PUBLIC WORKS DEPARTMENT

VEGETATION MANAGEMENT PLAN

March 25, 2026

INTRODUCTION

This plan covers vegetation management operations completed by the Douglas County Public Works Department. These operations include roadside mowing, park maintenance, revegetation practices, herbicide use and noxious weed control. This plan is intended to direct daily operations, and to provide a format for ongoing public review and input.

APPROVAL

This Vegetation Management Plan was approved by the Board of County Commissioners of Douglas County, Kansas, on April 15, 2026.

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SECTION 1 – ADMINISTRATION

1.1 DEPARTMENT RESPONSIBILITIES

Douglas County Public Works maintains 220 miles of roadways, 161 bridges, over 1,100 culverts, and two county parks. The department also assists nine townships with administration of their roads, and provides fleet maintenance for all county vehicles and equipment. Road and bridge maintenance is the department's core responsibility; which includes pavement maintenance, road signage, roadside mowing, and snow and ice removal. The department is also engaged in major capital improvement projects to replace bridges and improve road safety. In the course of these duties, the department works daily with townships, municipalities, KDOT and other agencies to coordinate work.

A department organizational chart is provided in the appendix. Within the Operations Division of Public Works, the Parks and Vegetation Crew is responsible for roadside mowing, maintenance of county parks, and countywide control of noxious weeds. All vegetation crew members are trained and certified to apply herbicides. The crew superintendent is the county's designated weed supervisor, as required under the Kansas Noxious Weed Law.

Parks and Vegetation Crew responsibilities include:

- Roadside mowing on county-maintained roads
- Mowing and landscape maintenance at county parks
- Mowing and landscape maintenance at the Public Works facility
- Dam operation and maintenance at Lone Star Lake
- Control of noxious weeds on county roadways and county properties
- Control of noxious weeds on roadways and properties owned by other agencies
- Notification and enforcement of state noxious weed laws on private property
- State required sale of herbicides to county landowners for noxious weed control
- Seeding and restoration work in areas disturbed by road construction
- Assistance with snow and ice removal on county roadways
- Assistance with emergency response, and after-hours calls

Mowing and landscape maintenance at other county facilities, such as the courthouse and fairgrounds, is provided by the Douglas County Facilities and Maintenance Department.

1.2 PARKS AND VEGETATION CREW RESOURCES AND FUNDING

The current annual budget for Parks and Vegetation is $880,119; which is supported by the county's General Fund. The budget provides funding for seven full-time employees, equipment, supplies and materials. Fuel for equipment is funded separately in the Fleet Operations budget.

Public Works manages an equipment replacement plan for the Parks and Vegetation Crew. The annual budget includes $95,000 transferred to an equipment reserve fund to support ongoing replacement. The current Parks and Vegetation equipment roster includes a compact track loader, two heavy trucks, four pickups, six tractors and several implements and attachments. A list of Parks and Vegetation equipment is provided in the appendix.

The Public Works Department is located on a 40-acre site in southeast Lawrence. This site includes a 35'x70' building dedicated to herbicide and equipment storage for the Parks and Vegetation Crew. The crew also stores materials and equipment in two storage buildings located on the grounds at Lone Star Lake.

The current budget includes $140,000 to purchase herbicides, although actual expenditures fluctuate from year to year. Roughly 85% of this expense supplies chemicals to be sold to residents for control of noxious weeds. An itemized list of annual herbicide use is provided in the appendix.

1.3 VEGETATION MANAGEMENT GOALS

The overall goals of this Vegetation Management Plan are as follows:

- Plan for public safety
- Plan for employee safety
- Control noxious weeds as defined in state law
- Share goals and knowledge with landowners, and seek public input
- Train county personnel to implement plans and goals

Additional goals are discussed throughout this document. More specific goals include:

- Control roadside vegetation to maintain safe roadways
- Encourage beneficial plants on county properties and roadsides
- Manage areas to minimize the need for mowing and weed control as much as possible
- Plant native plants and establish low maintenance areas whenever possible
- Avoid or reduce herbicide use whenever possible
- Use herbicides efficiently, and minimize impacts to beneficial plants
- Plan herbicide use to control drift and protect sensitive crops

Protection of beneficial plants is a repeated goal in this plan. Examples of beneficial plants include native grasses, forbs and legumes, native trees, wildlife habitat and pollinator habitat.

Herbicide use is a particular concern. Public works uses calibrated equipment, flow monitors and GPS tracking to record herbicide applications. A list in the appendix provides an annual summary of all herbicides used by Public Works, including herbicides sold to landowners.

1.4 PLAN REVIEW AND APPROVAL

This document is intended to provide a framework for continual discussion and review. The plan should be periodically updated to reflect public input, and to respond to new information.

This Vegetation Management Plan was first adopted in March 2022. Unless directed otherwise, the Public Works Department will review and update this plan once every two years. Under that approach, the next review will occur in February 2028. The process of obtaining Commission approval will include opportunities for public comments.

SECTION 2 – FOCUS AREAS

2.1 PROTECTION OF SENSITIVE CROPS

Many crops, like grapes, cotton, tomatoes, and nuts, are especially sensitive to herbicides. Organic growers in particular are concerned about the use of herbicides near their crops. The Kansas Department of Agriculture has partnered with DriftWatch Inc. to provide a registration service for concerned landowners. Information is available at driftwatch.org.

In addition to the state registration system, Douglas County also maintains a local sensitive crop registry. Landowners can submit their information on the sensitive crop agreement form found on the county's website. The registry is available to crop producers, beekeepers, gardeners or any other individuals with concerns about impacts to their properties. This could include concerns about pollinator habitat, wildlife plantings, restored prairies or other management areas.

Public Works maintains a map of all registered locations, and updates the map annually. The map is available online, to guide neighboring landowners using herbicides in the area. Approximately 40 locations are currently mapped.

The Parks and Vegetation Crew identifies sensitive crop areas in the field by placing signs along roadways during the time period of concern. Roadside herbicide applications are avoided during those times within specified distances. The buffer distance varies depending on the type of concern and type of application.

In most sensitive crop areas, pre-emergent herbicides are applied along roadsides after October 15th each year, to reduce noxious weeds during the next growing cycle. As an alternative, some landowners have agreed to mow their roadside frontage frequently to control weeds.

Sensitive crop policy statements
a. The county will continue to maintain a local registry of sensitive crop areas, in addition to the state registration program.
b. The registry will be open to all county landowners, crop producers, beekeepers, gardeners or any other individuals with concerns about impacts to their properties.
c. Herbicide application will be avoided near sensitive crop locations and within buffer areas during the growing season.
d. The county will provide sensitive crop area information to neighboring landowners during chemical sales, site visits or other opportunities for discussion.

