CITY OF SANTA FE

IPM Annual Report

2015 - 2016

Integrated Pest Management (IPM) is decision process for managing pests. Both established and newly recorded pests on City of Santa Fe property provide challenges in pest management. Pest management plans have been developed for city property to address site specific pest management strategies. Ordinance 10-7 requires the IPM Program Manager report yearly to the governing body on the status of the City's IPM Program. The intent of this report is to present the pest management activities for 2015-2016.

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City of Santa Fe Integrated Pest Management (IPM)

2015-2016 Annual IPM Program Status Report To the City of Santa Fe Governing Body

Introduction

Section 10-7.8 (paragraph E.), Implementation of City Integrated Pest Management Policy of the Integrated Pest Management Program (IPM) for City Property, Ordinance 10-7 requires the IPM Program Manager to report yearly to the City of Santa Fe governing body on the status of the city's IPM Program **{1.}**. This report is submitted to fulfill that requirement, and summarizes the progress and activities of the IPM program for 2015-2016.

Role of IPM Program Manager

- Prevent pest problems through nonpesticide means as much as possible.
- Monitor each pest habitat to determine pest population, size, occurrence, and natural enemy population, if present. Identify decisions and practices that could affect pest populations. Keep records of such monitoring.
- Set for each pest at each site and identify in an IPM implementation plan, an injury level, based on how much biological, aesthetic or economic damage the site can tolerate.
- Consider a range of potential treatments for the pest problem. Employ nonpesticide management tactics first. Consider the use of pesticides only as a last resort and select and use pesticides only within an IPM program and in accordance with the provisions of this section. No regulated pesticides or pest control devices may be used on city property unless they are applied by persons certified and licensed in the applicable pesticide applicator category by the New Mexico Department of Agriculture (NMDA).
- Conduct ongoing educational programs.
- Monitor treatment to evaluate effectiveness. Keep monitoring records and include them in the IPM implementation plan.
- Consult and coordinate IPM practices with other governmental agencies, private entities, and individual citizens.
- Keep current on IPM technologies.

Essential IPM Program Components

Five essential components of the IPM Program include:

1. Accurate pest identification.
2. Monitoring and quantifying pest densities and pest damage.
3. Guidelines (action thresholds) when pest management action is needed.
4. Preventing pest problems from occurring.
5. Implementing a combination of control options including cultural, biological, mechanical and chemical controls.

IPM Control Options

Cultural controls

Cultural controls are practices that reduce pest establishment, reproduction, dispersal, and survival. Adjusting the mowing height to allow turf to outcompete broadleaf weeds is an example of cultural practice in turf IPM.

Biological control

Biological control is the use of *natural enemies,* predators, parasites, pathogens, and competitors, to control pests and their damage.

Mechanical and physical controls

Mechanical and physical controls eliminate pests directly or make the environment unsuitable for it. Traps for rodents are examples of mechanical control. Physical controls include mulches for weed management, or barriers such as screens and sealants to keep rodents or insects out.

Chemical control

Chemical control is the use of pesticides. In IPM, pesticides are used only when needed and in combination with other approaches for more effective, long-term control. Also, pesticides are selected and applied in a way that minimizes their possible harm to people and the environment. To minimize risk, IPM uses the most selective pesticide that will do the job and have the least impact on other organisms, air, soil, and water quality. For example, use pesticides in bait stations rather than sprays; or spot-spray a few weeds instead of an entire area.

Four Main Groups of Pests

IPM recognizes four main groups of pests including:

Weeds: undesirable plants.
Invertebrates: insects, ticks, spiders, mites, snails, slugs.
Vertebrates: birds, rodents, and other mammals.
Disease agents or pathogens: bacteria, fungi, nematodes, viruses.

2015 - 2016 IPM Accomplishments and Activities

- **New Pests Identified and Confirmed on City Property (IPM Ord. 10-7.3 B)**

  Four insect pests were collected, identified and confirmed as new pests to Santa Fe including:

  - Ash whitefly (*Siphoninus phillyreae*)
    - Date collected 9/3/2015.
    - Location first observed: Marcy Street ash trees at Convention Center.
    - Distribution: City wide.
    - Host plants: ash species, crabapple, ornamental pear.
    - Damage to host trees: leaf drop, honey dew production, sooty mold.

  - Honey locust borer (*Agrilus difficilis*)
    - Date collected: 6/7/2016
    - Location first observed: Railyard Park
    - Distribution: City wide
    - Host plants: Honey locust
    - Damage to host trees: girdling of cambium resulting in death of host.

  - Turkestan cockroach (*Blatta lateralis*)
    - Date collected: 8/15/2016
    - Location first observed: Solid waste administrative offices Building A
    - Distribution: Siler road complex, City Hall, SFCCC, GCCC, Public Utilities, Salvador Perez, sewer system man holes.
    - Host/Sites: Offices, utility and mechanical rooms, breakrooms, restrooms.
    - Damage/ Concern: Mechanical vector of disease due to habitat.

  - European paper wasp (*Polistes dominula*)
    - Date Collected: 10/14/2016
    - Location first observed: MRC weed patch, portals.
    - Distribution: More sampling in 2017 will provide better distribution.
    - Host/Sites: Buildings, landscapes.
    - Damage / Concerns: Aggressive behavior of nesting adults; stinging potential.

  Confirmation of New Pest Occurrence on City Property

  These pests were collected on City of Santa Fe property by the IPM Program Manager and confirmed as new pests to Santa Fe County by the New Mexico Department of Agriculture State Entomologist, Dr. Carol Sutherland. IPM control strategies for new pests pending further study.

- **Development of Pest Management Plans (IPM Ord. 10-7.3 C)**
  Draft IPM plans for various City locations and pests **[1.]**.

  - City Hall
  - Geneva Chavez Community Center
  - Medians and Rights of Way
  - Marty Sanchez Links de Santa Fe / MRC
  - Turfgrass Playing Fields – Pocket Gopher Management
  - Patrick Smith Park – Pocket Gopher Management
  - Public Utilities Department
  - Salvador Perez Recreation Center
  - Santa Fe Community Convention Center
  - Santa Fe Police Department Huey Road Impound / Fleet Yard
  - See individual IPM Plans in Supporting Documents Section **{2.}**.

- **IPM Educational Events and Training (IPM Ord 10-7.3 E)**
  IPM educational events for department staff and other audiences:

  - Parks staff training on safe handling of dead and diseased rodents per NMDOH and CDC protocol.
  - Park staff training on invasive plant identification and mechanical management.
  - Beneficial insect identification workshop at Railyard Park.
  - Integrated Vegetation Management presentation to Public Works Committee.
  - Integrated Pest Management presentation to Santa Fe Food Policy Council.
  - Vertebrate pest management presentation to GCCC staff.
  - Collaborate with NMSU Cooperative Extension Service Specialists on pocket gopher training (biology, habits and mechanical control) for turfgrass.
  - Individual and small group pest identification contacts.
  - Establish IPM Web page to inform clientele of IPM events and postings.

- **New Mexico Department of Agriculture (NMDA) Compliance Inspection and Review (IPM Ord. 10-7.3 D; 10-7.9)**
  Existing pesticide application records inspection and review by NMDA Inspector.

  - Provide all pesticide application records relevant to NMDA protocol for review and inspection under the IPM Program Mangers Public Pesticide Applicator license number 64386 **[2.]**, **{3.}**.
  - All pesticide applications made by current IPM Program Manager in full compliance with NMDA standards as per report no. NA-20160831112817 **[3.]**

- **<u>Public Health Pest Awareness and Plague Mitigation (IPM Ord. 10-7.3 G; 10-7.7 E; 10-7.10 E; 10-7.15 E)</u>**
  Respond to plague (*Yersinia pestis*) positive human and animal cases on City Property.

  - Plague positive animal (dog) case from La Tierra Trail System 1/14/2016.
    - Parks Maintenance staff trained by IPM Program Manager on plague awareness, PPE, safety and reporting protocol for suspected plague infected animals.
    - Provide Parks Maintenance staff with plague fact sheets from NMDOH, CDC.
    - Weather proof laminate plague awareness signs posted at trail heads number 15, 17, and 21.

  - Plague positive animal case (prairie dogs) from Santa Fe Municipal Airport 8/24/2016.
    - IPM Program Manager provided plague infected flea mitigation recommendations for public health concerns by NMDOH Zoonotic Disease Unit epidemiologists 8/24/2106.
    - IPM Program Manager met with NMDOH Epidemiologist at airport to sample prairie dog burrows for fleas 8/25/2016.
    - Insecticide (Delta Dust deltamethrin EPA reg. no. 432-772) applied to 254 prairie dog burrows to control the vector (flea) from infecting other wildlife hosts and eliminate potential human infection through flea bites. Total application volume 10.0 ounces on 8/25/2016.
    - Re-sample prairie dog burrows for fleas to evaluate post insecticide treatment; sampling efforts yielded one (1) flea. 9/7/2016
    - One live prairie dog was observed on airport property, substantiating plague epizootic killed off the majority of prairie dogs at this site.

  - NMDOH announce human plague positive case from a 67 year old Bernalillo County man handling a plague infected prairie dog from Santa Fe Municipal Airport 9/1/2016.
    - NMDOH and City of Santa Fe provide press release to local media on plague awareness, symptoms, and prevention.
    - Meet with airport maintenance staff to demonstrate proper use of insect repellents when performing duties near rodent burrows.
    - Communicate with airport manager to inform of pest management practices to mitigate fleas from rodent burrows on airport property.
    - Inform NMDOH Zoonotic Disease Unit personnel of action taken to mitigate fleas in rodent burrows.
    - Utilize NMSU Extension Wildlife Specialist for subject matter expertise in host – vector biology to ensure protection for other wildlife populations.

- **Procure NMDA/EPA/OSHA Standard Pesticide Storage Unit (NM Admin. Code 21.17.50 Pesticides)**
  Storage unit dedicated for pesticide storage only.

  - Tamper proof storage unit housed in secured fenced area.
  - All pesticides removed from OMC closet reduce pesticide exposure risk to staff.
  - Storage unit identified with NMDA standardized pesticide storage placard.
  - Equipment and Machinery funding.

- **Relocation of Gunnison's Prairie Dogs (Code 14-8.12 Ord. No. 2011-37) {5.}**
  Coordinate relocation efforts of Gunnison's Prairie Dogs from City of Santa Fe Parks and other City property to approved relocation sites **[4.].**

  - Communicate with City certified contractor (Eco Solutions) to identify sites where prairie dog activities negatively impact City property especially playing fields, landscapes, and airport runways.
  - Routinely observe prairie dog colonies on City property for health and population trends.
  - Assist in trapping and processing of prairie dogs for relocation.
  - 146 Gunnison's Prairie Dogs were successfully trapped and relocated to City approved release sites **[9.]**.

- **Establish Pest Management Contract Procedures (IPM Ord. 10.7-12)**
  Establish procedures to identify City Departments soliciting Professional Service Agreements (PSA) from third party venders for pest control contracts **[5.]**.

  - Coordinate efforts with Purchasing Officer to identify City Departments that have had previous PSA for pest control services.
  - Met with various Department Directors and Managers to inform them of the IPM Ordinance guidelines for pest management service contracts.
  - Met with Pest Management Professionals to communicate all sections of the IPM Ordinance relevant to Pest Management Contracts and Contractor.
  - City Departments requesting PSA for pest control services must have an IPM Assessment and Plan for the intended site prior to soliciting a Pest Management Contract.

- **<u>Pesticide Application on City Property – Record and Reporting (IPM Ord. 10-7.9)</u>**
  Follow IPM Ordinance protocol for applying pesticides in City Property **[6.]**.

  - Date: 3/7/2016
    - Location: MRC Sports Complex softball and rugby field parking lot areas.
    - Pesticide: Esplanade herbicide (indaziflam 19.05%) EPA Reg. No. 432-1516.
    - Use Rate: 5.0 ounces diluted in 100 gallons water total solution.
    - Target Pests: Russian knapweed, kochia, puncture vine, annual blue grass.
    - Application made by Brian Hodges; NMDA License No. 63413 **[7.].**

  - Date: 4/23/16
    - Location: Rufina Street medians spot treatment, crack and crevice.
    - Pesticides: Rodeo herbicide (glyphosate 53.8%) EPA Reg. No. 62719-324.
      Zaltys herbicide (flumioxazin 51%) EPA Reg. No. 59639-91234.
    - Use Rate: 15.36 ounces Rodeo herbicide and 2.0 ounces Zaltys herbicide diluted in total of 8 gallons water.
    - Target pests: Annual and perennial weeds.

  - Date: 8/9/2016
    - Location: Water Department Billing Offices
    - Pesticide: Terro Liquid Ant Bait insecticide (borax 5.4%) EPA Reg. No. 149-8
    - Use Rate: 6 baits, 0.36 ounces each for 2.16 ounces total.
    - Target pests: Odorous house ants.

  - Date: 8/25/2016
    - Location: Santa Fe Municipal Airport fenced areas surrounding runways.
    - Pesticide: Delta Dust insecticide (deltamethrin 0.05%) EPA Reg. No. 432-772.
    - Use Rate: 10.0 ounces applied to a total of 254 rodent burrows (0.004 ounces per burrow).
    - Target pest: fleas (vector of plague bacterium).

- **<u>Pine Tip Moth Pheromone Monitoring (IPM Ord.10-7.3 B)</u>**
  Use pheromone technology to determine pine tip moth emergence on Ponderosa Pine.

  - Monitor and chart first generation pine tip moth using pheromone traps at Railyard Park **[8.]**.
  - Record and graph number of moths trapped over time
  - Peak adult male moth emergence week of 5/3/2016.
  - Present data to park supervisor to implement cultural and mechanical control of this pest including pruning, raking and destroying overwintering material.

