolve over time to include additional detail, such as chemical storage and use areas, landscaping details, and environmental considerations (e.g., SPCC plans, air permitting details, environmental deed restrictions, long-term monitoring plans, etc.).

The UNL facilities listed below are identified as having a higher potential to generate storm water pollutants. The rationale for listing each of the facilities as "high priority" facilities is provided.

- City Campus Transportation Services (vehicle maintenance and/or fueling operation)
- City and East Campus Utility Plants (steam generation, bulk chemical storage)
- City and East Campus Landscape Services, including the facilities located on Military Road (deicing material storage, equipment maintenance and storage, trash vehicle/receptacle storage, trash compacting, pesticide/herbicide storage, landscaping material storage, fueling operations)
- East Campus 90-day Hazardous Waste Storage Facility (loading and unloading of 55-gallon drums or smaller containers and a storm drain inlet is located in the immediate vicinity of the loading dock; surface is gravel)
- Outdoor (Animal Sciences Complex on East Campus) animal holding areas (potential source of pollutants in animal excreta, particularly *Escherichia coli* and ammonia)

Certain of the storm water controls for Landscape Services extend to the entire campus, based on the responsibilities of this department, and include street maintenance, litter removal including football game day trash pick-up, and turf and planting bed maintenance. Likewise, certain of the storm water controls for the Utility Plant extend to the entire campus, based on the responsibilities of the department, and include storm inlet and sewer maintenance. Good housekeeping practices and certain specific stormwater pollution prevention controls have been established for each of these facilities. These existing practices and controls form the basis for UNL's written Facility Runoff Control Plan (RCP) and affected staff in each of these units/departments will be trained on the RCP.

EHS inspects each of these high priority faculties at least annually to ensure conformance to established storm water controls and general good housekeeping measures. The objective of the inspection is to ensure that practices are consistent with minimizing potential adverse storm water impacts to the maximum extent practicable.

EHS also publishes a number of SOPs and training materials that apply to these high priority facilities as well as the broader campus community, and have relevance to storm water protection. Adherence to these procedures is regularly evaluated through campus inspections by EHS. Examples of written and training materials produced by EHS follows:

- UNL's Injury and Illness Prevention (IIPP) training contains storm water awareness information and general housekeeping to prevent adverse impacts (e.g., pick up after pets, use trash receptacles, maintain vehicles to prevent leaks, report suspected illicit discharges, etc.).
- The EHS Virtual Manual tool creates a general safety manual for any campus user. This manual contains narrative on potential storm water pollutants and encourages reporting of suspected illicit discharges.
- A number of EHS SOPs target proper management of regulated wastes. EHS also publishes information on proper responses to spills/leaks of chemicals or fuels/oils.

The BMPs identified in this MCM are intended to complement and enhance UNL's existing pollution prevention and good housekeeping program.

Requirement: MCM 6 Pollution Prevention and Good Housekeeping			
Reference	BMP 6.01 Mapping and Inventory (Part IV.B.5.a) a. Municipal Facility and Control Inventory 1) The permittee must develop and maintain an inventory of municipally-owned or operated facilities and storm water controls that is available for review by the permitting authority. 2) The permittee must identify on a map where the municipally-owned or operated facilities are located within the MS4. The map must be maintained and updated regularly and be available for review by the permitting authority.		
Responsible	Utility Services: GIS Project Manager	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	UNL's GIS Project Manager is informed of construction projects on the UNL campus and ensures that campus GIS maps are updated to reflect changes.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**All Years**: Update maps as needed in response to campus changes.		
Report	The GIS map will be available for review by the permitting authority upon request. No reporting.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	N/A		
Reference	BMP 6.02 Municipally-Owned or Operated Facility Assessment (Part IV.B.5.b) 1) The permittee must maintain current assessments of all municipally-owned or operated facilities identified in Part IV.B.5.a. The strategy and description of the assessment procedure must be included in the annual report. 2) The permittee must identify "high-priority" facilities that have a high potential to generate storm water pollutants. High priority facilities are facilities which have the high potential to generate storm water pollutants. A description of the evaluation criteria for determining "high-priority" must be included in the annual report.		