2.2 NOXIOUS WEED CONTROL

2.2.1 State noxious weed laws

Noxious weeds are defined as weeds that are harmful to humans, livestock, crops, natural habitats or ecosystems. The Kansas Department of Agriculture maintains the official list of plant species identified as noxious weeds in the state. Noxious weeds displace native plant species, interfere with the production of agricultural crops, increase erosion, destroy wildlife habitat and decrease property values. The Kansas Noxious Weed Law requires all landowners to control the spread of noxious weeds, using the official methods adopted by the state. State designated noxious weeds are currently listed as follows:

Found in Douglas County	NOT found in Douglas County
Field bindweed	Bur ragweed
Musk thistle	Hoary cress
Sericea lespedeza	Leafy spurge
Johnsongrass	Quackgrass
Canada thistle	Kudzu
Common Teasel (optional listing)	Russian knapweed
Cut-leaf Teasel (optional listing)	Pignut

In Douglas County, the designated county weed supervisor is the Parks and Vegetation Crew superintendent, within the Public Works Department. The weed supervisor is responsible for enforcement of the noxious weed law; which includes monitoring countywide weed populations and infestations, notifying landowners of their responsibilities, and entering private property to treat noxious weeds if necessary. The county weed supervisor is also responsible for eradicating noxious weeds on county properties, along county road right-of-way, and on other publicly owned properties and easements. The county submits an annual report of these activities to the Kansas Department of Agriculture.

2.2.2 Noxious weed control methods

All full-time members of the Parks and Vegetation Crew are trained to identify and treat noxious weeds. The most common treatment involves spot spraying individual plants with herbicides targeted to the specific weed. Herbicide quantities are carefully measured and monitored to use the least amount of chemical necessary to achieve effective treatment. Surfactants are added to the mix to reduce drift, increase contact with the targeted weed, and reduce runoff potential. Dyes are added to identify treated areas and increase efficiency. Spot spraying may extend to a wider area if necessary to treat a large infestation.

Mowing can be an effective method to control noxious weeds. This method must be timed to prevent seed generation and repeated if necessary. Current roadside mowing practices do not provide this level of monitoring and control.

Physical removal of individual plants is another method used to control noxious weeds. This method is typically used when isolated plants are found in areas or conditions not suitable for spraying. This method requires hand digging to remove individual plants.

2.2.3 Public Education

The Public Works Department promotes several forms of public education on noxious weed control. Noxious weed identification and treatment information is available on the county's website, and in printed brochures. Each year, the county publishes a notice in the newspaper reminding landowners of their responsibilities. The weed supervisor frequently attends public meetings and events to provide training or guidance. The weed supervisor also has frequent opportunities to meet with landowners to discuss weed management practices and requirements. Public Works periodically offers training on sprayer calibration within the next two years.

2.2.4 Noxious weed enforcement

The weed supervisor is responsible for enforcement of the Kansas Noxious Weed Law in all areas of Douglas County, including within cities and on state and federal lands. Enforcement actions are initiated based on observed violations, often after reports from other landowners. When noxious weeds are observed on any property, the enforcement process proceeds through multiple steps as needed:

1. The weed supervisor attempts to make in-person contact with the landowner to discuss the violation and provide guidance on weed eradication.
2. If the landowner cannot be reached, or is not responsive, the weed supervisor sends a formal written notice by certified mail, outlining the violation and steps to correct.
3. If the landowner is not responsive to the written notice, a follow-up notice is issued outlining the steps the county will take to correct the violation.
4. If the landowner does not correct the violation as specified, the weed supervisor enters the private property to treat the targeted noxious weeds using the same methods applied to county properties.
5. The county's labor, equipment and material costs for the noxious weed treatment are billed to the landowner, and assessed to the property if necessary.

This process has been effective at addressing noxious weeds as intended, and it provides opportunities for the weed supervisor to meet with landowners to discuss weed management methods, chemical use, beneficial plants, sensitive crops and other areas of concern.

2.2.5 Herbicide sales to landowners for noxious weed control

The state noxious weed law specifies that each county must make herbicides available to landowners at a reduced cost, for treatment of noxious weeds. The landowner's cost cannot exceed 75% of the county's cost to purchase the chemicals.

At each point of sale, Public Works verifies that the individual owns land in Douglas County. Frequently, the weed supervisor provides advice on noxious weed control methods and equipment. Landowners are always instructed to read and follow the recommendations listed on

the product label. Public Works also offers spray equipment for rent to landowners, and the weed supervisor provides guidance on equipment use.

The table below lists the herbicides currently sold to landowners for noxious weed control. With the implementation of this plan in 2022, 2-4-D Choline is offered to landowners for control of Musk Thistle and Bindweed, rather than 2, 4-D Amine. 2-4-D Choline has lower volitility and is already used for weed control on county roadways and properties.

The maximum quantities may be exceeded if the weed supervisor reviews the intended use and approves the individual sale.

Chemical Description	Used to treat	Maximum Purchase
2, 4-D Choline	Musk Thistle, Bindweed	20 gallons
Tordon 22K	Musk Thistle, Bindweed	5 gallons
Milestone	Musk Thistle, Bindweed	4 gallons
Glyphosate	Johnsongrass, Bindweed	10 gallons
Pasturegard HL	Sericea Lespedeza	10 gallons
Excort XP	Sericea Lespedeza	80 ounces

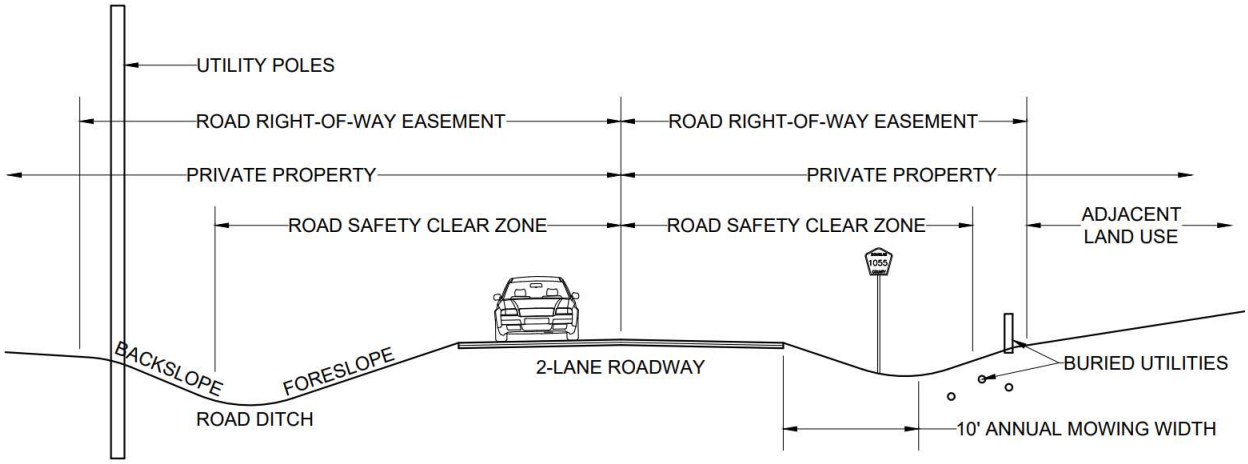
2.2.6 Noxious weed control policy statements

