



Integrated Roadside Vegetation Management Plan



Linn County, Iowa

Version 4 - May 2020

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Vegetation Management Specialist

Preface

The Linn County Integrated Roadside Vegetation Management (IRVM) Plan is Version 4 and the latest update to the plan. Rob Roman, former Linn County Roadside Vegetation Manager for nearly 30 years, was the original author and steward of the plan. A huge void was left at Linn County when Rob passed away suddenly in late 2019. “Rob was a visionary leader in understanding how native habitat in roadside benefits wildlife and pollinator insects, how it prevents erosion and improves water quality and how it beautifies the landscape,” said friend and colleague Troy Siefert, coordinator of the Iowa Department of Transportation’s (Iowa DOT) Living Roadway Trust Fund (LRTF) in a Cedar Rapids Gazette article written by Orlan Love after Rob’s passing. Linn County Conservation Director, Dennis Goemaat, was also quoted in the article saying, “Conservation was much more than a job for Rob. He lived it every day of his life.” While we mourn Rob’s passing, we celebrate his life in the vibrant roadside prairies he was instrumental in creating and are grateful to him for a career dedicated to Linn County and its roadsides.

It is without a doubt that Rob will be missed and his passion and effort will be difficult to replace. Megan Di Cesare replaces Rob as Roadside Vegetation Manager. She brings with her knowledge and experience gained at Hardin County. She shares Rob’s passion for Iowa and the environment. She carries the torch lit by Rob and will continue to build on the successes and the plan Rob molded for the past 30 years.

**Linn County Integrated Roadside Vegetation Management (IRVM)
Statement of Support**

The Linn County Board of Supervisors and the Linn County Engineer came together in cooperation with common goals and shared ideas to manage roadsides in Linn County by and through utilizing integrated roadside principals.

Following Iowa Code Chapter 314.22, it is declared to be in the general public's welfare of Iowa and Linn County for the vegetation of its roadsides to be preserved, planted, and maintained to be safe, visually interesting, ecologically integrated, and useful for many purposes.

We realize that IRVM will be beneficial to our roadside management goals, while being economically and environmentally beneficial.

We understand that working in unison towards improving roadside vegetation is the most efficient way to accomplish the goals of improved, safe and weed free roadsides. This integrated approach will add to the ecologically sound habitat and natural beauty of Linn County.

We hereby agree to manage Linn County roadsides according to the provisions described within this management plan to preserve our rich ecological past, strive to conserve our natural resources, restore ecosystem services and protect our environment.

This is a flexible plan that requires common sense interpretations which changes as necessary to fit the ever-changing complex circumstances realized in roadside vegetation management.



Ben Rogers: Board of Supervisors, Chairperson 5/20/2020
Date



Megan Di Cesare: Vegetation Management Specialist 5/26/2020
Date



Brad Ketels: County Engineer 5/26/2020
Date



Jerad Kelley: Operations Superintendent 5-26-2020
Date

LINN COUNTY INTEGRATED ROADSIDE VEGETATION MANAGEMENT (IRVM) PLAN

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1. Executive Program Elements

A. Executive Summary

The Linn County Integrated Roadside Vegetation Management (IRVM) Program recognizes that a healthy and vibrant roadside environment is in the best interest of the citizens of Linn County. A healthy and vibrant roadside environment is achieved using roadside vegetation that is safely planted and maintained, preserved, visually interesting and attractive, ecologically integrated, and provides habitat and food sources for pollinators and wildlife. The Roadside Team within the Operations Division of the Secondary Road Department performs many sustainable functions that include more than just planting native prairie. The team considers sustainability when preparing sites, selecting equipment and materials, and determining maintenance strategies. The team also attempts to control erosion and sediment delivery to reduce the loss of topsoil and improve water quality. The team develops an annual roadside vegetation management program which is designed to create a systematic, integrated, and sustainable approach to managing vegetation along Linn County's roadsides and to take advantage of the Living Roadway Trust Fund (LRTF) established by the Iowa Legislature. This document explains the program.

B. Goals

The goal of the Linn County IRVM Program is to establish and maintain a self-sustaining and visually interesting plant community within the county right-of-way that provides for public safety, weed control, biodiversity, wildlife habitat, erosion control, and water quality while being fiscally responsible.

Objectives:

- Promote, preserve, establish, and manage native plant materials and increase wildlife habitat whenever possible and appropriate while recognizing and stopping the spread of invasive plant species.
- Determine and implement the best IRVM practices for maintenance of the right-of-way for public safety and an economically and environmentally sustainable plant community.
- Maintain safe travel corridors by reducing visibility and crash hazards while enhancing the scenic qualities of the roadsides and their value as habitat.
- Work with adjacent landowners, government officials, community groups and the public to implement and promote the IRVM program and roadside beautification projects.
- Continually evaluate and monitor the effectiveness of implemented IRVM techniques and consider how emerging trends could improve effectiveness.
- Make efficient and effective use of the roadside spraying program and promote the reduction and potential elimination of herbicide use whenever possible by using other methods of maintaining native prairie.
- Stabilize road construction projects by seeding and providing adequate erosion control.

C. Program History

IRVM was introduced to Iowa in the mid-1980s in response to the need for groundwater and surface water protection. Prior to that time, roadside weed control had relied exclusively on herbicides, with most counties employing an application method known as blanket spraying. Besides being expensive and potentially harmful, blanket spraying was an ineffective means of weed control, creating openings for weeds by stressing and weakening roadside grasses and eliminating beneficial broadleaf species. Iowa counties were spending a lot of money putting large amounts of herbicide into the environment and, at the same time, making little or no headway in the control of roadside weeds. Clearly, this type of roadside management proved unsustainable.

Another development in the mid-1980s was the Iowa Department of Transportation's (Iowa DOT) use of native prairie grasses and wildflowers for erosion control. A few county conservation boards were also experimenting with this naturally adapted alternative vegetation for roadsides. When the Iowa Legislature officially adopted IRVM in 1988, the cornerstone of the program became the establishment and protection of native vegetation in Iowa roadsides. The LRTF was created the following year supporting state, city and county roadside projects.

Since that time, over 100,000 acres of state and county road right-of-way have been planted with native vegetation. Diverse stands of 15-45 prairie grass and wildflower species, all naturally adapted to local growing conditions, provide stable low-maintenance roadsides for Iowa.

Linn County's IRVM program is currently housed within the Operations Division of the Secondary Road Department. Linn County's program was founded with the development of Iowa's Resource Enhancement and Protection Program (REAP) and the enactment of Iowa Code 314.22. Starting in 2020, Linn County is implementing a more aggressive spray and burn program. The Roadside Team plans to spray one quarter of the county each year for noxious weeds and brush. The burn program will consist of burning newly established plant material in the third year of growth, to stimulate the growth of native vegetation and burn out any noxious weeds and woody encroachment. Older prairie plantings will be burned every ten years to ensure the plantings stay noxious weed free. Changes to the spray and burn programs are intended to reduce continual brush clearing efforts while creating thriving roadside vegetation with minimal noxious weeds.

D. IRVM Decision Making Process

The IRVM decision making process is based on a team of individuals that starts with our elected Board of Supervisors and involves several members of the Secondary Road Department. This document serves to summarize that process and give examples of various management items that have been put into place to meet the goals of the program. Applicable state code sections provide goals for our IRVM Program as does jurisdictional recognition and approval. All road right-of-way under Linn County jurisdiction are a part of this IRVM Program.

The Vegetation Management Specialist coordinates with the County Engineer and Operations Superintendent to set annual and long-term budget and program goals. Budget items include staffing, materials and equipment. Available grants are reviewed to determine how they could supplement the Roadside Team's needs and budget. The Vegetation Management Specialist leads the budget development and grant writing efforts with input and support from the County Engineer and Operations Superintendent.

E. Area Map

See Appendix 9.19 for a road map of Linn County.

2. Jurisdictional Recognition and Approval

A. Management

The Vegetation Management Specialist directly manages the IRVM Program. They determine the team's day-to-day operations, set priorities, and carry out administrative functions of the department, including budget and staff oversight. They coordinate roadside restoration resulting from road construction and maintenance activities with the Operations Superintendent and Assistant County Engineer for both internal projects and contracted projects. They coordinate the seeding of all bare soil, decide the type of seed to use and when to plant, determine the type of soil prep work needed, implement erosion control measures as needed, manage native vegetation after establishment (burning, spraying, etc.), administer the roadside spraying program, determine the area of the county to treat, decide the type of herbicide to use and present public education programs when opportunities arise. The Vegetation Management Specialist and the two Roadside Vegetation Management Aides carry out day-to-day duties as assigned with occasional assistance from other Operations Division staff. See Appendix 9.1 for full job descriptions.

B. Board of Supervisors

The Board of Supervisors oversee the budgets and activities of the Linn County Secondary Road Department. The Roadside Team that administers the IRVM Program typically communicates to the Board of Supervisors through the County Engineer on topics such as annual reports, budget meetings, work sessions, etc. The Board of Supervisors approves the IRVM budget and appoints the Weed Commissioner. The Weed Commissioner meets monthly, during the season, with the Board of Supervisors to update them on the program and receive input. The Weed Commissioner also presents an annual report to the Board of Supervisors in the fall of each year that details the work activities of the year and issues that need to be addressed. See Iowa Code 317 for a description of Weed Commissioner duties.

The Statement of Support from the Board of Supervisors is found on Page iii of this document.

C. Iowa Code and Administrative Rules - State Laws and Regulations

The Linn County IRVM Program operates under several principles and laws cited in the Iowa Code and within local policies, agreements, and resolutions. A complete listing of the Iowa Code sections is found in Appendix 9.2. Examples include, but are not limited to:

- Section 314.17 Mowing on interstates, primary highways, and secondary roads.
- Section 314.19 Reseeding open ditches.
- Section 314.21 Living Roadway Trust Fund.
- Section 314.22 Integrated Roadside Vegetation Management.
- Chapter 317 Weeds
- Section 317.11 Weeds on roads - harvesting of grass.
- Section 318.3 Obstructions in highway right-of-way.

D. Local Laws and Regulations

Local laws, regulations, and policies pertaining to IRVM in Linn County reflect that of the Iowa Code and other relevant State and Federal Regulations.

- For Linn County Secondary Road policies related to IRVM please visit:
<https://www.linncounty.org/1084/Permits-Policies>
- See the Appendices for the following roadside related local laws, regulations and policies:

Appendix 9.3 – Integrated Roadside Vegetation Management Policy

Appendix 9.4 – Removal of Obstructions in County R.O.W. Policy

E. Permits

Permits are obtained through the Linn County Engineer's Office of the Secondary Road Department. The most current permits are also available online at:

<https://www.linncounty.org/1084/Permits-Policies>

Roadside related permits include the following:

Work Within Right-of-Way Permit for Private Vegetation Control in Right-of-Way (No Spray Permit)

Local residents have the option to opt out of spraying on roadsides adjacent to their properties. Landowners are responsible for maintaining a weed free roadside if they choose to obtain this permit.

Work Within County Right-of-Way Permit

Persons needing to perform work in a road ditch or other designated county right-of-way area must submit a Work Within County Right-of-Way Permit to the Linn County Engineer's Office. Examples of the work include installing or repairing water, septic and drain tile lines, burning the ditch, installing an underground fence or any other activity taking place in the County right-of-way.

Entrance Permit

Property owners creating or altering driveways must submit an Entrance Permit to the Linn County Engineer's Office. Entrances are installed in the roadside so the information provides an idea of the magnitude of the impact.

Dust Control Permit

A Dust Control Permit is required before dust control material can be applied. The permit provides a record of the material applied for dust control and its location. Typically, dust control does not result in a significant impact on the roadside but if vegetation were to die off, the dust control permits could be referenced to consider if a chemical application could be the reason.

Utility Permit

A Utility Permit is necessary for work done by telecommunications, electric, gas, water, and sewer utilities. This permit provides a record of the work and requires the restoration of construction sites to their original condition.

F. Obstructions, Nuisance and Enforcement

The Linn County Secondary Road Department is diligent about roadside safety and the enforcement of IA Code 318 (Appendix 9.2). Keeping roadside clear-zones free from obstructions ensures safety is priority.

3. Program Organizational Structure

A. Staff Organizational Chart

The Linn County Engineer is the top level and the director of the Secondary Road Department. The Operations Superintendent is at the second level of the departmental structure and oversees the operational aspects of the department. Management of the Roadside Team is found at level three of the departmental structure under the Operations Division. The Vegetation Management Specialist is a working manager who often directly assists the staff members of the Roadside Team found at the fourth level of the departmental structure. The organizational chart for the Secondary Road Department is found in Appendix 9.20.

B. Staffing Needs

The Roadside Team has a working manager and two additional employees assigned to manage and conduct the day-to-day operations of the program. Duties of the two Roadside Vegetation Management Aides also include snow removal and duties as assigned should operations staff outside of the Roadside Team need assistance. However, the County Engineer and Operations Superintendent are aware of the Roadside Team's significant workload and attempt to minimize assistance needed from the Roadside Team for duties unrelated to the IRVM Program. The Roadside Team is currently able to manage their workload and schedule and staffing is reviewed annually.

It is imperative that professionals in the vegetation management and natural resource fields stay current with advances in related fields and licenses. Involvement with professional organizations also stimulates creative processes and offers a forum for sharing ideas. Linn County continues to encourage professional development for IRVM Employees.

The Vegetation Management Specialist and Roadside Vegetation Aides carry up to date Iowa Pesticide Licenses in Iowa Core and Category 6 at a minimum. Annual continuing education for the licenses are coordinated with Iowa State Extension and Iowa Department of Agriculture and Land Stewardship (IDALS). Additional training for IRVM staff includes but are not limited to:

- Prescribed Fire: NWCG S-130, S-190, S-290
- Driving: Class A CDL with Air Brake and Tanker Endorsement
- GIS/GPS training
- Equipment training

C. Succession Plan

When vacancies or additional positions are to be filled, the hiring process is conducted by the Operations Superintendent and Vegetation Management Specialist. If the position of Vegetation Management Specialist is vacant, it is the responsibility of the County Engineer and Operations Superintendent to interview qualified candidates. The sudden passing of the previous Vegetation Management Specialist has proven the importance of good record keeping, strong organizational skills, and cross training.

4. Public Involvement

A. Steering Committee

Linn County's Roadside Advisory Committee was established with members being appointed by the Board of Supervisors beginning in 1991. Linn County's committee meets six times per year on the third Monday of odd numbered months. Terms are for three years for non-department members. The terms for elected and appointed officials are as applicable. A list of the current committee members and qualifications are found in Appendix 9.18 and 9.3.

B. Partners

The Linn County IRVM Program forges relationships with Soil and Water Conservation, Linn County Conservation, Indian Creek Nature Center, Pheasants Forever, Farm Bureau, Iowa State Extension, city governments, Nature Conservancy, Monarch Research Project, U.S. Fish and Wildlife Service, University of Northern Iowa's (UNI). Tallgrass Prairie Center, U.S. Department of Agriculture - Natural Resources Conservation Service, public schools, colleges located in and around Linn County, community churches and other local conservation organizations.

C. Education and Outreach

The Vegetation Management Specialist provides educational presentations to public and private groups as time allows and upon request. They also work with staff to create and provide information for a social media page to promote the IRVM program as well as issuing press releases to traditional media outlets. When given the opportunity, they provide programming to schools on planting native vegetation in unused spaces of the property in compliance with the Next Generation Science Standards (NGSS). The website for the Roadside Team also contains useful information and can be found at:

<https://www.linncounty.org/252/Roadside>

As part of Linn County IRVM's education program, staff will continue to:

- Develop a public awareness campaign to gain support for integrated roadside vegetation management through media, established organizations, seminars and brochures.
- Obtain educational and informational material on IRVM to be presented at seminars and distributed to

adjacent landowners, the general public, consultants and contractors.

- Prepare and distribute instructions on preservation of desirable areas and treatment of areas needing improvement.
- Encourage research in all aspects of IRVM, i.e.; road design, planting methods, management practices, seed sources, seeding rates, seed mixes, planting materials, etc.
- Document and map all aspects of IRVM progress through ArcGIS or equivalent software.
- Encourage natural resource management practices which improve water quality, wildlife habitat and use of native vegetation.