- **Mechanical Control of Rodents (IPM Ord. 10-7.3 D 5)**
  Use traps to control rodents on City property

  - Respond to various Departments to remove acute infestations of mice.
  - Assist Parks staff with pocket gopher removal on ball fields and other turfgrass sites.
  - Train park staff on safe and proper use of traps for rodent control.

- **City of Santa Fe Safe Bee Swarm Removal Program**
  Safely removing swarming honey bees from City of Santa Fe property
  - Work with Assistant City Attorney and Risk and Safety Manager to draft bee swarm catchment program.

- **Professional Development**
  Professional development trainings and events attended by IPM Program Manager.

  - Earned 30 Continuing Education Units in IPM related subject matter from NMDA certified instructors at various professional meetings.
  - Earned 4.5 hours of web based continuing education in IPM Policy, Vertebrate Pest Management, Sustainable Pest Management, and Integrated Cockroach Management from the EPA's Center of Expertise for School IPM
  - Participated in a 2 hour City of Santa Fe Office of Risk Management and Safety "Uniform Traffic Control Awareness" class for work zone safety.
  - Participated in a 2 hour City of Santa Fe Office of Risk Management and Safety "Hazard Communication of the Globally Harmonized System" to ensure chemical safety in the workplace.
  - Attend 4 hour training on "Achieving Excellence in Public Service" sponsored by the University of New Mexico.
  - IPM Program Manager is a member of the Southwestern Branch of the Entomological Society of America which supports the science and discipline of IPM.
  - Attend National Conference on Urban Entomology in Albuquerque to keep current on IPM strategies of structural pests including ants, cockroaches, rodents and bed bugs.

- **Future IPM Goals and Activities**

  The IPM Program goals are to manage pests on City of Santa Fe property effectively with an emphasis on preventing pest problems and utilizing controls methods per the IPM Ordinance such as Cultural Control, Mechanical Control, Biological Control and Chemical Control using least toxic pesticides.

  It is important to note that in an IPM Program there are two essential goals:

  1. Reduce / minimize pesticide use.
  2. Effectively manage pests.

  By utilizing sound IPM principles, these essential goals can be achieved.

  - Pheromone Technology for Pest Forecasting
    Utilize pheromones for detecting and monitoring landscape and structural pest such as codling moth, pine tip moths, and cockroaches.

  - Degree Day / Heat Unit Accumulation
    Utilize weather data and visual sampling for pest management decisions.

  - Collaborate with NMSU IPM Specialist on Pollinator and Beneficial Insect Habitat
    - Sample various sites on City of Santa Fe property to determine pollinator species.
    - Establish plots of native pollinator plant species.
    - Establish plots of plant species that provide beneficial insect habitat.

  - Implement Biological Control of Ash Whitefly
    - Determine parasitoid (parasitic wasps) species best suited for controlling ash whitefly.
    - Collect data on naturally occurring predators and parasites of ash whitefly.
    - Release parasitoids on infested trees and assess control of whiteflies.

  - Develop American Elm Tree IPM Plan
    - Implement biological control of European Elm Scale using predatory beetles and wasps.
    - Use petiole analysis for nutrient management.
    - Deep root feeding of chelated and steric plant nutrients for improving tree health.

  - Investigate EPA Registered Least Toxic Pesticides for Control of Structural Pests
    - Bait stations and baits for ants and cockroaches.
    - Insect growth regulators for cockroaches.
    - Baits and bait stations for rodent management (mice, rats).

- Develop IPM Plan For Managing Pigeons on Rooftops and Mechanical Sites
    - Investigate exclusion technologies for rooftops and mechanical areas that can withstand snow loads.
    - Determine viability EPA registered product OvoControl P (nicarbazin 0.5% EPA Reg. No. 80224-1) for pigeon reproduction population management .
    - Collaborate with other agencies for input on management strategies.

- Implement Pocket Gopher Management Strategies at Various Turgrass Sites
    - Utilize mechanical control to reduce pocket gopher populations and damage in playing fields and other turfgrass sites.
    - Initiate gopher management to coincide with most vulnerable biological stages.

- Develop IPM Plans for other City of Santa Fe Owned or managed Sites
    - Determine sites that have pest issues and develop pest specific IPM plans.
    - Work with staff to determine areas of pest activity.
    - Maintain record of IPM plans in IPM office.

End Notes [ ]

[1.]

Each site was monitored and evaluated by the IPM Program Manager to determine pest species, site features, and IPM recommendations. Third party Professional Service Agreements (PSA) / Contracts (Ord. 10-7.12) for pest control services are the responsibility of Department Managers and not the IPM Program Manager.

[2.]

IPM Program Manger Victor Lucero NMDA license number 64386, holds categories in:
3A – Ornamental & Turf Pests; 3B – Ornamental & Turf Weeds; 6B – Right-of-Way Weeds
7A – Structural Pests; 7B – Vertebrate Pests; 8 – Public Health Pests

[3.]

Inspection Summary Report No. NA-20160831112817 8/31/2016.
I conducted a routine public applicator inspection with Victor Lucero, the IPM Program Manager for the City of Santa Fe. I collected all records of applications made by Mr. Lucero and his predecessor Richard Fagerlund; I will conduct a separate inspection with Brian Hodges, Golf Course Superintendent. No violations were apparent on the three application records made by Mr. Lucero. The most recent application of DeltaDust Insecticide (EPA Reg. No. 432-772) to a recently abandoned Prairie Dog colony was thoroughly reviewed along with the label and no violations were apparent. Mr. Lucero asked if there were any Diatomaceous Earth products for use in rodent burrows to control fleas that may carry plague. Erica Millete, Product Registration Program Specialist, could find no such products labeled for that site and any use contrary to it's product label would be a violation of the NM Pesticide Control Act and FIFRA. Greenbug, previously used by Mr. Fagerlund and left in storage, is not registered in New Mexico and I issued and Stop Use Order until it is properly registered in the state; Mr. Lucero has not used the product, it was used twice in 2015 by Mr. Fagerlund.

[4.]

City approved sites include Sevilleta National Wildlife Refuge in Socorro, NM and Rogersville Road near Cerrillos, NM.

[5.]

The use of Pest Management Professionals (PMP) for pest control services by various City Departments has not been systematically tracked and no records exist in the IPM Program Managers office that complies with section 10.7-12 of the IPM Ordinance. In addition to corresponding with City Departments on IPM Ordinance protocol, the current IPM Program Manager met with the City Purchasing Officer to be the point of contact to identify and track any Departments soliciting the services of a PMP via the PO process for pest management contract services.

[6.]

See NMDA Compliance Review document for records of specific pesticide applications in Supporting Documents Section

[7.]

Pesticide record for herbicide application at MRC Sports Complex dirt parking lots.

City of Santa Fe, New Mexico

memo

Date: February 29, 2016

To: Richard Thompson, Parks Director

Via: Jennifer Romero, MRC Manager

From: Brian Hodges, Golf Course Superintendent

RE: Request for Use of Herbicide, Esplanade

Item & Issue:

Parking areas at the Pinwheel softball fields and the Rugby fields have a 2' buffer into the parking area from the curbing with broadleaf and annual grass encroachment. The MRC maintenance staff has made efforts to box blade, string trim, and burn the specified areas to remove emerged vegetation. At this time, an application of a pre-emergent herbicide (Esplanade) is being requested.

- Trade name is : Eplanade
- **ACTIVE INGREDIENT:**
  Indaziflam (CAS No: 730979-19-5) 19.05%
  OTHER INGREDIENTS: 80.95%
  TOTAL: 100.00%
  EPA Reg. No. 432-1516
  Contains 1.67 pounds of Indaziflam per gallon
  For MEDICAL and TRANSPORTATION
  Emergencies ONLY Call 24 Hours A Day
  1-800-334-7577
  For PRODUCT USE Information Call
  1-800-331-2867
  KEEP OUT OF REACH
  OF CHILDREN
  CAUTION
  - Use rate of 5oz/acre

The following safeguards will be observed:

1. Applications will be made as follows: MRC Sports Complex: Softball & Rugby Field Parking Lot areas
2. Application under strict supervision of a certified licensed applicator.
3. All labels and safety precautions will be followed.
4. Chemical application to vegetation on designated turf areas.
5. Entire application will be done in one day on respective areas.
6. Documentation of application will be kept for future references, notes of amounts used, and time of application.
7. Signage will be posted as per IPM ordinance.

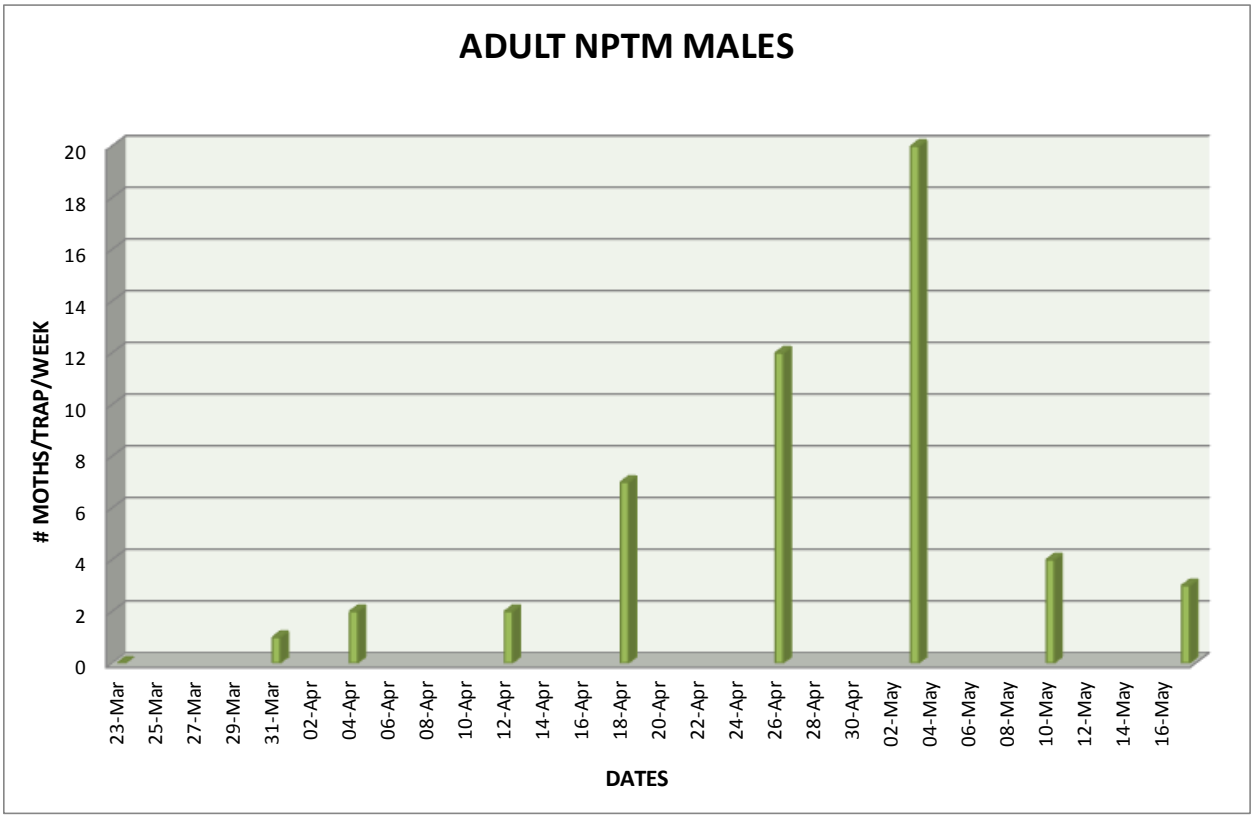
Action Recommended:

For your immediate review and approval. ☑ Approved _____ Date: 2.29.16

Cc: MRC File

[8.]

Pine tip moth (*Rhyacionia frustrana*) is a significant pest to young Ponderosa and other pine trees causing die back of new growth, stunting, and overall decline of trees.



- 3/23/2016 Trece Delta traps baited with Pherocon NPTM pheromone lure set in Ponderosa Pine mid-tree canopy at Railyard Park and monitored weekly by Victor Lucero.
- 5/3/2016 Peak adult male moth emergence observed in trap counts.

[9.]

2016 Gunnison's Prairie dog trapping data from City of Santa Fe property.

Location	# Prairie Dogs	Cost
Franklin Miles Park	26	$ 2365.54
Larragoite Park	59	$ 5367.96
GCCC Park	11	$ 1000.80
Transit Dept. Landscape	9	$ 818.84
SF Municipal Airport Runways	41	$ 3730.28
Total	**146**	**$ 13, 283.42**

Supporting Documents { }

{1.}

Ordinance #2001-10, §1, 10-7 Integrated Pest Management Program For City Property

10-7.1 Short Title.

This section shall be known as The City of Santa Fe Integrated Pest Management Policy. (Ord. #2001-10, §1)

10-7.2 Purpose and Findings.

A. The governing body of the city of Santa Fe hereby finds and declares that it shall be the policy of the city of Santa Fe to eliminate or reduce pesticide applications on city property to the maximum extent feasible.

B. Under this section, the city of Santa Fe wishes to exercise its power to make economic decisions involving its own funds as a participant in the marketplace and to conduct its own business as a municipal corporation to ensure that purchases and expenditures of public monies are made in a manner consistent with integrated pest management policies and practices.

C. This section concerns the application of pesticides to property owned, controlled or operated by the city of Santa Fe only, and does not concern the application of pesticides to property that is not owned, controlled or operated by the city of Santa Fe. (Ord. #2001-10, §2)

10-7.3 City Integrated Pest Management Policy.

The city shall implement the following city integrated pest management (IPM) policy. The city, in carrying out its operations, shall assume pesticides are potentially hazardous to human and environmental health. The city shall give preference to preventing pest problems through nonpesticide means and using reasonably available nonpesticide alternatives before considering the use of pesticides on and in city property. For all pest problems on city property, the city shall follow the integrated pest management (IPM) approach outlined below.