Noxious weed policy statements
a. The county will provide training and support to ensure that weed control employees are certified to identify and treat noxious weeds safely, effectively and efficiently.
b. The county will own and operate equipment specifically suited to treat noxious weeds safely, effectively and efficiently.
c. The county will promote public education on noxious weed control requirements and methods. Opportunities for public education include, web page information, landowner contact, published handouts, public meetings and specific training events.
d. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to target the specific noxious weed to be treated, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, reduce runoff potential, and prevent damage to beneficial plants.
e. Herbicide sales to landowners will be monitored to verify landowner use for noxious weed control. Information will be available at the point of sale to provide guidance on weed identification, methods of control, equipment use, protection of beneficial plants, and registered sensitive crop locations.
f. The county will periodically review and update noxious weed control activities to ensure compliance with the Kansas Noxious Weed Law.

2.3 ROADSIDE VEGETATION

2.3.1 Description of county roadsides

The drawing below shows a typical roadway maintained by the Public Works Department. County roadways are almost always located in right-of-way easements, dedicated on private property. The easement allows the county to operate and maintain a public roadway, while the underlying land is still privately owned. Most of these road easements were created between 1860 and 1880, and have been widened over time to provide more space for shoulders, ditches, culverts and bridges.



Safety is the primary goal of roadway design and maintenance. Safety is affected by pavement condition, road geometry, intersections and drainage. Safety is also affected by the condition of the adjacent roadside. The Federal Highway Administration recommends that new highways include a roadside clear zone free of obstacles, to increase visibility, and to provide space for errant vehicles to recover. The roadside clear zone concept is also applied to existing roadways as conditions allow.

Roadway drainage is critical to maintaining a safe and durable roadway. Roadside ditches carry water away from the road and convey runoff to natural waterways. Roadside ditches also provide storage for snow plowed off the road. The fore slope of the ditch is located adjacent to the road, while the back slope is located beyond the ditch line.

Outside the right-of-way easement, adjacent land uses are varied, from cropland, to manicured lawns, to dense grasses, brush or trees. Many landowners maintain fencing along or near the easement edge. Road maintenance work must be adjusted to remain compatible with these varied conditions.

Roadsides are challenging areas to work and maintain. Roadside vegetation is subject to flooding, drought, erosion and disturbance. Roadsides are impacted by road salt, oils, trash and debris. Working adjacent to traffic can be hazardous. Steep slopes and obstacles often make it difficult to operate equipment or to work on foot.

State law allows public utility companies to install buried and overhead lines within the road right-of-way. Public Works manages a permit system to review utility work and ensure that installations do not conflict with road safety or maintenance. New utility installations often remove beneficial vegetation and increase the need for weed control.

Roadside vegetation management operations must be responsive to all of these factors, including road safety, adequate drainage, adjacent land uses and varied conditions. Roadside vegetation work can be divided into these primary tasks:

- Roadside mowing
- Tree and brush removal
- Maintain visibility of road signs
- Maintain adjacent to guardrails
- Maintain rip-rap areas
- Revegetation in disturbed areas

2.3.2 Roadside mowing and tree removal

Public Works maintains hundreds of acres of roadside along 220 miles of roadway in the county. Roadside mowing is the primary maintenance activity in these areas, with these goals in mind:

- Maintain visibility of traffic signs, obstacles and other road users
- Increase visibility of wildlife or livestock entering the roadway
- Prevent trees from becoming roadside obstacles or damaging pavement
- Keep roadside ditches open to provide adequate drainage and snow storage
- Control noxious weeds

Annual mowing activities are focused first on the area adjacent to the roadway. A single mower width, roughly ten feet wide, is mowed 4 to 8 times per year on all county-maintained roadways. The number of passes is dependent on weather and growing conditions. This roadside mowing strip maintains visibility of road signs and improves overall safety within the clear zone. Additional widths are included near intersections to maintain visibility. Mower heights are set to 4 to 6 inches on all roadsides.

Other areas of the right-of-way are mowed less frequently, or not at all. If an area is accessible to mowing equipment, and is considered traversable by an errant vehicle, Public Works schedules mowing to occur once every two to three years. This frequency is adequate to control tree growth, while allowing increased diversity of ground cover and habitat.

Trees and brush are removed with chain saws and heavier equipment if they are found to obstruct visibility of road signs, intersections, or other road safety concerns. Trees are also occasionally removed to reduce shade and improve road safety during winter weather.

2.3.3 Maintain visibility of road signs

Road signs are an important component of a safe highway system. Road signs can be divided into three categories: regulatory, warning, and guide signs. Regulatory signs, such as stop signs, speed limits and weight limits, establish the rules of the road. Warning signs are intended to alert drivers to potential hazards, such as sharp curves or hills. Guide signs provide navigation references, such as street names and route numbers. Sign standards, selection and placement are specified in the Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration.

The Public Works Department maintains over 8,900 sign posts along roadways in Douglas County. Road signs are typically located a few feet off the road shoulder in areas of maintained vegetation. This presents a challenge for roadside mowing operations. Large tractor driven mowers have to be maneuvered around individual sign posts, leaving a patch of uncontrolled vegetation at the base of each sign. If left uncontrolled, tall vegetation, trees and vines may reduce or totally block sign visibility.

In most cases, Public Works controls vegetation around sign posts with growth retardant herbicides. These are applied once during the growing season, using truck mounted equipment and a handheld spray wand. The target area is a small patch of ground around the sign posts. This method has been effective for maintaining sign visibility, without exposing bare ground.

Public Works avoids the more aggressive approach of ‘bare ground’ herbicides around sign posts, because total removal of vegetation leaves an exposed patch of ground that may lead to erosion problems and promote invasive weeds.

Mechanical methods using small mowers or handheld trimmers would require personnel to work on foot over long distances in sometimes hazardous conditions. Depending on rainfall amounts, mowing may be required several times in a growing season. This approach would require greatly expanding the number of personnel on the Parks and Vegetation Crew.

It should be noted that some signs are located in manicured lawn areas, where the adjoining landowner completes the work of trimming around sign posts.

2.3.4 Maintain adjacent to guardrails

Guardrails are placed along roadways to shield vehicles from roadside obstacles or steep roadside slopes. Guardrails are often located at bridge approaches, and along tall roadway embankments. Material types and dimensions vary depending on when the guardrail was installed. Guardrail technology has evolved over many years, in response to crash studies and experience. National design standards are specified in the AASHTO Roadside Design Guide.