5. Inventory and Analysis

Linn County conducted a cover-type roadside survey and an in depth roadside segment inventory in the early 1990s. The funding for both activities was provided by Iowa's LRTF. The surveys provided basic information needed to analyze current roadside conditions and to plan for future roadside projects and activities. The survey was primarily a roadside remnant vegetation inventory. Some information is found online at <http://rrt.ivrcd.org/linn.html>.

Our roadside inventory is an ongoing activity that now includes aerial photography, GIS mapping, paper records, ground photography and additional site surveys. Additional projects through partner organizations such as the Indian Creek Watershed Management Authority provides information relative to IRVM.

A. Natural Resources

1) Tools

Initially, paper maps were used to document all operations (e.g. plantings, herbicide applications, and prescribed fire). Since acquiring ArcGIS software, these records are now mapped and saved using the GIS software. Linn County GIS roadside mapping allows individuals to browse maps and impose layers that provide data about Linn County. One valuable feature that is used by the IRVM program is the right-of-way overlay.

Hard copies of spray records are kept indicating roads traveled each day as well as weather conditions, types of chemical used, amounts of chemicals and the rate of applications. Hard copies of planting records are also kept for easy calculation of planted acres and seed rates submitted to the Tallgrass Prairie Center.

Burn plans for prescribed fire applications are also on file and kept in the Roadside Team's office.

2) Vegetation

Linn County's Roadside Inventory was conducted in the early 1990s by IRVM staff. The survey mapped Linn County and recorded areas containing native vegetation, non-native vegetation, sites of encroachment and other various categories. Due to the imminent changes of roadside vegetation, a new survey should be conducted. Employees will monitor such things as roadside seeding projects and invasive weed patches.

B. Equipment

Linn County's IRVM equipment inventory is listed in Appendix 9.25. The Roadside Team also draws equipment from the Operations Division inventory as needed and includes equipment such as skid loaders, dump trucks, trailers, excavators, etc. Larger and more expensive equipment items are on replacement schedules for planning and budgeting purposes. Linn County has also successfully applied to the LRTF for funding to purchase equipment in the past. Less expensive items are replaced as needed.

6. Program Operations

A. Annual Operations

IRVM activities have a seasonal slant and generally include:

January-March

- Cut trees and brush from right-of-way
- Service and repair equipment
- Prepare and submit Weed Commissioner report
- Research equipment for LRTF grants
- Obtain herbicide bids
- Attend conferences related to IRVM and refresher courses to keep certifications current
- Update IRVM management plan as needed
- Attend appointments meeting of Board of Supervisors
- Prepare for and attend budget work session
- Perform frost seeding if needed
- Complete prescribed fire preparation
- Attend IRVM programs and workshops
- Submit Board of Supervisors approved weed resolution to newspaper

April-September

- Perform roadside prescribed burning
- Prepare spray equipment
- Complete spring seeding
- Finish grant applications for LRTF grants
- Post noxious weed notice
- Photograph prairie plantings and projects as time permits
- Perform seeding, erosion control projects and bare ground treatment in select areas
- Begin spray operations
- Respond to weed or brush complaints
- Monitor seedling establishment
- Acquire TAP seed
- Collect seed from prairie remnants and reconstructions
- Attend conferences related to IRVM and refresher courses to keep certifications current

October-December

- Complete Weed Commissioner duties
- Remove brush
- Maintain and repair equipment
- Conduct fall burning and frost seeding
- Repair and maintain equipment
- Complete fall seeding projects
- Winterize spraying equipment
- Attend herbicide workshops
- Prepare IRVM annual report and other project reports
- Prepare Weed Commissioner report

B. Work Area Types

1) Rural

The Roadside Team works primarily in rural areas. A general explanation of the materials used and the activities performed in each work area is listed below.

Rural adjacent to agriculture ground

- Materials: native seed mixes
- Activities: spot spraying, mowing, burning, tree and brush removal

Rural adjacent to non-agricultural ground

- Materials: native seed mixes
- Activities: spot spraying, mowing, burning

Rural adjacent to homesteads

- Materials: cool season grasses, lawn mix
- Activities: spot spray, mowing

Rural adjacent to subdivision

- Materials: vegetation determined based on site

Rural densely populated areas

- Materials: vegetation determined based on site

2) Urban

Minimal work is done in the urban interface as most urban areas are not within the jurisdiction of Linn County.

Unincorporated Villages

- Activities: spot spraying as needed, address noxious weed complaints

Rural-Urban Interface

- Activities: spot spraying as needed, address noxious weed complaints

C. Vegetation Types for Specific Uses

Most plantings in Linn County roadsides utilize the diverse prairie mix provided by the UNI's Tallgrass Prairie Center and are purchased through grants.

- Turf Grass: residential right-of-way (mowed areas in front of houses)
- Native Tallgrass Prairie Species: non-residential right-of-way (areas where long term establishment and persistence of tallgrass prairie is deemed feasible by the Vegetation Management Specialist)
- Cool Season Grasses: miscellaneous right-of-way, borrow areas and easement (areas where long term establishment and persistence of tallgrass prairie is deemed not feasible by the Vegetation Management Specialist)

D. Special Projects

Linn County IRVM special projects include:

- Monarch Research Project (MRP)

The goal of the project is to rebuild native habitat on public and private land to levels sufficient to sustain pollinator populations, including the monarch butterfly. The Linn County Secondary Road Department is a partner in the project that will convert 1,000 miles of roadside right-of-way to pollinator habitat by 2022. The project intends to create a model that is cost-effective, efficient and replicable by other communities. The Monarch Research Project has defined three objectives to accomplish its mission and they include:

- a. Rebuild natural habitat on both public and private land in Linn County
 - b. Boost monarch population in the spring to augment natural reproduction by fall in Linn County
 - c. Make Linn County a model for America and encourage other communities to join us
- Living snow fences

7. Methods

A. Vegetation Establishment and Maintenance

Management methods utilized by Linn County's IRVM Plan are outlined in the IRVM Technical Manual found at:

https://tallgrassprairiecenter.org/sites/default/files/irvm-technical-manual-2015-2_0_0.pdf

The IRVM program has planted, on average, 100 acres of roadsides annually. Construction projects that require planting activities include road re-grades, drainage improvements, culvert replacements and bridge replacements. Vegetation establishment after road construction and maintenance projects is essential to the health of the roadside. Each site is inspected and a planting plan is developed. The details of this plan are based on site location, conditions, and concerns for soil erosion. It is the purpose of Linn County's IRVM Plan to provide an efficient, successful, and visually appealing planting in right-of-way projects. This section highlights the procedures that take place when establishing native vegetation within the right-of-way.

1) Site Preparation

Site preparation methods are followed as outlined in the IRVM Technical Manual.

2) Seed Mixes and Rates

Two seed mixes are used for Linn County right-of-way plantings. The first is a diverse prairie mix that is used in larger areas. The second is a ditch clean out mix that is used in smaller areas. Each of these mixes can be found in Appendix 9.26. Seeding rates are determined based upon the quantity of seed available and where the project is located. Generally, right-of-way along hard surfaced roads is planted at a higher rate than those in more remote areas if adequate seed is available.

3) Seeding Techniques

When and where possible, roadside construction projects are seeded with mixes of native grass and wildflower species. When necessary, mixes are tailored to the characteristics of a site (soil moisture, safety and maintenance considerations). Linn County utilizes the four seeding methods of drilling, hydroseeding, broadcast seeding and hand seeding as outlined by the IRVM Technical Manual.

4) Erosion and Sediment Control

Erosion control is an important aspect of the Linn County IRVM Program. Controlling erosion helps in protecting water quality, structural integrity of the roadways and germinating seed. In addition, implementing erosion control helps counties comply with National Pollutant Discharge Elimination System Phase II regulations. Linn County's Roadside Team utilizes hydromulching, wattles, sediment logs, filter socks and silt

fence as erosion control measures. This section is updated as new erosion control measures are developed or more effective means are used.

5) Vegetation Establishment Maintenance

The Roadside Team mows new roadside plantings to stimulate growth and reduce weed competition. Spot mowing is also done to remove sight distance issues and to control brush and noxious weeds in the right-of-way. Establishment mowing is used to control weed growth during the first few growing seasons after a prairie is planted.

Prescribed fire is recognized as a valuable tool in brush and invasive plant control and is used to enhance and maintain native plant communities. The Roadside Team conducts prescribed fire in natural areas, wildland areas, seed nurseries, prairie remnants, plantings, and along roadside ditches.

Chemical spraying is used sparingly when establishing native vegetation on a site. It is reserved for those instances where noxious or invasive weeds have taken over a significant portion of the planting area and is necessary to control these weeds. Application of bare ground herbicide is used to control pre-emergent and emergent vegetation.

6) Planting Evaluation and Documentation

Evaluating and documenting new roadside plantings is an important process for the Linn County IRVM Program. Project reports are created for new roadside plantings along hard surfaced roads that exceed 1 acre in size. This is done to document the procedures and other data associated with the establishment of these prairies. Annual evaluations of the plantings are completed and added to the project report to track how the sites change over time. Sections of the report include the following:

- *IRVM Overview*: This section provides a general overview of what the IRVM program does in Linn County. This includes a current mission and vision statement for the program.
- *General Information*: This section provides general information on the project site, seeding plan and the importance of the project.
- *Project Details*: This section provides details on the project area including the total acres planted, seeding rates, planting day details, seed mix used and other details.
- *Research*: This section highlights any research that was done in conjunction with the planting.
- *Management Overview*: This section shows a broad step-by-step overview of how the planting is managed over time.
- *Maps and Pictures*: This section includes maps of the site as well as any other images that help to show how the site progresses over time.

7) Mowing

Mowing is an effective vegetation management option that is used in a variety of scenarios as described in the IRVM Technical Manual. Mowing is used during the first growing season to reduce competition. Mowing is done each time weed growth reaches approximately 10 inches in height where it is cut to a height of approximately 4 to 5 inches. In the second growing season and beyond, mowing is done only where excessive weed growth occurs. In some instances, it is necessary to mow off invasive and/or noxious weeds in established prairie plantings when the stands of undesirable vegetation threaten the resilience of the planting.

8) Chemical Control for Noxious Weeds, Other Invasives and Bare Ground

Linn County actively treats infestations of noxious and invasive weeds on an annual basis. Pesticide application equipment is calibrated throughout each spray season. A spot spray program is utilized to manage noxious weeds and other invasive plants. All hard surface roads, connector routes, and farm-to-market corridors are prioritized. Areas on gravel roads and natural areas are dealt with on a case-by-case basis. Graveled shoulders along hard surface roads are sprayed to assist with maintenance activities and clearly define the shoulder edge. Graveled county parking lots and equipment storage areas are also sprayed to control vegetation. Special equipment is used in this application to minimize any off-target drift. Selection of chemicals is based on label constraints and residual effects on the environment. Application areas are monitored to document herbicide effectiveness and impact upon target and non-target species. Areas designated for bare ground application are determined by the Vegetation Management Specialist. See Appendix 9.16 for the Linn County Spray Record form and Appendix 9.17 for an example of the annual Spray Notice as communicated by Linn County.

9) Tree and Brush Control

A few woody species found on Iowa's noxious weed list, as well as some additional trees and shrubs that are troublesome throughout the state, are managed under Linn County's IRVM Program. The trees and brush are managed using both physical and chemical means. Trees and brush are cut or mowed depending on size and then chemically treated so the plant material doesn't grow back. Staff use foliar spraying in a variety of equipment in late summer as needed. A handgun spray application has proven to reduce herbicide use and effectively control brush. Chemicals used are based on effectiveness and their adverse effect on the surrounding landscape. All brush inside the right of way is treated except for brush taller than 10 feet or trees that can't be effectively treated without causing damage outside the right of way (trees in the fence line or brush directly in front of farmsteads and sensitive areas). Finally, basal bark herbicide is used to control brush species in certain areas in order to reduce collateral damage.

10) Prescribed Burning

Prescribed fire is an essential component of native vegetation establishment and management. It is a tool used to discourage the growth of invasive and woody species and invigorate native plant growth. The Roadside Team follows the prescribed burning guidance found in the IRVM Technical Manual. As a general rule, the Roadside Team adheres to the following guidelines for the use of prescribed fire when establishing prairie:

- *Year 1:* Prescribed fire is not used during the first growing season following a prairie planting.
- *Year 2 and 3:* Prescribed fire is used during the second and third growing season if sufficient fuel is present to conduct a burn. This helps in deterring weed growth and stimulates prairie plant growth.
- *Year 4, 5 and 6:* Prescribed fire is used during years 4 through 6 to deter weeds and promote prairie plant growth. Burning occurs during each of these years to control weeds when they are the most vulnerable.
- *Year 7 and Beyond:* Prescribed fire is used as a management tool from year 7 and beyond. The area will either be divided into three separate sections, with one being burned every year, or the whole area will be burned on a three-year rotation.

11) Burning Plan and Records of Previous Burning

The Roadside Team follows the prescribed burning plan guidance found in the IRVM Technical Manual. Prescribed fire plans are completed in advance and burn records for all sites are entered into ArcGIS. See Appendix 9.14 for the Linn County Roadside Prescribed Burn Plan and Appendix 9.15 for an example of the Prescribed Fire Notice as communicated by Linn County.

8. Material Procurement

A. Sourcing

The Linn County IRVM Program is funded through the Secondary Road Department. Staffing, equipment, and materials are reviewed annually. Budgets are universally tight so the Roadside Team also seeks out funding opportunities through grants to supplement needs the Secondary Road Department is unable to fund. The grant funding is used to purchase equipment, conduct projects and further the goals of the program. The Linn County IRVM Program has received numerous grants from the LRTF.

The majority of seed used for roadside prairie reconstruction in Linn County comes from the Transportation Alternatives Program (TAP). The program was established in 2012 by Congress and is funded through a proportional set-aside of the Federal-aid Highway Program. Funds from this program are administered through the Iowa DOT in conjunction with the Tallgrass Prairie Center. Additional seed comes from several other sources. The Linn County IRVM Program harvests prairie seed from several of its roadside remnants and reconstructions. Any remaining seed that is needed is purchased from reputable native prairie plant vendors.

Erosion control, herbicide, and other materials are purchased through a quote or bid process depending on the cost involved.

B. Material Handling and Storage

Materials are stored at facilities that are either part of the Secondary Road Department or the Linn County Conservation Department. Linn County utilizes Iowa source identified native species seed in all of its native roadway plantings. The viability of native seed decreases substantially when exposed to high temperature and high humidity. As a result, important materials requiring climate controlled storage are housed in a shared facility with the Linn County Conservation Department. Erosion control materials such as erosion control socks are stored in the IRVM equipment storage facility. Hydroseeding supplies are stored in the Secondary Road Department's equipment storage facility and herbicide is stored in a garage at the main shop of the Secondary Road Department.

Chapter 9

Appendices

9.1 Roadside Job Descriptions

Vegetation Management Specialist

Roadside Vegetation Management Aide

9.2 Applicable Roadside Iowa Code Sections (<https://www.legis.iowa.gov/law/iowaCode>)

314.17	Mowing on interstates, primary highways, and secondary roads.
314.19	Reseeding open ditches.
314.21	Living Roadway Trust Fund.
314.22	Integrated Roadside Vegetation Management.
317.1A	Noxious weeds.
317.1B	State weed commissioner.
317.1C	Department – powers and duties.
317.2	State botanist.
317.3	Weed commissioner – standards for noxious weed control.
317.4	Direction and control.
317.5	Weeds in abandoned cemeteries.
317.6	Entering land to destroy weeds – notice.
317.7	Report to board.
317.8	Duty of secretary of agriculture or secretary’s designee.
317.9	Duty of board to enforce.
317.10	Duty of owner or tenant.
317.11	Weeds on roads – harvesting of grass.
317.12	Weeds on railroad or public lands and gravel pits.
317.13	Program of control or eradication.
317.14	Notice of program.
317.14A	Special requirements for the control or elimination of Palmer amaranth on conservation reserve program land.
317.15	Loss or damage to crops.
317.16	Failure to comply.
317.17	Additional noxious weeds.
317.18	Order for weed control or eradication on roads.
317.19	Road clearing appropriation.
317.20	Equipment and materials – use on private property.
317.21	Cost of weed destruction.
317.22	Duty of highway maintenance personnel.
317.23	Duty of county attorney.
317.24	Punishment of officer.
317.25	Invasive plants prohibited – exception – penalty.
317.26	Alternative remediation practices.

