



*Management Plan for*

*Integrated Roadside Vegetation Management*

*In*

*Mahaska County*

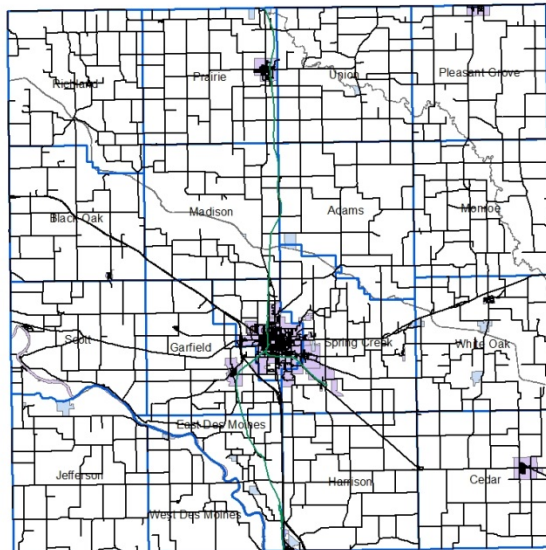
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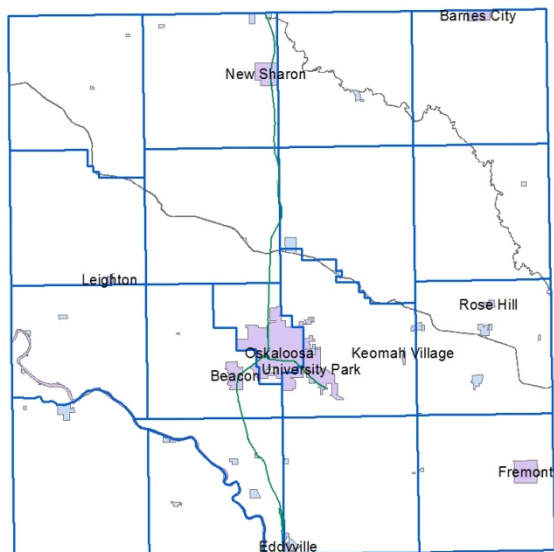
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**Figure 1. Mahaska County Road Map**



**Figure 2. Mahaska County Incorporated Towns**



## **History:**

Historically, the tallgrass prairie ecosystem covered roughly 85% of Iowa. In Mahaska County, the settlers doubted that they would ever settle the area north of Middle Creek because the prairie sod was too thick for the farm equipment available at that time. Native plants existed in the roadsides until the thirties and forties when county crews began widening and crowning road surfaces, making safer and more efficient roadside slopes. The disturbances created by this necessary construction left bare soil. The roadsides were then planted with non-native, cool season grasses such as brome.

As herbicide use became the more popular, most of the remaining prairie grasses and flowers met their demise. This weakened ecosystem allowed for the invasion of noxious weed and brush to encroach.

Until the advent of IRVM in Mahaska County, most non-contracted work done by county crews has been left for nature to re-vegetate. Erosion control, for the most part, had been ignored. Contracted county projects used a D.O.T. standard mixture containing a few native plants, but the mixture was mainly comprised of non-native plants.

## **Executive Summary:**

In the early 1980's, Integrated Roadside Vegetation Management was born out of necessity. The pioneering counties and individuals who implemented the first IRVM programs were looking for a better way to manage roadside vegetation.

They had realized that herbicide application was not the answer to every roadside weed or brush problem. They had come to see that prevention of weeds through various management techniques was the only real way to recognize success in the eradication of problem weeds and brush.

IRVM looks to use many techniques and tools to better take care of our roadsides. No one technique is the solution, however, when techniques are combined together, the solution becomes possible.

This document is to act as a long-term guide for our actions as they pertain to the Mahaska County Roadsides. Immediate and long-term goals include reduced maintenance, noxious and invasive weed control, reduced herbicide applications, the reduction of soil erosion with native vegetation, wildlife habitat enhancement, and roadside beautification.

Since the last Mahaska County IRVM plan was approved in 2005 several changes to the program have been made. A few of the notable changes include the use of technology, types of herbicides, types of equipment, along with simple methods of the way this department does day to day operations. Employees try to learn from experience and make minor changes to make our operations more efficient as we go.

## **The Goals of the Integrated Roadside Vegetation Management**

## **Program are to:**

1. Preserve and provide safe, functional corridors of travel throughout the county using native plants and the management techniques therein.
2. Assure that County road construction projects are stabilized by seeding and providing adequate erosion control. Each site will be evaluated and cared for on an individual basis.
3. Implement and utilize a long-term and flexible management plan that promotes self-sustaining plant communities that are native to Mahaska County through preservation of existing roadside vegetation and re-establishment of native vegetation whenever applicable.
4. To work toward the continuing reduction of herbicides as a control method regarding undesirable plants and use of prescribed fire as an alternative treatment to chemicals.
5. Through selective brush control and stump treatment, reduce the visibility hazards created by brush on county highways, road intersections, and other areas of decreased visibility and hazard.
6. Inform the residents of Mahaska County about the benefits of IRVM through education and publicity.
7. To recognize and stop the spread of newly introduced invasive plant species countywide. These species need to be controlled before they become a major problem.
8. To stay up with latest technology that promotes efficiency of IRVM.

**The following document breaks down many roadside management techniques. It shall remain flexible to allow new technology and techniques to be considered for adoption.**

## **Program Structure:**

The Mahaska County IRVM Department is an independent department under supervision of the Board of Supervisors. The department operates under the jurisdictional principles outlined in the IRVM Cooperative Agreement (appendix C.). The full-time Roadside Manager (Director) decides the department's day to day operations, sets priorities, and carries out the business management duties. The roadside manager is also responsible for managing and maintaining the IRVM (department #24) budget.

A nine month roadside technician position is employed from April through December. The roadside technician assists with carrying out all day to day duties as assigned.

The IRVM decision making process is often influenced by projects that the Secondary Roads Department is working on. In several cases, IRVM consults and coordinates with the Secondary Roads Department to complete projects. Some cases may also include consultations and collaborations with the Mahaska County Conservation Department.

The Roadside Manager and Technician work together on most field operations which include seeding projects, spraying roadsides, and brush control work. In the winter months it is common for the roadside manager to work with secondary roads or county conservation crews cutting brush.

See Appendix A. for Yearly Calendar of Operations

## **Yearly Budgeting Procedure:**

The preliminary IRVM budget is developed by the Roadside Manager in December of each year for the following fiscal year which begins July 1. It is generally based on the spending of previous years and projected costs for the following year by line item. If additional requests arise or capital purchases are needed, the budget is set accordingly. A January budget work session is held each year, which includes the Roadside Manager, Board of Supervisors (BOS), and County Auditor staff. During the meeting they discuss the department's proposed budget. The work session consists of discussion about the proposal and the BOS and Roadside Manager make adjustments as needed. Formal adoption of the County budget as a whole must be completed by the BOS and sent to the State of Iowa by March 15th of each year.

## **Jurisdictional Recognition and Approval:**

The Mahaska County IRVM Department operates under the several principles and laws cited in the Code of Iowa, and within local policies, agreements, and resolutions. Examples include but are not limited to:

1. Chapter 314.22 Integrated Roadside Vegetation Management
2. Chapter 317 Iowa Noxious Weed Law
3. Chapter 318 Obstructions in the Right-of-Way
4. Mahaska County IRVM Management Plan Resolution No. 97-03-06 (Appendix B.)
5. Mahaska County Cooperative IRVM Agreement (June, 1999) (Appendix C.)
6. Mahaska County Farming County Right-of-Way Policy (Appendix D.)
7. Debris in Ditches Policy (Appendix E.)