Public Works maintains hundreds of guardrail locations across the county, ranging in length from 50 feet to 4,500 feet. Vegetation along guardrails must be managed to maintain visibility of signs and intersections, and to prevent tree growth near the roadway. This is a difficult task, due to the low clearance under the rail and the close spacing of support posts.

In the past, Public Works applied bare ground herbicides to eliminate vegetation under and near guardrails. This often included areas of rock shoulders adjacent to the road and behind the

guardrail. Since many guardrails are located near bridges, there is increased concern that herbicides may runoff into waterways.

Careful selection and timing of herbicide use is required to address this concern. Public Works controls vegetation under guardrails using growth retardant herbicides, rather than bare ground herbicides. These will be applied once or twice during the growing season. The targeted area will be reduced to a narrow strip in front of and roughly two feet behind the guardrail. Herbicides will not be applied to adjacent ground, unless necessary to spot treat noxious weeds.

Areas in front of guardrails are included in the roadside mowing plan if conditions allow. Areas behind guardrails are only mowed if easily accessible. Steep or rough terrain will not be included in roadside mowing operations. Periodic hand trimming and tree removal may be necessary in some areas not suited to roadside mowing.

Asphalt, concrete or other permanent surfacing can be used to eliminate the need for vegetation control under guardrails. This option is available when new guardrails are installed. Standard bridge guardrails installed on paved roadways now include an asphalt strip under a 30’ length of the guardrail, and there may be other opportunities to apply this method. Public Works will apply this approach to new guardrail installations whenever possible.

2.3.5 Maintain rip-rap areas

Rip-rap is the term used for large rock material often used to cover the ground in erodible areas. KDOT specifications provide a range of sizes for rip-rap, from 12” nominal diameter up to large boulders. Rip-rap is placed at the ends of culverts, in the bottom of steep ditches, on the banks of streams, and on steep slopes under bridges. Herbicide use in these areas is a concern due to potential runoff into waterways.

Rip-rap provides ideal conditions for weeds and woody plants to move in and thrive. This is a concern if tree growth would obstruct roadside visibility, obstruct conveyance capacity in the drainage system, or block access for repairs and maintenance. If these concerns are not an issue, a rip-rap area may be allowed to convert to brush and tree cover.

Vegetation control in rip-rap areas is very difficult. The rough, irregular surface is hazardous to working on foot or operating equipment. Individual stones are often unstable. Chain saws and hand trimmers are not well suited to work in these conditions. Boom mowers may be used to periodically control weeds and brush if adequate operating space is available. If left uncontrolled, tree removal eventually requires heavy equipment to clear the ground and completely rebuild the rip-rap surface.

Herbicides are often used to control woody plants and weeds in rip-rap areas. Due to the proximity to waterways, surfactants are added to the mix to reduce drift, increase contact with the targeted plant, and reduce runoff potential. Careful timing is necessary to avoid storm runoff after application.

Turf mesh blankets provide an alternative for erosion protection in waterways and on slopes. In some cases, native grasses can be incorporated into blanket installations. Over long periods, blankets and other alternatives are often less effective than rip-rap in erodible areas.

With these factors in mind, Public Works will continue to evaluate each rip-rap location to determine the best management approach. Options to be considered include:

- Reduce or remove rip-rap areas if possible
- Replace rip-rap with alternative erosion protection if possible
- Allow rip-rap areas to convert to brush and tree cover if allowable
- Use herbicide if necessary to target areas of concern

2.3.6 Revegetation in disturbed areas

Public works is frequently involved in construction or maintenance work which requires revegetation of disturbed ground. On larger projects, revegetation is often specified and required as part of a KDHE approved erosion control plan. Cool season grasses such as Brome and Fescue are usually selected to provide permanent ground cover. These grasses are suited to the local climate and normal maintenance practices. Compatibility with adjacent land use is a factor in grass selection.

Some projects provide opportunities to plant low maintenance vegetation. Road geometry or topography sometimes create wide spaces within the right-of-way; which are suited to native grasses and wildflowers. Locations have to be carefully selected and managed to prevent future disturbance from utility installations or maintenance work. KDOT adopted this practice several years ago, and Douglas County has applied this approach to several locations in the past. Public Works will continue to evaluate opportunities to plant native vegetation within project areas.

2.3.7 Roadside vegetation policy statements

Roadside mowing and tree removal policy statements
a. The county will mow a strip along the edge of all roadways multiple times each year to maintain roadside visibility. Mower height will be 4 to 6 inches, and the area mowed will be equal to one mower width or approximately 10 feet.
b. Additional areas of the right-of-way will be mowed once every two to three years to control tree growth. These areas will only be mowed if accessible to equipment and determined to be traversable by an errant vehicle.
c. Brush and trees will be removed if they are found to obstruct visibility of road signs, intersections, or other road safety concerns.

Sign maintenance policy statements:
a. The county will not use bare ground herbicides around sign posts.
b. The county will use growth retardant herbicides to maintain sign visibility. The area sprayed will be limited to roughly five feet long in the direction of travel, and three feet in width. Herbicides will be applied once per year, or once every other year if adequate for vegetation control.

c. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to control growth, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, reduce runoff potential, and prevent damage to beneficial plants.
d. Herbicides will not be used where the landowner provides adequate maintenance of vegetation around road signs.

Guardrail maintenance policy statements:
a. The county will not use bare ground herbicides along guardrails. Instead, the county will use growth retardant herbicides to control vegetation adjacent to guardrails.
b. The area sprayed will be limited to a narrow strip in front of and roughly two feet behind the guardrail. Herbicide will not be applied to other adjacent areas, unless necessary to spot treat noxious weeds.
c. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to control growth, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, reduce runoff potential, and prevent damage to beneficial plants.
d. The county will place asphalt or another effective ground cover under new guardrail installations whenever possible, to eliminate the need for vegetation control.

Rip-rap maintenance policy statements:
a. The county will evaluate each rip-rap location to determine the best vegetation management approach, with the goal of reducing herbicide use. Vegetation will only be controlled in rip-rap areas if there is an identified safety or maintenance concern. If not, a rip-rap area may be allowed to convert to brush and tree cover.
b. If herbicides are used to control brush in rip-rap areas, the county will plan and schedule applications to reduce herbicide use as much as possible. Areas will not be treated every year. Instead, the county will monitor and treat areas only when brush creates a safety or maintenance concern.
c. Growth retardant herbicides will be used rather than bare ground herbicides, if adequate vegetation control can be achieved.
d. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to target specific plants, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, reduce runoff potential, and prevent damage to beneficial plants.
e. Herbicide application in ditches and waterways will only be scheduled during periods of extended dry weather.