318.3	Obstructions in highway right-of-way.
318.8	Permit required.
481B.2	Cooperation with federal government.
481B.3	Investigations.
481B.4	Programs.
481B.5	Prohibitions.
481B.6	Species not on list.
481B.7	Special care to ensure survival.
481B.8	Damage to property or human life.
481B.9	Exemptions.
481B.10	Penalties.

9.3 Linn County Policy: Integrated Roadside Vegetation Management

9.4 Linn County Policy: Removal of Obstructions in County Road R.O.W.

9.5 Adopt-A-Roadside Program

9.6 Adopt-A-Roadside Program Application

9.7 Adopt-A-Roadside Sign Request Form

9.8 Linn County No Spray Permit

9.9 Linn County Work Within County Right-of-Way Permit

9.10 Linn County Entrance Permit

9.11 Linn County Dust Control Permit

9.12 Linn County Utility Permit

9.13 Encroachment Agreement

9.14 Linn County Roadside Prescribed Burn Plan

9.15 Linn County Prescribed Fire Notice

9.16 Linn County Spray Record

9.17 Linn County Brush Spraying Notice

9.18 Linn County Roadside Advisory Committee

9.19 Linn County Map

9.20 Linn County Secondary Road Department Organizational Chart

9.21 Linn County Secondary Road Department LRTF Grant Funding 2015-2019

9.22 Linn County Secondary Road Department LRTF/REAP Funding 1990-2015

9.23 Linn County Roadside (Road Clearing) FY 2021 Budget

9.24 Linn County Roadside (Road Clearing) FY 2021 Budget Narrative

9.25 Roadside Equipment

9.26 Seed Mixes and Rates

Chapter 9 Appendices

Appendix 9.1 Roadside Job Descriptions

LINN COUNTY SECONDARY ROAD DEPARTMENT
1888 COUNTY HOME ROAD
MARION, IA 52302
PH: 319-892-6400 | FAX: 319-892-6419

LinnCounty.org



VEGETATION MANAGEMENT SPECIALIST

Works with plant material in the road system, taking it out and putting it in. Recommends materials and equipment to do the job, works with pricing and vendors. Interacts with the public to get job completed.

ESSENTIAL FUNCTIONS:

- Develops and coordinates integrated management of roadsides by working with the “Adopt-A-Roadway” program, Linn County weed commissioner, and Linn County Communications Director soliciting quotations, promoting education, and writing and submitting proposals for grant money.
- Coordinates development of overall roadside management program by inputting in the yearly budget, recommending improvements in equipment and materials, working with advisory committee, and developing and implementing Linn County’s Integrated Roadside Vegetation Management Plan and Annual Program.
- Coordinates integrated roadside planting plans on proposed projects by developing erosion control plans, seeding maintenance re-grade and shouldering projects, and working with contracted roadside vegetation projects.
- Provides information and acts as liaison for County’s program by meeting with the Roadside Advisory Committee, Iowa Departments of Transportation, Agriculture, and Natural Resources and works with related Iowa Codes in Sections 314, 317, and 318.
- Maintains certification for self and coordinates training for department staff related to Integrated Roadside Vegetation Management including preserving, planting and maintaining Linn County transportation corridors to become visually interesting, ecologically integrated, and useful for many purposes.
- Implements plans and directs and participates in production by planting, designing, seeding, cutting, trimming, spraying, burning, mowing, supervising, specifying, and inspecting; working with the Board of Supervisor’s annual road clearing appropriation.
- Knows the County’s Customer-Centered Culture principles, the County’s Mission, Strategic Plan and Core Values and demonstrates them on a regular basis. Uses LC3 principles to identify, develop, and refine departmental products so they are aligned with the Linn County Strategic Plan and enhance Customer Satisfaction. Collaborates with customers to enhance Customer Satisfaction. Facilitates capturing the “Voice of the Customer” and uses it to measurably improve departmental performance. Empower direct reports to close gaps between customer expectations and experience wherever possible.

- Performs other duties as assigned; regular work attendance is required.

QUALIFICATIONS:

- Bachelor's degree in a natural resources related fieldwork is required, master's degree is preferred.
 - Two (2) to four (4) years of experience in natural resource management is required.
 - Additional relevant education or directly related experience may count towards minimum qualifications on a year for year basis at the discretion of the hiring manager.
 - Ability to read and disseminate continuing education materials, pesticide labels, equipment specifications, and erosion control material.
 - Ability to write and edit department newsletter, assist in writing equipment specifications and contract specifications, grants, news releases.
 - Ability to determine average for seeding rates and pesticide application, keep records, and assist in budget planning.
 - Ability to analyze and use judgement in accomplishing diversified duties. Requires the exercise of independent thinking within the limits of policies, standards, and precedents.
 - Ability to coordinate plans through contract or day labor work. Ability to schedule seasonal and daily maintenance activities.
 - Ability to make contact with the public via telephone, face to face communications, internet, programs, workshops, conferences, public presentations, etc.
 - Protective Equipment Required: Hard hats, hearing protection, safety glasses, gloves, boots, nomex.
 - Machines, Tools, Equipment and Work Aids: Conventional sprayers, aerial lifts, tractors, mowers, seeders, mulchers, chain saws, chippers, stump grinders, tree spades, shop tools, telephones, fax machines, two-way radio, vehicles, internet.
 - Iowa Commercial Pesticide Applicator's Certification, Core and Category 6 is required.
 - Reports to County Engineer; supervises Vegetation Management Aides and Roadway Maintenance Workers.
 - Must pass a County physical examination which includes a drug test after offer of employment.
 - Subject to credit and criminal history review.
 - Valid driver's license required.
-



ROADSIDE VEGETATION MANAGEMENT AIDE

DEPARTMENT: Linn County Secondary Road Department

BARGAINING UNIT: Maintenance

ESSENTIAL FUNCTIONS:

- Performs duties in the field and in the office related to Linn County's integrated roadside vegetation management.
- Applies knowledge and skills, under the direction of the Roadside Vegetation Management Specialist, related to the field of roadside vegetation, road safety, and of highway construction and maintenance.
- Responsible to assist in the maintenance of roadside inventory, noxious weed and invasive species control, tree and shrub removal, trimming and planting, and the general use of chemicals, seed mixtures, plants and plantings.
- Work is performed under the direction of the Roadside Vegetation Management Specialist and under the general direction of the County Engineer and/or Department management staff.
- Knows the County's Customer-Centered Culture principles, the County's Mission, Strategic Plan and Core Values and demonstrates a commitment to customer satisfaction for all customers on a regular basis.
- Maintains vegetation inventories.
- Prepares chemicals and equipment for the spraying of noxious weeds and invasive plants.
- Operates equipment for the mowing of roadsides, for tree and shrub clearing and clearing and grubbing and assists in the planning and planting of roadside vegetation materials.
- Assists Roadside Vegetation Management Specialist in related highway maintenance and construction projects.
- Operates truck equipped with spray rigs and tractors equipped with mowing devices and other various attachments.
- Assists in supervising seasonal (temporary) and subordinate employees.
- Performs all other related duties as assigned.
- Knows the products they personally produce and the customers of each product.

- Listens to the “Voice of the Customer” and closes gaps between customer expectations and experience whenever possible.

QUALIFICATIONS:

- High school diploma or equivalent required; college level coursework in the Natural Resources field or one (1) or more years of experience in general highway maintenance activities required; or any equivalent combination of training and experience which provides the required knowledge, skills and abilities.
 - Working knowledge of modern methods and techniques in vegetation establishment and control, including roadway mowing, pesticide and herbicide application, prescribed burning, seeding, planting, and general maintenance.
 - Ability to understand and follow oral and written instructions.
 - Ability to perform routine and/or specialized maintenance on roadside-related equipment.
 - Good physical condition.
 - Must possess a valid State of Iowa Class A Commercial Driver’s License (CDL) with air brake and tank endorsements OR possession of a valid Class A CDL and the ability to pass air brake and tank endorsements within 21 days of transfer or hire into the position required.
 - Valid State of Iowa Commercial Pesticide Applicator’s License with Category 6 certification required or the ability to pass same within twenty-one (21) days of transfer or hire.
 - Must pass a County physical examination which includes a drug test after offer of employment, with random testing as determined by the County.
 - Regular work attendance required.
-



BOARD OF SUPERVISORS

County of Linn, Iowa

SUBJECT: Integrated Roadside Vegetation Management	Directive Number:
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Approval Date: 02/12/2003	Effective Date: 02/12/2003	Revision No.:	Policy Section & Number: OP-014
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Reference: Minutes of 02/04/2003 Minutes of 02/12/2003 Minutes of 02/19/2003	Distribution: Department Intranet Auditor
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I. Policy/Purpose

The purpose of this policy is to provide a long-term approach for the management of vegetation in county-controlled road and highway rights-of-way. The management plan integrates all of Linn County’s programs which seek to control erosion, limit sedimentation, promote safer conditions for errant vehicles, maintain sight distance, limit herbicide use, and foster natural settings for wildlife cover and roadside beautification. **All road and highway rights-of-way under the jurisdiction of the County are a part of this Integrated Roadside Vegetation Management Program as defined in Iowa Code Section 317.11. Vegetation within those rights of way is maintained for highway purposes.**

II. Scope

This policy outlines the objectives of the Linn County Engineering and Secondary Road Department to manage roadside vegetation. This policy establishes the Roadside Advisory Committee; how it is set up and the activities it performs. The Roadside Vegetation Management Policy provides guidance as to how the regulation of activities will occur.

III. Objectives

Using sustainable management practices to establish and maintain a safe, stable, low maintenance roadside for road and highway purposes that is attractive and healthy for the environment.

IV. Definitions

1. Traveled Way: Designated driving surface of a road (including the shoulder).
2. Right-of-Way (R.O.W.): Property obtained through deed or permanent easement reserved for construction of and/or maintenance of transportation facilities (typically 66’ wide on most county roads).
3. Roadside: Areas within R.O.W. that are outside the Traveled Way.
4. Sedimentation: Soil loss greater than 5 ton per acre per year.
5. Grasses: Plants found in the Gramineae family with narrow leaves, parallel veins, small inconspicuous flowers and jointed stems.

6. Native Vegetation: Plants indigenous to the Midwestern region of the North American continent.
7. Native Herbaceous Plants: Non-woody plants which are native to the North American continent.
8. Noxious Weeds: Prolific plant species identified by Iowa Code as being harmful, detrimental and/or invasive in some way and are thus targeted for control.
9. ANSI: American National Standards Institute.

V. Procedures and Regulation of Activities

A roadside advisory committee will be formed to assist in planning of county roadside management efforts. The County Engineer, the County Board of Supervisors, existing members, or the Roadside Manager may nominate members of the committee. The activities of the committee may include providing advice and assistance in the following areas:

1. Research efforts
2. Demonstration projects.
3. Education and orientation efforts for property owners, public officials, and the general public.
4. Reviewing applications for funding assistance.
5. Securing funding for research and demonstrations.
6. Make recommendations to state organizations and the legislature on the need for revising the state weed law and other applicable code sections.
7. Wetland and/or construction mitigation projects.
8. Best management practices.

The committee membership shall consist of the following:

1. Linn County Engineer
2. Linn County Roadside Vegetation Management Specialist
3. Linn County Weed Commissioner
4. One member representing the Linn County Conservation Department
5. One member representing the Natural Resources Conservation Service (NRCS) or the Linn Soil and Water Conservation District (LSWCD)
6. One member appointed from a farm organization
7. One member of the County Board of Supervisors
8. Two or more members as nominated by the committee or Board of Supervisors

The Linn County Engineer, County Weed Commissioner and Roadside Vegetation Management Specialist shall be permanently appointed to the committee. The Board of Supervisors, the County Engineer, or current committee members may nominate other members. Members shall be appointed to a three-year term of service and may be reappointed at the option of the Board. Members of the committee shall serve without compensation. The Linn County Engineer shall serve as the chairperson of the committee. The Linn County Roadside Management Specialist shall serve as the Secretary of the committee.

A. Promoting a diverse self-sustaining plant community in County Road R.O.W.

1. Systematically survey the right-of-way vegetation in units of manageable size. The survey will be updated as manpower and time allow, with a goal of meeting a time schedule that will prevent the information from becoming obsolete.
2. Determine the vegetation management practice best suited to each segment of right-of-way. This must take into account such things as soil type, drainage, potential for snow drifting and road visibility concerns.
3. Encourage the growth of existing native vegetation in the R.O.W. by establishing native herbaceous type plantings such as grasses and forbs whenever practical.
4. Provide for periodic evaluation of management practices.
5. Mowing to maintain visibility at intersections, driveways, curves and other areas of limited sight distance may dictate selection of certain plant types and management methods.
6. Provide a resource to the community by assisting in educating adjacent landowners and the general public.

B. Implementation of Iowa's Noxious Weed Law.

1. Control noxious weeds in the right-of-way utilizing the current state of the art methods and procedures as practical. The type of control utilized on any given site will depend upon which plant species are to be controlled, what the effect will be upon desirable species, and which method provides the most economical long-term control. There may be instances where a short-term control method will be used until a more long-term method can be applied.

a) Mechanical Methods

- Mowing at a height to reduce reproductive capacity of the weeds and give a competitive advantage to the more desirable vegetation.
- Complete tillage and reseeding.
Removing smaller weed patches or individual weed plants manually by county crews.

b) Chemical Applications

- Judicious use of chemicals as needed within legal constraints.
- Chemicals will be utilized according to label constraints, specificity to the target species, and residual effect.

c) Biological Control

- Use of animals, insects, bacteria or virus to control plant growth. Use of biological controls may be limited due to lack of consistently effective methods and cost limitations.

d) Husbanding Control

- Introduction of desirable plant species.
- Use of mulches.

- Controlled burning. Especially useful in restoration of existing prairie areas and in the control of woody species. There are several hazards associated with controlled burning and extreme caution must be used. Each site must be individually evaluated before controlled burning method is to be used. Local ordinances require burning permits.

2. Maintain necessary records and submit reports required by the Noxious Weed Law of Iowa, Iowa Code section 317.

C. Tree and Brush Control in County Road R.O.W.

1. Controlling woody vegetation in the right of way is a priority for Linn County. Trees and brush can create obstructions to visibility and drainage and are potential collision hazards in the right of way. Trees and brush will be removed and/or controlled in clear zones and other priority areas identified by staff using the following methods:

a) Mechanical Methods

- Cutting brush and trees manually with county crews as available.
- Utilizing mechanical equipment such as brush mowers to cut down smaller trees and brush patches.
- Chipping of downed trees, brush, and limbs will be accomplished, as crews are available to do this work. Not all brush will be chipped and removed, some will be allowed to naturally deteriorate or be allowed to remain for wildlife cover.
- Priority will be given to areas where trees and brush create visual obstructions.
- ANSI A-300 Standards will be followed.

d) Chemical Applications

- Judicious use of chemicals as needed within legal constraints.
- Chemicals will be utilized according to label constraints, specificity to the target species, and residual effect.

c) Husbanding Control

- Introduction of desirable plant species.
- Use of mulches.
- Controlled burning.

2. Trees and brush may remain undisturbed in the R.O.W. under certain conditions:

a) Proximity to existing private fence or other objects prevents removal without causing damage to private property.

b) Located on or behind non-traversable back slopes and banks.

c) Located a minimum safe distance behind guardrail.

d) Existing greater than 30 feet away from the traveled way.