Currently Mahaska County IRVM does not administer any formal permits. The department does manage roadsides consistent with Chapter 314.22 laws and regulations. Special considerations may be taken upon request from a landowner for spraying. Work in the right-of-way permits and utility permits are administered by the Mahaska County Secondary Roads Department.

## Steering Committee:

During the Mahaska County IRVM development and first years of existence, a very active steering committee met quarterly to discuss plans and the direction of the program. After a while it seemed to be another meeting that wasn't very progressive. Due to the turnover in committee member positions it has not met for quite some time.

Positions on the committee consist of:

1. County Conservation Board Member
2. County Conservation Director
3. County Engineer
4. County Supervisor
5. Roadside Manager

Additional members may be added if needed. Additional members shall have knowledge or a background in IRVM or Conservation.

## Partnerships:

Partnerships are very important to Mahaska County IRVM whether they are for a long-term or short-term project. Partnerships have included cooperative projects, mutual community support, providing technical assistance, or education and outreach.

Some of those partnerships include:

City of Oskaloosa	MCRF	William Penn University
Oskaloosa High School	Iowa DNR	Mahaska Co. Conservation
Pella Christian High	Cargill-Eddyville	Ajinomoto
National Weather Service	ISU Extension	IDALS
County Assessor	Pheasants Forever	Oskaloosa Fire
YMCA	Secondary Roads	Mahaska County EMA
North Mahaska Schools	Indian Hills	US Department of Agriculture
University of Northern Iowa	Trees Forever	City of Eddyville

## Public Education and Outreach:

Mahaska County IRVM engages in a wide range of outreach activities from classroom seminars to "in the field" workshops. We work with several partners to accomplish each.

1. Brochures (Local, IWCA, and LRTF funded)
2. Webpage
3. Public presentations
4. Schools

## Natural Resources:

One of the core principles of IRVM in Mahaska County is protecting natural resources. The department has a vested interest in preserving water quality, reducing soil erosion, and eradicating invasive species. With nearly 1900 miles of roadside, personnel recognize that much of the water runoff from adjacent land travels through county road ditches. Filtration and deposition in roadsides prevent

pollution run-off to streams, rivers, ponds, and lakes. Ultimately these pollutants harm the rest of the food chain.

Native vegetation is the best overall tool that has been found to accomplish the majority of our natural resource goals. Preserving remnant native vegetation and reconstructing new prairie plantings is widely used in our program. Native vegetation provides deep, fibrous root systems that holds soil, chokes out unwanted weeds and brush, and filters water run-off.

The roots and top-growth also provide needed habitat for wildlife. Wildlife as a whole includes microorganisms, insects, reptiles, birds, and mammals. Concerns of harboring large wildlife in the roadsides is unfounded. Large wildlife such as deer are only using roadsides as a pass-through area. Wildlife such as pollinating insects benefit greatly from diverse plantings of grasses and wildflowers that once populated 85% of Iowa's landscape. Pollinators are also responsible the production of over \$20 Billion in United States food product so having habitat corridors for them is important. Ground nesting birds readily use roadsides areas as well and employees see the benefits on a daily basis.

## **Mapping Records:**

For several years Mahaska County has been using GIS. The county GIS department houses the common layers such as aerial photos, roads, parcels, and so on. Prior to 2012, county aerial photography was ORTHO (straight above) flights. In 2012, Mahaska County was flown by Pictometry which shows photos from ORTHO view and all 4 directions. As time passes the clarity of the flights also continues to get better. Employees are able to use these photos to see encroachments and see landmarks when mapping.

GIS/GPS mapping has become an integral resource for IRVM record keeping. The most used GIS maps are of seeding projects from 1999 to present. The department also has GIS maps of spraying done from 2008 to present. Smaller GIS records of bridges that the department sprays around, and of invasive weeds like Teasel are examples of other data that is collected. Some paper maps are referred to periodically but the majority of the mapping is digital.

## **Certifications:**

Employees of the IRVM department who are required to mix and load herbicides will be required to have a minimum of a Category 6 herbicide certification. The roadside manager will also be required to have a minimum of S-130/S-190 prescribed fire certification. All materials and testing will be paid for by Mahaska County within reason.

## **Continuing Education:**

Continuing education is an essential part of IRVM. New ideas and technologies are always arising in vegetation management. Changes in research, herbicides, and rules and regulations are constant. The roadside manager and/or roadside technician are encouraged to attend conferences, seminars, and meetings. Employees are also required to attend any continuing education to stay current on all certifications. All continuing education required by the department will be paid for by Mahaska County within reason.

## **Records and Labels:**

All records will be kept in accordance with the guidelines stated by the Iowa Department of Ag and Land Stewardship. Any herbicide applications not automatically logged by GPS in the spray truck will be required to be kept by computer or hard copy. Herbicides shall be applied according to each chemical label specifications. The label is a legal document that dictates the product use. Such



specification will include proper personal protective equipment requirements, site specifications, and application rates.

## **Roadside Vegetation Inventory:**

Mahaska County's Roadside Inventory was conducted in June of 1998 by Data Collection Services of Ottumwa, Iowa. Gene Kromray conducted the survey which mapped Mahaska County and recorded areas containing native vegetation, non-native vegetation, encroachment and other various categories.

Due to the imminent changes of roadside vegetation, a new survey should be conducted every so often. Employees will monitor such things as roadside seeding projects, large brush removal projects and invasive weed patches.

The department has been using GIS systems to improve the amount of data stored and change when necessary. GIS allows employees to map and plot out where projects and work have been done.

## **Urban vs. Rural Strategy:**

Most of this IRVM plan is designed to fit the rural settings. Mahaska County IRVM recognizes that management techniques need to be altered when moving from a rural to urban setting. Most urban settings are well manicured and higher populated. Some school, park, and trail settings may request diverse prairie plantings to be planted. Other areas in front houses may want lawn mixes. Management of these areas such as controlled burning and spraying will be done with personal safety in mind.

Special attention needs to be taken during herbicide applications. IRVM does not make regular herbicide treatments inside any city limits. Treatments may be made in certain situations to prepare for a new seeding project, for noxious weed violations, or bareground applications.

## **Bareground Applications:** (Late April to Early May)

Bareground application is a herbicide treatment generally made to gravel areas to prevent vegetation growth and provide season long weed control. The IRVM Department cooperates with several agencies to provide bareground control. It makes fiscal sense to use the IRVM specialized equipment and expertise to help other departments. Employees spend roughly a week each spring applying the herbicides throughout the county. Some years with heavy spring rainfall may require a July post-emergence followup.

Areas treated each year include:

1. Mahaska County Secondary Roads Shop Yard
2. All Secondary roads Outshops (7 total)
3. Mahaska County Conservation Parking lots
4. Mahaska County Emergency Management (old bus barn)
5. Radio Tower on William Penn Campus
6. Metal Bridge rail extensions

## **Spray Program:** (May through August)

Prior to 1999, the county spray equipment consisted of a variety of different trucks, pumps, motors and other pieces of equipment in various states of decay. In 1999, a 1991 three-quarter ton truck was purchased from the Mahaska County Highway Department and a "Boombuster" boomless sprayer was installed.