2.4 PARKS AND FACILITIES

2.4.1 Locations maintained by Public Works

The Public Works Department maintains parks and open spaces in the county, including Lone Star Park, Wells Overlook Park, and Chicken Creek Stone Arch Bridge. The department also provides site and landscape maintenance at the Douglas County Public Works facility in Lawrence. Most of this work is assigned to the Parks and Vegetation Crew.

Lone Star Lake Park is a 451-acre county owned property located approximately 10 miles southwest Lawrence. The dam and surrounding improvements were built in 1939 by the Civilian Conservation Corps. The park includes maintained open spaces and heavily wooded areas. The normal lake surface covers 177 acres. Park facilities include campsites, restrooms, a playground, swimming beach, boat ramps, picnic shelters and an event building.

Wells Overlook Park is a 16-acre county owned property located three miles south of Lawrence. The property was donated to the county in 1971 by the longtime landowner. The park includes scenic views from a tower perched on the prominent hilltop. The county added an ADA accessible viewing platform to the site in 2020.

The Douglas County Public Works facility is located on a 40-acre county owned property in southeast Lawrence. The department has occupied this location since 2014. The site includes space for administrative offices, maintenance crew shops, vehicle fleet maintenance, equipment storage and material storage. The site also includes several acres of vegetated open space. The county shares salt, sand and fuel resources with the adjacent KDOT maintenance facility.

Policies outlined in the preceding sections also apply to these county properties. Specifically, the policies for vegetation control around road signs, guardrail and rip-rap will be followed within county parks and Public Works facilities. Additional vegetation control work can be divided into these areas of concern:

- Lawn maintenance
- Gravel surfaced areas
- Dam maintenance
- Aquatic weed control

2.4.2 Lawn maintenance

The sites listed above all include maintained lawn areas of cool season grasses, such as fescue, brome or ryegrass. Maintained areas at county parks have evolved over time to provide recreational spaces and access to open areas. These areas also provide fire breaks around buildings and other improvements.

Cool season grasses require mowing several times each year. Herbicides are sometimes used in lawn areas to control broadleaf weeds and encourage grass cover. Well established lawns are less susceptible to weed competition, requiring less herbicide use. Fertilizers are also applied in lawn areas to support turf growth.

Native Buffalograss is an alternative to cool season grasses in lawn areas. Buffalograss thrives in drier weather, requires far less mowing than cool season grasses, and does not require fertilizer. Buffalograss can be susceptible to weed competition, particularly during times of increased rainfall. The department maintains one acre of Buffalograss lawn at the Public Works facility. Herbicides have been used to spot treat weeds as needed.

In some cases, the area of lawn to be maintained can be reduced by planting native prairie grasses. Prairie grasses require annual mowing or burning to control weeds and trees. Weed control is less of a concern in these areas, and herbicides are typically not needed. The department maintains two acres of planted native prairie grass at the Public Works facility. The county recently converted two acres of woods to native grasses at Wells Overlook Park.

2.4.3 Gravel surfaced areas

Douglas County parks and building sites have many gravel surfaced areas intended for vehicles, foot traffic or storage. Examples include material and equipment storage lots, walkways and paths, camp sites and fire pits, and overflow parking areas. These areas are often susceptible to weed growth.

In the past, Public Works applied bare ground herbicides to eliminate vegetation in gravel areas. Starting with the development of this plan in 2022, Public Works will avoid using herbicides on gravel surfaces as much as possible. Herbicides will be used for spot control of weeds, only if weed growth has a negative impact on use of the area.

Mowing and trimming are also used to control weeds in gravel areas if possible. Care must be taken to prevent thrown rocks or debris in occupied areas and around buildings and equipment.

As an alternative, gravel areas can be converted to concrete, asphalt or similar surfacing to eliminate weed growth. The cost of these materials must be considered in planning improvements.

2.4.4 Dam maintenance

Douglas County owns and maintains the dam at Lone Star Lake. Dam maintenance is provided by the Parks and Vegetation Crew within the Public Works Department. Due to its size and location, the dam is subject to state dam safety laws, administered by the Kansas Department of Agriculture. Specifically, the county is required to eliminate tree growth on the entire dam embankment. Tree roots can penetrate the critical soil structure within a dam, weakening the structure and providing pathways for water movement.

The county completed a project in 2018 to modify the downstream (north) face of the dam. These modifications were needed to address erosion and soil movement. The modifications also improved conditions for annual mowing. The slopes were filled and regraded to provide a more stable, uniform surface, and the completed project was seeded with brome grass.

Annual mowing and controlled burns are both used to control vegetation on the downstream face of the dam. More frequent turf mowing and trimming is completed along the roadway on top of the dam. Herbicides are only used in these areas if needed to spot treat noxious weeds.

The upstream (south) face of the dam is protected from wave erosion by a thick layer of large facing stones. These stones were hand placed with the original construction of the dam in 1939. Weeds, brush and trees are able to grow in the spaces between these stones. Due to the slope and uneven surface, vegetation control has to be completed on foot using herbicide or hand trimmers. Public Works will seek to minimize herbicide use on the upstream face of the dam by monitoring growth and treating only as needed to control vegetation.

2.4.5 Aquatic weed control

In past years, the county applied aquatic herbicide to treat Eurasion Watermilfoil in Lone Star Lake. Eurasion Watermilfoil is a non-native aquatic plant that forms dense mats in shallow lakes, competing with native aquatic plants, and inhibiting recreational uses. Past herbicide applications have been recommended by the Kansas Department of Wildlife and Parks. The table below lists the recent history of aquatic herbicide applications in Lone Star Lake.

Year	Aquatic Herbicide	Area Treated (acres)	Herbicide Quantity
2013	Aquathol-K	5.3	82 gallons
2014	-	-	-
2015	Aquathol-K	30.0	(x) gallons
2016	Sonar Genesis	Whole Lake	67 gallons
2016	Sonar One	150.0	512 pounds
2017	Navigate	south 1/2 SE arm	(x) pounds
2017	Navigate	2.7	215 pounds
2018	Navigate	1.0	50 pounds
2019	Navigate	37.0	925 pounds
2020	Navigate	3.5	70 pounds
2021-2025 no herbicide use			

Mechanical removal is an alternative method to control Eurasion Watermilfoil. Specialized equipment is required to remove plants, and any floating fragments are able to reestablish in other areas of the lake. Douglas County has not attempted mechanical removal methods.

Physical methods are also available to control Eurasion Watermilfoil. Long-term shading of the plants discourages growth and kills existing plants. The county has not attempted any physical removal methods.

Public Works conducted a survey of the lake in 2023 and found Eurasion Watermilfoil present over 36 acres, which is 20% of the lake surface. Public Works will continue to monitor this concern. Any future decisions to use aquatic herbicide in Lone Star Lake will be presented to the Board of County Commissioners for discussion and approval, including an opportunity for public comment.