	3) The permittee must document the results of the assessments and maintain copies of all site evaluation documents used to conduct the assessment.		
Responsible	EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	UNL's criteria for designating a facility as "high priority" is summarized in the narrative of this MCM, and documented in UNL's Runoff Control Plan. Final designation as "high priority" is based on known activities and final visual inspection of the site by EHS.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**Ongoing all years**: UNL will conduct and document assessments as new facilities are built or established.		
Report	1. Changes to EHS's assessment strategy to identify "high priority" facilities made during the reporting period will be included in the annual report. 2. A list of newly identified "high priority" facilities made during the reporting period will be included in the annual report.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	N/A		
Reference	BMP 6.03 Runoff Control Plans (Part IV.B.5.c) 1) The permittee must develop and maintain facility-specific Runoff Control Plans for "high priority" facilities to control the contribution of pollution in storm water runoff. (a) For each "high priority" facility or operation identified in **Part IV.B.5.b**, the permittee must develop or maintain a site-specific RCP that identifies storm water control measures, inspection strategy, and visual monitoring procedures. (b) A copy of the facility-specific Runoff Control Plan must be maintained and be available for review by the permitting authority. The RCP must be kept on-site at each of the municipally owned or operated facilities' offices for which it was completed. The RCP must be updated as necessary.		

	2) All "high priority" municipally-owned or operated facility Runoff Control Plans must include provisions for general good housekeeping practices, storage of de-icing materials, fueling operations, vehicle maintenance, and equipment and vehicle washing.		
Responsible	EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	UNL has developed a written Runoff Control Plan that covers all high priority facilities at UNL. A copy of this plan will be on file at each location.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**Year One:** EHS will ensure that a copy of UNL's RCP is on file at each high priority facility. **All Subsequent Years:** EHS will review the RCP for needed changes and place a copy of the plan at newly identified high priority facilities as they are built or established.		
Report	**Year One**: Percentage of high priority facilities that have a RCP on file at their location. **All Subsequent Years**: Summary of newly built or established high priority facilities during the previous year and changes made to the RCP related to newly identified facilities.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	N/A		
Reference	BMP 6.04 Inlet Maintenance (Part IV.B.5.d.1.a&e) 1) MS4 storm water inlets and catch basin maintenance (a)The permittee must develop a strategy to inspect and clean storm water inlets as needed in the SWMP. The results of the implementation of this strategy shall be included in the annual report. (e) The permittee must develop a procedure to dewater and dispose of materials extracted from catch basins so that water removed during the catch basin cleaning process and waste material will not reenter the MS4.		

Responsible	Utilities Services: Utility Plant Manager EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	Utilities Services and/or EHS staff will inspect and clean UNL owned inlets and catch basins under the following strategy: 1. Catch basins will be inspected annually and cleaned as needed. 2. Inlets within 100' down gradient from construction sites 1 acre or greater in size will be inspected and cleaned as necessary prior to filing of a NOT for the site and following substantial stabilization of the site. 3. Inlets specifically associated with an illicit discharge during the previous year will be inspected the subsequent year to verify that the condition leading to the illicit discharge no longer exists. 4. Inlets that have required maintenance during the previous year for clogging or other discharge malfunction will be inspected during the subsequent year to verify that the conditions leading to the malfunction no longer exist. In collaboration with UNL's Utilities Department, EHS will establish a written procedure for inspection and cleaning of inlets and basins and inspectors will be trained to the SOP. The SOP will include evaluation of physical condition; indicators of pollutants (trash, debris, sanitary sewage, oil sheen, discoloration, etc); and management of recovered debris/material.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**Year one:** Establish an inventory of all inlets and basins requiring inspection. Establish the inlet inspection and maintenance procedure and train applicable staff. Verify that inspection and maintenance activities are captured in the		

	appropriate Department's work order system, or otherwise documented. **All Years of Permit:** Update the inventory of inlets and basis requiring inspection as needed; document inspection of each.		
Report	**All Years of Permit:** 1. Percentage of inlets/basins scheduled for inspection with completed inspections. 2. Number of basins/inlets inspected where corrective action was needed and a summary of actions taken.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	Report any analytical testing done in response to inlet clean-outs		
Reference	BMP 6.05 Inlet Awareness Labels (Part IV.B.5.d.1.b) b. The permittee must have a plan to label inlets with a legible storm water awareness message.		
Responsible	EHS: Environmental Specialist Utilities: Utility Plant Manager	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	EHS will meet with the campus stakeholder group (described in MCM 3 & 5) to evaluate/determine: a) Current design guidelines regarding inlet labels and address any changes deemed necessary to be applied to future projects. b) Criteria for identifying existing, un-labeled, high-priority inlets and identifying funding sources and timelines for retrofitting these with inlet awareness labels/messages.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**Year One:**		