D. Public Information and Dissemination

1. Provide information on the management techniques appropriate for the roadside adjacent to their property. Educational programs may be offered as time and personnel allow.
2. The roadside manager and county engineer will answer any questions or take comments from the general public concerning the methods used to manage the county's roadsides.
3. Provide information on seeding techniques, seed sources, and management practices.
4. Erect signs designating areas as roadside prairie sites so as to make them more easily recognizable by the public.
5. Cooperate whenever possible with programs offered by other governmental organizations.

E. Protection of seeds and native herbaceous plants.

1. The harvest of seed heads, forbs, and plants from native plantings on county R.O.W. may be explored as a way to provide materials for the county roadside planting program.
2. Grazing on county R.O.W. will be allowed per the provisions of the Code of Iowa, but only with the written permission of the County Engineer. Haying of areas within R.O.W. is allowed only with written authorization of the County Engineer.
3. Plants hold soil, occupy space, and manipulate sunlight. Injuring parent plants, removing plant materials, and recreational mowing may compromise established vegetation health and growth. These types of activities may be monitored and regulated by the county.

F. Reduction of Erosion and Siltation.

1. Linn County recognizes the damages associated with excessive siltation in county road R.O.W. as a result of water and wind erosion from adjoining lands. Impairment of proper drainage and the increased expense of cleaning and maintaining county road ditches occur due to excessive soil loss from areas disturbed by the following activities:

- a) Agricultural Operations
- b) Commercial and Residential Development
- c) Roadway Construction Activities

2. When a problem is identified, the Linn County Secondary Road Department will may request the assistance of the Linn County Soil Conservationist who will contact the landowner/entity responsible for the siltation and/or erosion damage. The soil conservationist will provide alternatives to the landowner/entity that can be used to

prevent further erosion and siltation damage and inform them of potential financial assistance sources. Upland treatments may consist of but are not limited to the following:

- a) Short or Long Term Seeding Alternatives
- b) Use of Various Mulches
- c) Waterway Establishment
- d) Grade Stabilization Structures
- e) Silt Fence or Straw Wattles
- f) Other Conservation Practices Associated with Agricultural and Construction Activities

3. If the landowner/entity responsible for damages within or adjacent to the county road R.O.W. fails to voluntarily address the identified problem a soil loss complaint may be filed against said group. Soil loss complaint procedure shall be in accordance with Chapter 161A of the State Code of Iowa.

G. Establishment of No-Spray Designated Areas

1. Residents and landowners requesting the designation of R.O.W. areas as "no spray" areas must make this request with the County Engineers Office, 1888 County Home Road, Marion, Iowa 52302. A permit may be issued by the County Engineer for the establishment of a no spray area after bringing the requested area up to standards for obstructions and other hazards.

2. No Spray signs are available for purchase at the County Engineers Office. Signs must conform to county standards and are to be mounted at least 4 feet above the ground line and placed within 3 feet of the R.O.W. line. Signs shall be mounted on posts meeting county breakaway support requirements if located within the clear zone.

3. Residents will be responsible for maintenance and installation of the signs, and control of noxious weeds, trees, and brush within designated no spray areas. If residents do not control trees, brush, and noxious weeds within designated no spray areas, the county will send notice to the resident or landowner by certified mail to cut said weeds, trees or brush. If removal is not completed within 7 days of receipt of the letter, the county may cut, spray, or otherwise destroy noxious weeds, trees, or brush according to standard county practice and revoke the permit.

A person shall not excavate, fill, or make a physical change within the right of way of a public road or highway without obtaining a permit from the County Engineer as provided in Code of Iowa, Section 319.14. Work performed under the permit shall be performed in conformity with the specifications prescribed by the County. A physical change includes adding, removing or damaging existing vegetation except for those activities approved through permit or application including residential and commercial development and utility construction and maintenance activities.

No applications for roadside vegetation grants or funding for projects within Linn County rights of way may be undertaken or applied for by civic groups, private organizations, or individuals without the written approval of the County Engineer.



BOARD OF SUPERVISORS

County of Linn, Iowa

SUBJECT: Removal of Obstructions in County Road R.O.W.	Directive Number:
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Approval Date: 05/08/2013	Effective Date: 05/08/2013	Revision No.: 2	Policy Section & Number: OP-012
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Reference: Iowa Code section 318	Distribution: Intranet
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Purpose

The purpose of this policy is to reduce the severity of crashes associated with vehicles that leave the traveled way by removing or mitigating obstructions within county secondary road system Rights-of-Way (ROW).

Scope

This policy applies to all Linn County Secondary Roads. It applies to all obstructions including headwalls, utility poles, fences, trees and mailbox supports existing within the County ROW. County policy is to remove obstructions when practical and to maintain adequate clear zones within county road ROW for utility poles and other obstructions that are not removed.

Objectives

The objectives of this policy are to provide safer roadways by reducing roadside hazards due to obstructions and to establish a process for this to be accomplished. The County Engineering and Secondary Road Department will attempt to provide a "clear zone" within which obstructions are removed or shielded to protect drivers from potentially severe crashes. The department will also facilitate establishment of recovery areas within county ROW.

Definitions

1. Obstruction: Any object that presents an abrupt vertical surface that could be potentially impacted directly by a vehicle leaving the traveled way.
2. Traveled Way: Designated driving surface of a road (excluding the shoulder).
3. Rights-of-Way (ROW): Property obtained through deed or permanent easement reserved for construction of and/or maintenance of transportation facilities (typically 33' to 60' from centerline on each side of county roads).

4. Roadside: Areas within R.O.W. that are outside the Traveled Way.
5. Clear Zone: A distance from the outside edge of the traveled way away from the road (minimum of 10').
6. Culvert: A conduit for conveying surface water through an embankment. Secondary roads are usually constructed upon embankments that cross through drainage areas unless a bridge is required. Driveways are also constructed upon embankments for the purpose of crossing a ditch, which usually requires a culvert to maintain drainage.
7. Headwall: A vertical cutoff wall (of any material) constructed to a height above the surface of greater than six inches usually at the inlet, or outlet end of a culvert or drain.
8. 1:1 Slope: A 45 degree incline or 1 unit horizontal distance for the same vertical distance.
9. 3:1 Slope: 3 units horizontal distance for each unit vertical distance.
10. 4:1 Slope: 4 units horizontal distance for each unit vertical distance.
11. 6:1 Slope: 6 units horizontal distance for each unit vertical distance.
12. 10:1 Slope: 10 units horizontal distance for each unit vertical distance.

Procedures

Background

Counties and other road maintenance jurisdictions have been working for years to remove or shield hazardous roadside objects or obstructions in order to minimize the chance of these objects being struck by errant vehicles. Signs and mailboxes are placed on breakaway supports; culvert headwalls are either removed or shielded with guardrail and grates. Often culverts themselves can be extended, fore-slopes flattened, and trees removed to create a more "forgiving roadside". This forgiving roadside concept seeks to give drivers who lose control of their vehicles a recovery area outside of the traveled way within which they can either recover control or bring their vehicle to a stop without striking a solid obstruction.

Driveway headwalls, as a vertical obstruction, constitute a severe hazard to errant vehicles within the ROW and especially in the clear zone. The consequences of striking a vertical driveway headwall are disastrous for the driver and vehicle. The collision with a driveway headwall is as severe as driving into a concrete or brick wall. Proper design calls for driveways to be sloped so that they are traversable by an errant vehicle. For a driveway to be traversable, it must be flatter in slope than a 3:1 for low speed roads and 6:1 for higher speed roads. Optimum driveway slopes are 10:1 or flatter.

Headwalls are one type of obstruction concern. These structures have been constructed within the ROW without permission or discussion with county road officials. The law places property owners who have driveway headwalls in violation of the Code of Iowa. A Non-crash worthy mailbox support is another common example of an obstruction that can cause severe injury in a collision.

Authority

Counties are charged with a right and a duty to remove obstacles identified as obstructions from within road ROW under Chapter 318 Section 5 of the Code of Iowa.

Furthermore, alterations and other changes may not be made within the county ROW without a permit as stated in Chapter 318 Section 8 of the Code of Iowa. It has been longstanding county policy to prohibit the construction of obstructions within the ROW.

Notice to Remove Obstructions

County efforts will be to remove all obstructions in the clear zones on roads with speed limits of 45 mph or greater as they are discovered with or without notice because they represent a clear hazard. Obstructions discovered on lower speed roadways will result in property owners being sent a notice to remove if the obstruction does not pose an immediate danger. Iowa Code requires property owners remove the obstruction within 48 hours following the notice. If the property owner does not remove the obstruction within the 48 hour period, or contact the county engineer for a time extension, the county will remove the obstruction and bill the cost of the work to the property owner. The cost of the work will be collected as provided in the Code of Iowa.

Obstruction Agreement

Obstructions allowed to remain by the Linn County Board of Supervisors within the county right-of-way require an agreement between the County Engineer and the property owner. Obstructions outside the clear zone for the road may be allowed by agreement only. Obstructions within the clear zone allowed to remain by the Linn County Board of Supervisors shall have agreements providing insurance with liability limits set by the Board and naming Linn County as additional insured.

Appendix 9.5 Adopt-A-Roadside Program

LINN COUNTY SECONDARY ROAD DEPARTMENT

ADOPT-A-ROADSIDE PROGRAM GUIDELINES

PROGRAM OBJECTIVE

The Linn County “**Adopt-A-Roadside**” Program allows individuals and organizations an opportunity to improve the quality of our road rights-of-way. These opportunities have the potential to:

- Reduce litter along roadsides
- Improve the environment and beautify roadsides
- Building broad-based community support for anti-litter and right-of-way beautification programs

PROGRAM REQUIREMENTS

The Department will work with the sponsor to determine the specific section of right-of-way to be adopted.

Sponsors agree to **indemnify and hold harmless** Linn County, its Board of Supervisors, officers and employees from all liability, judgment, costs, expenses and claims growing out of damages, or alleged damages of any nature whatsoever to any person or property arising from the performance or non-performance of right-of-way work. Sponsors agree that in the performance or non-performance of right-of-way work that they are initiators and volunteers and are in **no way to be considered employees** of the Board of Supervisors or the Linn County Secondary Road Department.

Sponsorship will be for a minimum of 1/2 mile and 2 years. If litter pickup is involved it must include both sides of the roadway. If only litter pickup is involved, the minimum distance will be 2 miles.

Sponsorship will not be granted to political parties, political candidates, elected officials or entities, which would constitute partisan endorsement.

All participants are expected to wear orange safety vests when in the right-of-way.

Litter must be removed a minimum of twice per year depending on the area and conditions.

Plant species used, and locations of plantings must be approved by the Department.

If, in the sole judgment of the Department, it is found that the sponsor is not meeting terms and conditions of the agreement, the Department may terminate the sponsorship.

LINN COUNTY SECONDARY ROAD DEPARTMENT/SPONSOR RESPONSIBILITIES

- Develop a brief work plan outlining specific activities and timing.
- Coordinate work activities between the sponsor and the Department.

SPONSOR RESPONSIBILITIES

- Conducting a safety meeting prior to participating in any “Adopt-A-Roadside” activity.
- Advising the Department at least 48 hours in advance when materials are needed or when filled bags are going to be left along the road.

- Insuring participants 14 years of age or younger are furnished adequate supervision by one or more adults.
- Providing the Department with a sketch of planting locations showing distances from the traveled portion and listing species to be used.
- Setting up advance warning signs when the sponsor is on the right-of-way and removing them only after work has been completed.
- Placing filled trash bags adjacent to “Adopt-A-Roadside” sponsorship signs (if applicable) for pick up and disposal by the Department.
- Returning unused materials and/or supplies furnished by the Department, within one week after the activity is completed.

LINN COUNTY SECONDARY ROAD DEPARTMENT RESPONSIBILITIES

- Erecting a sign at each end of the adopted section with the Sponsor(s)’s name or acronym displayed (if requested).
- Providing reflective vests, trash bags, advance warning signs and assistance on enhancement plantings.
- Removing filled trash bags, and large, heavy or hazardous items.

PROCEDURE FOR ROADSIDE ADOPTION

- An individual or a representative of an organization should contact the Department. The phone number is (319)892-6400.
- The Department will explain the program, assist the sponsor in choosing a location and send out related materials.
- The sponsor will, complete **both copies** of the application, sign request form (if signs are requested) and return to the **Linn County Secondary Road Department, 1888 County Home Road, Marion, Iowa 52302.**
- All applications are subject to approval by the County Engineer and Board of Supervisors.

COMPLETION OF THE SPONSORSHIP

At the end of the two year period, with the sponsor having performed the necessary activities; the Linn County Board of Supervisors will present the sponsor with a certificate in recognition of the activities completed.

Appendix 9.6 Adopt-A-Roadside Program Application

LINN COUNTY
1888 COUNTY HOME ROAD
MARION, IOWA 52302

**APPLICATION TO
"ADOPT-A-ROADSIDE"**

FOR OFFICE USE ONLY		
Permit Number _____		
County Road Name _____		
<input type="checkbox"/> NEW	<input type="checkbox"/> RENEWAL	<input type="checkbox"/> GIS# _____

**TO BE COMPLETED BY SPONSOR
PLEASE PRINT CLEARLY**

Name of Sponsor (Organization, Group or Individual)

Signature of Contact Person

Mailing Address (Street, P.O. Box, City, State, Zip Code)

Telephone Number _____ E-Mail Address _____

The proposed work is located on _____ (Road Name(s))

from _____ to _____

Approval is hereby requested to enter within the County Road right of way to perform the following described work (check all that apply):

_____ Litter removal _____ Enhancement Planting* _____ Other (describe)

*A sketch noting the quantity, location, and species must be attached to this application prior to Department granting approval.

AGREEMENTS:

The Sponsor(s) agrees that if granted a permit to do said work the following stipulations shall govern:

1. This application shall have been approved prior to Sponsor(s) beginning any operations as requested herein.
2. Sponsor(s) agree to indemnify and hold harmless Linn County, its Board of Supervisors, officers and employees from all liability, judgment, costs, expenses and claims growing out of damages, or alleged damages of any nature whatsoever to any person, property or third party arising out of the performance or nonperformance of said work.
3. No vehicles, equipment or materials are to be stored within the right of way. A vehicle may be allowed to be parked on the shoulder during times of litter pick up.
4. Right of way markers, signs and land monuments shall not be removed, altered or damaged.
5. This permit shall be subject to any laws now in effect or any laws which may be hereafter enacted and all applicable rules and regulations of local, state and federal agencies.
6. The Sponsor(s) agrees to give Linn County forty-eight hours notice of intention to start operations. Notification shall be given to the Secondary Road Department, 1944 County Home Road, Marion, Iowa 52302 - Monday through Friday 7:00 A.M. to 3:30 P.M., 319-892-6400.

7. Access to the work site will, where possible, be obtained from private property or other roadways and not from the traveled portion of the hard surfaced roadway.
8. The Sponsor(s) shall carry on the work as required and authorized by this agreement with serious regard to the safety of the traveling public, adjacent property owners and volunteers or employees of the Sponsor(s).
9. The Sponsor(s) acknowledges that all personnel involved in this project are initiators and volunteers directed by the Sponsor(s) and that the Sponsor(s) accept full responsibility for any injuries or damages sustained by or caused by such personnel. The Sponsor(s) acknowledges that they or their volunteers are in no way considered to be employees of the Linn County Board of Supervisors or the Linn County Secondary Road Department.

The Sponsor(s) and the Department further agree to the following terms and conditions of this agreement.

SPONSOR'S ADDITIONAL RESPONSIBILITIES:

To perform the work specified in a satisfactory, safe and professional manner.

To provide adult supervision at the work site when volunteers or employees are 14 years of age or younger.

To obtain required supplies and materials as may be needed from the Secondary Road Department to carry out this agreement, during regular business hours, Monday through Friday 7:00 A.M. to 3:30 P.M.

To put in place traffic control signs at all times when the Sponsor(s) is doing work near the roadway and remove only when the work has been completed.

To place all trash bags used during collection of litter, adjacent to the Adopt-A-Roadway signs (if applicable), or at the ends of adopted sections, for pickup and disposal by the Department.

To plant all right of way harvested seed on either County road rights of way or other public grounds as approved.

To return all unused materials and supplies furnished by the Secondary Road Department, to the Main Shop within one week after the activity is completed.