2.4.6 Parks and facilities policy statements

Lawn maintenance policy statements:
a. The county will periodically evaluate site plans and monitor conditions to determine where manicured lawns will be maintained. Conversion to native prairie grass or trees will be considered if appropriate.
b. Herbicide use will be limited to spot treatment of broadleaf weeds to reduce competition with turf grass, or spot treatment of noxious weeds.
c. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to target specific plants, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, and reduce runoff potential.

Gravel surface policy statements:
a. The county will periodically evaluate site plans and monitor conditions to determine where gravel surfaces will be maintained. Conversion to impervious surface will be considered if appropriate.
b. Herbicide use will be limited to spot treatment of weeds only if weed growth has a negative impact on use of the area. Mowing and trimming will be the preferred alternative if safety of the surrounding area is not a concern.
c. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to target specific plants, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, and reduce runoff potential.

Dam maintenance policy statements:
a. Herbicide use on the downstream face of the dam will be limited to spot control of noxious weeds only. Mowing or burning will be used to eliminate trees.
b. Herbicide use in the turf along the roadway will be limited to spot control of noxious weeds only. Mowing and trimming will be used to control vegetation.
c. Herbicide use on the upstream face of the dam will be limited to one annual treatment of aquatic labeled herbicide. Application will be controlled to prevent contact with lake water. Herbicide applications will only be scheduled during periods of extended dry weather.
d. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to target specific plants, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, and reduce runoff potential.

Aquatic weed control policy statements:
a. Aquatic herbicides will not be applied to Lone Star Lake, or any waterbody without explicit approval of the Board of County Commissioners.
b. A request for Board consideration will include a description of the weed management concern, and a review of available treatment alternatives, including the impact of no treatment.
c. The county will consult with KDWP on aquatic weed control recommendations presented to the Board.

2.5 SERVICES PROVIDED TO OTHER AGENCIES

Local agencies, such as townships, cities and drainage districts often do not have personnel who are trained and certified to apply herbicides. State law allows local agencies to enter into agreements to share certain services and costs. Currently, Public Works offers noxious weed control services to these state and local public agencies within Douglas County:

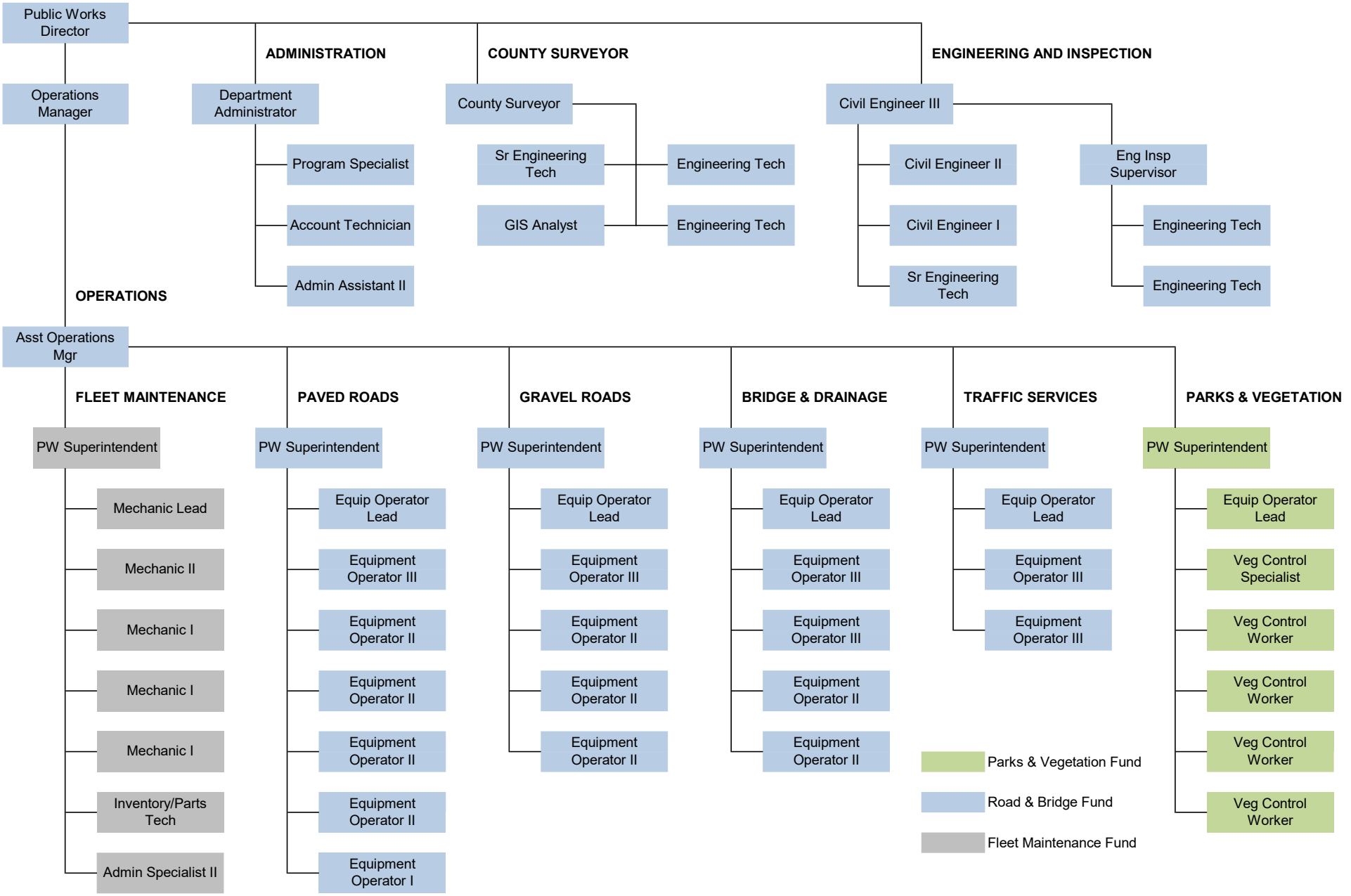
- KDOT – state highway roadsides
- City of Eudora – city properties
- Kaw Drainage District - easements
- All nine townships - roadsides

In the past, these agreements also included other weed control services, such as bare ground application in gravel storage lots, and bare ground treatment at the base of road signs. These agreements are now limited to spot treatment of noxious weeds only.

Local agreement policy statements
a. The county will offer noxious weed control services to other public agencies within Douglas County. Written agreements will be renewed annually, and will specify the costs to be reimbursed for these services.
b. Noxious weed control services provided to other public agencies will be limited to spot control of noxious weeds as needed. No other herbicide application services will be provided.
c. Herbicide use will be minimized to the greatest extent possible. Herbicide will be selected to target the specific noxious weed to be treated, using the minimum quantity necessary. The timing of application will be chosen to maximize effectiveness, minimize overspray, reduce runoff potential, and prevent damage to beneficial plants.