The, “Boombuster” allowed for more efficient spot spraying and the newer vehicle allowed for more miles to be covered in one day. It eliminated traditional, “blanket spraying”. Prior to the, “Boombuster”, county crews would apply herbicides with hand wands while hanging off the side of the truck on a platform, or out the passenger side window. Currently the IRVM Department has moved to a 500 gallon skid mounted sprayer unit that sits on a Ford F-350 flatbed pickup. It is also outfitted with Boombuster boomless nozzles. This unit allows employees to do more volume in a day’s time if needed. In 2007 the unit was outfitted with 3 injection tanks and a Mid-Tech Legacy 6000 GPS system. The system was installed by C&R Supply in Sioux Falls, South Dakota. This system provides a more accurate means of record keeping and doses chemicals as employees spray based on speed. Employees are also able to add or subtract chemical to the mix on the fly which should also be more efficient.

## **Herbicide Purchasing:**

Herbicides used in the Vegetation Management (VM) profession are often specialized and labeled for Right-of-Way use only. Most of the herbicides are not carried by local vendors. Many herbicides can be special ordered by local vendors but it is cost prohibitive. The department purchases from Midwest Vendors that specialize in Vegetation Management herbicide sales when local purchasing is not feasible. Purchasing from VM dealers has several benefits such as their specialized knowledge of products, knowledge of new regulations, and their personal experiences with the herbicides.

Mahaska County IRVM asks for yearly price quotes for herbicide that the department anticipates purchasing. This method has proven to save the county thousands of dollars over the past 8 years. Quotes may be sent to Van Diest Supply Company, Midwest Spray Team and Sales, Crop Production Services-Vegetation Management, or other qualified dealers.

## **Target Species:**

It will be the policy of Mahaska County IRVM to spray the noxious weeds listed by the Iowa Department of Ag and Land Stewardship that are the most detrimental. Invasive species deemed to be a future problem will be controlled accordingly on a case by case basis. Some species that will receive special attention include Musk Thistle, Canada Thistle, Teasel, and Japanese Knotweed.

Brush will also be sprayed during the spray season. The chemical used for foliar applications of weeds and brush is most commonly a mix containing of triclopyr-3A, metsulfuron-methyl, and aminopyralid. The Roadside Manager will have the authority to adjust the chemicals and rates of applications. Spraying will take place throughout the summer for weeds. Brush spraying will begin in the spring after leaves have fully developed. Brush spraying in mid-summer can often be ineffective in hot and dry conditions. A late summer application when brush is nearly at the end of the seasonal growth cycle may be utilized as nutrients are being taken to the roots for the winter. Some seasonal weather conditions will be taken into account.

## **Brush Cutting Program:**

Managing brush on all secondary roads is necessary to provide safe travel corridors. Brush is also a problem for the IRVM and Secondary Road Departments due to the fact that it causes lower soil temperatures and hinders the success of native plants that require warmer soil temperatures.

Certain areas of Mahaska County are brush filled and other areas are brush free. Understandably, the plan is to start in the areas that are the worst. Mahaska County will use the following techniques to control brush in the right-of-ways.

Prior to 1998, the practice of cutting brush in the roadsides was inefficient. With the establishment of Integrated Roadside Management in Mahaska County, employees have, and will continue to work

efficiently to cut brush and treat the stumps with Pathway herbicide. This will be enacted upon trees and brush within the county right-of-way and also those that hang down into the right-of-way. If a tree on private property threatens a road by hanging over it, the landowner may be contacted, and the problem remedied.

Brush will be cut with chainsaws and any other appropriate tools. In most situations, brush will be burned in the roadside. In some specific situations, brush will be chipped and blown into trucks and moved to the shop yard at the county. In yet other situations, brush will be cut and stacked in the roadsides for burning at a later date. Stumps will be cut as low to the ground as possible to avoid damage to vehicles leaving the roadway. Stumps will be treated as thoroughly as possible in all situations.

The department's main focus will be to take advantage of good cutting weather and abundant manpower in the winter months. The goals regarding brush removal are stated in the county brush plan as follows:

1. In situations where the brush reduces visibility at any pavement/gravel road intersection.
2. In situations where the brush reduces visibility at any gravel/gravel intersection.
3. In situations where brush hangs down upon or towards the roadway as to threaten safe travel.
4. Wherever brush or trees create a shaded area that does not allow snow or ice to melt and disperse quickly.
5. From fore slope to ditch bottom on paved county highways.
6. To rapidly take care of any merited complaints from county residents.
7. To spray  $\frac{1}{4}$  of the county annually for brush as part of the spraying regimen

## **Mowing Program:**

Mahaska County IRVM realizes that properly executed roadside mowing is an important part of an integrated approach towards managing roadsides. The Mahaska County Secondary Roads Department currently tries to mow highway roadside shoulders three times per year. The first mowing will be in the early part of the growing season, the second in the late summer and the third again in the fall to prevent drifting once the snow flies. Employees try to mow gravel shoulders two times per season. One time in the spring/summer and one time in the fall.

Roadside mowing helps roadsides and drivers in several ways. In regards to roadside vegetation, mowing keeps brush in check when properly timed, and can eliminate some annual and biennial weeds.

Mowing keeps the roadside shoulders clear for drivers and allows a recovery zone. It also allows them more visibility, which results in more recovery time if they are avoiding wildlife or simply attempting to regain control of a vehicle.

County road mowing is done with three large cab tractors that have rear and/or side decks, and one that has a bat-wing mower. The pavements seem to understandably get the most attention due to the higher volume of traffic. The bat-wing is used most for the paved roads.

## **Roadside Planting Program:**

Another large portion of the IRVM program is the installation of roadside prairie plantings. Planting will occur when possible on most county roadsides that are disturbed by the secondary roads department. This includes such things as, regrades, new road construction, clean-outs, and cross-road pipe installations.

Mahaska County Pheasants Forever purchased a Vicon Seeder for the IRVM program which was mounted to our 16 HP John Deere tractor. This is used on 80% of the seeding projects. Areas not accessible with the drill or Vicon seeder will be broadcast seeded or seeded with a hydroseeder. Mulching or other forms of erosion control will take place on as many projects as feasible.

When native seed is used it will be of local ecotype. It may consist of TAP seed, purchased seed, or locally harvested seed. Southern Iowa eco-type seed shall be used in a Mahaska County IRVM seeding projects as much as possible. Areas where local ecotype plants are known to grow will be used for seed harvest.

Any area needing more seedbed preparation may be disked, harrowed, and/or cultipacked and then planted. Each area planted will have a GIS/GPS record describing seed planted, acres planted, soil type and a site description. These will be filed by year so employees can track the progress of what has worked and what has not.

Seed Appendix J. for seeding map

## **Native vs. Non-Native seed:**

In keeping with the ideas of Integrated Roadside Vegetation Management, native plants will be used in these projects whenever appropriate. However, there are some situations that do not call for native plants and the project would be better suited for cool season grasses.

The roadside manager will make this distinction and decide the seed mix that is proper for the area by using the Mahaska County seeding guidelines.

### Goals for the seeding program are as follows:

1. To realize a 75% success rate for seeding jobs.
2. To seed as many areas as budget and time allow in a given year.
3. To do high quality seeding jobs, that look professional.
4. To mulch every job we seed in one form or another until resources run out
5. To realize cover crop growth in the first year and some native growth in year one.
6. To become better educated and take a more pro-active stance for erosion control on clean-outs, regrades, and construction projects. Water quality needs to be a much higher priority.

See Appendix F. for Procedures

## **Seed Purchasing:**

Cover Crop and Cool Season grasses are generally purchased in small quantities of up to 500 pounds at a time. Purchasing for these quantities takes place locally. Large quantity orders that local dealers do not support may take place from large Midwest dealers.