A. Prevent pest problems through nonpesticide means as much as possible;

B. Monitor each pest habitats to determine pest population, size, occurrence, and natural enemy population, if present. Identify decisions and practices that could affect pest populations. Keep records of such monitoring;

C. Set for each pest at each site and identify in an IPM implementation plan, an injury level, based on how much biological, aesthetic or economic damage the site can tolerate; and

D. Consider a range of potential treatments for the pest problem. Employ nonpesticide management tactics first. Consider the use of pesticides only as a last resort and select and use pesticides only within an IPM program and in accordance with the provisions of this section. No regulated pesticides or pest control devices may be used on city property unless they are applied by persons certified and licensed in the applicable pesticide applicator category by the New Mexico department of agriculture, with the exception of licensed employees of commercial pest control companies working under the direct supervision of a certified and licensed applicator.

(1) Determine the most effective treatment time, based on pest biology and other variables, such as weather, seasonal changes in wildlife use, and local conditions, including the amount and timing of human occupation of or near the proposed treatment area;

(2) Design and construct indoor and outdoor areas to reduce and eliminate pest habitats;

(3) Modify management practices, including watering, mulching, waste management, and food storage to reduce pests and weeds;

(4) Modify pest habitats to reduce food and living space;

(5) Preferentially use physical and mechanical controls such as mowing, hand weeding, and the use of traps, barriers, and other exclusion methods;

(6) Use biological controls when applicable, such as introducing or enhancing pests natural enemies;

(7) Use the least toxic pesticidal controls only when other methods of control have failed; and

(8) Use pesticides in or outside of city buildings only when a pest is present and not on a regular or calendar basis.

E. Conduct ongoing educational programs:

(1) Acquaint staff with the IPM approach and the toxicity of pesticides,

(2) Inform the public of the city's attempt to reduce pesticide use and respond to questions from the public about the city's pest management practices.

F. Monitor treatment to evaluate effectiveness. Keep monitoring records and include them in the IPM implementation plan.

G. Nothing in this section is intended to apply to pesticide applications that are required to comply with federal, state, or local laws or regulations.
(Ord. #2001-10, §3)

10-7.4 Definitions.

Whenever used in this section, the following terms shall have the meanings set forth below.

Antimicrobial agent means any substance or mixture of substances intended for inhibiting the growth of, or destroying any bacteria, fungi, viruses, or other microorganism pathogenic to humans and other animals other than those in or on other living organisms. These agents include disinfectants, sanitizers, bacteriostats, sterilizers, fungicides and fungistats applied to inanimate surfaces and used in swimming pools.

City integrated pest management coordinator means the integrated pest management coordinator designated in subsection 10-7.15 to implement the city IPM policy as set forth in subsections 10-7.2 through 10-7.12 of this section, herein referred to as the IPM coordinator.

Contractor means a person, firm, corporation or other entity, including a governmental entity, that enters into a professional services agreement with the city to apply pesticides or perform other pest management activities on property that is owned, controlled or operated by the city.

Department director means the director of the department designated by the city manager to administer the integrated pest management program.

Division director means the director of the division designated by the city manager to administer the integrated pest management program.

Emergency means any unforeseen combination of circumstances or a resulting state that calls for an immediate action such as major economic impact over one thousand dollars ($1000.).

Integrated pest management means a decision-making process for managing pests that uses monitoring to determine pest injury levels and primarily uses cultural, mechanical,

physical, and biological tools to minimize health, environmental, and financial risks. The method uses extensive knowledge about pests, such as infestation thresholds, life histories, environmental requirements and natural enemies to complement and facilitate biological and other natural control of pests. The method uses the least toxic synthetic pesticides only as a last resort to manage pests.

Lease agreement means a binding written agreement, including but not limited to a contract, lease, permit, license or easement between a person, firm, corporation or other entity, including a governmental entity, and the city, which grants a right to use or occupy property of the city of Santa Fe for a specified purpose or purposes.

Lessee means a person, firm, corporation or other entity, including a government entity that enters into a lease agreement with the city as lessor.

Pest means any living organism except humans and viruses, bacteria or other microorganisms that reside in or on other living non-plant organisms which are injurious to other living organisms or property. Pests may include but are not limited to insects, weeds, rodents and fungi.

Pesticide means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest as defined in Section 76-4-3 of the New Mexico Pesticide Control Act. The term pesticide includes, but is not limited to, herbicide, insecticide, fungicide, and rodenticide.

Toxicity Category I Pesticide Product means any pesticide product that meets United States Environmental Protection Agency criteria for Toxicity Category I under Section 156.10 of Part 156 of Title 40 of the Code of Federal Regulations. These products have the toxicity signal word "Danger" on the label.

Toxicity Category II Pesticide Product means any pesticide product that meets United States Environmental Protection Agency criteria for Toxicity Category II under Section 156.10 of Part 156 of Title 40 of the Code of Federal Regulations. These products have the toxicity signal word "Warning" on the label. (Ord. #2001-10, §4; Ord. #2007-26, §1)

10-7.5 Ban on Use of Toxicity Category I Pesticide Products.

Except for pesticides granted an exemption pursuant to subsection 10-7.10, effective upon the effective date of this section, the city shall refrain from using any Toxicity Category I Pesticide Product, any pesticide containing a chemical identified by the state of California as a chemical known to the state to cause cancer or reproductive toxicity pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986, and any pesticide classified as a known or likely human carcinogen by the United States Environmental Protection Agency, Office of Prevention, Pesticides and Toxic Substances. (Ord. #2001-10, §5)

10-7.6 Use of Other Pesticide Products.

A. Except for pesticides granted an exemption pursuant to subsection 10-7.10, within thirty (30) days of the effective date of this section, the city shall refrain from using any Toxicity Category II Pesticide Product.

B. Except for pesticides granted an exemption pursuant to subsection 10-7.10, April 1, 2001, any city department that uses one or more pesticides not banned under subsection 10-7.5 and section 10-7.6A, shall reduce by one hundred percent (100%) the cumulative volume of such pesticides that it used in calendar year 2001. (Ord. #2001-10 § 6)

10-7.7 Notice of Pesticide Use.

A. Within thirty (30) days of the effective date of this section, the city shall comply with the following notification procedures, unless the pesticide is an antimicrobial agent or is exempted from this requirement pursuant to paragraphs C. through E. hereof.

(1) Signs shall be posted at least one (1) day before application of the pesticide product and remain posted at least five (5) but no longer than seven (7) days after application of the pesticide.

(2) Signs shall be posted at every entry point where pesticide is applied if the pesticide is applied in an enclosed area and in highly visible locations around the perimeter of the area where pesticide is applied if the pesticide is applied in an open area.

(3) Signs shall be of a standardized design that is readily visible and easily recognizable, readable, and understandable to the public and workers.

(4) Signs shall be orange, wholly or in part, with black lettering and contain the signal word "caution/precaution" unless otherwise specified by the city safety director.

(5) Signs shall contain the name and active ingredient of the pesticide product, the target pest, the date and time of pesticide application, the phone number of the IPM coordinator, and the hotline phone number as set forth in paragraph B. herein.

B. Within thirty (30) days of the effective date of this section, the IPM coordinator shall develop and maintain a twenty-four (24) hour pesticide hotline to inform the public about the city's pesticide applications, with the exception of applications of antimicrobial agents and pesticides exempted according to paragraphs C. through E. hereof. The following information shall be readily available by calling the hotline and shall include for any pesticide that will be applied within the next three (3) days, unless exempted by paragraph E. hereof, or has been applied within the last ten (10) days:

(1) A description of the area of the pesticide application with sufficient specificity to reasonably assure the identification of the intended area of pesticide application or the area which has been treated,

(2) Name and active ingredient of the pesticide product,

(3) The target pest,

(4) The date and time of pesticide application,

(5) The name and phone number of the IPM coordinator.

Information about the pesticide hotline number shall be posted in public locations in city buildings, listed in the phone book, and advertised with other city telephone numbers.

C. The department director and/or division director may grant exemptions from or modifications of the signage and hotline notification requirements on a case-by-case basis or authorize alternative or no requirements for notification of the use of certain pesticides used in specific types of circumstances, upon a finding that a good cause exists to allow an exemption to be made. The city may use modified notification requirements if the department director and/or division director has previously granted such an exemption or modification for the specific product and circumstances of the pesticide application. If the department director and/or division director has not previously granted such an exemption or modification, the IPM coordinator or other city staff may request one from the department director and/or division director. The request shall include the identification of the specific situations in which it is not possible or practical to comply with the notification requirements and propose alternative notification procedures. The department director and/or division director shall decide whether to deny the request, grant an exemption, or approve alternative notification procedures. Exemptions or modifications are in effect until rescinded by the department director and/or division director.

D. The department director and/or division director may approve under paragraph C. herein that permanent signs be posted for the regular application of contained baits or other least toxic pesticides. Posting of signs may be required:

(1) In each building or city-owned bus or other vehicle where certain pesticides are used, stored, or transported,

(2) At the main office or a similar location where the public obtains information regarding the building or vehicle,

(3) When such pesticides are used outdoors to control rodents and other pests, in a conspicuous location outside of the area where they are used.

The sign may be required to indicate the name and active ingredient of the pesticides used outdoors or in and around the building or vehicle, the target pests, the area or areas where the pesticides are commonly placed or applied, and the phone number of the IPM coordinator.

E. In the event of a public health emergency, to comply with worker safety, economic requirements, or to take advantage of a vulnerable time in a pest's life cycle, the IPM coordinator may authorize the application of a pesticide without providing a one-day advance notification. Signs meeting the requirements of paragraph A. herein or otherwise established by the department director and/or division director for that pesticide according to paragraph C. and D. shall be posted at the time of application and remain posted for at least five (5) but no longer than seven (7) days following the application.
(Ord. #2001-10, §7; Ord. #2007-26, §2)

10-7.8 Implementation of City Integrated Pest Management Policy.

A. Within six (6) months of the effective date of this section, the IPM coordinator shall have a plan for implementing the city integrated pest management (IPM) policy pursuant to subsection 10-7.3. The IPM coordinator shall provide periodic IPM plan updates. The IPM implementation plans and periodic updates shall be consistent with the requirements of this section and any guidelines developed by the department director and/or division director pursuant to this section.

B. The city IPM implementation plan shall outline the ways in which the city shall comply with the city IPM policy pursuant to subsection 10-7.3. The city IPM implementation plan shall include pesticide applications performed by commercial pesticide applicators at the request of the IPM coordinator or other city staff.

C. The IPM coordinator, with the assistance of appropriate city staff, shall:

(1) Identify the types of pest problems that the city has;

(2) Identify to the maximum extent possible the types and quantities of pesticides used by the city and for which pests each pesticide was used in the past three years;

(3) Identify alternative pest management techniques or products that have been used and for which pests they were used in the past three (3) years or are proposed to be used;

(4) Assess the efficacy and cost of pesticide use and alternative interventions in the past three (3) years and regularly assess thereafter;

D. The department director and/or division director may determine that a city's IPM implementation plan is not in conformity with the city IPM policy. Upon a determination of nonconformity, the IPM coordinator shall submit a revised plan within thirty (30) days or in accordance with a schedule otherwise specified by the department director and/or division director or submit the plan to the governing body.

E. No later than six (6) months of the effective date of this section and quarterly thereafter, the IPM coordinator shall report to the department director and/or division director on the status of the city's implementation of the city IPM policy. Such report shall include a summary of emergency exemptions granted by the IPM coordinator during the reporting period. The IPM coordinator shall provide an annual report to the governing body of the city of Santa Fe on the status of city's program. (Ord. #2001-10, §8; Ord. #2007-26, §3)

10-7.9 Recordkeeping and Reporting.

A. The IPM coordinator shall keep written records of all pest management activities for at least two (2) years in the IPM coordinator's department and for five (5) years or the maximum time allowed by law, whichever is longer, in the city archives. Each record shall include the following information:

(1) The target pest;

(2) The name, active ingredient, EPA registration number, and quantity of pesticide used;

(3) The site of the pesticide application with sufficient specificity to reasonably assure the identification of treated areas;

(4) The date and time a pesticide was used;

(5) The temperature and wind speed and direction if application is made outdoors;

(6) The name and applicator license number of the pesticide applicator;

(7) The method of application and application equipment used;

(8) Prevention and other nonchemical methods of control used; and

(9) Exemptions granted by the IPM coordinator pursuant to subsection 10-7.7E. or 10-7.10E.

B. Pest management records that are kept by the IPM coordinator shall be made available to the public within twenty-four (24) hours of a request. Pest management records in the city archives shall be made available to the public according to the Inspection of Public Records Act. (Ord. #2001-10, §9)

10-7.10 Exemptions.

A. Improving and maintaining water quality. Notwithstanding any other provision of this section, this section shall not apply to the use of any pesticide for the purpose of improving or maintaining water quality at:

(1) Drinking water treatment plants;

(2) Wastewater treatment plants;

(3) Reservoirs; and

(4) Related collection, distribution and treatment facilities.

B. Reduced-risk pesticide. The department director and/or division director may exempt a reduced-risk pesticide from the ban imposed by subsections 10-7.5 or 10-7.6 upon a finding that the reduced-risk pesticide is compatible with an ecologically sound and least toxic IPM strategy. Decisions on whether or not to exempt a reduced risk pesticide will use the following criteria:

(1) Need for control of the pest or vegetation,

(2) The potential hazard to human, animal, and environmental health of using the pesticide,

(3) The effectiveness of the pesticide,

(4) Whether the use of the pesticide is consistent with IPM principles and will contribute to long term least toxic pest control.