APPENDIX A – Public Works Department organization chart

Douglas County Public Works Department - March 2026



APPENDIX B – Parks and Vegetation Crew major equipment list

Parks and Vegetation Crew Equipment List March 2026

Unit #	Year	Make	Model	Replacement Year
104	2014	Ford	F450 4x4	2026
104F	2014	Fairbank	Back Fuel Tank	2026
104SP	2014	Honda	Sprayer	2026
107	2014	Ford	F450 4x4	2026
107SP	2013	Honda	Sprayer	2026
107F	2014	Fairbank	Back Fuel Tank	2034
108	2024	Ford	F450 4x4	2034
108SP	2025	Fairbank	Hypro Honda Pump	2037
113	2020	Ford	F350 4x4	2030
113A	2020	Boss	Power-V XT Plow	2030
113F	2020	Better Built	Back Fuel Tank	2030
207	2023	Mack	GR42B Swap Loader	2033
207A	2023	Henke		2033
207C	2013	Warren	Sander 6.3 Yard	2033
207E	2023	Economy	Truck Bed	2033
222	2018	Mack	GU812-Dump Truck	2028
222A	2018	Henke	Plow	2028
222C	2018	Warren	2420-10 304 SS-Spreader	2028
222D	2018	Warren	U-10 Chipper Box	2028
222E	2018	Economy	ESL 2 2017 Flat Bed	2028
222T	2018	Varitech	93140-Spreader	2028
244	2018	Lamar	UT831213-Trailer	2033
257	2013	Eagle	Trailer	2033
401	2024	John Deere	Z970R 72-Mower	2034
403	2018	John Deere	Z970R-Mower	2028
404	2020	John Deere	Z970R-Mower	2030
405	2023	John Deere	6130M Cab Tractor	2033
405C	2023	Diamond	Diamond Boom Mower DBM-C-N	2033
406	2025	John Deere	6M 165 Cab Tractor	2035
406C	2025	John Deere	FC10R Flex Wing Rotary Cutter	2035
407	2017	John Deere	6145M	2027
407C	2013	Schulte	Rotary Cutter XH1000	2027
407D	2021	Top Gun	Highline BP663-Round Bale Mulcher	2027
408	2022	John Deere	3046R-Mower	2031
409	2023	John Deere	3046R Mower	2033
410	2014	John Deere	3520 Tractor Mower	2025
511	2016	CAT	299D2XHP Track Loader	2026
511A	2016	Loftness	71" G4 Carbide Cutter	2026
511U1	2008	Bobcat	Smooth Bucket	2026
511U10	2017	John Deere	PA30 Auger	2026
511U3	2024	Bobcat	748843-N 72" Root Grapple	2026
511U6	2014	Bobcat	Stump Grinder	2026
511U7	2021	Bale Spear	Round Bale	2026
511U9	2013	Kuhns	Hay Grapple MFG510F	2026
511U2	2025	CAT	Tooth Bucket	2037
720	2016	Bandit	280XP Chipper	2031
721	2023	Bomgaars	35 Ton Log Splitter	2043
800	2010	C-ARC	ABT78-HD/2072Boat	2030
801T	2010	Haul-Rite	ABT78-HD/2072Boat Trailer	2030
802	2009	Finn	B70T StrawBlower	2029
803	2013	Land Pride	APS1560 Seeder	2033
804	2004	Genie	S-60 Lift	2026
805	2013	John Deere	625I Gator	2030
805A	2016	John Deere	Plow	2030
806	2023	Country Tuff	35Ton CT35TKO-2 Log Splitter	2043
807	2023	John Deere	XUV835M-Gator	2033
807A	2023	John Deere	Western 84930 Blade	2033
WR1	2019	Honda	Schaben Sprayer	2039
WR2	2010	Honda	Schaben Sprayer	2030
WR3	2014	Honda	Schaben Sprayer	2034

APPENDIX C – Prior year summary of herbicide use

Herbicides applied and sold by Douglas County Public Works in 2025 **2026 Summary**

CONTROL OF NOXIOUS WEEDS / CONTROL OF BROADLEAF WEEDS IN LAWN AREAS

product	HardBall (2,4-D)	
use	Spot control of Musk thistle and Field bindweed, control of broadleaf weeds in lawn areas, Teasel	
application rate	32 ounces/acre (June-Aug rate 16 ounces/acre)	
Locations	area managed	2025 use
County roadsides and properties	2227 acres	2.5 gal
Townships and City of Eudora per agreements	3859 acre	0
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement	2952 acres	0
Kaw Valley Drainage District levees per agreement	30 acres	0
Lone Star Lake Park open areas as needed (lawn turf maintenance)	236 acres	0
Lawn turf areas in other County parks (Chicken Creek, Wells Overlook)	18	0
NOT sold to residents	---	---

product	Tordon 22K (RUP) Restricted Use Pesticide (picloram based weed killer)	
use	Spot control of Musk thistle and Field bindweed, control of broadleaf weeds in lawn areas, Teasel	
application rate	16 ounces/acre	
Locations	area managed	2025 use
Road signs in mowed areas (patch in front of sign) 4 oz/acre	acres	gallons
County roadsides and properties	2227 acre	3.87 gal
Townships and City of Eudora per agreements	3859 acre	4.68 gal
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement	2952 acre	0
Kaw Valley Drainage District levees per agreement	30 acre	0
Lone Star Lake Park open areas as needed (lawn turf maintenance)	236 acre	0
Lawn turf areas in other County parks (Chicken Creek, Wells Overlook)	18 acre	0
Sold to LICENSED residents for spot control of Musk thistle and Field bindweed	---	271 gal

product	Drive XLR8 (quinclorac, ethylene glycol and dimethylamine)	
use	Control of broadleaf weeds in buffalo grass lawn	
application rate	4 ounces / 3 gallons	
Locations	area managed	2025 use
Spot control of weeds in buffalo grass (Public Works facility)	as needed	0
NOT sold to residents	---	---

product	Snapshot (trifluralin and isoxaben)	
use	Control of weeds in mulched areas	
application rate	2.6 qt / 1000 SF	
Locations	area managed	2025 use
Control of weeds in mulched areas (Public Works facility)	as needed	0
NOT sold to residents	---	---