Native Seed purchasing is more specialized and species specific. All seed purchased shall be source identified Iowa Ecotype yellow tag seed. Seed may be purchased through Pheasants Forever, Allendan Seed, Osenbaugh Seeds, or any other qualified dealer.

## **Erosion Control Products:**

Erosion control products include rolled erosion mat, sediment logs and dikes, and hydromulch. The department keeps a small supply in stock year-round but generally orders on an “as needed” basis.

Specialized dealers carry these products. Purchasing from specialized dealers is beneficial because they have technical assistance to help decide which products are best for the job. The department does most erosion controls purchases with Quick Supply in Des Moines. They deliver directly to our facility.

## **Controlled Burning Program:**

Mahaska County recognizes the importance of fire as a valuable tool in roadside management. Controlled burns shall be used primarily in the spring of the years to better manage the vegetation in the roadsides.

The use of fire as a management tool can be an effective and inexpensive way to blanket treat large areas of roadside. If properly timed, the fire damages the growing point of unwanted brush and weeds. This stunts the growth of the noxious vegetation and allows follow-up treatment to be more successful.

Fire also stimulates the growth of warm season grasses. They start growing later in the year and an early spring fire blackens the earth, the soil then warms quicker, and the warm season native grasses get a good head start on the damaged brush and cool season weeds.

Fall burns can also have benefits. They can be used to clear unwanted vegetation making it easier to cut the remaining brush. This is also the time to burn if you are wanting to stimulate the forb species to make a site look showy. The sites need to be selected with erosion in mind. With steeper, highly erodable areas, fall burning may be more of a detriment due to the lack of vegetative cover on the ditch for a prolonged period of time. In most cases any burn is better than no burn because it recycles nutrients quickly, stimulates plant growth, and cleans up the looks of a site.

### **Here are some of the benefits of fire in a roadside vegetation community:**

1. Stimulate growth and seed production.
2. Recycle tied up nutrients.
3. Remove accumulated mulch and associated diseases.
4. Allow more effective soil warming.
5. Improve habitat.
6. Reduce wildfire hazards.

Mahaska County Roadside Management realizes the need for controlled burning. However, with burning comes several safety issues and hazards. Mahaska County I.R.V.M. will take the following safety procedures into consideration before conducting any roadside burns.

1. Pre-evaluation of the site.
2. Notification and Public Relation
3. Personnel planning.
4. Road Closures (only in emergency situations).
5. Warning Signs.
6. Proper Equipment.
7. Weather Monitoring.
8. Proper smoke dispersal.
9. Cleanup of the job site and post burn evaluation.

Roadside burning is seasonal by nature. Keeping this in mind, planning becomes crucial, as there are a limited number of good days to burn in a spring or fall season. Having a thorough and

understandable burn plan ready to go at a moments notice is essential. Employees will have areas scouted out, organized and be ready to go at a moments notice. Site observations by the roadside manager will be used to dictate the area that will receive maintenance burning.

The department will conduct controlled burns on prairie remnants in Mahaska County. Employees do this to keep them healthy as fire was once a large part of the prairie ecosystem. This is necessary to keep the last remains of the prairie from becoming weed and brush infested.

As with any burn, we will notify the proper parties. The proper fire department for the part of the county the burn will be in, the E-911 center and if a house is near, the residents of the home.

The goals of our roadside controlled burning program are as follows:

1. To demonstrate the ability of fire to kill brush.
2. To demonstrate the ability of fire to reduce weeds.
3. To conduct safe and properly executed burns.
4. To increase diversity in our native stands with varying burn dates.

With these goals employees should be able to realize success with the burning program and have the ability to show people the results proper controlled burning can bring.

## **Encroachment Program:**

Defined by Webster as, “trespass”, this is an issue that seems harmless enough. However, it has become a legitimate issue in Mahaska County. Mahaska County IRVM recognizes the derogatory effects that encroachment has. Encroachment promotes weed invasion, destruction of native plant communities and overall ill effects of the right of way area.

In the event of encroachment, the violator will be sent a letter describing the area of trespass, suggesting a course of repair and holding them accountable for any cost or damages incurred when repairing damage done.

For example, if a seeding job is sprayed with herbicide and killed, the roadside manager shall assess the damage, add up a total dollar amount to repair and bill the responsible party. If the bill is not paid within 60 days, the amount will be levied against the property taxes of the offender.

It is this County’s stance that if Mahaska County IRVM is held accountable for herbicide drift and damages done to the property of individuals living, owning, or renting property adjacent to our secondary roadsides, then those same landowners or renters should be held accountable for the same type of trespass against Mahaska County.

Encroachment or trespass may be considered when any of the following or any type of the following occurs. Action by the IRVM department will follow.

1. When a roadside seeding project that has been marked with a sign saying, “No spraying, No mowing” is sprayed or mowed by an adjacent landowner or renter.
2. When an individual is observed dumping trash into a roadside in Mahaska County.
3. When an individual is observed burning trash in the county right-of-way.
4. When a roadside has had herbicide drift on it from careless landowner/renter spraying, and the vegetation warrants replacement.
5. When topsoil from an adjacent field is allowed to wash into the roadside.

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5. When topsoil from an adjacent field is allowed to wash into the roadside.

## **Roadside Beautification Program:**

Settlers moving into Iowa originally encountered a sea of tall, waving grasses and colorful wildflowers. As people drive through Iowa from other states, they look at the landscape. With IRVM the roadsides are an advertisement instead of a detraction. Monocultures of Brome and cool season grasses are boring. In a state dominated by monocultures, diversity certainly stands out. It is a pleasant change from the standard.

Preserving part of Iowa’s natural beauty is essential and what better place than a roadside? If it looks like, “a nice place to visit”, then logically benefits to local economics will be realized.

## **Facilities, Equipment, and Seed Storage:**

Mahaska County IRVM has an office space in the Secondary Roads Facility in Oskaloosa. A separate building is shared with the engineering department for maintenance and storage. The original storage structure was 36’x70’ (50’ heated and 20’ cold storage). In 2009 I.R.V.M. wrote an LRTF grant for a 36’ by 30’ expansion. The project cost was \$18,000 and LRTF funded \$13,000 of it. At that time an insulated, rodent proof, semi-climate controlled seed storage room was added to the facility as part of the project.

The building was especially important to get the hydromulch under-roof. Prior to this time it sat outside and became waterlogged making bales unwieldy to handle. In addition, the IRVM portion of the building holds our 2 trucks, the hydroseeder, drill, straw blower, just to name a few things.

See Appendix G. for full list of equipment

## Approval Page

The Mahaska County Board of Supervisors, the Mahaska County Engineer, the Mahaska County Conservation Board and the Mahaska County Integrated Roadside Vegetation Management Department come together in cooperation, common goals and shared ideas to manage roadside in Mahaska County by and through integrated roadside principles.

We realize that IRVM will be beneficial to our roadside management goals including increased brush and weed control, while being economically and environmentally beneficial. We also realize the increasing importance of public education programs, public participation, input and involvement in understanding roadside management practices.

We understand that working in unison toward improving roadside vegetation is the most efficient way to accomplish the goal of improved, safe, and weed free roadsides. These roadsides will also add to the habitat and natural beauty of Mahaska County.

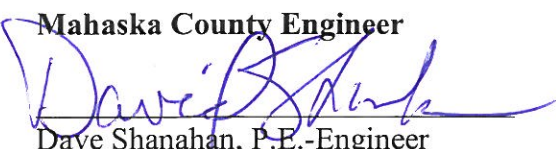
We hereby agree to manage Mahaska County roadsides according to the provisions described within this management plan.