The department director and/or division director shall maintain a list of reduced-risk pesticides granted an exemption pursuant to this subsection. The department director and/or division director shall review the list annually and make necessary changes. The department director and/or division director may review and revise the list more frequently.

C. One-year exemptions. The IPM coordinator may request from the department director and/or division director up to a one-year exemption from the pesticide ban imposed by subsections 10-7.5 or 10-7.6 for use of a particular pesticide for a particular use. The department director and/or division director may grant the one-year exemption upon a finding that the IPM coordinator has:

(1) Made a documented good-faith effort to find alternatives to the banned pesticide;

(2) Demonstrated that effective, economic alternatives to the banned pesticide do not exist for the particular use; and

(3) Developed a reasonable plan for investigating alternatives to the banned pesticide during the exemption period.

D. Limited use exemption. IPM coordinator may apply to the department director and/or division director for a limited use exemption for a particular pesticide banned pursuant to subsection 10-7.5 or subsection 10-7.6 and not covered by a one-year exemption. The department director and/or division director may grant a limited-use exemption provided that the department director and/or division director finds that the pesticide will be used for a specific and limited purpose for a short and defined period and the IPM coordinator has identified a compelling need to use the pesticide, has not yet found cost-effective alternatives, and has developed a reasonable plan for continuing to investigate alternatives for future use.

E. Emergency exemption. In the event that a pest outbreak poses an immediate threat to public or staff health or safety, major property damage or major damage to plant life, city staff shall contact the IPM coordinator or his/her designee whenever possible. The IPM coordinator or his/her designee shall respond to the emergency in a timely manner. The IPM coordinator and other city staff shall give preference to managing emergency pest non-chemical means or the use of approved pesticides. Should it be necessary, the IPM coordinator

may grant an emergency exemption for the use of pesticides banned pursuant to subsection 10-7.5 or subsection 10-7.6. Signs meeting the requirements of paragraph A. of subsection 10-7.7 or otherwise specified by the department director and/or division director for that pesticide according to paragraphs C. and D. of subsection 10-7.7 shall be posted at the time of application and remain posted for at least five (5) but no longer than seven (7) days following the application. Information of an emergency pesticide application will also be posted on the pesticide hotline at the time of application.
(Ord. #2001-10, §10; Ord. #2007-26, §4)

10-7.11 Lease Agreements.

A. When the city enters into a new lease agreement or extends the term of an existing lease agreement, the lease agreement shall obligate the lessee to comply with provisions of this subsection 10-7.11A:

(1) Effective upon the effective date of this section, the lessee shall comply with subsection 10-7.5 (Ban on Use of Toxicity Category I Pesticide Products);

(2) Effective thirty (30) days after the effective date of this subsection, the lessee shall comply with subsection 10-7.7 (Notice of Pesticide Use) and identify the lessee's IPM contact person;

(3) Effective thirty (30) days from the effective date of this section, the lessee shall comply with subsections 10-7.6A.; and

(4) A lessee or IPM coordinator on behalf of a lessee may apply for any exemption authorized under subsection 10-7.10 or use any reduced-risk pesticide for purposes approved by the department director and/or division director. (Ord. #2001-10, §11; Ord. #2007-26, §5)

10-7.12 Pest Management Contracts.

A. Effective thirty (30) days from the effective date of this section, when the city enters into a new pest management contract or extends the term of an existing pest management contract, the IPM coordinator shall submit an IPM implementation plan update to the department director and/or division director that incorporates the proposed pesticide usage of the contractor into the city department's implementation plan.

B. When the city enters into a new pest management contract or extends the term of an existing contract, the contract shall obligate the contractor to comply with provisions of this section 10-7.12B:

(1) Effective upon the effective date of this section, the contractor shall comply with subsection 10-7.5 (Ban on Use of Toxicity Category I Pesticide Products);

(2) Effective thirty (30) days after the effective date of this section, the contractor shall comply with subsection 10-7.7 (Notice of Pesticide Use);

(3) Effective thirty (30) days after the effective date of this section, the contractor shall comply with subsection 10-7.6A.

C. A contractor who is hired to apply pesticides or perform other pest management activities, or city department on behalf of a contractor, may apply for any exemption authorized under subsection 10-7.10 or use any reduced-risk pesticide for purposes approved by the department director and/or division director.

D. A contractor who is hired to apply pesticides or perform other pest management activities shall have liability insurance in the amount required by the city of Santa Fe risk management division. (Ord. #2001-10, §12; Ord. #2007-26, §6)

10-7.13—10-7.14 Reserved.

Editor's Note: Former subsections 10-7.13, Creating an Integrated Pest Management Board and 10-7.14, Powers and Duties of the Integrated Pest Management Board, previously codified herein and containing portions of Ordinance No. 2001-10, were repealed in their entirety by Ordinance No. 2007-26.

10-7.15 Designating a City Integrated Pest Management Coordinator.

There is designated a city integrated pest management coordinator to fulfill the duties and responsibilities as set forth in subsections 10-7.2 through 10-7.12 of this section, which will include, but are not limited to the following:

A. Work with appropriate staff to help create, implement, and coordinate the city's IPM plan;

B. Educate staff, contractors, businesses, other government entities, and the public about IPM and the city's IPM policy;

C. Provide technical assistance on IPM to appropriate staff or arrange for the provision of such assistance;

D. Maintain a database of the city IPM plan, pest problems, pesticides used, and efficiency and costs of interventions;

E. Grant emergency exemptions to use banned pesticides or apply pesticides without prior notification in the event that the exemption is required to protect the public or staff health or safety, major property damage or major damage to plant life;

F. Provide at least a quarterly report to the department director and/or division director on the status of the city's IPM policy, including a summary of emergency exemptions granted by the IPM coordinator during the reporting period;

G. Assist capital improvements program division in developing criteria for new or remodeled landscape and building designs which will minimize maintenance and pest management requirements;

H. Determine the cost of maintaining the IPM program; and

I. Submit an annual report to the governing body on the status of the city IPM program. (Ord. #2001-10, §15; Ord. #2007-26, §9)

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IPM Plans for Various City of Santa Fe Properties

City Hall

Interior and Exterior Pest Management Assessment and IPM Plan

Pests are populations of living organisms (animals, plants, microorganisms) that can interfere with the day-to-day operations of City Hall. Strategies for managing pest populations will be influenced by the pest species and whether that species poses a threat to the clients, staff, property, or the environment. It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment.

The most common pests at City Hall are cockroaches and mice. Cockroach species observed includes the Oriental cockroach, *Blatta orientalis*, American cockroach, *Periplaneta amaricana*, and Turkestan cockroach, *Blatta lateralis*. The Turkestan cockroach is a new species to Santa Fe first observed in August 2016. These pests are known to be mechanical vectors of human health diseases because of the unsanitary habitats they frequent. Different forms of gastroenteritis (food poisoning, dysentery, diarrhea, etc.) appear to be the principal diseases transmitted by Oriental cockroaches. The insects carry these disease-causing organisms on their legs and bodies and deposit the organisms on food and utensils as they forage. Cockroach excrement and cast skins also contain a number of allergens, to which many people exhibit allergic responses such as skin rashes, watery eyes, congestion of nasal passages, asthma, and sneezing. The most important aspect of cockroach damage derives from their habit of feeding and harboring in damp and unsanitary places such as sewers, garbage disposals, kitchens, bathrooms, and indoor storage areas.

Two different species of mice, the house mouse, *Mus musculus*, and the deer mouse, *Peromyscus maniculatus* have been trapped in several different offices at City Hall. Both house mice and deer mice cause various sorts of damage by habitual gnawing, contaminate food stuffs, provide a reservoir for germs, and spread disease among humans directly (contact with feces, urine, saliva or bitten) or indirectly (bitten by ticks or fleas that have fed on infected mice). House mice are known to mechanically vector the bacterium that causes salmonellosis, a form of food poisoning. Deer mice are the primary reservoir host of the Sin Nombre virus that causes Hantavirus Pulmonary Syndrome (HPS) in humans. In addition to harboring diseases, allergens have been associated with the skin, hair, urine and feces of mice.

Occasional pests observed are ants (harvester, odorous), sow bugs, crickets (filed, camel), and spiders. Many of these occasional pests can be managed by mechanically removing them, using sticky traps, vacuuming or eliminating food sources.

Integrated Pest Management strategies practiced at City Hall for managing pests include prevention, sanitation and some exclusion. Inspection of the facility should be conducted monthly or more frequently to determine pest activity. Accurate pest identification and monitoring will ensure proper control methods will be used.

Modifying the environment in and around the building to eliminate food, water and harborage sites for pests shall be ongoing to reduce the potential for pest infestations.

Assessment / Recommendations

- Repair or replace sweeps and vertical weather stripping on entrance and egress doors (especially doors facing Federal Pl., Marcy St., Lincoln Ave.) to prevent mice and insects from entering the building.
- Caulk exterior cracks and crevices at utility penetrations, door thresholds and exterior window frames to prevent mice and insects from entering the building.
- The stairwell close to the "fish pond" has evidence of deer mice hoarding crabapple fruit and other food items. An aggressive snap trap regimen should be implemented in this site to eliminate as many mice as possible. Utility penetrations in this area shall be sealed with copper mesh and caulked. The bottom landing wall needs to have 1/8 inch hardware mesh installed on the opening to keep mice and insects from entering the building.
- Repair leaking water faucets on exterior of building to eliminate water source for pests.
- Roof drains need to be cleaned of leaf litter to prevent standing water.
- Recycle bins (interior and exterior) need to be emptied regularly and washed periodically to remove pest food sources. Spills around bins should be thoroughly cleaned immediately.
- Custodian's closets need to be cleaned, organized, and have clutter removed to eliminate harborage sites for pests. Utility penetrations in closets should be sealed with copper mesh and caulked.
- Staff shall keep offices and break areas clean: keep food in pest proof containers and thoroughly clean food and beverage spills.
- Areas underneath and behind vending machines need to be cleaned weekly.
- Staff shall remove clutter in their offices when possible to eliminate pest harborage sites.
- Mechanical areas should be deep cleaned, and if present, remove rodent droppings per CDC protocol, see http://www.cdc.gov/rodents/cleaning/ for instructions.
- Mechanical areas should have clutter removed and kept clean. The basement boiler area is of concern as there is much clutter that provides harborage for pests.
- Floor drains in restrooms, mechanical areas and utility areas shall be cleaned flushed periodically to prevent drain flies from breeding. Use drain gels to remove grime.
- The crawl space west and north of the boiler room needs to be inspected to identify any potential pest problems.

- Vacuuming is a proved method to remove unseen insect eggs, insect cast skins and immature insect pests in addition to removing food sources (crumbs, sugar granules etc.) and should be an integral part of janitorial practices especially in carpeted areas, cracks and crevices, and in break areas.
- Acute rodent issues in offices may be mitigated using snap traps.
- Sticky traps for monitoring and trapping occasional insect pests shall be placed in mechanical areas, near entry ways, janitorial closets, common break areas, and boiler room to identify pest species and densities.
- Maintain landscape plants such that there is a 12 inch buffer between plants and the building when possible.
- Remove any plant parts (fruit, leaves) next to the building that may provide food or harborage for pests.
- Obtain a Professional Service Agreement / Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:
    - Monitoring for pests to identify pest species and densities.
    - IPM strategies for all pest management control options including exclusion materials to seal plumbing and electrical penetrations and other potential pest entry points.
    - Manage pests with repellents, baits, traps, and least toxic pesticides per the IPM Ordinance.
    - Use drains gels, expanding / foaming enzyme drain cleaners to reduce organic buildup in floor drains.
    - Maintain pest control records at City Hall and a copy at the IPM Program Managers office.
    - Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

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Geneva Chavez Community Center (GCCC)

Interior and Exterior Pest Management Assessment and IPM Plan

Pests are populations of living organisms (animals, plants, microorganisms) that can interfere with the day-to-day operations of the GCCC. Strategies for managing pest populations will be influenced by the pest species and whether that species poses a threat to the clients, staff, property, and/ or the environment. It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment.

The most common pests at GCCC are cockroaches (Oriental cockroach, *Blatta orientalis*, American cockroach, *Periplaneta amaricana*, Turkestan cockroach, *Blatta lateralis*). These pests are known to be mechanical vectors of human health diseases because of the unsanitary habitats they frequent. Different forms of gastroenteritis (food poisoning, dysentery, diarrhea, etc.) appear to be the principal diseases transmitted by Oriental cockroaches. The insects carry these disease-causing organisms on their legs and bodies and deposit the organisms on food and utensils as they forage. Cockroach excrement and cast skins also contain a number of allergens, to which many people exhibit allergic responses such as skin rashes, watery eyes, congestion of nasal passages, asthma, and sneezing. The most important aspect of cockroach damage derives from their habit of feeding and harboring in damp and unsanitary places such as sewers, garbage disposals, kitchens, bathrooms, and indoor storage areas.

Pest activity is concentrated in the mechanical areas of the facility where the habitat is suitable for pests, particularly cockroaches. Floor drains and wet areas are also areas of cockroach activity as they are able to access the interior through plumbing infrastructure. Because cockroaches feed on human skin cells and hair, they are prone to be in the restroom and changing areas. Rodents have not been problematic inside the facility. Casual invaders (darkling beetles, centipedes, spiders and others) occur seasonally and should be monitored by staff and reported to the IPM Program Manager for identification. Many casual invaders can be controlled by mechanical removal or by using traps.

IPM Practices in place are exclusion, sanitation and prevention. GCCC Staff maintains good sanitation practices to eliminate food, water, and harborage for pests. This must be an ongoing effort.