DEPARTMENT'S RESPONSIBILITIES:

To erect a sign at each end of the adopted section with the Sponsor(s) name or acronym displayed (if requested).

To provide reflective vests, trash bags, safety literature, and other related materials, to the Sponsor(s).

To remove trash bags used for litter pickup by Sponsor(s).

To assist in removal of litter under unusual circumstances such as when large, heavy or hazardous items are found.

To assist in location and selection of enhancement plantings (if applicable).

PLEASE NOTE:

The Department reserves the right to terminate this agreement and remove Adopt-A-Roadway signs when in the sole judgment of the Department, it is found that the Sponsor(s) has not met the terms and conditions of this agreement.

FOR OFFICE USE ONLY	
This agreement shall remain in force from _____, 20____ until _____, 20____. If this agreement includes litter removal the Sponsor agrees to pickup litter _____(times) per year.	
DEPARTMENT OF SECONDARY ROADS APPROVAL	FOR OFFICE USE ONLY
Recommended for Approval _____ Linn County Engineer	Date _____, 20____
Approved _____ Linn County Board of Supervisors	Date _____, 20____

Linn County Secondary Road Department

SIGN REQUEST FORM

(Return this form if signs are requested)

PLEASE PRINT ALL INFORMATION REQUESTED

Sponsor Name (to be on sign):

Contact Name:

Phone/E-Mail:



**LINN COUNTY ENGINEERS OFFICE
1888 COUNTY HOME ROAD, MARION, IOWA 52302
892-6400**

**WORK WITHIN RIGHT-OF-WAY PERMIT
FOR PRIVATE VEGETATION CONTROL IN RIGHT-OF-WAY**

The purpose of this permit is to allow the adjacent landowner or tenant to establish an area within county right-of-way in which they control trees, shrubs and noxious weeds. This permit sets terms of the designation of No Spray/No Mow areas, including the responsibilities of the permittee to control vegetation.

ROAD NAME _____

SECTION _____ TOWNSHIP _____ RANGE _____

NAME OF APPLICANT _____

MAILING ADDRESS _____

SITE ADDRESS (if different) _____

TELEPHONE NUMBER _____ E-MAIL _____

IN SIGNING THIS AGREEMENT, THE APPLICANT AGREES TO ABIDE BY ALL CONDITIONS OF THE PERMIT CONTAINED HEREIN AS DEFINED WITHIN THE LINN COUNTY INTEGRATED ROADSIDE MANAGEMENT POLICY.

Date

Signature of Applicant

Permit Fee: \$50.00
(includes 2 No Spray/No Mow signs)

Linn County Engineer

CONDITIONS OF PERMIT

- 1) Additional No Spray/No Mow signs may be purchased at the County Engineers Office for \$15.00/each. Signs must conform to county standards. Signs are to be mounted at least 4 feet above the ground line and placed within 3 feet of the right of way line. Signs shall be mounted on steel or composite posts meeting county breakaway support requirements.
- 2) Linn County periodically mows the road surface shoulders along roadways. Linn County also mows new plantings to emphasize the establishment of the permanent, perennial seeding. Residents will be responsible for maintenance and installation of No Spray/No Mow signs, and control of noxious weeds, trees, and shrubs within designated No Spray/No Mow areas. If residents do not control trees, shrubs and noxious weeds within designated No Spray/No Mow areas, the county will send notice to the tenant or landowner by regular mail to cut, spray, or otherwise control said weeds, trees and shrubs. If control is not completed within 10 days of mailing the letter, the county may cut, spray, or otherwise control the noxious weeds, trees and shrubs according to county practice, revoke the permit and invoice the permittee for the cost.

LINN COUNTY, IOWA

- 3) Permits from the County are required before any physical change can be made. Work performed shall be in conformance with county specifications. If work does not conform, the permittee shall be notified to make the conforming changes. The permittee will have 10 days to make the changes. After 10 days, the County may make the necessary changes and invoice the costs to the permittee.
- 4) Any person who places, or causes to be placed, any obstruction in a highway right-of way as prohibited is deemed to have created a public nuisance punishable as provided in Chapter 657.
- 5) Paved roads will not be open cut unless specific permission is received from the County Engineer.
- 6) All time loss encountered by county crews due to underground installations will be charged to the permit holder involved. All repair work performed by county crews, necessitated because of the installation of underground facilities, will be charged to the permit holder.
- 7) The County assumes no responsibility for damages to the permittee's property occasioned by any construction or maintenance operations on said highway, including new or additional right of way acquired in connection therewith, subsequent to the building of said facility.
- 8) The permittee shall take all reasonable precaution during the construction to protect and safeguard the lives and property of the traveling public and adjacent property owners and shall save the County harmless of any damages or losses that may be sustained by the traveling public or adjacent property owners of such construction operations. Proper warning signs and/or devices shall be used to alert the traveling public when men and/or machines are working on or near the roadbed. Such warning shall be in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways. (See Part 6 Temporary Traffic Control)
- 9) The permittee shall hold the County harmless from any damage that may result to said highway because of the construction or maintenance of said facility and shall reimburse the County for any expenditure that the County may make due to the permittee's installation.
- 10) The permittee agrees to give the County forty-eight (48) hours notice of work on highway right of way.



**LINN COUNTY SECONDARY ROAD DEPARTMENT
PERMIT TO PERFORM WORK WITHIN COUNTY RIGHT-OF-WAY**

Permit Fee \$50.00 - Non Refundable

*** Attach aerial view and mark where work will be completed.***

A person shall not place, or cause to be placed, an obstruction within any highway right-of-way. In accordance with Chapter 318 of the Code of Iowa "No billboard or advertising sign or device except a sign or device authorized by law or approved by the highway authority, shall be placed or erected upon a highway right-of-way." "A fence which constitutes an immediate and dangerous hazard shall, without notice or liability in damages, be removed by the highway authority...", and further "A person shall not excavate, fill or make any physical change within the right-of-way without obtaining a permit from the applicable highway authority."

Permission is hereby requested to perform the following work within the County right-of-way:

Reason for request:

Site address or road name:

near or at (identified landmark):

Section	Township	Range	Time Frame
			Temporary
			Permanent

Requested By Signature

Mailing Address

Telephone	E-mail	Date
-----------	--------	------

For Office Use Only

Reviewed By Date

Approved By Date

Receipt #	Authorization #	
Check #	Credit Card	
Cash	E-Check	Employee Initials

LINN COUNTY, IOWA

- 1) Permits from the County are required before any physical change can be made. Work performed shall be in conformance with county specifications. If work does not conform, the permittee shall be notified to make the conforming changes. The permittee will have 20 days to make the changes. After 20 days, the County may make the necessary changes and invoice the costs to the permittee.
- 2) Open trenches in the roadway must be completely backfilled with Class A Crushed Rock thoroughly compacted.
- 3) Utility lines placed in the roadbed must not cross over culverts. They must be looped around the ends of culverts in a manner clearing the sides of the culvert a minimum of twenty feet and must be placed a minimum of thirty inches deep.
- 4) Any person who places, or causes to be placed, any obstruction in a highway right-of way as prohibited is deemed to have created a public nuisance punishable as provided in Chapter 657.
- 5) Paved roads will not be open cut unless specific permission is received from the County Engineer.
- 6) All time loss encountered by county crews due to underground installations will be charged to the permit holder involved. All repair work performed by county crews, necessitated because of the installation of underground facilities, will be charged to the permit holder.
- 7) The County assumes no responsibility for damages to the permittee's property occasioned by any construction or maintenance operations on said highway, including new or additional right of way acquired in connection therewith, subsequent to the building of said facility.
- 8) The permittee shall take all reasonable precaution during the construction to protect and safeguard the lives and property of the traveling public and adjacent property owners and shall save the County harmless of any damages or losses that may be sustained by the traveling public or adjacent property owners of such construction operations. Proper warning signs and/or devices shall be used to alert the traveling public when men and/or machines are working on or near the roadbed. Such warning shall be in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways. (See Part 6 Temporary Traffic Control)
- 9) The permittee shall hold the County harmless from any damage that may result to said highway because of the construction or maintenance of said facility and shall reimburse the County for any expenditure that the County may make due to the permittee's installation.
- 10) The permittee agrees to give the County forty-eight (48) hours notice of its intention to start construction on highway right of way.

Appendix 9.10 Linn County Entrance Permit



Entrance Permit

Linn County Secondary Road Dept
1888 County Home Road
Marion, Iowa 52302

PEN

Phone (319) 892-6400
Fax (319) 892-6419
www.linncounty.org/engineer

Property:

GPN
Legal

Lot:

S-T-R

Owner:

Buyer, Occupant,
or Lessee:

Type of Request

Place a stake with a flag at the center of the proposed entrance

Construct New Entrance

Is this for a new residence? Yes No (If yes, must apply for an E911 address.)

Is there an existing entrance? Yes No Reason for additional entrance _____

Review and Validate Existing Entrance

Upgrade Existing Entrance

Entrance Width Allowed
Residential: 16' - 24'
Field/Commercial: 16' - 30'
Joint: 30'

Does Plat allow access as requested? Yes No

Entrance Information

Entrance Type: _____

Joint Entrance

Entrance Top Width: _____

I hereby certify that I have read and examined this document and know the same to be true and correct. In signing and accepting this Entrance Permit, I agree to install the entrance according to County Specifications shown on the reverse side of this permit. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not. I further certify that I am the owner or the owner's authorized agent and that the proposed work is authorized by the owner. I understand that I am responsible for calling for required locates. Fees are non-refundable under any circumstances.

Applicant:

Signature of the Owner or the Owner's Authorized Agent

Date

Print Your Name Here

E-mail

Total Fee

\$

Amount Paid

\$

Application Rcvd By

Type of Pymt

Ck #

Receipt

Field Review Completed
By _____ Date _____

Application Approval To be completed by Engineer's Office

Longitude _____ Latitude _____ Ditch Depth _____

Culvert Required

No Culvert Required

Size Diameter(in) _____ Length(ft) _____

If plastic is used, it must be double walled (smooth inside)

Tons of Rock _____

Place clean rock within the right-of-way to surface drive. Shape ditch to drain. Seed and erosion control disturbed areas.

Permit Issuance

Authorized signature below and issuance of the permit grants permission for work to begin. This permit is only for the work described above. Surfacing other than rock requires a Work in the Right-of-Way Permit.

Applied Date: _____

Issued Date: _____

Expire Date: _____

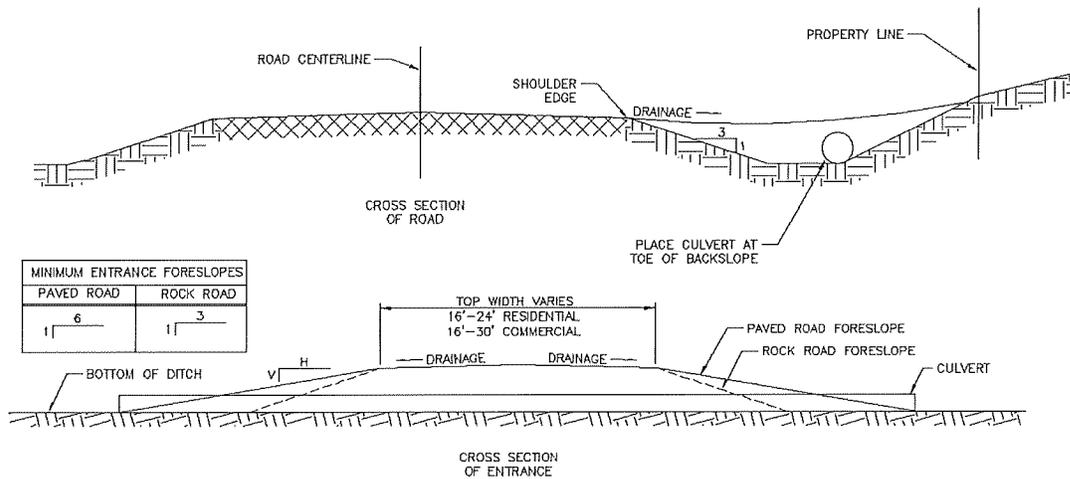
Entrance ID _____

County Engineer

Date

Distribution: District # _____ Superintendent Permittee GIS BSA

ENTRANCE CONSTRUCTION REQUIREMENTS



- 1) The Secondary Road Department will investigate the location, determine the size and length if culvert required, and determine any unfavorable safety deficiency. The permit fee of \$50.00 is due and payable at the time of application. A copy of the permit will be provided.
- 2) The applicant shall construct the entrance in accordance with the requirements shown on the permit.
- 3) Vertical headwalls at culverts are prohibited as obstructions in the right-of-way.
- 4) All culverts placed must be of new material and handled in a manner so as not to damage them. Culverts must be placed so that the inside lap joint is down stream, that is, the bell is upstream.
- 5) A uniform bed must be prepared before the culvert is put in place. Earth shall be placed in approximately six inch (6") lifts, and each lift shall be well compacted. If this is not done, settlement will occur and cause holes to develop in the entrance, trapping water and causing soft and muddy areas.
- 6) The entrance shall be shaped with a crown and must not allow water from the property to drain onto the roadway.
- 7) If the final inspection shows the entrance fails to comply with these specifications the owner shall replace or remove the entrance at the owner's expense.
- 8) All entrances shall be surfaced with crushed stone. Paving the driveway requires a Work in the Right-of-Way permit.
- 9) The applicant shall take all reasonable precaution during the construction to protect and safeguard the lives and property of the traveling public and adjacent property owners and shall save the County harmless of any damages or losses that may be sustained by the traveling public, the public road, or adjacent property owners of such construction operations.
- 10) The owner will be responsible for permanent maintenance of the driveway, entrance pipe, and surfacing. If the drive is affected by county maintenance or construction, costs associated are the property owners. Linn County will not compensate the owner for pavement or replace pavement on drives removed during county projects.
- 11) Entrances shall be placed in accordance with the Linn County Specifications at no cost to Linn County. Entrances shall require a permit from the County Engineer's Office prior to placement. Entrance surfacing shall be a minimum of fifteen (15) tons of crushed stone.
- 12) The minimum size entrance culvert shall be fifteen (15) inches in diameter with a minimum of one (1) foot cover. The County will approve culvert size. Entrance drives shall be surfaced from the right of way line to the end of the pavement to a maximum surface width of twenty-four (24) feet for residential use and thirty (30) feet for commercial, industrial or joint accesses. Entrance foreslopes shall be a minimum of 3:1. Paved roads shall have minimum entrance foreslopes of 6:1.
- 13) For residential, commercial, and joint accesses the maximum length of curb cut will be thirty (30) feet or as approved by the County Engineer.



LINN COUNTY SECONDARY ROAD DEPARTMENT

Dust Control

Permit and Hold Harmless Agreement

Applicant(s)

Mailing
Address

E-mail

Phone

Dust Control Application Information

Address

Road Name

1st Application Sign Up - April 1st - May 10th

2nd Application Sign Up - June 1st - July 10th

Application 1st Application - Chloride or Oil or Seal Coat
 2nd Application - Chloride ONLY

Materials Calcium Chloride - \$.75/ft per application
 Oil (MC-70) - \$3.00/ft
 Seal Coat - (over existing oil or seal coat) - \$3.50/ft
 Seal Coat - New(includes MC-70 prime) - \$6.50/ft

****Additional rock may be purchased at \$1.00 per inch per lineal foot.****

Footage

Cost

Date Paid

Comments &
Instructions

HOLD HARMLESS AGREEMENT
 PLEASE DO NOT THROW THIS PERMIT AWAY.
 THIS PERMIT NEEDS TO BE PRESENTED WHEN PICKING UP MATERIAL @ COUNTY SHOP TO PATCH ANY POT HOLES THAT FORM DURING THE PERMIT PERIOD FOR ASPHALT PRODUCTS.

The Permittee or Assigns has the entire responsibility for any and all injury to the public and to individuals in connection with picking up cold mix patch material at any Linn County shop. The Permittee is responsible for loading patch material into their own container or vehicle.