### Mahaska County Board of Supervisors

By:   
Chairperson, Mark Doland

Date: 4-20-2015

### Mahaska County Engineer

  
Dave Shanahan, P.E.-Engineer

Date: 4/20/15

### Mahaska County Conservation Board

  
Dave Sedivec, Director

Date: 4-20-2015

### Mahaska County Roadside Manager

  
Ben Hoskinson-Roadside Manager

Date: 4/20/15



- Weed Commissioner Report due (BOS and IDALS)
- Weed Commissioner Appointment form due
- Sign up for Weed Commissioners Conference
- Clean up and Finish Yearly GIS maps
- Review Management Plan
- Stratify Seed
- Clean Seed
- Equipment Maintenance
- Brush Cutting
- Frost Seeding if needed
- Calendar Year-end report

#### February

- Fire Refresher Class (RT130)
- LRTF Committee Meeting
- Identify herbicide needs and send out quotes for Spring
- Plant greenhouse plugs
- Equipment Maintenance
- Frost Seeding if needed
- Advertise for Roadside Tech position if needed
- Controlled burns if possible
- LRTF Grant Applications
- Clean Seed

#### March

- Iowa Invasive Species Conference (IWCA)
- Spring seeding as conditions allow
- Order
  - Herbicide for Spring
  - Erosion Control products
  - Hydromulch for Spring
  - Seed
- Controlled Burns if possible
- Equipment Maintenance
- LRTF Grant Applications
- Brush Cutting
- Interview and hire Roadside Tech
- County Budget Final on the 15<sup>th</sup>

#### April

- Seed all outstanding Fall and Winter Projects (top priority)
- Begin bareground herbicide applications
- Roadside Technician Starts
- Noxious Weed Law BOS

#### May

- Finish Spring seeding

- Finish bareground applications
- Start county weed and brush rotation

#### June

- County weed and brush spray rotation (top priority)
  - Focus on Highways for Musk Thistle
- Some seeding when not spraying
- LRTF Application due on June 1.
- Maintenance mowing of previous year's seeding projects
- Plant plugs

#### July

- County weed and brush spray rotation (top priority)
- LRTF Grant Review
- Spray special areas for Canada Thistle and Teasel
- Maintenance mowing of previous year's seeding projects

#### August

- County weed and brush spray rotation (top priority)
- Regional Weed Commissioners Meeting
- Spray special Bur Cucumber and Japanese Hops locations
- Cut remaining Teasel heads and dispose of properly
- Start Fall seeding projects if conditions are favorable

#### September

- Finish county weed and brush spray rotation
- Start Fall seeding projects
- IRVM Roadside Conference

#### October

- Fall Seeding (top priority)
- Fall Burning
- Seed Harvest
- Pesticide Continuing Ed (if not covered at IWCA conference)
- Winterize Sprayer

#### November

- Finish Fall Seeding
- Begin GIS/GPS data entry for seeding projects
- Begin assessing capital needs for next fiscal year budget
- Update chemical inventory
- Winterize
  - fire equipment
  - hydroseeder
  - backpack sprayers

#### December

- Begin cleaning harvested seed
- TAP Seed Reports due to UNI
- Budget worksheets filled out and turned in to Auditor

- Gather and fill Iowa Weed Commissioners Report
- Finish GPS/GIS data for seed report
- Finish Early winter seeding (conditions pending)
- Van Diest Chemical Seminar
- Begin year-end report
- Start Brush Cutting
- Begin equipment Maintenance

## Appendix B. Resolution No. 97-03-06

### INTEGRATED ROADSIDE VEGETATION MANAGEMENT PLAN RESOLUTION (No. 97-03-06)

**WHEREAS:** The Board of Supervisors is empowered under authority of Chapter 317 of the Code of Iowa to establish policies, practices and funding to control noxious weeds,

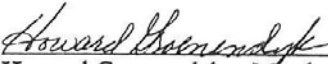
**WHEREAS:** The Board of Supervisors desire to establish a plan for the long term management of the roadside vegetation within the county.

**NOW THEREFORE BE IT RESOLVED** by the Mahaska County Board of Supervisors that the county establish the following Roadside Vegetation Management Plan:

1. Improve public relations image on roadside management practices and procedures.
2. Inventory county roadsides to determine weed populations and concentrations, native prairie indicators, populations and concentrations, and brush problems.
3. Restore native prairie grass and flower species where appropriate.
4. Protect county roadsides from erosion, slump and siltation.
5. Take advantage of unique funding, management, and seed procuring opportunities.
6. Control brush and other vegetation that could interfere with snow removal and/or public safety.
7. Promote economic advantages of better roadside management throughout the county.
8. Investigate alternative methods for controlling weeds within the county right of way.
9. Evaluate program periodically to identify strengths and weaknesses.

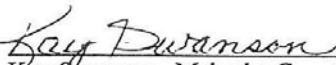
#### MAHASKA COUNTY BOARD OF SUPERVISORS

  
Hubert Parker - Chairman

  
Howard Groenendyk - Member

James Van Engelenhoven - Member

#### ATTEST:

  
Kay Swanson - Mahaska County Auditor

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# Appendix C. IRVM Cooperative Agreement

## Mahaska County Cooperative Agreement Integrated Roadside Vegetation Management

### I. INTRODUCTION

The Integrated Roadside Vegetation Management (IRVM) program for Mahaska County was developed to better serve the public using IRVM techniques for vegetation management and maintenance in Mahaska County. The position for a roadside manager was created to manage the IRVM program and to assume duties of the weed commissioner.

Roadsides primary function is to handle surface water from the road surface and adjacent land. Because of steep sloping land and poor soil conditions in many roadsides, weed invasion and soil erosion are constant problems in Iowa. Roadside managers have learned to avoid planting species favored in the past (Eurasian grasses and legumes) and tend toward species native to Iowa that are suited to our soils and climate. IRVM techniques can produce a roadside that is resistant to weed invasion and soil erosion, yet requires little maintenance. The Mahaska County IRVM program will address weed control, brush control, encroachment, mowing, roadside beautification and public relations in a comprehensive plan.

IRVM is a decision making and vegetation management process for maintaining roadside vegetation that integrates the following:

- \* needs of county citizens and roadway users
  - \* knowledge of plant ecology and natural processes
  - \* design, construction and maintenance considerations
  - \* monitoring and evaluation procedures
  - \* government statutes and regulations
  - \* mechanical and chemical technology
- ... to manage roadsides economically for safety, and enhance environmental quality and scenic beauty.

The following paragraphs summarize mutual agreements, understandings and other covenants among and between the **Mahaska County Board of Supervisors, Mahaska County Conservation Board, County Engineer, Conservation Board Director and IRVM Roadside Manager.**

### II. THE PLAN

A comprehensive roadside vegetation management plan will be created by the roadside manager, county engineer and conservation director to guide the Mahaska County IRVM program and policies, plus policies concerning Chapter 317 (Weeds) of the Code of Iowa. The development of this plan will involve substantial public input and participation, including meetings with township(s) trustees and other interested parties in the management of Mahaska County roadsides. The plan will be reviewed by the Mahaska County Board of Supervisors and the Mahaska County Conservation Board, and implemented following their joint approval. Upon approval of the plan, the roadside manager will actively pursue achieving the plan according to priority goals, objectives and policies identified in the plan. Roadside vegetation and weed issues will be summarily managed according to the provisions of the plan. The roadside manager, chairman of the board of supervisors or his/her designee, the county engineer, chairperson of the conservation board or his/her designee, and conservation board director will review the plan progress quarterly (March 1, June 1, September 1, and December 1). The plan shall be updated and reviewed annually (by mid December), and approved jointly by the Mahaska County Board of Supervisors and Conservation Board.