Recommendations:

- Mechanical areas are primary sites of pest activity, especially roaches. Monitoring for pests indicated that these areas are the primary source of cockroach activity. Both adults and nymphs have been observed indicating that there is a breeding population gaining access into the facility from plumbing or sewer infrastructure. It should be noted

that is almost impossible to eliminate water sources that pests require for their survival. Integrated pest control efforts should be focused here to avoid cockroach migration to other areas of the facility. An ongoing effort to reduce clutter in the mechanical areas will eliminate pest harborage.

- Floor drains should be cleaned frequently by janitorial staff to remove organic food sources. Scrubbing and the use of enzyme drain gels should be routine.

- Wet areas need to be monitored for cockroach activity. In addition to good sanitation practices to minimize pest food sources, drain gels, repellents and traps may provide some level pest control in these areas.

- Rollup doors on N end of building allow pests to gain access into building as normal activities require doors to be open periodically. Keep doors shut when not in use. Inspect and repair weather stripping, gaskets and sweeps as needed to exclude pests from the facility.

- Empty trash cans and recycle bins frequently, daily. Clean up spills around trash cans and recycle bins immediately.

- Staff should have personal food items in sealed glass or plastic containers with pest proof lids. Allow eating only in designated areas.

- The exterior dumpsters should be modified with drain plugs to discourage insect and rodent pests from food sources. The immediate area around the dumpsters should be keep clean from garbage that has a tendency to escape.

- Rodent activity has not been problematic in the building. However, prairie dogs near the parking area and sidewalks are present.

- Weeds on the north end of the facility should be mowed as close to ground level to a distance of 4-6 feet away from the building to discourage rodent pests and transitory insects from the building.

- Pigeons have been problematic for several years on the roof near HVAC and other mechanical structures. Efforts to exclude nesting and roosting pigeons is ongoing. Trapping adult pigeons is effective but a time consuming effort. The easternmost rooftop is most problematic due to the design of the building and the mechanical structures that allow pigeons to nest and roost in odd places. A bird exclusion net that would cover this area yet allow access to service equipment is strongly recommended.

- Water that drains from HVAC units and pools on the roof attracts pigeons and supplies them with a constant source of drinking water and needs to be eliminated.

- Obtain a Professional Service Agreement / Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:
    - Monitoring for pests to identify pest species and densities.
    - IPM strategies for all pest management control options including exclusion materials to seal plumbing and electrical penetrations and other potential pest entry points.
    - Manage pests with repellents, baits, traps, and least toxic pesticides per the IPM Ordinance.
    - Use drains gels, expanding / foaming enzyme drain cleaners to reduce organic buildup in floor and shower drains.
    - Maintain pest control records at GCCC Managers Office and a copy at the IPM Program Managers office.
    - Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

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Integrated Pest Management Strategy for Invasive Plant Management On Medians and Rights of Way of Arterials and Collectors for the City of Santa Fe, Department of Parks and Recreation

Introduction

The Parks and Recreation Department, through its Parks Division, is proposing to initiate an invasive plant treatment project to reclaim medians and rights of way from infestation of invasive vegetation (grasses and forbs) including Class C Noxious Weeds. This Project will be applied to medians, arterials, selected collectors, and boulevards.

Background and Management Directive

Executive Order 13112 defines invasive plants as "non-native plants whose introduction does, or is likely to, cause economic or environmental harm or harm to human health." Some invasive plants can change ecosystem processes such as hydrology, fire regimes, native species recovery, and soil chemistry. These invasive plants have a competitive advantage because they are no longer controlled by natural predators, and can quickly spread out of control. Furthermore, these invasive plants are opportunistic, finding bare soil to inhabit; and, easily increase infestation areas through prolific seed production.

Objectives

The Division has declared the desired conditions for this project area are to have structure, function and composition of plant communities and wildlife habitat free from impairment by invasive non-native plants; to have functional landscapes that do not, by their nature, represent serious hazards to vehicular traffic; and, to reduce water consumption by undesirable plant communities.

Purpose and Need for Action

Based on national, state and local direction, the needs for this project are to:

- Eradicate, control, contain and/or suppress existing invasive plant material on the medians and rights of way throughout the City of Santa Fe under the assigned responsibility of the Department.
- Provide for aggressive and timely treatments of new infestations to allow for rapid containment of small populations, before they become established.
- Establish desirable, native plant communities and / or hardscapes that reflect the unique aspects of our Region; and, that are biologically able to compete with invasive plant material.
- Cooperate with state and federal agencies; adjacent property owners; and, concerned citizens interested in managing invasive pest species within the project area.

Proposed Action

The proposed action includes the eradication, control, and / or suppression of existing and new infestation of invasive plant species that are deemed invasive, noxious, harmful, injurious, or poisonous, throughout the project area (arterials) within the legal boundaries of the City of Santa Fe.

The term of this project would be five (5) years, with annual review of effectiveness, and worthiness of continued effort. This project incorporates and adaptive management strategy that allows for project modification to address expanded area of concern, challenges encountered in process and advancements in selected methodologies.

Prescriptions for treatment would follow Integrated Pest Management (IPM) for the entire project site. Proposed treatment methods include cultural control, biological control, mechanical removal, and limited chemical control.

Monitoring and restoration of desirable plant communities are the key components to the proposed action. Monitoring is intended to provide baseline information, determine the effectiveness of project strategies, provide adaptive management based on unanticipated effects, and to assure the restoration of desirable plant communities. All surveys and monitoring efforts will be documented in project files.

The City of Santa Integrated Pest Management Program (IPM) for City Property will be adhered to for managing invasive pests including prevention, sanitation, cultural control, biological control, mechanical control and chemical control.

Depending on integrated variables in each site, Limited Chemical Control would likely decrease through the project life, and cultural control measures would increase, as invasive plant pests decline and desirable plant populations increase. Over time, best management horticultural practices will increase to maintain the viability of improved sites and maintain invasive species below damaging levels.

Treatment Method: Cultural Control

Cultural control of invasive species will include building soil health, sanitation practices to reduce weed seed bank, weed free plant stock, mulching, proper irrigation management and encouraging native species or improved landscape plants to outcompete invasive species.

Treatment Method: Biological Control

As of this writing, no biological control agents exist that are warranted for managing invasive tree species, although the salt cedar leaf beetle (Diorhabda spp.) has established itself in certain areas of New Mexico and is able to defoliate salt cedar. There are two biocontrol agents for Russian knapweed (*Rhaponticum repens*), a gall midge (*Jaapiella ivannikovi*) and a Cynipid gall wasp (*Aulacidea acroptilonica*) that may be incorporated to an IPM strategy involving biological control. Other biological agents will be investigated for specific weed species.

Treatment Method: Mechanical Control

Mechanical control of invasive tree species will include pulling, digging, cultivation, mowing, burning / flame cultivation and weed wrenching. Mechanical control efforts shall be focused on removing as much root mass as possible and prevent weed seed production.

Treatment Method: Limited Chemical Control

The herbicides that are considered as treatment options in the proposed action include: d-limonene, flumioxazin, glyphosate, triclopyr, and clopyralid.

Herbicides generally need to be applied with an adjuvant. There are several types of adjuvants including surfactants, non-foaming agents, and colorants. A surfactant, or surface-acting agent, is any compound that is added to an herbicide formulation or tank mix to facilitate and enhance the absorbing, emulsifying, dispersing, spreading, sticking, wetting, or penetrating properties of herbicides. Surfactants are similar to detergents in their action, reducing water surface tension to allow wetting and penetration of the plant tissues. The surfactant helps to achieve optimum herbicide absorption into and adherence from the herbicide onto the plant. Surfactants may also improve an herbicide's efficiency so that the concentration or total amount of herbicide required to achieve a given effect is reduced, sometimes as much as five or ten-fold (Tu et al. 2001). In this way, adding an appropriate surfactant can decrease the amount of herbicide applied and lower total costs for invasive plant control (Tu et al. 2001). In some cases, the herbicide would already have the surfactant included, but in other cases, it would be necessary to buy one. Colorants can be added to herbicide solutions to enable spray crews to see where they have treated after initial evaporation of the solution. Where herbicides are applied, a biodegradable colorant is used to facilitate visual control of application. This increases efficiency, reduces the amount of herbicide used, and identifies areas to avoid until the plants dry.

Cut stump, basal bark and spot spray applications will be preferred means of herbicide treatment on invasive tree species as these methods allow for ultra-low volumes, precision application, and greatly reduces or eliminates off target drift. Spot spray and crack and crevice applications are preferred means of herbicide treatment for grass and broadleaf weed control.

Herbicide treatment would comply with local, state and federal pesticide laws and regulations, and applied strictly in accordance with the label directions. Only certified personnel would apply pesticides. Table 1 summarizes the active ingredients, examples of brand names, properties, and general uses of the herbicides that are included as part of the proposed action. All herbicides considered under the proposed action have human health and ecological risk assessments that are posted on the Material Safety Data Sheet, available from the Office of the Integrated Pest Management Program Manager.

Restoration

Restoration is a critical component to invasive weed management. Treatment areas with gaps and bare soil would be open and vulnerable to further invasion of the same or other pest species. This could include seeding and planting with appropriate plant material, or mulching with weed-free material. Minimal site preparation would ensure restoration success.

Monitoring

Annual monitoring reports would include location (GPS), target species, size of area, method of treatment, season, and the application record if chemical were utilized. Sites will also be reviewed annually to determine if further chemical treatments are required.
Additional monitoring may be required in sensitive environments (e.g. threatened, endangered and or sensitive species habitat of heritage resource sites) during treatment to intercept unanticipated effects. All surveys and monitoring reports would be documented as project files. Monitoring is intended to determine efficacy of treatment methods, discover new pest populations, provide data for adaptive management, and to evaluate the restoration of treated sites.

Table 1. Summary of Chemical Treatment Methods

Active Ingredient	Brand Name	Properties	General Uses	EPA Reg. No.	Signal Word	Application
d-limonene	Avenger AG Burndown	Cuticular disruption	Post emergent vegetation control	82052-4	Caution	Spot spray, crack and crevice
flumioxazin	Zaltys	Enzyme inhibitor	Post emergent vegetation control	59639-120-91234	Caution	Spot spray, crack and crevice
triclopyr	Garlon 4 Ultra	Auxin growth regulator	Post emergent broadleaf vegetation control	62719-527	Caution	Cut stump, basal bark, spot spray
glyphosate isopropylamine salt	Aquamaster, Rodeo	Amino acid inhibitor	Post emergent non-selective vegetation control	Aquamaster 524-343, Rodeo 62719-324	Caution	Cut stump, spot spray, wipe -on
clopyralid	Transline	Auxin mimic	Post emergent broadleaf control	62719-259	Caution	Spot spray, cut stump, injection

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The Nature Conservancy Wildland Invasive Species Team: Weed Control Methods Handbook. 2001. Mandy Tu, Callie Hurd, and John M. Randall
https://www.invasive.org/gist/products/handbook/methods-handbook.pdf

USDA; National Invasive Species Council (NISC). February, 1999
https://www.invasivespeciesinfo.gov/laws/execorder.shtml

USDA; National Invasive Species Information Center. *Raphonticum repens*
https://www.invasivespeciesinfo.gov/plants/russknapweed.shtml

Municipal Recreation Complex (MRC)

Interior and Exterior Pest Management Assessment and IPM Plan

Pests are populations of living organisms (animals, plants, microorganisms) that can interfere with the day-to-day operations of the MRC. Strategies for managing pest populations will be influenced by the pest species and whether that species poses a threat to the clients, staff, property, and / or the environment. It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment.

This unique 1200 acre site is comprised of two recreational facilities, the MRC sports fields and Marty Sanchez Links de Santa golf course. On site buildings include the Administrative Office, Pro Shop, Restrooms, Restaurant, and Maintenance Shop.

Primary pests associated with buildings and structures are significantly impacted by the open space surrounding the facilities. Of concern are rodents (deer mice and packrats) that infest the buildings. Exclusion, sanitation and harborage modification have been a part of the IPM practices to manage rodent pests. Insect pests of concern include paper wasps, yellow jackets, house flies, blow flies, and biting flies (deerflies). There are many casual arthropod invaders including desert centipedes, black widow spiders, darkling beetles and false chinch bugs. Some of these casual invaders may be managed mechanically by staff using traps and vacuums. For health standards, the pest population complex must be closely monitored in the restaurant.

During fiscal year 2105-2016, 36,378 rounds of golf were played at the Marty Sanchez Links de Santa Fe. On a golf course, aesthetic value is important but playability is the primary concern. For instance, if the surface of a putting green is disrupted by disease injury or weeds, this may interfere with the roll of the ball, thus affecting the outcome of the match. Therefore, the pest response threshold level for golf putting greens is extremely low. The threshold levels for golf course fairways and roughs, however, are usually much higher than for greens since a smooth, blemish-free surface is not as important for play on these portions of the course.

Primary pests on the golf course are annual and perennial weeds (dandelions, broadleaf plantain, white clover, prostrate spurge, knotweed, black medic and kochia. Annual and perennial grasses (crabgrass, six weeks gramma grass, annual blue grass, feather finger grass, and foxtails) left unmanaged invade cultivated turfgrass. Pocket gophers and rock squirrels are primary burrowing rodent pests. Occasionally, when environmental conditions are conducive for their development, fungal pathogens (brown patch and snow mold) may cause die back of putting green surfaces.

The various pest control options used in a turfgrass IPM program include mechanical, cultural, biological, genetic, and chemical controls. Mechanical practices include physically removing or managing pests. Examples of mechanical control include physical removal of pests through trapping, mowing, blading, pulling or burning. Cultural practices are methods of pest control if

they result in a healthy and more pest-resistant turf. Cultural practices could include the use of certified seed or sod to reduce the introduction of weeds into a newly established turf. They could also involve mowing the desired turf species at the proper height, correcting nutrient deficiencies, and practicing good irrigation techniques.