The Permittee expressly agrees to indemnify, defend and hold the County, its directors, officers, and employees free and harmless from and against any and all loss, liability, expense, claims, costs, suits, and damages including attorney's fee, arising out of Permittee's or Assigns' operation or performance under this agreement.

Signature of Permittee -
I agree to Hold Harmless Agreement above.

(Permit is not valid without signature on back page agreeing to conditions.)

For Office Use Only

Issued By

Receipt #

District

Entered By

Date Entered

GIS

AGREEMENT TO CONDITIONS OF DUST CONTROL PERMIT

The Linn County Board of Supervisors has adopted the "Linn County Dust Control Policy" for secondary roads. Individual participation in the program is in accordance with the following conditions.

- 1) Calcium Chloride
 - a. Applied during May or June and/or during July or August, weather and road conditions permitting. The minimum application length is 150 ft. with additional contiguous application increments of 50 ft. The width will be approximately 22 ft.
 - b. The fee for a single application will be \$ 0.75/lf per treatment. Two applications are therefore \$1.50/lf.
 - c. Second applications will be placed in the same location.
 - d. Calcium Chloride is still effective with light blading.

- 2) MC-70 (Road Oil) or MC-3000 (Seal Coat)
 - a. Sign up for MC-70 and MC-3000 is April 1st – May 10th only.
 - b. Applied once during June or July, weather and road conditions permitting. The minimum application length will be 150 ft. with 50 ft. additional increments of length. The width will be approximately 22 ft.
 - c. MC-70 shall be required pretreatment for applying seal coat products.
 - d. The fee for a single application is listed on the front of the permit.
 - e. Permittee is responsible for perpetually keeping the treated portion free of potholes by filling them as soon as practicable. Filling the potholes will extend the life of the dust control. When patch material is obtained at a Linn County Secondary Road shop, the Permittee is responsible for loading the material into their own container or vehicle. Maximum amount of material is 1 ton.

- 3) Secondary road residents must sign up for the dust control program in the following manner.
 - a. The sign up periods are:
 - First Application - April 1st through May 10th (county business days)
 - Second Application – June 1st through July 10th (county business days)
 - b. Fee payments must be made at the time of sign up by cash, check or credit card(with fee). Any check returned for insufficient funds will automatically cancel the individual's permit and permittee is responsible for any bank fees charged and any cost incurred by county.
 - c. If the end of sign up falls on a weekend, permits and payment are due by end of Engineer Office business hours on the preceeding Friday.
 - d. Permits can be printed off website at www.linncounty.org/engineer and mailed in with payment, or sign up in person at the Linn County Engineer's Office. Office hours are Monday - Friday 7:00am-3:30pm.

- 4) Many conditions affect the performance of the treated surface, including traffic, weather, soil condition, and dust control material used. Effectiveness of material is not the responsibility of Linn County and no guarantee is given as to satisfaction of dust control.

- 5) Linn County is not liable for blading through unpermitted or unmarked dust control sites. Permittees are required to maintain flag at their treated areas. Additional flags may be obtained at the County Engineer's Office.

- 6) The treated sections may be scarified and bladed at any time if it is determined by the District Foreman, Operations Superintendent or County Engineer that the surface has degraded to the extent that it affects traffic. Patching with material available @ County shops may extend the service life of asphalt dust control.

- 7) Iowa law specifies that the purpose of a public highway is to serve the traveling public. Linn County reserves the right to scarify any treated section and maintain as a rock surface. The County gives the Permittee seven (7) calendar days notice (from date of mailing) to take care of holes or irregularities. If maintenance is not completed in seven days the road department will scarify road section and restore rock surface.

- 8) This permit is valid until **October 31** of the year issued, and the County reserves the right to scarify all portions after this date without notice to the Permittee if in the County's opinion the surface will not remain reasonably sound throughout the winter and spring and may negatively affect travel and winter service.

- 9) All dust control sections, except oil and seal coat determined to be in good condition, will be scarified after **May 10th** to prepare the road for the new dust control application. If the resident wants the treated area to be reviewed or needs patch material for repairs, the resident must apply for a retain permit to maintain the treated area.

- 10) The Board of Supervisors Policy for Fugitive Dust Control can be found at www.linncounty.org/engineer

Permittee Signature - I have read the conditions of the permit. _____

LINN COUNTY ENGINEER'S OFFICE
1888 COUNTY HOME ROAD
MARION, IOWA 52302
PHONE (319)892-6400 FAX (319)892-6419



LINN COUNTY SECONDARY ROAD DEPARTMENT
UTILITY PERMIT

Applicant - Utility Owner

Mailing Address

Approval is hereby requested for the use of the right-of-way of Linn County Secondary Road

Road Name

Need information from nearest intersection, City, etc.. for better location.

Detailed plat of location must be attached.

Distance(ft)	Direction	from	Intersecting road name, City, etc..
If available:	Longitude	Latitude	starting point of project

Installation of	Transmission of
-----------------	-----------------

Detailed description of installation

Size	Depth
------	-------

Company Name	Signature
--------------	-----------

Print Name	Title
------------	-------

Telephone	E-mail
-----------	--------

Permission is hereby granted for the above installation in accordance with current Linn County Ordinance and Code of Iowa and by Resolution of the Linn County Board of Supervisors dated August 11, 1993 for the regulations, specifications and/or conditions set forth therein.

County Engineer	Date
-----------------	------

Permit #	Date
----------	------

For Office Use Only

Insurance	Hold Harmless	Database	Scanned	Invoiced	Small Wireless Facility? Contact Planning.
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LINN COUNTY, IOWA

- 1) Permits from the County are required before any utility installation can be made.
- 2) All permit holders must submit a Certificate of Liability Insurance with Linn County named additional insured and a Hold Harmless Agreement.
- 3) Any and all subcontractor's of the permit holder must submit a Certificate of Liability Insurance with Linn County named additional insured and a Hold Harmless Agreement.
- 4) Utility poles placed within the county rights-of-way may be used by the Linn County Secondary Road Department for placing road signs.
- 5) Utility poles placed within the county rights-of-way must be placed outside of the clear zone. Clear zones vary based on surface type and speed limits and may be verified with the Linn County Engineer. Poles shall be located to provide sight distance at intersections.
 - Minimum – 10 feet from edge of the road
 - Rock roads – 22 feet from the center of the road
 - Hard surfaced roads with speed limit of 45 mph – 37 feet from the center of the road
 - Hard surfaced roads with speed limit of 55 mph – 42 feet from the center of the road
- 6) Any open trenches in the roadway embankment must be completely backfilled with Class A Crushed rock in no more than six-inch lifts, and each lift thoroughly compacted before the next lift is placed.
- 7) All disturbed areas in ditch shall be groomed, seeded, fertilized and mulched to preconstruction or better. Ditch shall have positive drainage.
- 8) Wires placed in the road bed must not cross over culverts. They must be looped around the ends of culverts in a manner clearing the sides of the culvert a minimum of 20 feet or placed 36" below culvert flow line.
- 9) Underground installations must be placed a minimum of 30" deep in the right-of-way.
- 10) In the case of roads with hard surfaces, (sealcoat, asphalt or portland cement concrete) open cuts will not be permitted until specific permission is received from the County Engineer.
- 11) All time loss encountered by County crews due to utility installations will be charged to the permit holder involved. All repair work performed by County crews, which was necessary because of the installation of utilities, will be charged to the permit holder.
- 12) The County assumes no responsibility for damages to the applicant's property occasioned by any construction or maintenance operations on said highway, including new or additional right of way acquired in connection therewith, subsequent to the building of the said facility.
- 13) The applicant shall take all reasonable precaution during the construction of said facility to protect and safeguard the lives and property of the traveling public and adjacent property owners and shall save the County harmless of any damage or losses that may be sustained by the traveling public or adjacent property owners of such construction operations.
- 14) Proper warning signs and/or devices shall be used to alert the traveling public when men and/or machines are working within the right-of-way. Such warning shall be in conformance with the current Manual on Uniform Traffic Control Devices for Streets and Highways.
- 15) The applicant shall hold the County harmless from any damage that may result to said highway because of the construction or maintenance of said facility and shall reimburse the County for any expenditure that the County may make on said highway on account of said applicant's installation.
- 16) The applicant agrees to give the County forty-eight (48) hours notice of its intention to start construction in County right-of-way.
- 17) All maintenance activities shall conform to County rules, ordinances & policy as applicable and shall be coordinated to the extent possible with County maintenance and construction plans.



LINN COUNTY SECONDARY ROAD DEPARTMENT
ENCROACHMENT AGREEMENT

Project	Road Name	Sec	Twp	Rge
---------	-----------	-----	-----	-----

This Encroachment Agreement by and between
 of (Site Address or Parcel GPN)
 party of the first part and Linn County, Iowa, the second part is for the following purpose:

The area of the encroachment is described as follows:

It is hereby agreed that:

This agreement shall terminate upon:

Property Owner Signature	Date
-----------------------------	------

Mailing Address

County Engineer Signature	Date
------------------------------	------

County
Representative

Linn County Roadside Prescribed Burn Plan

Date:

Road or Area:

Township:

Section

Range

Burn Purpose (brush or weed control, stimulate vegetation, pre-construction, etc.)

Description of burn

Burn History

Site History

Crew Leader

Crew

Acres or Miles

Fuel Load and Type

Equipment

Utilities or Hazards

Special Precautions

Emergency Information

Fire Department

Police or Sheriff (319-310-9685(dispatch))

Neighbors

Pre-burn Checklist

Complete the following:

Necessary preparation

Smoke management plan

Weather checked and recorded

Equipment inspected

Personnel briefed

Notifications made

Conditions at Ignition

Time Temp. R. Humidity Wind Speed Wind Direction

Conditions at Completion

Time Temp. R. Humidity Wind Speed Wind Direction

Comments

Burn Plan Detail

Ignition technique

Smoke Management Plan

Mop-up instructions

Linn County, Iowa
Secondary Road Department

Fall Prescribed Fire Season to Start in Linn County

Date:

Starting the second week in October, XXXX, the Linn County Secondary Road Department will be conducting prescribed burns throughout the County. The burns will be done as weather and site conditions allow by Secondary Road employees who are certified in wildland firefighting. Prescribed fires are conducted under a strict and predetermined set of parameters that include temperature, wind speed and direction, relative humidity, current and expected forecast and fuel conditions. Before burning, the Vegetation Management Specialist ensures that all the parameters are within their prescribed ranges, so the fire can be conducted safely and objectives be met. The purpose of prescribed fire is to help eliminate brush from the roadsides, and maintain and improve wildlife habitat and native plant communities that have been planted in the County right-of-way.

Fire is a natural ecological process in Iowa and is used to simulate the historic fires that burned naturally or were set intentionally by Native Americans. In addition to using prescribed fire to restore all-natural processes, they are an important tool to stimulate native vegetation growth and seed production, improve wildlife habitat, provide opportunities for training and scientific research, managing invasive species, and reducing wildfire dangers. Many of the plants and animals of Iowa's prairies are fire adapted meaning they need periodic fires to thrive.

The Linn County Secondary Road Department protects and maintains over 6,000 acres of roadsides spread throughout 1,150 miles of county roads.

Date:

Contact Person:

Megan Di Cesare

Linn County Vegetation Management Specialist

Megan.DiCesare@linncounty.org

319-892-6400

1888 County Home Road

Marion, IA, 52032

Appendix 9.16 Linn County Spray Record

Spray Record
Linn County Roadside
License #: 00295-000

Date:_____ Begin Time:_____ End Time:_____ Vehicle #:_____

Target Area: ROW (Road name: _____) Parks Private Other_____

Personnel spraying (incl. certificate #):_____

Target Species: _____

Developmental State: Rosette Bud Flower Seeded Other_____

Environmental Conditions:

Temperature:_____ Humidity:_____ Wind Speed/Direction:_____

Cloud Cover: Clear Partly Cloudy Cloudy Dominant Vegetation:_____

List of all Pesticides, Surfactants and Defoamers missed (include full label name):

Mixture Ratio:

Total Gallons of Water: _____

Pesticide: _____ Amount: _____

Pesticide: _____ Amount: _____

Other: _____ Amount: _____

Other: _____ Amount: _____

Total Mixture Applied (gallons): _____ **Area treated:** _____

Townships: _____

Sections: _____

(Attach map of treated area)

Linn County, Iowa
Secondary Road Department

HERBICIDE BRUSH AND TREE SPRAYING PUBLIC ANNOUNCEMENT

Date:

The Linn County Secondary Road Department will begin herbicide brush spraying the week of July XX, XXXX and complete the last week of September. Brush and trees less than 10 feet tall within the County right-of-way will be sprayed.

All County employees conducting the spraying are trained and certified in strict conformance with the State of Iowa's requirements and the manufacturer's recommendations. Anyone interested in Material Safety Data Sheets (MSDS) or a more detailed schedule may contact Megan Di Cesare as shown below.

Contact Person:

Megan Di Cesare

Linn County Vegetation Management Specialist

Megan.DiCesare@linncounty.org

319-892-6400

1888 County Home Road

Marion, IA, 52032

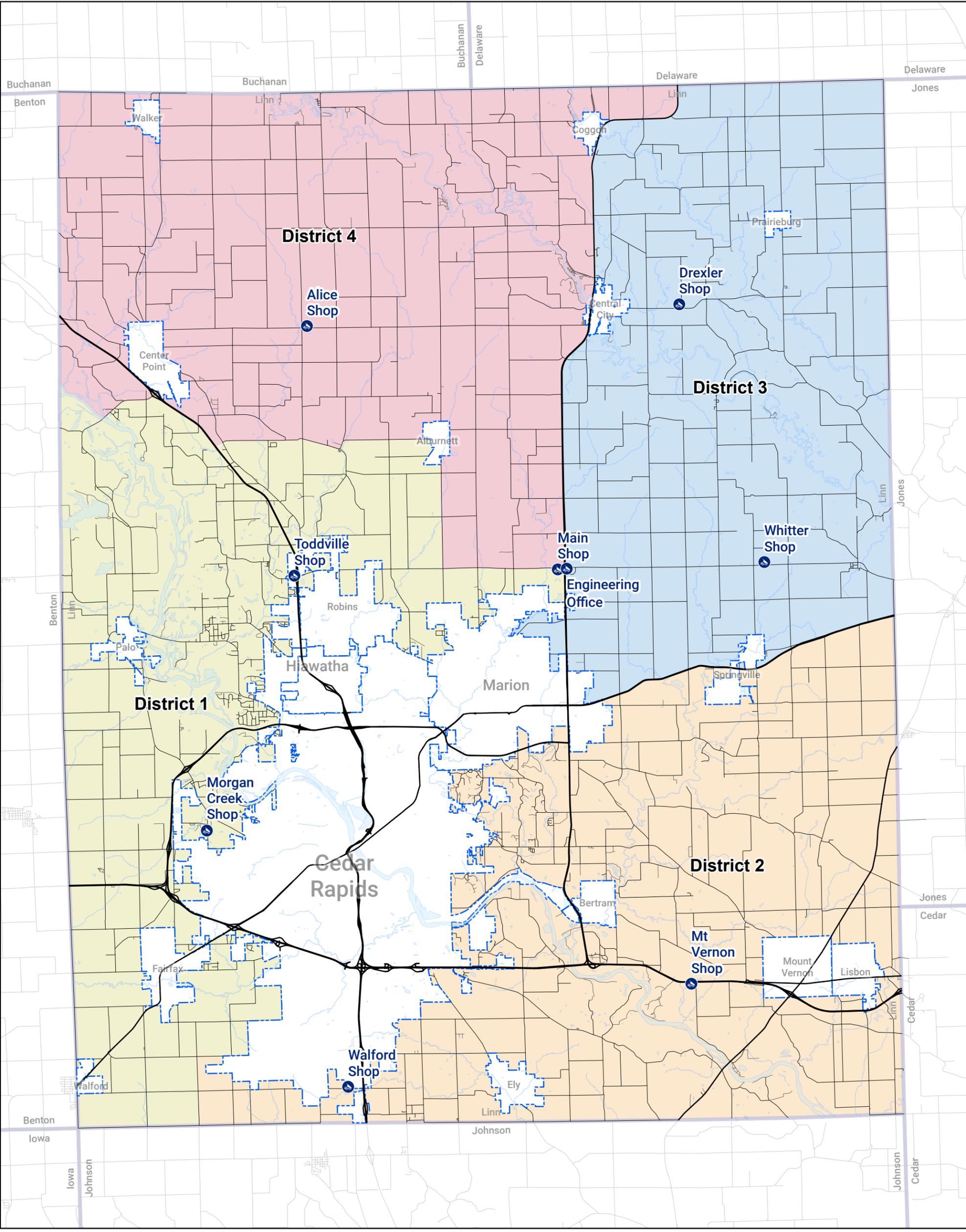
Appendix 9.18 Linn County Roadside Advisory Committee