### III. THE IRVM ROADSIDE MANAGER

The IRVM Roadside Manager position description is attached (Appendix 1). The county engineer and conservation director evaluates and interviews candidates and recommends a qualified candidate for hiring by the board of supervisors. The engineer and conservation director will assist in program administration in the first year (FY 2000); thereafter the program shall be administered as an independent department. The roadside manager shall be directly accountable to the board of supervisors on a regular basis; responsible for implementing the Mahaska County Roadside Vegetation Management Plan; established by the roadside manager, board of supervisors, county engineer, conservation board and director. Once a roadside vegetation management plan has been established, the roadside manager shall be empowered to assume his/her duties without trivial interference from any of the parties of this agreement. This does not abrogate the authority of the board of supervisors to oversee the safe, efficient and effective performance of duties by the roadside manager; nor does it remove authority or responsibilities for the management of right-of-way by the county engineer as defined in the Code of Iowa.

### IV. PROGRAM ADMINISTRATION

The following statements define IRVM program covenants as agreed by the parties to this agreement.

#### A. Spraying

The roadside manager will be responsible for spraying noxious weeds and/or brush as described in the IRVM plan. The roadside manager will be responsible for researching and selecting the best equipment available within budget limitations. The purchase of the spray equipment shall be upon the approval of the board of supervisors.

#### B. Roadside Mowing

Roadside mowing shall be accomplished by the road department crews according to the IRVM plan and overseen by the county engineer and roadside manager.

#### C. Brush Control/Removal

Brush control and removal shall be the responsibility of the roadside manager. Secondary road department crews will assist the roadside manager seasonally when available as determined by the engineer in locations identified by the roadside manager and engineer. Control of woody species shall be by mechanical means, chemical or both.

#### D. Roadside Seeding

The roadside manager shall be responsible for seeding disturbed roadsides, clean-outs, re-graded right of ways, new construction and other locations. The engineer shall notify the roadside manager who shall indicate probable timetable; responsible for selecting and obtaining seed according to the provisions of the roadside vegetation management plan.

#### E. Controlled Fires

The roadside manager shall be responsible for conducting safe roadside burns according to the roadside vegetation management plan. The engineer and conservation director may allow staff to assist in this capacity. The roadside manager may assist the conservation department with controlled fires on MCCB areas. The MCCB may share fire fighting and control equipment.

#### F. Chemical Usage

The roadside manager shall select and spray chemicals to control vegetation according to IRVM principles and the IRVM plan.

#### G. Vehicles

The board of supervisors shall provide the roadside manager a safe and efficient vehicle capable of handling staff and equipment necessary to carry out the provisions of the IRVM program. The secondary road department shall maintain same with the expense for repairs and maintenance paid by the IRVM program fund.

#### H. Office Space

The secondary road department and county engineer shall provide office space at the county maintenance shop. The roadside manager shall have

use of necessary office equipment and telephone. The IRVM program shall be responsible for providing office supplies.

I. Insurance

The IRVM program and department fund shall be responsible for paying for insurance costs for IRVM program vehicles.

J. Education/Training

The roadside manager shall be permitted to attend conferences and continuing education that promotes professionalism and competency.

K. Other Equipment

Equipment not described in this agreement shall be arranged separately by verbal or written terms in order to accomplish terms of this agreement.

**Witnesseth:**

WHEREAS, the Mahaska County Board of Supervisors, Mahaska County Conservation Board, Mahaska County Engineer, Mahaska County Conservation Board Director and Mahaska County Roadside Manager, in a spirit of cooperation, common goals and shared vision to manage roadsides and weeds within Mahaska County by and through an Integrated Roadside Vegetation Management (IRVM) program; and

WHEREAS, the parties of this agreement recognize the benefits of an IRVM program, including the economically and environmentally sustainable objectives; county beautification and safety; and

WHEREAS, the implementation of this program is pivotal to the joint creation, monitoring and updating of an Integrated Roadside Vegetation Management plan, that incorporates public participation, input, education; and

WHEREAS, the departments, boards and administrators to this agreement shall strive to achieve the goals and objectives of the IRVM program; and

WHEREAS, the signors of this agreement will meet quarterly to review the plan, update the plan, and work toward joint approval annually according to the timetable described herein.

**THEREFORE, BE IT RESOLVED** that the Mahaska County Board of Supervisors and Mahaska County Conservation Board shall establish an Integrated Roadside Vegetation Management program and plan according to the provisions described herein.

MAHASKA COUNTY BOARD  
OF SUPERVISORS

By Howard Groenendyk  
Chairperson, Howard Groenendyk  
Date: June 1, 1999

MAHASKA COUNTY  
CONSERVATION BOARD

By John White  
Chairperson, John White  
Date: 6-2-99

IN WITNESS WHEREOF, these signors agree to the terms of this agreement:

MAHASKA COUNTY  
ENGINEER

Dennis M. Luebbe  
Dennis M. Luebbe  
Date: 8-3-99

MAHASKA COUNTY  
CONSERVATION DIRECTOR

Perry M. Thostenson  
Perry M. Thostenson  
Date: 6-5-99

MAHASKA COUNTY  
ROADSIDE MANAGER

Christopher J. Snyder  
Christopher J. Snyder  
Date: June 3rd, 1999

## **Appendix D. Farming County Right-of-Way Policy**

APRIL 19, 1983

### **FARMING COUNTY RIGHT-OF-WAY POLICY**

It was decided by the Mahaska County Board of Supervisors that farming of all county right-of-ways be restricted.

#### **SUPERVISORS:**

Daryl H. Denney  
Arie Ringelestein  
Tunis Den Hartog

Refer to page 260 of the Supervisor's Minute Book, No. 13, Mahaska County, Iowa 4-19-83

## **Appendix E. Policy Concerning Debris in Ditches**

MAY 30, 1989

### **POLICY CONCERNING DEBRIS IN DITCHES**

It was moved by Warrick seconded by Ringelestein to adopt the Code of Iowa Sections 455B.361, 455B.362; 455B.363; and 455B364 in regard to the matter of debris in ditches, motion carried.

#### **SUPERVISORS:**

Albert W. Stewart  
Arie Ringelestein  
Joe Warrick

Refer to page 452 of the Supervisor's Minute Book, No. 13, Mahaska County, Iowa 5-30-89



## Appendix F. Planting Procedures

Background: Most construction is done with a bulldozer or track hoe with a toothed bucket. Many areas are hard packed by rain and equipment when we get to them. Operators are encouraged to leave sites a little rough so we have enough surface dirt to work with when we get to the site.

### Broadcast Projects

1. Harrow the site if the area is hard packed or clumpy
2. Broadcast with Vicon or hand broadcast
  - Cover crop
  - Permanent seed mix
3. Harrow the seed in if the ground is not too mellow
4. Mulch over the top
  - Hydromulch 85% of the time
  - Straw 5% of the time
  - None 10% of the time

**Hydro Projects:** Generally used if site topography is steep, wet, or otherwise inaccessible

#### Types of mulch used include:

1. a 70/30 wood/paper blend a
2. Flexterra FGM

#### Two Pass Method

Water, 20% rate of mulch (wood/paper blend), full rate of seed needed for project  
Cover the site with full rate of hydromulch

#### One Pass Method

Water, full rate of mulch, full rate of seed need for project

- Shallow slopes to moderate slopes—5 bags wood/paper blend and 5 bags Flexterra
- Steep slopes—9 to 10 bags of Flexterra

### Drill Projects:

1. Harrow Site
2. Cultipack if needed
3. Broadcast or drill cover crop
4. Drill permanent seed (sprinkle a portion of forbs in the Grass box every so often to ensure equal distribution.)
5. Harrow if site is compact, or cultipack if mellow
6. Mulch over the top if needed

### Box Culvert Erosion Control

These sites are always adjacent to significant waterways so extra care is taken to protect the structure and prevent soil movement into the waterway. The following steps take place after seeding.