	a) Establish acceptable means and methods for future inlet labeling and update UNL's Design Guidelines accordingly. b) Establish criteria for designating existing "high risk" inlets. Inventory existing "high risk" inlets and establish a funding source and schedule for labeling. **All Subsequent Years**: Label drains as applicable by Design Guidelines or high priority inlet schedule.		
Report	**Year One**: Provide a summary of inlet labeling design guidelines, and criteria used to identify existing high-priority inlets. **Subsequent Years**: Provide a summary of changes made to the design guidelines, and status of progress in labeling of existing high-priority inlets.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness			
Reference	BMP 6.06 Open Drainage Maintenance (Part IV.B.5.d.1.c-d) (c) The permittee must visually monitor permittee-owned open channels and other drainage structures for debris and evidence of ongoing dumping in a strategy defined in the SWMP. (d) The permittee shall include a plan for the removal of trash and debris from open channels and other drainage structures. The plan shall be detailed in the SWMP and approved by the NDEE. The permittee must document drainage structure maintenance activity in a log that is to be made available for review by the permitting authority upon request.		
Responsible	Landscape Services: Assistant Director, Landscape Operations EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**

Strategy	Landscape Services will visually monitor all safely accessible UNL owned open channels annually for debris and structural integrity. All waste material will be containerized and disposed of as refuse at a permitted municipal waste landfill, unless meeting criteria of regulated waste, then disposed via EHS in accordance with local, state, and federal rules and regulations as applicable. Any structural maintenance activity will be logged or forwarded to the appropriate agency, if not within the responsibility/authority of UNL. All inspection records will be maintained.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**All Years:** Inspect open drainage channels annually, and maintain a log of associated maintenance activity.		
Report	**All Years**: Percentage of scheduled vs. completed inspections.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	Report any analytical results taken		
Reference	BMP 6.07 Municipal Activities and Operations (Part IV.B.5.d.2) (a) The permittee must implement a set of pollution prevention measures that, when applied during municipal O&M activities, will reduce the discharge of pollutants in storm water. (b) All pollution prevention measures implemented at municipal facilities must be visually inspected in a strategy defined in the SWMP to ensure they are working properly; a log of inspections must be maintained and made available for review by the permitting authority upon request.		
Responsible	EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**

Strategy	Groups of employees that work within O&M at UNL such as plumbers, painters, certified pesticide applicators, etc., not previously identified under a Runoff Control Plan, that could potentially impact stormwater during the course of their work activities will follow pollution prevention measures to prevent negative impacts to stormwater. These pollution prevention measures are detailed in UNL's RCP and the employees subject to this BMP will receive training on UNL's RCP. EHS will interview O&M facility leadership annually to ensure that they are adhering to pollution prevention measures and maintain associated documentation.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**Year One:** EHS will identify and train groups of affected employees. **All Subsequent Years:** 1. EHS will interview O&M facility leadership groups annually. 2. EHS will review UNL's RCP annually, and update as needed. 3. EHS will distribute refresher training materials annually to affected employees, and refresher training will include any changes made to UNL's RCP.		
Report	1. List of O&M facility leadership groups interviewed, and groups of employees receiving training. 2. Significant changes to UNL's RCP.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	N/A		