Biological pest control methods (sometimes called biorationals) include using parasites or other biological agents to inhibit turfgrass pests. Biological agents that may be classified as biorationals include bacteria, fungi, or nematodes. Examples of biorationals used on turfgrass pests are Bacillus popilliae, a bacterium that causes milky disease of Japanese beetle grubs; turfgrass cultivars containing endophytic fungi that deter leaf- and stem-feeding insects; and beneficial parasitic nematodes for insect control.

Genetic control options involve using pest-resistant turf species and varieties. Although no turf species or variety is immune to all diseases and insects, some are better able to withstand damage from certain pests than others.

Chemical control of turfgrass pests with conventional synthetic pesticides is also an important part of an IPM program. It is essential to choose the proper pesticide for the target pest, to apply pesticides only when necessary, and to alternate pesticides so that pests are less likely to develop resistance to the chemical. Chemical control should target the most vulnerable life stage of pests. Weeds less than 2" tall or rosette stage prior to seed production in the fall of the year are most susceptible to pesticides at low label rates and provide the most optimal control of weeds in turfgrass.

Recommendations

- Maintain exclusion practices to prevent pest problems in buildings. Use high quality woven metal mesh and caulks to seal entry points especially at plumbing and electrical penetrations. Staff and other key personnel should inspect door sweeps and threshold for wear that could allow rodents and insect pests from gaining access into the facilities. This is especially essential for rodent pest management. Keep doors closed when not in use.

- Staff should maintain good sanitation practices including dumping trash cans frequently. Recycle bins should be kept clean and recyclables removed frequently.

- Assign designated staff eating areas or break rooms. All food items should be stored in pest resistant containers. Trash receptacles from eating areas should be dumped daily. Trash receptacles should be washed often. Spaces around vending machines should be cleaned to minimize pest harborage.

- Eliminate clutter in storage areas to prevent pest harborage sites.

- Restrooms:
    - Maintain frequent cleaning schedule to include trash removal, sweeping, and mopping.
    - Promptly repair leaks and correct other plumbing problems. Keep areas dry. Routinely clean floor drains, strainers and grates.
    - Place sticky traps in corners to trap seasonal casual invading insects. Replace often.

- Inspect portals and eaves frequently for wasp nests. Note: Because of stinging potential and envenomation that may cause anaphylaxis in humans, wasp nests in close proximity to human activity shall be eliminated. Only trained professionals should engage in wasp nest removal. Nests with single females may be removed mechanically.

- Food Preparation and Serving Areas:
    - Store food in containers that are inaccessible to pests.
    - Store waste in pest proof containers and frequently empty and replace trash liners.
    - Remove all waste at the end of each day.
    - Inspect and replace damaged screens on vents, windows and floor drains.
    - Remove all food debris including crumbs. Deep clean under appliances after each event.
    - Inspect and repair dripping faucets and other water leaks.
    - Promptly clean food preparation equipment after use.
    - Caulk or paint to seal cracks and crevices. Inspect and repair door sweeps and thresholds as needed.
    - Keep exterior doors next to food prep areas closed when not in use. If screen doors are not present, consider adding screen doors if ventilation is a concern.

- Modify trash dumpsters with drain plugs to prevent insect and rodent pests from accessing solid or liquid food items. Maintain functioning lids on dumpsters and keep lids closed when not in use. Keep area around dumpsters weed free.

- Staff should keep wild land vegetation to less than 3 inches high behind the MRC Office Building and Maintenance Shop to reduce rodent and insect harborage.

- Turf: Greens, Fairways, Rough, Athletic Fields
  Note: All turf management practices shall be under the purview of the Superintendent.
    - Select turf varieties best adapted for the area.
    - Adjust mowing height to grass type, site and function (greens vs rough etc.).
    - Vary mowing patterns to reduce soil compaction.
    - Do not over or under water turf.

- Provide good drainage.
- Manage soil pH, Electrical Conductivity and Sodium Adsorption Ratio to maintain turf vigor as determined by Superintendent.
- Periodically inspect turf for evidence of pests. Maintain scouting records to track pest species and densities.
- Have soil analyzed to determine fertilizer requirements.
- Time fertilizer applications on an appropriate seasonal requirement based on soil sampling.
- Aerate according to industry standards and local conditions.
- Maintain turf vigor to outcompete pests by using best management practices.
- Manage pests with IPM practices as per City of Santa Fe IPM Ordinance.

- Monitor and inspect turf areas frequently for burrowing rodents. Trapping is an effective strategy for managing pocket gophers and rock squirrels that damage greens, infrastructure, and present trip and fall hazards. Intensify pocket gopher trapping efforts during fall and winter to remove reproducing adults and minimize turf damage.

- Obtain a Professional Service Agreement / Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:
    - Monitoring for pests to identify pest species and densities.
    - IPM strategies for all pest management control options including exclusion materials to seal plumbing and electrical penetrations and other potential pest entry points.
    - Manage pests with repellents, baits, traps, and least toxic pesticides per the IPM Ordinance.
    - Use drains gels, expanding / foaming enzyme drain cleaners to reduce organic buildup in floor and bathroom drains.
    - Maintain pest control records at MRC Managers Office and a copy at the IPM Program Managers office.
    - Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

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Pocket Gopher IPM Plan for Turfgrass Playing Sites

Objective

The objective of this Integrated Pest Management (IPM) plan for pocket gophers (*Thomomys bottae*) on City of Santa Fe property is to manage gophers and their damage in order to maintain a safe, playable turf surface without the use of toxicants (rodenticides).

Pocket Gopher Biology, Habits and Damage

Pocket gophers are burrowing rodents measuring 13 -34 cm long. Gophers spend the majority of their life below ground in an extensive tunnel system. Each tunnel system is home to one adult gopher except during the Spring time breeding season and shortly thereafter when females rear their litter of 3-4 young. The fur lined pockets or pouches on each side of the face used to carry food, give the pocket gopher its name. Pocket gophers do not hibernate and are active year round.

The most obvious indicator of pocket gopher activity in turf sits is the presence of mounded soil. Tunneling activity produces soil that is mounded and somewhat fan shaped. A plug of soil at the base of the mound secures the tunnel from predators. During peak mound building activity, a single gopher may produce 70 – 100 mounds per month. Gopher mounds become trip and fall hazards, smother and kill desirable turf grasses, and are ideal sites for weed seed germination. Even small numbers of gophers have the ability to cause serious damage to the turf site by burrowing and feeding activities.

Mounded soil causes damage to machinery especially deck and rotary mowers. Irrigation lines and underground electrical wires can be damaged by gnawing activity of gophers. The playability of turf surface is significantly impaired by gopher damage as mounds produce irregular turf surface. Collapsed tunnels become trip and fall hazards and impair surface playability.

Being strictly herbivorous, pocket gophers feed on roots of perennial and annual plants including grasses, trees, and shrubs. Gophers will feed above ground on grasses and other leafy plant material not venturing more than a few inches from the safety of their burrow or pull above ground plant parts from their tunnels. When gophers infest turf sites, their feeding activity causes significant damage to the turf and the playing surface. Gophers do migrate small distances above ground in search of new habitat, food sources or mates.

In natural settings, pocket gopher activities provide benefits of soil aeration, incorporation of organic matter, and improved water infiltration. However, in improved turf sites, gopher activity is undesirable.

Legal Status

Pocket gophers are not protected by state or federal law. License not required to trap gophers.

Human Health and Safety Concerns

Pocket gophers are not considered to be a significant source of any infective disease transmittable to humans or domestic animals. Trip and fall hazards are created by burrowing activities of pocket gophers where human recreation activity is high (playing fields).

Management and Control

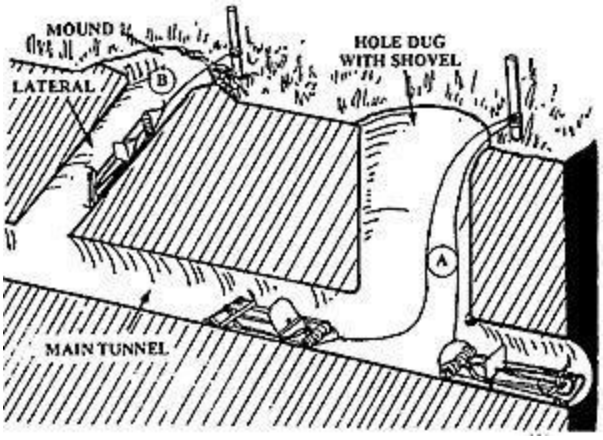
Pocket gopher predators in an urban setting include owls, snakes, coyotes, dogs and cats. However, predation (natural control) in an urban environment most often does not maintain an acceptable gopher population in improved turf sites.

Repellents of various sorts (electronic devices, foul smelling substances, predator urine etc.) are marginally effective or not effective in repelling gophers. Turf management practices such as mowing and irrigation do not deter pocket gopher activity. Exclusion efforts using stainless steel or galvanized mesh fabric on a large scale is impractical. Mechanical control of pocket gophers using reusable pincher type trapping devices is the preferred (IPM) method for managing pocket gopher populations in turfgrass sites.

Trapping and Trapping Methods

Trapping pocket gophers with two pronged pincher type traps is an effective control method when done properly by experienced trappers. Controlling gophers with traps eliminates the need for using rodenticides. All trapping is below ground in mound sets (lateral tunnels) or main tunnels where traps are not exposed to people or pets. Holes dug to expose tunnels are sealed with earth or turf plugs.

Fig. 1
Diagram showing proper trap placement for pocket gopher control using pincher style traps in main tunnel (A), and lateral tunnel (B). Note: holes dug to expose tunnels are sealed with earth or turf plug after traps are placed.



Tunnels that have traps should be marked with pin flags or ground paint. Traps placed in the morning may be inspected in a few hours or left overnight if possible. Because pocket gophers are small animals, carcasses can be buried in the tunnels to be incorporated naturally back into the nutrient cycle or double bagged and disposed in the landfill.

Trapping efforts should coincide with turf renovation when possible to remove gophers prior to seeding or sodding and thereafter to maintain a high quality turf area and minimize trip and fall hazards. To ensure a gopher mound-free seed or sod bed, trapping the interior and perimeter of new or renovated turf sites prior to seeding or sodding must occur in order to remove problem populations. An ongoing trapping regimen is essential to avoid loss of newly seeded or sodded areas especially for the first 18 months after seeding or sodding to ensure optimal turfgrass stand, minimize damage to mowing equipment and maintain uniform turf surface. Visual inspection of gopher activity by trained individuals is vital to maximize trapping efforts and avoid damage to the site.

Where gophers have infested established turf, a trapping regimen should be implemented to reduce populations from damaging turf surfaces and subsequent maintenance trapping. Established turf site should be monitored for new gopher mounds once per week.

Materials

Pincher style traps: EZ set, Macabee, Gophinator. Minimum of 50 traps per trapper.

Galvanized cable (1/16”) or fluorescent 550 cord: 18” per trap.

Cable clamps: Fabricated by trapper from ¼” copper tubing for using cable; 2 clamps per trap.

Probes: 12” – 24” metal probes to locate tunnels. One probe per trapper.

Gloves: Leather and disposable nitrile gloves as needed.

Knee pads: One high quality pair per trapper.

Digging Tools: Sod knife, trowel, 16 ¼” drain spade. One each per trapper.

Pin flags: One bundle (100) per trapper.

Ground paint: Fluorescent. 4 cans per trapper.

Five gallon pail with handle: Two per trapper.

Time Frame

Because most turf sites are adjacent to areas that have pocket gophers, it is understood that migration from these areas will occur. Intensive trapping efforts during fall and winter months are preferred trapping periods to control reproducing adults. It is suggested that year round trapping be implemented to manage gophers in turfgrass sites.

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http://icwdm.org/handbook/rodents/pocketgophers.asp

UC IPM. How To Manage Pests in Gardens and Landscapes. Pocket Gophers
T. P. Salmon, UC Cooperative Extension, San Diego Co.; and R. A. Baldwin, UC Statewide IPM Program, Kearney Agricultural Center, Parlier.
http://ipm.ucanr.edu/PMG/PESTNOTES/pn7433.html

Pocket Gopher Management Plan at Patrick Smith Park

Pocket Gopher Biology, Habits and Damage

Pocket gophers are burrowing rodents that spend the majority of their life below ground in a tunnel system that can be quite extensive. Each tunnel system is home to one adult gopher except during the Spring time breeding season and shortly thereafter when females rear their litter of 3-4 young. The fur lined pockets or pouches on each side of the face used to carry food, give the pocket gopher its name.

Tunneling activity produces soil that is mounded and somewhat fan shaped. A plug of soil at the base of the mound secures the tunnel from predators. During peak mound building activity, up to 70 mounds per month per gopher may be produced. These mounds may become trip and fall hazards as well as smother and kill desirable turf grasses. Exposed bare soil at the mound site is ideal for weed seed germination. Mounded soil causes damage to machinery especially deck and rotary mowers. Irrigation lines and underground electrical wires can be damaged by gnawing activity of gophers

Being strictly herbivorous, pocket gophers feed on roots of perennial and annual plants including grasses, trees, and shrubs. Gophers will feed above ground on grasses and other leafy plant material not venturing more than a few inches from the safety of their burrow or pull above ground plant parts from their tunnels. When gophers infest turf sites, their feeding activity causes significant damage to the turf and the playing surface. Gophers do migrate small distances above ground in search of new habitat, food sources or mates.

Legal Status

Pocket gophers are not protected by state or federal law in New Mexico.

Human Health Concerns

Pocket gophers are not considered to be a significant source of any infective disease transmittable to humans or domestic animals.

Management and Control

Pocket gopher predators in an urban setting include owls, snakes, coyotes, dogs and cats. However predation (natural control) in an urban environment most often does not maintain an acceptable gopher population. Even small numbers of gophers have the ability to cause serious damage to the turf site by burrowing and feeding activities.