1. Excelsior Wood Fiber matting (8x90' rolls)
  - Installed along all perimeters of structure (top and sides)
  - In road ditch channel on all 4 sides of structure
  - On slopes of waterway channel where on riprap is not installed (if feasible)
2. Hydromulch the remaining slopes that are not matted or riprapped

### **On-going Project Maintenance**

Getting the area seeded is often times the easy part of the job. Ongoing maintenance presents many challenges. Many projects get maintenance and many are a “plant leave it alone”. We do not get to pick where construction projects will happen. Things that we consider are accessibility for equipment, weather conditions, project size, and visibility. Considerations that we take into account include:

#### Short term:

1. Visibility- Is it close to a population center, on a major highway?
2. Size- Is it worth the time transport equipment? Large projects always get priority.
3. Weed invasion- Are there invasive plants that need to be eradicated?
4. Nature- How has the site been affected by adverse weather conditions? Is it still accessible?
5. Accessibility- Is it even possible to mow an area.

#### Long term:

1. Controlled burns will be conducted on successful native planting areas.
2. Occasional mowing might be considered for native plantings where fire is not feasible.
3. After establishment non-native areas may be mowed occasionally after July 15.

## **Appendix G. Equipment Inventory**

250 Gallon spray skid  
500 Gallon Spray skid with 3 chemical injectors  
Mid Tech Legacy 6000 RMS System  
Trimble Juno SC  
Trimble GeoXH  
HP Laptop Computer  
John Deere 670 Tractor  
John Deere Rotary Mower LX4  
Vicon seeder & accessories  
Riga Greenhouse 8'x12'  
TGMI Straw Blower  
Landpride 72" disc  
Truax seed stripper  
1998 Truax Flex II 88 6 foot Seed Drill  
Clipper Eclipse seed cleaner  
8 foot harrow  
120 gallon chemical storage cabinet  
Stihl MS250 Chainsaw 16" bar  
Stihl FS250 Brush/weed eater  
Stihl Pole Saw HT 101  
Stihl 362 Chainsaw 25" bar  
2002 Ford F-350 pickup  
2009 Ford F-250 pickup  
16' Car trailer  
Fire Equipment—2 drip torches, fire hose, flappers, rakes, radios

# **Appendix H. Roadside Manager Job Description**

## **Mahaska County Job Description**

**Position:** Roadside Vegetation Manager/Weed Commissioner  
**Reports to:** County Supervisors

**Summary:** This position is responsible for the skilled administration and management of the county's Integrated Roadside Management (IRVM) program. This position works with the County Engineer, Road Foreman, and County Conservation Director to supervise, schedule, and administer the county's IRVM plan.

### **Essential Duties and Responsibilities:**

- Works with the County Engineer, Road Foreman, and County Conservation Director to supervise, schedule and implement the county's IRVM plan.
- Directs noxious weed control and invasive species activities.
- Utilizes IRVM techniques to reach short and long term goals of program.
- Assesses, directs, and completes seeding of prairie grasses, restoration efforts.
- Investigates complaints and takes appropriate actions.
- Performs IRVM and related education functions, including public speaking.
- Hires, trains, and supervises seasonal staff.
- Prepares budgets, writes grant application, work reports.
- Performs manual labor including, but not limited to, cutting brush, operation of chainsaws, hand tools, and related equipment.
- Other duties may be assigned
- Be proficient in computer usage and appropriate software (Word, Excel, ArcGIS)

**Qualifications** to perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill and/or ability required. Reasonable accommodations will be made to enable individuals with disabilities to perform the essential functions.

### **Education and/or Experience:**

Minimum qualifications include graduation from an accredited college or university with an A.A./A.A.S., prefer B.A./B.S. in biology, botany, or a related natural science degree or an equivalent combination of education and experience. Thorough knowledge of and the ability to operate assigned vehicles and equipment in safe manner according to public traffic laws and regulations. Good knowledge of occupational hazards and the safety precautions necessary for the proper operation and use of assigned vehicles, equipment, tools, and materials.

### **Language Skills:**

- Ability to read, analyze and interpret maps, maintenance manuals and similar type document.
- Ability to effectively write periodic work reports, fill out log books and document facts.
- Ability to establish and maintain effective working relationships with fellow employees, supervisors and the general public.

### **Mathematical Skills:**

- Ability to calculate averages, percentages, ratios and conversion factors.
- Ability to estimate mileage, distances and location with respect to maps and landmarks.

### **Reasoning Ability:**

- Ability to apply common sense understanding to carry out instructions furnished in written, oral, or diagram form.
- Ability to apply safety practices and procedures to all situations.

### **Certificates, Licenses, Registrations:**

- The employee must become an Iowa Certified Pesticide Applicator in Categories 1A and 6 within 3 months.
- Ability to become certified in S-130/ S-190 burn certification with 6 months.
- Ability to maintain a drug free environment and pass periodic random drug screening.

**Physical Demands:**

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations will be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to talk, hear, see and use hands and legs to operate a wide range of vehicles and equipment, exit and enter the vehicles throughout the day, operate equipment in adverse weather situations for extended periods of time, and perform work functions in construction environments. The employee is periodically required to perform regular vehicle maintenance activities and non scheduled work requiring the ability to exert or lift 50 to 75 lbs. The employee is periodically required to use hand tools to perform maintenance activities. The employee is periodically required to be available during adverse weather conditions and nonstandard hours.

**Environment:**

The work environment characteristic described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations will be made to enable individuals with disabilities to perform the essential functions.

The work environment will fluctuate with the weather conditions throughout the year. The employee may be subjected to extreme weather conditions for short periods of time. The employee may be subjected to working in road construction and maintenance activity environments with periodic high noise levels, dusty conditions and hazardous conditions. The employee may be subject to extended periods of working independently or with a group.

Mahaska County is an equal opportunity employer

## **Appendix I. Roadside Technician Job Description**

## **Mahaska County I.R.V.M. Roadside Technician Position**

**Position:** Roadside Technician with Mahaska County IRVM

**Employment Period:** Funded for April 1-December 31, with flexibility for students or other circumstances.

**Duties:**

The roadside technician will assist the Roadside Manager with all aspects of managing roadside vegetation. This will include, but is not limited to controlling noxious weeds, performing controlled burning, roadside mowing, managing and removal of roadside trees and brush, installation of right-of-way vegetation, erosion control, and maintenance of existing plantings. Habitat reconstruction projects, as well as public educational programs, routine maintenance on department equipment. The technician will also assist in other IRVM related programs/projects.

**Requirements and Certifications:**

Must be a self-motivated individual with the ability to apply common sense and have the knowledge to achieve goals and objectives. Knowledge of, or the ability to learn about grassland management and plant identification. The ability to routinely stand, walk, kneel, stoop, balance, climb and operate power and hand tools. Must be able to work outdoors in extreme weather conditions and be exposed to dust, fumes, and loud noises; and have the ability to routinely lift 75 lbs; ability to follow written and oral instructions. Applicant must possess or acquire a Category 6 Right-of-Way Iowa Pesticide certification within 30 days of hire. Knowledge of truck, tractor and small engine powered equipment operation and maintenance is preferred.