Committee Members (3-year terms)

Name	Affiliation Title Term Expires
Carole Teater	Iowa Natural Heritage Foundation 06/30/20
Craig Aldrich	Linn County Beekeeper 06/30/21
Greg Johnston	Pheasants Forever Habitat Chair 06/30/21
Jean Wiedenheft	Indian Creek Nature Center Director of Land Stewardship 06/30/21
Aaron Brewer	Trees Forever 06/30/22
Jim Hoffman	Monarch Research Program 06/30/22
Jon Gallagher	Linn Soil and Water Conservation District Resource Conservationist Linn County Weed Commissioner N/A
Dana Kellogg	Linn County Conservation Natural Resources Manager
Brad Ketels	Linn County Secondary Road Department County Engineer N/A
Megan DiCesare	Linn County Secondary Road Department Vegetation Management Specialist Linn County Deputy Weed Commissioner N/A
Jerad Kelley	Linn County Secondary Road Department Operations Superintendent
Brent Oleson	Linn County Board of Supervisor, District 3

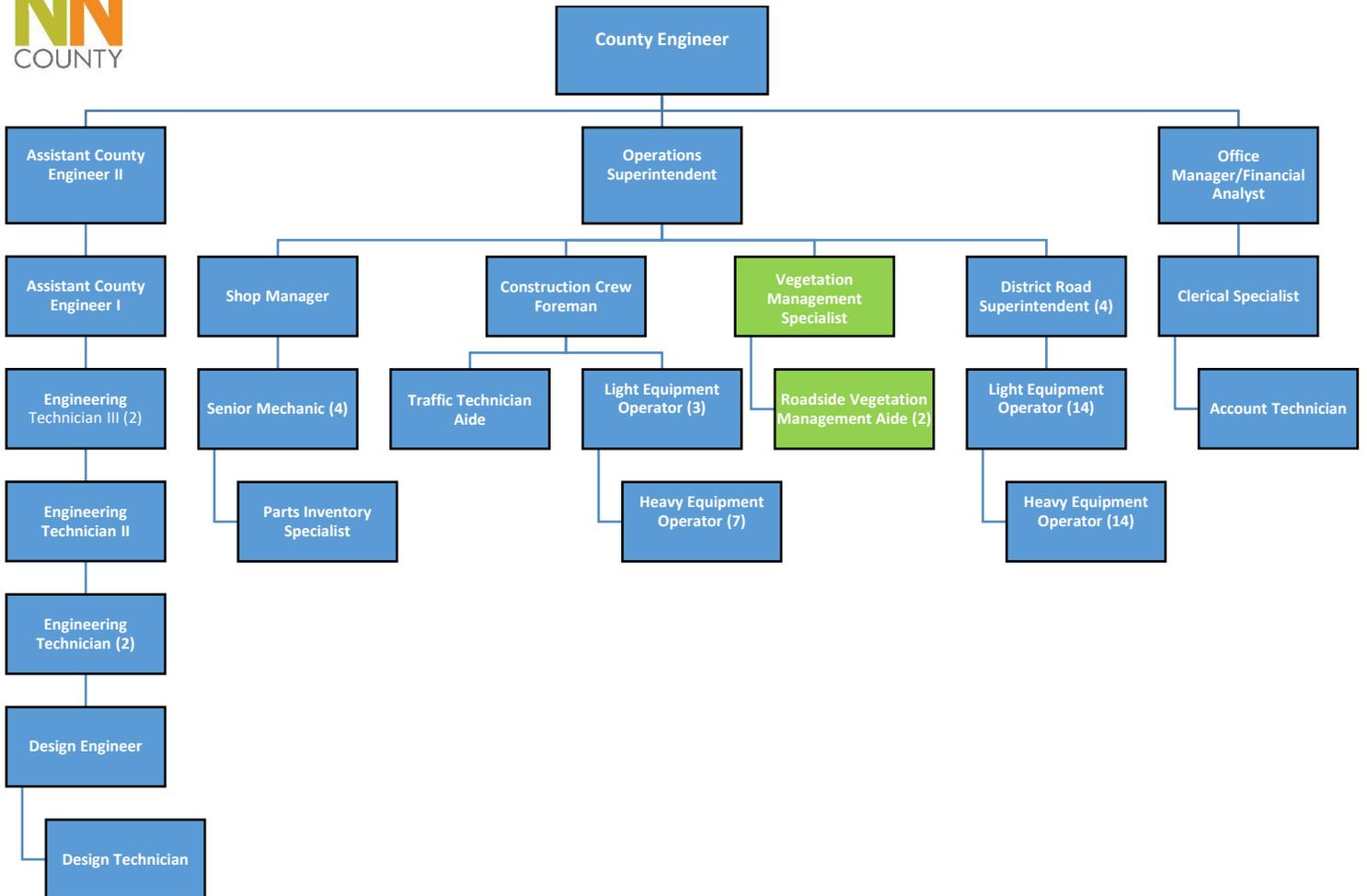


Linn County Secondary Road Department





Linn County Secondary Road Department



Appendix 9.21 Linn County Secondary Road Department LRTF Grant Funding 2015-2019

LINN COUNTY LRTF Grant Funding 2015-2019					
Year	Type	DOT Project Number	Applicant	Award/County Contribution	Description
2015	County	90-57-LR15-(325)	Linn County	\$4,258.70/ \$3,404	ROW Workshop
2015	County	90-57-LR15-(327)	Linn County	\$24,000/ \$36,390	Hydroseeder Upgrade
2016	County	90-57-LR15-(324)	Linn County	\$18,10.97/ \$776.13	AC Auger Drive Unit
2016	County	90-57-LR15-(326)	Linn County	\$7,650.55/\$0	7 th ROW Workshop
2016	County	90-57-LR15-(344)	Linn County	\$11,491.20/\$1,276.80	Gramegna V93/30-220 Spading Machine
2016	County	90-57-LR16-(325)	Linn County	\$800/\$0	IRVm Brochure Update
2018	County	90-57-LR18-(326)	Linn County	\$500/\$2,000	9 th ROW Workshop
2018	County	90-57-LR17-(326)	Linn County	\$10,000/\$59,520	2017 Ford F-550 XL Chassis Cab

Appendix 9.22 Linn County Secondary Road Department LRTF/REAP Funding 1990-2015

Year	County/ Statewide	Applicant	LRTF award	REAP portion of LRTF Award	Description
1990	County	Linn County Sec. Rd. Dept.	\$ 217.00	\$ 121.52	Equipment- Distance meter
1990	County	Linn County Sec. Rd. Dept.	\$ 1,031.76	\$ 577.79	Equipment- Burn
1990	County	Linn County Sec. Rd. Dept.	\$ 8,405.00	\$ 4,706.80	Truax Flex 88 drill
1991	County	Linn County Sec. Rd. Dept.	\$ 2,578.00	\$ 1,830.38	Native grass seed
1991	County	Linn County Sec. Rd. Dept.	\$ 4,500.00	\$ 3,195.00	Inventory
1991	County	Linn County Sec. Rd. Dept.	\$ 23,695.00	\$ 16,823.45	Seeding demonstration
1992	County	Linn County Sec. Rd. Dept.	\$ 246.00	\$ 135.30	Equipment- Drip torches
1992	County	Linn County Sec. Rd. Dept.	\$ 2,109.00	\$ 1,159.95	Seed
1993	County	Linn County Sec. Rd. Dept.	\$ 1,000.00	\$ 460.00	Seed
1993	County	Linn County Sec. Rd. Dept.	\$ 1,595.00	\$ 733.70	Equipment- No-till drill attachments
1993	County	Linn County Sec. Rd. Dept.	\$ 1,788.00	\$ 822.48	Equipment -Sprayer
1993	County	Linn County Sec. Rd. Dept.	\$ 2,050.00	\$ 943.00	Equipment- Cultipacker
1993	County	Linn County Sec. Rd. Dept.	\$ 2,685.81	\$ 1,235.47	Plantings- Hwy. 30
1993	County	Linn County Sec. Rd. Dept.	\$ 4,500.00	\$ 2,070.00	Inventory
1994	County	Linn County Sec. Rd. Dept.	\$ 1,458.92	\$ 598.16	Plantings - Hwy. 30 shop
1994	County	Linn County Sec. Rd. Dept.	\$ 4,613.00	\$ 1,891.33	Native seed
1995	County	Linn County Sec. Rd. Dept.	\$ 1,000.00	\$ 410.00	Native plantings
1995	County	Linn County Sec. Rd. Dept.	\$ 3,480.00	\$ 1,426.80	Native plantings
1995	County	Linn County Sec. Rd. Dept.	\$ 7,000.00	\$ 2,870.00	Native planting
1996	County	Linn County Sec. Rd. Dept.	\$ 3,500.00	\$ 1,680.00	Shop plantings
1996	County	Linn County Sec. Rd. Dept.	\$ 3,840.00	\$ 1,843.20	Native grass plantings
1996	County	Linn County Sec. Rd. Dept.	\$ 9,000.00	\$ 4,320.00	Equipment- Flail vac seed stripper
1999	County	Linn County Sec. Rd. Dept.	\$ 13,000.00	\$ 5,590.00	Equipment- Hydro seeder
2000	County	Linn County Sec. Rd. Dept.	\$ 1,500.00	\$ 750.00	Seed storage
2000	County	Linn County Sec. Rd. Dept.	\$ 2,150.00	\$ 1,075.00	Hydro mulch
2001	County	Linn County Sec. Rd. Dept.	\$ 4,000.00	\$ 1,920.00	Live plants and seed
2001	County	Linn County Sec. Rd. Dept.	\$ 7,500.00	\$ 3,600.00	Native seed
2002	County	Linn County Sec. Rd. Dept.	\$ 2,875.00	\$ 1,150.00	Equipment- Mulcher
2004	County	Linn County Sec. Rd. Dept.	\$ 500.00	\$ 230.00	Inventory- partial
2004	County	Linn County Sec. Rd. Dept.	\$ 1,593.00	\$ 732.78	Equipment- Vicon broadcast seeder
2005	County	Linn County Sec. Rd. Dept.	\$ 1,600.00	\$ 864.00	Demonstration plantings
2005	County	Linn County Sec. Rd. Dept.	\$ 7,500.00	\$ 4,050.00	Equipment- Kuhn Knight 8118 compost spreader
2006	County	Linn County Sec. Rd. Dept.	\$ 1,204.00	\$ 493.64	Planting- Mt. Vernon Road
2006	County	Linn County Sec. Rd. Dept.	\$ 1,882.00	\$ 771.62	Plantings- Living snowfence
2006	County	Linn County Sec. Rd. Dept.	\$ 3,427.00	\$ 1,405.07	Native seedings- Five ROW sites
2007	County	Linn County Sec. Rd. Dept.	\$ 644.50	\$ 328.70	Weed-free forage and mulch certification
2007	County	Linn County Sec. Rd. Dept.	\$ 1,440.00	\$ 734.40	Living snowfence shrub plantings
2007	County	Linn County Sec. Rd. Dept.	\$ 2,000.00	\$ 1,020.00	Tree and shrub plantings along Mt. Vernon Rd.
2008	County	Linn County Sec. Rd. Dept.	\$ 1,483.00	\$ 682.18	Shrubs
2008	County	Linn County Sec. Rd. Dept.	\$ 3,400.00	\$ 1,564.00	Equipment- Hay trailer
2008	County	Linn County Sec. Rd. Dept.	\$ 6,400.00	\$ 2,944.00	Compost for erosion control
2009	County	Linn County Sec. Rd. Dept.	\$ 763.45	\$ 503.88	Native planting
2009	County	Linn County Sec. Rd. Dept.	\$ 1,504.00	\$ 992.64	Shrubs- Living snowfence
2009	County	Linn County Sec. Rd. Dept.	\$ 2,402.00	\$ 1,585.32	Educational materials
2009	County	Linn County Sec. Rd. Dept.	\$ 2,952.90	\$ 1,948.91	Equipment- Seed storage
2009	County	Linn County Sec. Rd. Dept.	\$ 4,552.00	\$ 3,004.32	Equipment- Sprayer
2009	County	Linn County Sec. Rd. Dept.	\$ 10,000.00	\$ 6,600.00	Equipment- Seed drill
2010	County	Linn County Sec. Rd. Dept.	\$ 1,921.00	\$ 1,094.97	Educational materials
2010	County	Linn County Sec. Rd. Dept.	\$ 2,000.00	\$ 1,140.00	Seed
2010	County	Linn County Sec. Rd. Dept.	\$ 2,831.00	\$ 1,613.67	Equipment- GPS and digital camera
2010	County	Linn County Sec. Rd. Dept.	\$ 5,000.00	\$ 2,850.00	Equipment- Disc harrow
2010	County	Linn County Sec. Rd. Dept.	\$ 10,000.00	\$ 5,700.00	Equipment- Brush chipper
2011	County	Linn County Sec. Rd. Dept.	\$ 2,438.50	\$ 1,170.48	SO% Conservation Corps crew cost - one week
2011	County	Linn County Sec. Rd. Dept.	\$ 3,400.00	\$ 1,632.00	Equipment - Fire
2011	County	Linn County Sec. Rd. Dept.	\$ 19,000.00	\$ 9,120.00	Equipment- Boom mower
2012	County	Linn County Sec. Rd. Dept.	\$ 4,490.50	\$ 1,975.82	Bus tau rand visual aids
2012	County	Linn County Sec. Rd. Dept.	\$ 10,000.00	\$ 4,400.00	IRVM equipment storage facility
2013	County	Linn County Sec. Rd. Dept.	\$ 1,482.12	\$ 652.13	Equipment - Fire
2013	County	Linn County Sec. Rd. Dept.	\$ 1,500.00	\$ 660.00	IRVM educational field days
2013	County	Linn County Sec. Rd. Dept.	\$ 7,500.00	\$ 3,300.00	Equipment- Bale processor with right-side discharge
2013	Statewide	Linn County Sec. Rd. Dept.	\$ 4,500.00	\$ 1,980.00	Dr. Paul Christiansen slide digitization
2014	County	Linn County Sec. Rd. Dept.	\$ 3,000.00	\$ 1,620.00	2014 Rights-of-Way Workshop
2015	County	Linn County Sec. Rd. Dept.	\$ 1,810.97	\$ 977.92	Equipment- Skid loader mount auger
2015	County	Linn County Sec. Rd. Dept.	\$ 4,258.70	\$ 2,299.70	2015 Rights-of-Way Workshop
			\$ 198,225.64	\$ 136,581.48	