Repellents are ineffective in deterring gophers from entering a site and do not scare them away from established areas. Exclusion efforts using stainless steel or galvanized mesh fabric on a large scale is impractical.

Trapping pocket gophers is an effective control method when done properly. Controlling gophers with traps eliminates the need for using rodenticides. All trapping is below ground in mound sets (lateral tunnels) or main tunnels where traps are not exposed to people or pets. Trapping efforts should initially coincide with turf renovation at Patrick Smith Park to remove gophers prior to seeding and thereafter to maintain a high quality turf area.

Methods

Trapping the interior and perimeter of Patrick Smith Park turf site prior to seeding must occur in order to remove problem populations to ensure a gopher mound- free seed bed. An ongoing trapping regimen is essential to avoid loss of newly seeded areas especially for the first 18 months after seeding to ensure optimal grass stand, minimize damage to mowing equipment and maintain uniform turf surface. Visual inspection of gopher activity by a trained individual is vital to maximize trapping efforts and avoid damage to the site. Visual observations should occur twice weekly during the renovation and turf establishment stage. Because the park is adjacent to areas that have pocket gophers, it is understood that migration from these areas to the Patrick Smith Park will occur, thus the need for ongoing monitoring and trapping as needed especially during fall and winter months to control reproducing adults.

Trapping both lateral and main tunnels will begin during renovation of the turf site to eliminate pocket gophers prior to seeding. Traps should be set and left for at least 8 hours undisturbed and preferably overnight in fenced off areas. Because pocket gophers are small animals, carcasses can be buried in the tunnels to be incorporated naturally back into the nutrient cycle or double bagged and disposed in the landfill.

Materials

Traps: Two-pronged pincher type traps (Macabee, EZ Set, DK, Gophinator, etc.) modified with cable stays - 24 traps.

1/16” galvanized cable and cable clamps or ¼” copper.
Pin flags.

Probe to locate main tunnel.

Trap setting tools: Sod knives, hand trowels or drain spade.

PPE: Nitrile gloves, leather gloves, knee pads.

Small plastic garbage bags.

5 gallon bucket or similar to carry supplies into the field.

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http://ipm.ucanr.edu/PMG/PESTNOTES/pn7433.html

Public Utilities Department 801 W. San Mateo

Interior and Exterior Pest Management Assessment and IPM Plan

This facility is made up of several buildings and open space. The main office building is in close proximity to large open area in the back and industrial and food industry to the West. Because of this layout, there exists multiple harborage sites for pests to live, breed, and migrate to the main offices.

Primary pests include ants (odorous house ants, harvester ants) cockroaches (Oriental, American, Turkestan) and both house mice and deer mice. Black widow spiders would be considered casual invaders of office spaces, storage bays, and fleet garages.

Staff has practiced good work place sanitation to prevent pests from accessing food and water. Exclusion efforts have been ongoing and need to be continued as the building is aged. In spite of these efforts, both insect and rodent pests gain entrance into the facility and disrupt work environment for staff.

It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment. Selected non-chemical pest management methods will be implemented, whenever possible to provide the desired control of pests. Inspection of the facility will be conducted monthly or more frequently to determine pest activity. Accurate identification will ensure proper control methods will be used. Habitat modification, exclusion, and sanitation will be the first actions to manage pests prior to chemical control with least toxic pesticides. Current IPM strategies at Public Utilities Department include sanitation and exclusion.

Recommendations

- Focus on exclusion efforts, especially on roll up doors on the north end of the main buildings as this is an entry point for insect and rodent pests. Repair or replace gaskets or seals if they are worn or damaged. Other doors should be inspected quarterly to ensure the sweeps are in good condition. Repair or replace door sweeps as needed. Doors at the Canyon Road facility should be inspected to ensure sweeps and thresholds exclude deer mice.

- Plumbing or electrical penetrations should have a high quality metal mesh barrier and caulked to exclude pests from entering the facility.

- Remind staff to keep food items in sealed, pest proof glass or plastic containers if they are going to have personal food items in their work stations.

- Janitorial staff should empty interior trash and recycle bins often and clean any spills immediately. Empty trash cans in outdoor break areas daily.

- Break rooms, coffee tables and kitchenettes should be kept free of exposed food. Clean spills and deep clean behind vending machines and appliances. The area behind the vending machine at the Canyon Road facility should be cleaned frequently as this is a harborage for deer mice and wood rats.

- Floor drains should be cleaned frequently by janitorial staff to remove organic food sources. Scrubbing and the use of enzyme drain gels should be routine.

- Manage and organize inventory in storage bays and garages to eliminate pest harborage sites.

- Keep trash dumpster sites clean and free of escaped trash items. Use drain plugs to keep mice from entering the dumpsters. Note: The Canyon Road Facility dumpster should have a locking lid to keep larger animals (raccoons, bears) from entering the dumpster and become conditioned to feed on garbage.

- Keep outdoor break areas weed free. Remove clutter from areas around storage sheds on NW side of main building.

- Remove Siberian elms and weeds behind large garages to eliminate rodent harborage.

- Remove vegetation on the east side of the main building near the inverter device.

- It is strongly recommended to use tamper proof rodent bait boxes outside in conjunction with exclusion and sanitation practices, especially on the north end of the facility. Snap traps should be used to eliminate acute infestations of mice in offices and bays.

- Obtain a Professional Service Agreement / Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:

    - Monitor for pests to identify pest species and densities using visual inspection and traps.

    - IPM strategies for all pest management control options including exclusion materials to seal plumbing and electrical penetrations and other potential pest entry points.

- Manage pests with repellents, baits, traps, and least toxic pesticides per the IPM Ordinance.

- Use drains gels, expanding / foaming enzyme drain cleaners to reduce organic buildup in floor drains.
- Maintain pest control records at Public Utilities Office Managers Office and a copy at the IPM Program Managers office.

- Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

Victor Lucero

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Office 955-2117
Cell 795-4529
vslucero@santafenm.gov

References:

Pests of Homes, People and Pets.

http://ipm.ucanr.edu/PMG/PESTNOTES/pn7411.html

Rodent Control and Protection from Hanta Virus.

http://aces.nmsu.edu/pubs/_l/L209/welcome.html

Pests of Homes, People and Pets.

http://ipm.ucanr.edu/PMG/PESTNOTES/pn7467.html

Salvador Perez Recreation Center

Interior Pest Management Assessment and IPM Plan

Pest problems, primarily cockroaches (Oriental cockroach, *Blatta orientalis*, American cockroach, *Periplaneta amaricana*, and Turkestan cockroach, *Blatta lateralis*) are amplified due to the high moisture environment especially in the pool area, changing rooms, and mechanical areas. These pests are known to be mechanical vectors of human health diseases because of the unsanitary habitats they frequent. Different forms of gastroenteritis (food poisoning, dysentery, diarrhea, etc.) appear to be the principal diseases transmitted by Oriental cockroaches. The insects carry these disease-causing organisms on their legs and bodies and deposit the organisms on food and utensils as they forage. Cockroach excrement and cast skins also contain a number of allergens, to which many people exhibit allergic responses such as skin rashes, watery eyes, congestion of nasal passages, asthma, and sneezing. The most important aspect of cockroach damage derives from their habit of feeding and harboring in damp and unsanitary places such as sewers, garbage disposals, kitchens, bathrooms, and indoor storage areas.

Floor drains and other plumbing infrastructure provide entry points for roaches. Upon gaining access into the facility, roaches and casual invaders migrate to other areas including offices, breakrooms, and classrooms. It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment.

IPM Practices that are in place include exclusion and sanitation. It is important to maintain an environment free of food and harborage at this site. Staff is continuously maintaining good sanitation practices to prevent food sources form encouraging pest activity. Water is constantly available for pests from pool water, drains and wet areas.

Recommendations

- Maintain good sanitation practices in all areas of the facility. Staff should use insect proof glass or plastic containers to store food.

- Eliminate sources of clutter to eliminate pest harborage and breeding sites, especially in storage areas and mechanical areas.

- In addition to human food stuffs, roaches feed on human hair and dead skin cells. Therefore, janitorial staff must maintain changing areas extremely clean. Attention to deep cleaning inside and above lockers, under benches, under sinks, drains and other areas is vital. Empty trash cans and recycle bins regularly.

- Inspect door thresholds and door sweeps seasonally and repair or replace to exclude pests. Use weather stripping on doors to seal entry points. Casual invaders (sow bugs, darkling beetles, chinch bugs, etc.) can be easily removed by staff with a shop vac.

- Sewers are important harborage of roaches that migrate indoors. Work with Waste Water Department to inspect the manhole on the north side of the building to monitor roach activity.
- The storage area needs to have a high quality galvanized hardware cloth installed and maintained to prevent mice and rats from accessing the facility.

- Remove weeds and brush on the south side of the building to eliminate rodent harborage.

- Obtain a Professional Service Agreement / Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:
    - Monitoring for pests to identify pest species and densities.
    - IPM strategies for all pest management control options including exclusion materials to seal plumbing and electrical penetrations and other potential pest entry points.
    - Manage pests with repellents, baits, traps, and least toxic pesticides per the IPM Ordinance.
    - Use drains gels, expanding / foaming enzyme drain cleaners to reduce organic buildup in floor and shower drains.
    - Maintain pest control records at Salvador Perez Managers Office and a copy at the IPM Program Managers office.

- Note: Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

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vslucero@santafenm.gov

References:

Ebeling, Walter, 1975, 1996, 2002. Urban Entomology. UC Riverside Department of Entomology.
http://www.entomology.ucr.edu/ebeling/#disclaimer

Kamble ST, Keith DL. Cockroaches and Their Control. Lincoln, NE: University of Nebraska Cooperative Extension; 1995.

Brown, Merchant, and Gold, 2012. Cockroach Biology and Management. TAMU Texas AgriLife Extension Service. http://extentopubs.tamu.edu/e_359.html

M. K. Rust, Entomology, UC Riverside; D. A. Reierson, Entomology, UC Riverside. Pest Notes: Cockroaches. IPM Education and Publications, University of California Statewide IPM Program. http://ipm.ucanr.edu/PMG/PESTNOTES/pn7467.html 2016

Santa Fe Community Convention Center

Interior Pest Management Assessment and IPM Plan

The Santa Fe Community Convention Center (SFCCC) is a large facility with multiple interior habitats for both insect and rodent pests. Based on observation and monitoring, key insect pests include ants (odorous house ants, harvester ants) and cockroaches (Oriental, American and Turkestan cockroaches). Cockroaches are known to be mechanical vectors of human health diseases because of the unsanitary habitats they frequent. Different forms of gastroenteritis (food poisoning, dysentery, diarrhea, etc.) appear to be the principal diseases transmitted by Oriental cockroaches. The insects carry these disease-causing organisms on their legs and bodies and deposit the organisms on food and utensils as they forage. Cockroach excrement and cast skins also contain a number of allergens, to which many people exhibit allergic responses such as skin rashes, watery eyes, congestion of nasal passages, asthma, and sneezing. The most important aspect of cockroach damage derives from their habit of feeding and harboring in damp and unsanitary places such as sewers, garbage disposals, kitchens, bathrooms, and indoor storage areas.

Occasional insect invaders (darkling beetles, centipedes, spiders and others) occur seasonally and should be monitored by staff and reported to the IPM Program Manager for identification. Many casual invaders can be controlled by mechanical removal or by using traps.

Key rodent pests include both house mice and deer mice. Evidence (nests and droppings) of packrats / woodrats have been observed in the below ground parking area inside the storage areas used by SFCCC.

It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment. Selected non-chemical pest management methods will be implemented, whenever possible to provide the desired control of pests. Inspection of the facility will be conducted monthly or more frequently to determine pest activity. Accurate identification will ensure proper control methods will be used. Habitat modification, exclusion, and sanitation will be the first actions to manage pests prior to chemical control with least toxic pesticides. Current IPM strategies at SFCCC include sanitation and exclusion.

Recommendations:

- Exclusion of pests gaining access into the facility will be ongoing. There are plans to repair or replace door sweeps that may be access points for both insect and rodent pests.

- Sanitation practices need to improve especially during and after events that involve food items prepared in house or catered. Staff should clean food and beverage spills. Sweep and mop hard surfaces and vacuum carpeted surfaces. Wet spills on carpeted surfaces should be steam cleaned to remove sugars, oils, and protein food sources from carpet fibers that attract insect and rodent pests.

- Food Preparation and Serving Areas:

  Store food in containers that are inaccessible to pests.

  Store waste in containers that are inaccessible to pests or frequently empty and replace trash liners.

  Remove all waste at the end of each day.

  Inspect and replace damaged screens on vents, windows and floor drains.

  Remove all food debris including crumbs. Deep clean under appliances after each event.

  Inspect and repair dripping faucets and other water leaks.

  Promptly clean food preparation equipment after use.

  Caulk or paint to seal cracks and crevices.

  Keep exterior doors next to food prep areas closed when not in use. Consider adding screen doors if ventilation is a concern.

- Staff should eat in designated break areas and store food in pest proof containers.

- Empty trash cans daily or more frequently. Recycle bins should be emptied daily to eliminate pest food sources.

- Loading Dock and Trash Dumpster Areas:

  Organize and eliminate clutter to removal potential pest harborage.

  Assign staff to daily patrol and clean escaped trash from dumpster area.

  Modify dumpsters with drain plugs to prevent liquid waste from escaping onto the concrete pad.

  Power wash any spills to remove pest food sources.

  Keep doors leading into the facility closed when not in use.

- Maintenance Areas: Mechanical rooms, Janitorial rooms, etc.

  Allow eating only in designated eating rooms.

  Clean trash cans regularly.

  Use plastic liners in trashcans.

  Keep areas clean and dry as possible.

  Store paper products or cardboard boxes away from moist areas and direct contact with the floors and walls.