SPOT CONTROL OF MUSK THISTLE AND FIELD BINDWEED

product	HIghNoon		
use	Spot control of Musk thistle and Field bindweed		
application rate	16 ounces/acre		
Locations		area managed	2025 use
County roadsides and properties		2227 acre	3.87 gal
Townships and City of Eudora per agreements		3859 acre	5.52 gal
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement		2952 acre	0
Kaw Valley Drainage District levees per agreement		30 acre	0
NOT sold to residents		---	---

product	Freelexx (2,4-D Choline)		
use	Spot control of Musk thistle and Field bindweed		
application rate	16 ounces/acre		
Locations		area managed	2025 use
County roadsides and properties		2227 acre	3.87 gal
Townships and City of Eudora per agreements		3859 acre	4.68 gal
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement		2952 acre	0
Sold to residents for spot control of Musk thistle and Field bindweed		---	902.5 gal

product	Milestone (triisopropanolammonium salt)		
use	Spot control of Musk thistle and Field bindweed, Teasel		
application rate	5 ounces/acre		
Locations		area managed	2025 use
County roadsides and properties		2227 acre	1.75 gal
Townships and City of Eudora per agreements		3859 acre	0
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement		2952 acre	0
Kaw Valley Drainage District levees per agreement		30 acre	0
Sold to residents for spot control of Musk thistle and Field bindweed		---	7.5 gal

SPOT CONTROL OF SERICEA LESPEDEZA

product	Pasturegard HL (triclopyr and fluroxypyr)		
use	Spot control of Sericea lespedeza		
application rate	16 ounces/acre		
Locations		area managed	2025 use
County roadsides and properties		2227 acre	4.10 gal
Townships and City of Eudora per agreements		3859 acre	.9 gal
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement		2952 acre	0
Kaw Valley Drainage District levees per agreement		30 acre	0
Ivan Boyd Prairie per agreement		20 acre	0
Sold to residents for spot control of Sericea lespedeza		---	663 gal

Herbicides applied and sold by Douglas County Public Works in 2025 **2026 Summary**

product	Escort XP (metsulfuron-methyl)	
use	Spot control of Sericea lespedeza	
application rate	1.0 once/acre	
Locations	area managed	2025 use
County roadsides and properties	2227 acre	31 oz
Townships and City of Eudora per agreements	3859 acre	42 oz
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement	2952 acre	0
Sold to residents for spot control of Sericea lespedeza	---	1480 oz

SPOT CONTROL OF JOHNSONGRASS

product	Outrider (sulfosulfuron)	
use	Spot control of Johnsongrass	
application rate	1.5 ounces/acre	
Locations	area managed	2025 use
County roadsides and properties	2227 acre	69 oz
Townships and City of Eudora per agreements	3859 acre	82.5 oz
KDOT ROW (Hwy 59/56/K-10/40/32/24/33) per agreement	2952 acre	0
Kaw Valley Drainage District levees per agreement	30 acre	0
NOT sold to residents	---	---

product	Aquaneat (Glyphosate)	
use	Spot control of Johnsongrass	
application rate	64 ounces/acre	
Locations	area managed	2025 use
Sold to residents for spot control of Johnsongrass	---	620 gal

CONTROL OF WOODY VEGETATION

product	Garlon 3A (triclopyr)	
use	Woody plant control	
application rate	224 ounces/acre	
Locations	area managed	2025 use
Tree stumps after cutting, brush around culverts and bridges	as needed	0
NOT sold to residents	---	---

product	Pathway (picloram + 2,4-D)	
use	Woody plant control	
application rate	Premixed spray bottle	
Locations	area managed	2025 use
Tree stumps after cutting	as needed	5-10 gal
NOT sold to residents	---	---

CLEARING AND WEED CONTROL IN HARDSCAPED AREAS

product	Rodeo (Glyphosate)	
use	Broad spectrum scarifier	
application rate	64 ounces/acre	
Locations	area managed	2025 use
Raeta Road	1 acre	1.5 gal
Guardrail (areas that cannot be mowed) on County roads, culverts and bridges	32 acre	1.5 gal
Rock face of Lone Star Dam to prevent tree growth and noxious weeds	1.2 acre	4 gal
Lone Star Lake Park hardscapes and mulched areas	2.4 acre	0
Public Works facility rip-rap and fenceline areas	.5 acre	0
Eudora Public Works and Eudora utility substations per agreement	45 acre	0
Around roadsigns in Wakarusa Township per agreement	10 acre	0
NOT sold to residents	---	---

product	Ecomazapyr 2 SL	
use	Broad spectrum scarifier	
application rate	64 ounces/acre	
Locations	area managed	2025 use
Guardrail (areas that cannot be mowed) on County roads, culverts and bridges	32 acre	0
Rock face of Lone Star Dam to prevent tree growth and noxious weeds	1.2 acre	4 gal
Lone Star Lake Park hardscapes and mulched areas	2.4 acre	0
Public Works facility rip-rap and fenceline areas	.5 acre	0
Eudora Public Works and Eudora utility substations per agreement	45 acre	0
Around roadsigns in Wakarusa Township per agreement	10 acre	0
NOT sold to residents	---	---

product	Esplanade200 SC (indaziflam)	
use	Broad spectrum weed control in hardscaped areas	
application rate	5 ounces/acre	
Locations	area managed	2025 use
Lone Star Lake campground gravel, fire pits, parking	1.5 acre	0
Rip-rap areas	5 acre	0
NOT sold to residents	---	---

product	Landmaster BW (Glyphosate 12.9% + 2,4-D 20.6%)	
use	Broad spectrum growth retardant	
application rate	32 ounces/acre	
Locations	area managed	2025 use
Used in front of road signs to maintain visibility	45 acre	5.5 gal
NOT sold to residents	---	---

SPRAYER ADDITIVES

product	WeatherGard Complete (surfactant)		
use	Additive used to control drift		
application rate	8 ounces/acre		
Locations		area managed	2025 use
Used in most applications		as needed	0 gal
Sold to residents		---	145 gal

product	Gardian (surfactant)		
use	Additive used to control drift		
application rate	8 ounces/acre		
Locations		area managed	2025 use
Used in most applications		as needed	13.03 gal
NOT sold to residents at time		---	---

product	Liberate (surfactant)		
use	Additive used to control drift		
application rate	16 ounces/acre		
Locations		area managed	2025 use
Used in most applications		as needed	8.55 gal
NOT sold to residents		---	---

product	Dye		
use	Additive used to identify applied areas		
application rate	1 gallon per tank		
Locations		area managed	2025 use
Used in most applications during the growing season		as needed	14.09 gal
Sold to residents		---	6 gal

LAKE TREATMENT FOR EURASION WATERMILFOIL

product	Navigate (2,4-D) aquatic herbicide		
use	Control of Eurasian Watermilfoil in Lone Star Lake		
application rate	5.4 to 27 lb/ac-ft		
Locations		area managed	2025 use
Lone Star Lake		3.5 to 16.5 acres	0
NOT sold to residents		---	---

product	Sonar One (fluridone) aquatic herbicide		
use	Control of Eurasian Watermilfoil in Lone Star Lake		
application rate	1.0 to 5.2 lb/ac-ft		
Locations		area managed	2025 use
Lone Star Lake		3.5 to 16.5 acres	0
NOT sold to residents		---	---