Appendix 9.23 Linn County Roadside (Road Clearing) FY 2021 Budget

Organization:	Engineering 35										
Function:	Road Clearing 71400										
Account Number	Description	Actual 2yrs Ago	Actual 1yr Ago	Original Budget	12/2020 Y-T-D Curr Year	Est. Curr Year	Project Curr Year	2021 Budget	\$ Over Original	% Over Original	
Revenues											
205-4-35-71400-211	STATE GRANTS	0	0	0	0	0	0	0	-		
205-4-35-71400-810	CONT & DON FROM PRIVATE S	0	0	0	0	0	0	0	-		
	Revenue Total	-	-	-	-	-	-	-	-		
Salaries											
205-5-35-71400-1003	SALARY BARG UNIT - AFSCME	105877	108320	111572	42154	102230	111572	107141	(4,431)	(4)	
205-5-35-71400-1004	SALARY PART TIME	35248	34160	49920	26824	87178	49920	49920	-	-	
205-5-35-71400-1005	SALARY MNGT & CONF	74094	77100	79602	26036	79605	79602	74963	(4,639)	(6)	
205-5-35-71400-1023	LONGV BARG UNIT (AFSCME)	1300	1300	1400	600	1400	1400	900	(500)	(36)	
205-5-35-71400-1025	LONGV MNGT & CONF	0	0	0	0	0	0	0	-		
205-5-35-71400-1043	OVERTIME BARG UNIT (AFSCM	0	0	1000	0	0	1000	1000	-	-	
205-5-35-71400-1044	OVERTIME PART TIME	30	0	0	0	0	0	0	-		
205-5-35-71400-110	FICA-COUNTY CONTRIBUTION	16213	16509	18627	7126	20218	18627	17895	(732)	(4)	
205-5-35-71400-111	IPERS-COUNTY CONTRIBUTION	16187	17626	18273	6122	16519	18273	17370	(903)	(5)	
205-5-35-71400-1131	HEALTH INSURANCE	29532	29112	34608	11408	30090	34608	36300	1,692	5	
205-5-35-71400-1132	LIFE INSURANCE	119	119	118	42	110	118	118	-	-	
205-5-35-71400-1133	DENTAL INSURANCE	1683	1683	1968	701	1790	1968	2079	111	6	
205-5-35-71400-113B	LT DISABILITY	731	752	773	273	715	773	737	(36)	(5)	
	Salary Total	281,014	286,681	317,861	121,286	339,855	317,861	308,423	(9,438)	(3)	
Operations											
205-5-35-71400-202	CHEMICALS & GASES-HERBICI	11450	7573	5000	795	2385	5000	20000	15,000	300	
205-5-35-71400-260	STATIONERY & FORMS/SUPP.	155	59	0	0	0	0	0	-		
205-5-35-71400-290	MINOR EQUIPMENT & HAND TO	2781	2292	7000	250	749	7000	5000	(2,000)	(29)	
205-5-35-71400-293	SAFETY & PROTECTIVE SUPPL	0	0	0	0	0	0	0	-		
205-5-35-71400-412	POSTAGE & MAILING	0	0	0	0	0	0	0	-		
205-5-35-71400-413	EMPLOYEE MIL & EXP (NONE	0	0	0	0	0	0	0	-		
205-5-35-71400-422	EDUC & TRNG (REG, MILG, S	299	120	500	85	210	500	500	-	-	
205-5-35-71400-422F	EDUC & TRNG (IN STATE)	0	48	0	0	0	0	0	-		
205-5-35-71400-443	OPER & CONST EQ/REP & MTC	29640	21245	30000	29750	30000	30000	30000	-	-	
205-5-35-71400-487	CONTRACT LABOR	0	0	0	0	0	0	0	-		
205-5-35-71400-493	TAXABLE EXP	0	0	0	0	0	0	0	-		
205-5-35-71400-631	CONSTRUCTION & MAINTENANC	9552	8219	10000	0	0	10000	16000	6,000	60	
205-5-35-71400-703	SALARY/ADM	56170	82811	49897	0	0	49897	30897	(19,000)	(38)	
205-5-35-71400-720	CENTRAL STORE CHARGES	0	0	0	0	0	0	0	-		
205-5-35-71400-730	DUPLICATING/PRINTING CHAR	0	135	0	0	0	0	0	-		
205-5-35-71400-740	POSTAGE	0	0	0	0	0	0	0	-		
205-5-35-71400-796	DIRECT SERV CHG BACKS	8940	9034	9000	0	0	9000	9000	-	-	
	Operation Total	118,987	131,536	111,397	30,880	33,344	111,397	111,397	-	-	
Int. Credits											
205-5-35-71400-9770	SEC ROADS CHGBACK	0	-733	0	0	0	0	0	-		
	Int Credit Total	-	(733)	-	-	-	-	-	-		
Expenditures											
	Expenditure Total	400,001	417,484	429,258	152,166	373,199	429,258	419,820	(9,438)	(2)	
Function											
	Function Total	400,001	417,484	429,258	152,166	373,199	429,258	419,820	(9,438)	(2)	
								Budget al	419,820		

Appendix 9.24 Linn County Roadside (Road Clearing) FY 2021 Budget Narrative

Road Clearing is funded from the rural basic levy and is evaluated based on the budget guidelines.

Budget Request Summary

Allowable Expenditures	\$419,820
Proposed Expenditures	\$419,820
(Over)/Under Allowable	\$0

The proposed expenditures meet the Board of Supervisors guidelines.

Staff Analysis

Staffing will remain the same. The FY20 staffing of 4.20 FTEs includes 1.00 FTE Vegetation Management Specialist, 2.00 FTE Roadside Management Vegetation Aides and 1.2 FTE part-time Roadway Maintenance Workers. For FY 21, \$1,000 is budgeted for overtime for full time employees. Salary expenditures decreased \$9,438 or 3% due to newer employees coming in.

Operations Analysis

Operations will remain the same. Included in operations is \$39,897 charged back to Secondary Roads to reimburse for fuel used in the tractors and labor paid out of the secondary road budget for road clearing (cutting trees, mowing & spraying). FY19 actual payroll & benefits paid out of the secondary road fund for road clearing activities was \$218,095 and only \$82,811 was transferred. In FY19, fuel used in the tractors amounted to \$9,034 and \$9,034 was transferred.

Capital Outlay

Replacement Unit	Est. Cost	Trade	Grant	Net Cost
New UTV with LRTF Grant	\$ 25,552.00	\$ -	\$ (9,500.00)	\$ 16,052.00
TOTAL	\$ 25,552.00	\$ -	\$ (9,500.00)	\$ 16,052.00

Appendix 9.25 Linn County Roadside Equipment

Updated 5/14/2020

Asset Number	Model/Brand	Miles/Hours	Equipment Type	Purchased	Life Exp Yrs	Note
0056	Chevrolet Colorado	175,003.0 Miles	Pickup	9/27/2005	8-12	Due for Replacement
0078A	Ford F550	25,194.0 Miles	Multi Use Truck	11/7/2017	15-20	
78S	Sprayer		Sprayer	unknown	unknown	
0079	International 4300	38,063.0 Miles	Bucket Truck	2/6/2009	15-20	
0695	Mobark M12R	16.0 Engine Hours	Brush Chipper	12/28/2010	15-20	
0696	Vermeer BC1000XL	940.0 Engine Hours	Brush Chipper	5/30/2003	15-20	
0697A	Bradco SG30 Hi-Flow Stump Grinder		Stump Grinder	10/22/2018	15-20	
0699	Woodward FV-206		Flail Vac - Seed Harvester	10/3/1995	unknown	
0905	Lazy Load		Trailer - Cub Cadet	12/15/1997	15	
0997	Trail King TK40LP-2400		Trailer - large	7/3/2003	15	
W05	John Deere 6300	6,566.0 Engine Hours	Tractor	10/1/1997	10-15	Spare mower
W07	Case MXM120	5,256.0 Engine Hours	Tractor	8/20/2003	10-15	Spare mower
W10	Case MXM120	2,771.0 Engine Hours	Tractor	7/19/2007	10-15	Mounted W/Boom Mower
W140M	Schulte XH1000		Mower - Pull behind	7/13/2006	10	
W144M	New Holland H6740		Mower - Disc	1/22/2018	10	Dist Mower
W145M	Schulte XH1000		Mower - Pull behind	7/13/2006	10	
W150M	Schulte XH600		Mower - 3 Point	7/13/2006	10	
W152M	Diamond Mowers RBF-063-C-U		Mower - Boom	6/17/2011	10	Mounted on W10
W160M	Frontier DM1160		Mower - Disc	1/19/2012	10	Dist Mower - Spare
W170M	John Deere 265		Mower - Disc	6/4/2013	10	Dist Mower
W180M	John Deere 265		Mower - Disc	3/13/2014	10	Dist Mower
W190M	John Deere 265		Mower - Disc	6/10/2014	10	Dist Mower
W20	Case MX120	5,741.0 Engine Hours	Tractor	11/16/2000	10-15	Used with Shoulder Disc
W27A	Finn T120T-39	337.0 Engine Hours	Hydro Seeder	4/12/2016	15-20	
W28	Vermeer BPX9000		Bale Processor	5/31/2013	15-20	
W29	Cub Cadet 7265	1,062.0 Engine Hours	Tractor	5/14/1998	10-15	Used with Gill
W40	Case MX120	5,115.0 Engine Hours	Tractor	12/17/2001	10-15	
W41	John Deere 5100E	1816.0 Engine Hours	Tractor	8/12/2015	10-15	Dist 1 Mower Tractor
W42	John Deere 5100E	1801.0 Engine Hours	Tractor	6/1/2016	10-15	Dist 2 Mower Tractor
W43	John Deere 5100E	2345.0 Engine hours	Tractor	8/12/2015	10-15	Dist 3 Mower Tractor
W44	John Deere 5100E	1524.0 Engine Hours	Tractor	6/1/2016	10-15	Dist 4 Mower Tractor
W45	Truax Drill		Seed Drill	10/7/1990	15-20	Sell to Soil Conservation
W46	Kuhn Knight 8118		Compost Spreader	7/12/2016	15-20	Sell on Public Surplus
W50	Massey Ferguson 4355	UNK Engine Hours	Tractor	9/19/2002	10-15	
W51	John Deere 5100E	710.0 Engine Hours	Tractor	8/25/2015	10-15	
W52	John Deere 7200	11,375.0 Engine Hours	Tractor	9/26/1996	10-15	Sell on Public Surplus
W53	Massey Ferguson 5455	1,619.0 Engine Hours	Tractor	5/16/2005	10-15	
W55	Truax Drill FLX88		Seed Drill	3/5/2009	15-20	
W61	Gramegna V93/30-220		Spading Machine	4/21/2016	15-20	Fancy Garden Tiller
W62	Reinco MD-96		Staw Crimper	1/25/1994	15-20	
W63	Land Pride DH3510		Disc - Pull Type	12/29/2010	15-20	
W64	Gill Soil Pulverizer SU230BT		Gill - 3 Point	7/6/1999	10-15	
N/A	John Deere Gill Soil Pulverizer		Gill - 3 Point	unknown	10-15	
W65	Land Pride DH2596		Disc - 3 Point	6/3/2003	15-20	
W67	Vicon PS403		Spreader - Pendulum Type	7/31/2012	10	
W68	Land Pride PFS5060		Spreader - Pendulum Type	4/20/2017	10	
W69	GO BOB		Trailer - Round Bale	10/10/2017	15	
N/A	Sprayer		Sprayer - 3 Point	unknown	unknown	Used on W51
N/A	Sprayer		Sprayer - UTV	unknown	unknown	Used on UTV

Appendix X.26 Seed Mixes and Rates

2019 Diversity Mix, 120 Acres

Linn County

Group I – Grasses and grass-like plants	Bags	PLS lbs/bag	Seeds/ft ²	Habitat
Little bluestem <i>Schizachyrium scoparium</i>	12	20	11.02	Mesic
Canada wildrye <i>Elymus canadensis</i>	12	20	3.82	Mesic to Dry
Sideoats grama <i>Bouteloua curtipendula</i>	12	20	4.41	Dry
Indiangrass <i>Sorghastrum nutans</i>	12	15	6.61	Mesic to Dry
Big bluestem <i>Andropogon gerardii</i>	12	20	7.35	Mesic
Prairie cordgrass <i>Spartina pectinata</i> (Allendan)	12	1.47	3.56	Mesic
Prairie cordgrass <i>Spartina pectinata</i> (Shooting Star)	12	1.48	3.59	Mesic
Rough dropseed <i>Sporobolus asper</i>	12	5	5.51	Dry
Switchgrass <i>Panicum virgatum</i>	12	7.5	3.86	Mesic
* Plains oval sedge <i>Carex brevior</i> (Allendan)	12	0.45	0.48	Mesic
* Plains oval sedge <i>Carex brevior</i> (Shooting Star)	12	0.45	0.48	Mesic
* Plains oval sedge <i>Carex brevior</i> (Ion Exchange)	12	0.45	0.48	Mesic
* Prairie sedge <i>Carex bicknellii</i>	12	1	0.62	Mesic

Total grass and grass-like plant seeds per square foot 51.41

*These sedges are in the forb bags.

12 Black bags, Red Tie

Group II – Forbs	Bags	PLS oz/bag	Seeds/ft ²
Black-eyed susan <i>Rudbeckia hirta</i>	12	9	1.90
Blue vervain <i>Verbena hastata</i>	12	12	2.56
Butterfly milkweed <i>Asclepias tuberosa</i>	12	10	0.10
Canada anemone <i>Anemone canadensis</i> (Allendan)	12	0.881	0.02
Canada anemone <i>Anemone canadensis</i> (S. Star)	12	2.71	0.05
Canada milkvetch <i>Astragalus canadensis</i>	12	20	0.78
Cardinal flower <i>Lobelia cardinalis</i>	12	1	0.92
Compass plant <i>Silphium laciniatum</i>	12	14	0.02
Foxglove beardtongue <i>Penstemon digitalis</i>	12	8	2.39 (small seed)
Golden alexanders <i>Zizia aurea</i> (Allendan)	12	6.23	0.15
Golden alexanders <i>Zizia aurea</i> (Shooting Star)	12	23.76	0.60
Gray-headed coneflower <i>Ratibida pinnata</i>	12	20	1.38
Great blue lobelia <i>Lobelia siphilitica</i>	12	1	1.15
Hoary vervain <i>Verbena stricta</i>	12	20	1.29
Ironweed <i>Vernonia fasciculata</i> (Allendan)	12	4.67	0.26
Ironweed <i>Vernonia fasciculata</i> (S. Star)	12	4.74	0.26
Lead plant <i>Amorpha canescens</i>	12	8	0.29
Mountain mint <i>Pycnanthemum virginianum</i>	12	6	3.03
New England aster <i>Symphotrichum novae-angliae</i>	12	7	1.06
Ohio spiderwort <i>Tradescantia ohioensis</i>	12	8	0.15
Ox-eye sunflower <i>Heliopsis helianthoides</i>	12	10	0.11
Pale purple coneflower <i>Echinacea pallida</i>	12	20	0.24
Partridge pea <i>Chamaecrista fasciculata</i>	12	55	0.34
Prairie blazingstar <i>Liatris pycnostachya</i>	12	12	0.30
Prairie phlox <i>Phlox pilosa</i>	12	1.6	0.07
Purple meadow rue <i>Thalictrum dasycarpum</i>	12	5	0.13
Purple prairie clover <i>Dalea purpurea</i>	12	40	1.38
Rattlesnake master <i>Eryngium yuccifolium</i>	12	10	0.17
Rough blazingstar <i>Liatris aspera</i>	12	2.66	0.10
Roundheaded bushclover <i>Lespedeza capitata</i>	12	5	0.09
Showy tick trefoil <i>Desmodium canadense</i>	12	20	0.25
Smooth blue aster <i>Symphotrichum laeve</i>	12	8	1.47
Stiff goldenrod <i>Oligoneuron rigidum</i>	12	7	0.66
Sweet black-eyed susan <i>Rudbeckia subtomentosa</i>	12	1.15	0.11
White wild indigo <i>Baptisia lueca</i>	12	8	0.03
Wild bergamot <i>Monarda fistulosa</i>	12	7	1.12

Total forb seeds per square foot 24.92

Wet species	Bags	PLS lbs/bag	Seeds/ft ²
Fox sedge <i>Carex vulpinoidea</i> (Allendan)	12	1	3.67 (small seed)
Fox sedge <i>Carex vulpinoidea</i> (Allendan)	12	2.44	8.96 (small seed)
		PLS oz/bag	
Sneezeweed <i>Helenium autumnale</i>	12	3	0.90 (small seed)
Swamp milkweed <i>Asclepias incarnata</i>	12	14	0.15
Total wet species seeds per square foot			13.68

Note: The last species will grow best in a wetter habitat, a location with more soil moisture such as the ditch bottom. The 3 species labeled as having small seeds won't grow if they get buried. One way to plant them would be to mix the seed in a bucket of sand and scatter it by hand on the soil surface towards the bottom of the ditch.