Reference	BMP 6.08 Street Sweeping (Part IV.5.d.3) (a) The permittee must sweep municipally-owned and maintained streets, roads, and public parking lots in accordance with a strategy defined in the SWMP. (b) The permittee must provide a procedure to dewater and dispose of street sweeper waste material. This procedure must ensure that water and material will not reenter the MS4.		
Responsible	Landscape Services: Assistant Director of Landscape Operations Parking Services: Director	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	Landscape Services will sweep UNL owned streets and surface parking lots annually in the spring. UNL street sweepers do not utilize liquid in the operation. Streets and surface lots are visually monitored throughout the rest of the year and cleaned as needed. All waste material from street sweepers are collected at a designated area at City and East Campus Landscape Services where it is not able to reenter the MS4 system and then properly disposed at a permitted municipal waste landfill. Parking Services cleans all parking garages annually in the summer, with steamer equipment that recovers all liquid. Recovered liquid is disposed in the sanitary sewer. Filtered sediment is collected and accumulated in a manner not exposed to precipitation and disposed of at a permitted municipal waste landfill.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**All Years:** Clean streets and parking lots at frequency defined.		
Report	Summarize any changes to schedule or means of disposal.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental	None		

Indicators of Effectiveness			
Reference	BMP 6.09 Maintenance of Municipally-Owned and/or Maintained Structural Storm Water Controls (Part IV.5.d.4) (a) The permittee must inspect and maintain if necessary municipally-owned or maintained structural storm water controls in accordance with a frequency provided in the SWMP. (b) The permittee must also maintain municipally-owned or maintained green infrastructure practices through regularly scheduled maintenance activities.		
Responsible	Utilities Service: Utility Plant Manager Landscape Services: Assistant Director of Landscape Operations EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	(a) Utility Services will inspect and perform maintenance, if necessary, on all underground stormwater structural controls at least annually or at a frequency recommended by the manufacturer for proprietary systems. (b) Landscape Services will inspect all above ground green infrastructure and structural storm water controls at least annually.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**All Years:** All structural and green infrastructure controls will be inspected and maintained at the required frequency.		
Report	Percentage of Preventative Maintenance inspections conducted on stormwater controls.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness			

Reference	BMP 6.10 Training and Education (Part IV.5.e) The permittee must develop and implement an employee training program for employees involved in implementing pollution prevention and good housekeeping practices in this part. The permittee must also identify and track all personnel requiring training and records must be maintained. The training program and target audience must be described in the SWMP.		
Responsible	EHS: Environmental Specialist	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	EHS will implement its RCP training programs and include affected employees of "high risk" facilities, as well as O&M employees described in BMP 6.07. In collaboration with management of these departments/facilities, EHS will specifically identify affected employees and update the roster of affected employees annually. Affected employees will receive full RCP training once, and will be provided with refresher training materials annually. EHS will maintain training records for individual employees and records of the materials used for initial and refresher training.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	**Year One**: EHS will identify and deliver training to affected employees. **All Subsequent Years**: 1. EHS will update the roster of affected employees at least annually, and deliver full RCP training to newly identified affected employees. 2. Refresher training materials will be provided to previously trained employees at least annually. 3. EHS will review training materials at least annually and update as needed. 4. EHS will maintain records indicating the names of employees receiving		

	training, a summary of the content of the training, date of training, and name of the person conducting the training or other method of delivery.		
Report	**Year One**: Status of completion of training materials. **All Subsequent Years**: Number of employees, by department, completing training during the reporting period.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness			
Reference	BMP 6.11 Contractor Requirements and Oversight (Part IV.5.f) Any contractors hired by the permittee to perform municipal maintenance activities that have the potential to impact storm water quality must be contractually required and overseen by the permittee to ensure compliance with all of the storm water control measures, good housekeeping practices, and facility-specific Runoff Control Plans described above. The contract must also state who is responsible for overall management and implementation of your pollution prevention/good housekeeping program and, if different, who is responsible for each of the BMPs identified for this program.		
Responsible	Leadership of the UNL department issuing the contract for work by the contactor	**Date of Last Review**	**(date the strategy/SOP reviewed)**
Strategy	UNL includes language in contracts for municipal maintenance activities obligating contractors to comply with storm water control measures, good housekeeping practices, and runoff control plans. UNL employees are instructed to notify EHS of any condition that is or could result in an illicit discharge.	**Date of Last Update**	**(date of last SWMP update)**
Measurable Goals	No illicit discharges will occur related to municipal maintenance activities conducted by outside contractors.		

Report	Summary of nature of all illicit discharges attributed to municipal maintenance activities conducted by outside contractors during the reporting period.	**Activity Satisfied**	○ **Yes** ○ **No**
Evaluation: Environmental Indicators of Effectiveness	None		