**Application deadline:**

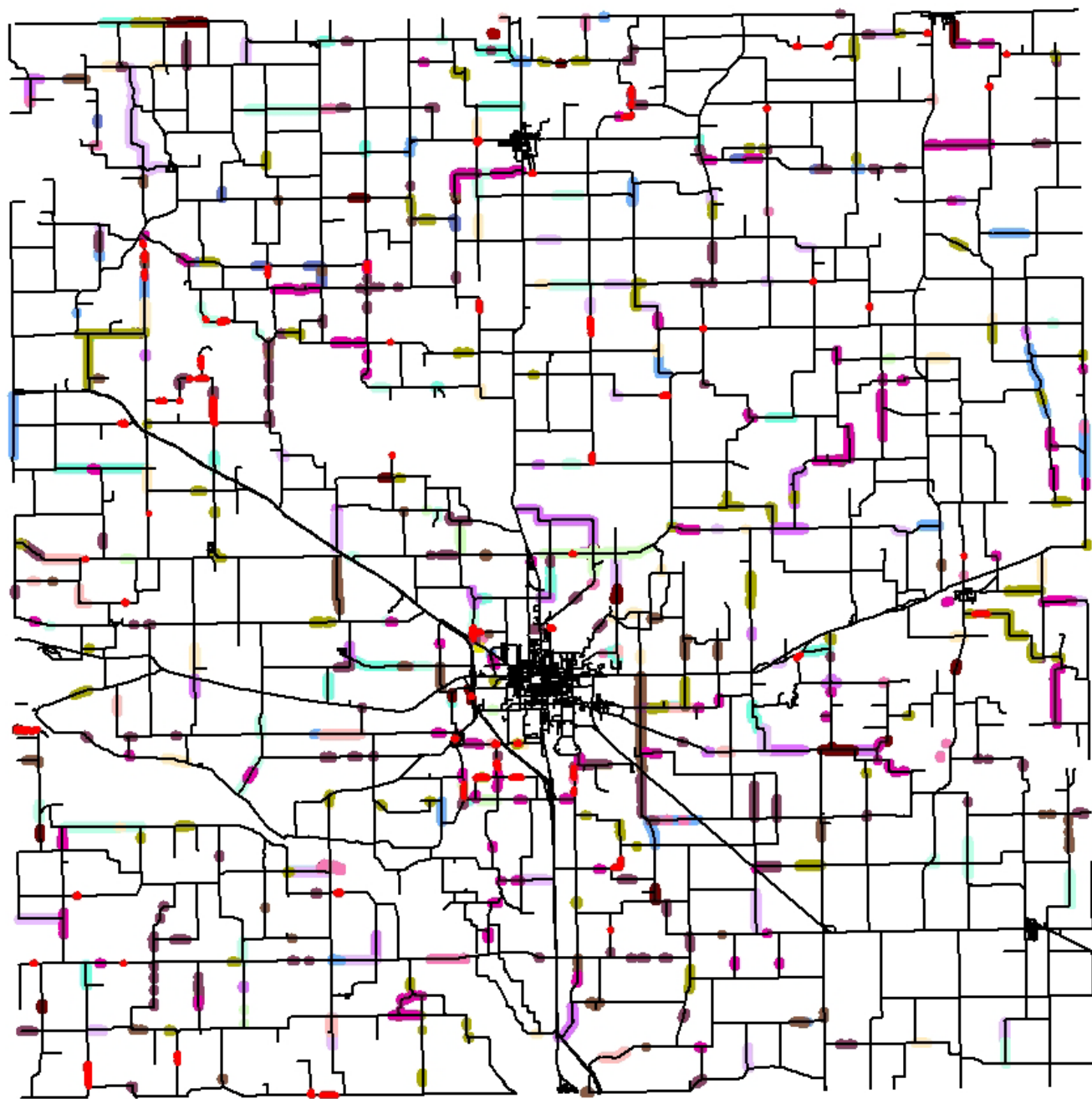
**Salary:**

\$10.00/hr to \$15.00/hr. depending upon experience and qualifications.

**To Apply:** Contact or send resume to:

Ben Hoskinson  
Mahaska County Roadside Manager,  
2074 Old Hwy. 163  
Oskaloosa, IA 52577  
(641)-672-2897  
hoskinson@mahaskacounty.org

## **Appendix J. 1999-2014 Seeding Records**



## Appendix K. Living Roadway Trust Fund Grants

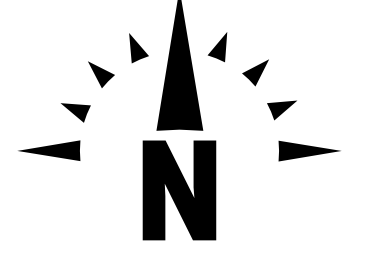
Mahaska County LRTF Funding History through FY 2015				
DOTProjectNumber	Applicant	Award	FiscalYear	Description
90-62-LRTF-801	Mahaska County	\$ 4,500.00	1998	Inventory
90-62-LRTF-901	Mahaska County	\$ 4,500.00	1999	Inventory
90-62-LRTF-902	Mahaska County	\$ 10,000.00	1999	Equipment - Truax drill
90-62-LRTF-201	Mahaska County	\$ 1,212.90	2002	Equipment - Burn
90-62-LRTF-401	Mahaska County	\$ 15,000.00	2004	Equipment - Bowie 1100 Hydro Seeder
	Mahaska County	\$ 1,500.00	2005	Equipment - Riga Greenhouse
90-62-LRTF-701	Mahaska County IRVM	\$ 8,738.00	2007	Equipment - Viper GPS and Sidekick injection unit
90-62-LRTF-801	Mahaska County IRVM	\$ 979.00	2008	Equipment - ArcView Explorer 9.2 software
90-62-LRTF-901	Mahaska County IRVM	\$ 8,082.40	2009	Equipment - Seed cleaner
90-62-LRTF-001	Mahaska County IRVM	\$ 1,732.00	2010	Equipment - GPS
90-62-LRTF-002	Mahaska County IRVM	\$ 13,000.00	2010	Storage - Equipment and seed
90-62-LR14-(315)	Mahaska County IRVM	\$ 780.28	2014	Equipment - Fire
		\$ 70,024.58		



# MAHASKA COUNTY IOWA

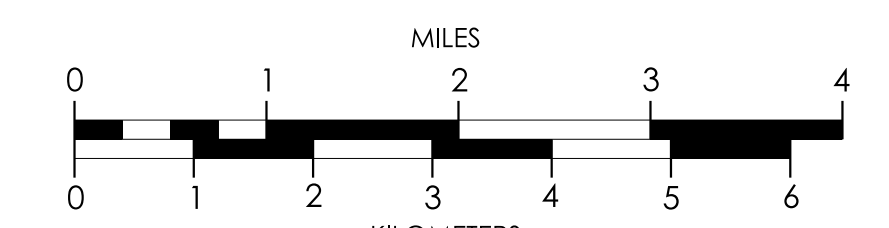


Office of Systems Planning  
Phone: (515) 239-1289  
WWW.IOWADOT.GOV/MAPS



In Cooperation With  
**United States  
Department of Transportation**

JANUARY 1, 2014



## LEGEND

- INTERSTATE HIGHWAY
- PRIMARY HIGHWAY-DIVIDED
- PRIMARY HIGHWAY
- PORTLAND CEMENT CONCRETE ROAD
- ASPHALT ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTHEN ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- ROAD NAMES
- UNINCORPORATED PLACE
- STATE PARKS
- STATE INSTITUTIONS
- FEDERAL LAND