  Use drain gels or foams to eliminate organic particles used as food by cockroaches. Inspect drains frequently to ensure trap has water source. Periodically flush to keep stagnant water from harboring drain flies.

- Rooms with Extensive Plumbing: Bathrooms, rooms with sinks, locker rooms and crew spaces.

  Promptly repair leaks and correct other plumbing problems.

  Routinely clean floor drains, strainers and grates.

  Keep areas dry.

  Store paper products or cardboard boxes away from moist areas and direct contact with the floors.

- Storage areas:

  Keep storage areas organized and free of loose materials and food items.

  Parking structure storage areas need to be deep cleaned and organized as rodent activity (mouse and rat droppings) has been observed.

  Inspect door sweeps and repair or replace as needed to exclude insect and rodent pests especially parking structure storage rooms.

  Acute rodent infestations may be mitigated with snap traps baited and checked daily.

- Obtain a Professional Service Agreement / Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:
    - Monitoring for pests to identify pest species and densities.
    - IPM strategies for all pest management control options including exclusion materials to seal plumbing and electrical penetrations and other potential pest entry points.
    - Manage pests with repellents, baits, traps, and least toxic pesticides per the IPM Ordinance.
    - Use drains gels, expanding / foaming enzyme drain cleaners to reduce organic buildup in floor and shower drains.
    - Maintain pest control records at SFCCC Managers Office and a copy at the IPM Program Managers office.
    - Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

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References:

Ebeling, Walter, 1975, 1996, 2002. Urban Entomology. UC Riverside Department of Entomology.
http://www.entomology.ucr.edu/ebeling/#disclaimer

Kamble ST, Keith DL. Cockroaches and Their Control. Lincoln, NE: University of Nebraska Cooperative Extension; 1995.

Brown, Merchant, and Gold, 2012. Cockroach Biology and Management. TAMU Texas AgriLife Extension Service.
http://extentopubs.tamu.edu/e_359.html

M. K. Rust, Entomology, UC Riverside; D. A. Reierson, Entomology, UC Riverside. University of California IPM Pest Notes. Cockroaches. 2007
http://ipm.ucanr.edu/PMG/PESTNOTES/pn7467.html

M. K. Rust, Entomology, UC Riverside; and D.-H. Choe, Entomology, UC Riverside. University of California IPM Pest Notes. Ants. 2007
http://ipm.ucanr.edu/PMG/PESTNOTES/pn7411.html

Jon Boren, Extension Wildlife Specialist, Raul Valdez, Professor
Rodent Control and Protection from Hanta Virus
College of Agricultural, Consumer and Environmental Sciences, New Mexico State University
http://aces.nmsu.edu/pubs/_l/L209/welcome.html

IPM Program for Rodents, IPM Plan for Cockroaches
http://articles.extension.org/

SFPD Fleet / Impound Yard – 4201 Huey Road

Interior and Exterior Pest Management Assessment and IPM Plan

This facility is surrounded by open space in all directions. Rodent species, primarily deer mice and pack rats, frequent the surrounding area and are able to access the yard. Deer mice are the major rodent pest. Because of the high population of rodents in the yard, caution must be taken to avoid rodent excrement to contaminate both stored vehicles and inside office and storage space. Transitory insect pests or casual invaders are able to access the office and storage facility. Because of the surrounding habitat, black widow spiders are also a concern as they are able to migrate into the building and office areas.
The Fleet Manager has implemented excellent sanitation standards to minimize food, water and harborage sources for pests in the building and the yard. This should be a model site for other City of Santa Fe facilities to follow.

Even though sanitation efforts are maintained, because of the location and proximity to ideal habitats, rodents are problematic and gain entry into the vehicles and into the building. There is the potential for human health issues as mice are able to gain entry into parked vehicles and physically deposit pathogens (Sin Nombre Virus, the causal agent for Hantavirus Pulmonary Syndrome) through their feces and urine on door handles, dash boards, seats, and inside the work space and office area of the building. Rodents also chew electrical wire insulation, upholstery and cause other mechanical damage to the vehicles. It is the policy of City of Santa Fe to incorporate Integrated Pest Management (IPM) procedures for managing pests and minimizing pesticide risk to people, and the environment.

Recommendations

- Continue with sanitation efforts inside the building. Empty waste and recycle bins regularly. Staff must store food items in sealed glass or durable plastic containers where mice or insects cannot access.

- Modify the dumpster with drain plugs to exclude mice from gaining access to garbage.

- Inspect door thresholds / sweeps and roll up door seals seasonally to ensure exclusion of pests at these sites.

- Maintain weed free areas close to the building and yard to discourage pests.

- Utilize high quality exclusion materials where plumbing and electrical penetrations have the potential for pest migration through these areas. Eliminate clutter as much as possible to remove potential nesting sites for rodents.

- Because rodents have gained access into fleet vehicles, it is strongly recommended that droppings, urine and any signs of nesting be removed and interior vehicle surfaces be sanitized to remove pathogens (HPS). Persons assigned this task should use proper PPE. Care should be taken to prevent droppings and urine to be aerosolized and particles inhaled.

- Contract with a reputable, licensed Pest Management Professional (PMP). Pest Management Professional shall adhere to the City of Santa Fe IPM Ordinance to monitor and manage pests. The PMP services should include:

    - Use Integrated Pest Management strategies including prevention, monitoring, exclusion, traps, and least toxic, limited chemical control including repellents, baits and gels.

    - PMP will maintain close correspondence with IPM Program manager to evaluate pest management activities.

    - Maintain pest control records at Fleet Managers Office and a copy at the IPM Program Managers office.

    - Evaluate IPM plan quarterly to determine effectiveness of pest management recommendations and strategies.

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vslucero@santafenm.gov

References:
Center for Disease Control and Prevention. Cleaning Up After Rodents.
http://www.cdc.gov/rodents/cleaning/

New Mexico Department of Health Hantavirus Pulmonary (HPS).
https://nmhealth.org/about/erd/ideb/zdp/hps/

{3.}

NMDA Public Pesticide License and Categories, Victor Lucero IPM Program Manager

NM STATE UNIVERSITY

NEW MEXICO DEPARTMENT OF AGRICULTURE

Division of Agricultural and Environmental Services
Pesticide Compliance
P.O.BOX 30005
LAS CRUCES, NM 88003
575/646-2134

SANTA FE, CITY OF (PARKS)
LUCERO, VICTOR
PO BOX 909
SANTA FE NM 87505

ØØØHP9

This is your new Public Pesticide Applicator license. Detach it from this page and carry it with you as proof of your license status.

The information shown on this license includes your name, license number, license type, business name, the categories you or your supervisor are certified in, and the license expiration date. The category number codes are on the reverse side.

This is the only license format we provide; we no longer print wall licenses for pesticide applicators.

If you have any questions, visit our web site www.nmda.nmsu.edu/pesticides for FAQs. To contact our office call 575-646-2134 or email pesticides@nmda.nmsu.edu.

NEW MEXICO DEPARTMENT OF AGRICULTURE
Pesticide Applicator License

This person has met the licensing requirement for the type of license and the pest control categories shown.

PUBLIC PESTICIDE APPLICATOR — Expires Dec 31 of 2016

LUCERO, VICTOR

SANTA FE, CITY OF (PARKS)

Lic No. 64306

Categories 3A,3B,6B,7A,7B,8

[illegible]

{4.}
NMDA Pesticide Compliance Inspection
8/31/2016

{5.}

Land Development / Land Use

14-8.12 RELOCATION OF GUNNISON'S PRAIRIE DOGS (Ord. No. 2011-37 § 11)

(A) Purpose and Intent

It is the purpose and intent of the Gunnison's prairie dog relocation regulations to protect the diminishing populations of Gunnison's prairie dogs by ensuring their safe and humane relocation prior to the *development* of *property* within the city to appropriate and protected habitat areas as designated by the *city*.

(B) Applicability

Except for single-*lot*, single-*family residential development*, compliance with these regulations is required for any public or private proposed *development* or phase of *development* approval, prior to *grading* or any other disturbance of *property* where Gunnison's prairie dogs are located; provided that for *family* transfers and all *dwelling units* that meet the criteria for affordable homes or affordable rental units for income ranges 1, 2 or 3 pursuant to SFCC §26-1.16 and 1.24, the *property owner* or *developer* is not responsible for relocation expenses, costs or fees that amount to more than one thousand five hundred dollars ($1,500) per acre. This amount shall be subject to periodic review at the discretion of the *city* manager and may be amended to reflect increased costs due to inflation or other circumstances.

(C) Exemptions

(1) An exemption from these regulations may be granted by the *land use director* under the following circumstances:

(a) there is no *city*-approved *property* available for a proposed relocation of Gunnison's prairie dogs;

(b) there is no *city*-certified relocator available within a reasonable time as determined by the *city* for a proposed relocation; or

(c) a *city*-certified relocator determines that the timing of the proposed project is such that the start of construction operations, including *grading* or other disturbance of *property* where Gunnison's prairie dogs are located, would have to be delayed more than sixty days.

(2) The *land use director* may require written verification or other proof of such circumstances prior to granting an exemption from these regulations.

(D) Appeals

An appeal of the granting or denying of an exemption to the Gunnison's prairie dog relocation regulations shall be pursuant to Section 14-3.17 (Appeals).

(E) Violations and Penalties

Violations of a provision of this Section 14-8.12 shall be punishable in accordance with Article 14-11 (Enforcement).

(F) City-Approved Lands

The *city* shall approve relocation sites that are:

(1) private lands protected as wildlife habitat by a conservation easement held in a land trust or other conservation organization or protected by organizational by-laws or other legal vehicles;

(2) public lands protected for the purpose of indefinite, long-term prairie dog habitation;

(3) private or public lands that meet best management practices criteria for suitability.

(G) Certified Trappers/Relocators

(1) The *city* shall certify those Gunnison's prairie dog trappers/relocators that may be hired by the *owner*s or developers of private *property*. To be certified, a person must meet the following minimum requirements:

(a) training by a qualified and experienced trapper/relocator in:

(i) two trapping methods, being flushing and live trapping; and

(ii) two methods of relocation, being use of existing holes and augured holes;

(b) participation and attendance at a day of orientation to include prairie dog facts and proper techniques for trapping and relocating; and

(c) fifteen days of on-the-job training in both trapping and relocating.

(2) The trainer shall provide written verification that the person has met the requirements of Subsection 14-8.12(G)(1).

(3) At a minimum, a qualified and experienced trainer must have had the training described in Subsection 14-8.12(G)(1).

(4) Certification is a privilege and shall not be construed as a *property* right. The *city* manager may withdraw certification for failure to comply with the Santa Fe City Code.

(H) General Requirements

(1) Intent

Unless an exemption has been granted, it is prohibited to intentionally destroy or otherwise harm the Gunnison's prairie dog on any lands within Santa Fe at any time in relation to a *development*.

(2) Procedures and Submittals

(a) Pre-application inspection

As a pre-*application* requirement, the *land use director* shall inspect the *development* site for prior *grading* and the existence of Gunnison's prairie dogs. If Gunnison's prairie dogs are found on the *property*, then the *owner* or developer shall contact a certified trapper/relocator who shall develop a relocation schedule and plan.

(b) Submittals

The *owner* or developer shall submit a relocation schedule and plan for review and approval as part of the *development* submittal that addresses the requirements provided in this Subsection 14-8.12(H) before *development* takes place. Approval of the relocation plan is required before a *grading permit* or any other construction *permit* is issued.

(c) Preferred Relocation Times

The preferred relocation times are June 15 through September 15. The Gunnison's prairie dog may also be relocated in April, but may not be relocated or otherwise disturbed between May 1 and June 15, which is its breeding season, unless exempted pursuant to Section 14-8.12(C). *Owner*s and developers of *property* shall make every effort to coordinate their *development* stages and operations with this schedule.

(d) Relocation Services

Only a certified prairie dog trapper/relocator may perform the relocation services.

(e) Relocation Costs

The *property owner* or developer is responsible for all relocation expenses, costs and fees related to the relocation of Gunnison's prairie dogs.

(f) Written Notice

Upon completion of the prairie dog relocation, the *owner* or developer shall submit written notice to the *city* from the certified trapper/relocator hired for the relocation work that the relocation has occurred.

(I) Additional Requirements

If a *development* does not occur within one year of the *plat* or *development* plan approval or the issuance of a *building* or *grading permit* and reestablishment of the Gunnison's prairie dog colony occurs, the *applicant* must again comply with the provisions of this Section 14-8.12.

{6.}

CITY OF SANTA FE SAFE SWARM REMOVAL PROGRAM

Overview

The City of Santa Fe recognizes that bees are an integral part of the City's ecosystem and that swarms are critical for maintaining bee population. Therefore, the City, through its IPM Program, has established a list of Volunteer Beekeepers who can safely and humanely remove bee swarms from City property and relocate them to appropriate environments. The goal of the Safe Swarm Removal Program is to prevent harm to bees while providing safe surroundings for City residents.

If a citizen spots a bee swarm on City property, he or she may call the IPM Program (505-955-2117); the City Police Non-emergency Dispatch (505-428-3730); or the City Fire Department Non-emergency Dispatch (505-428-3710) to report the swarm. The IPM Program or the Non-Emergency Dispatch will then contact a Volunteer Beekeeper to remove and relocate the swarm.

To be included on the list of Volunteer Beekeepers, please call IPM Program Manager Victor Lucero (505-955-2117) to receive the Volunteer Beekeeper Representations and Rules and a Waiver of Liability form. Both these documents must be read and signed before beginning volunteer swarm removal and relocation activity.

CITY OF SANT FE SAFE SWARM REMOVAL PROGRAM

Volunteer Beekeeper Representations and Rules

A. Volunteer Representations:

As a condition for participating as a Volunteer Beekeeper in the City of Santa Fe's Safe Swarm Removal Program, I hereby represent and affirm that:

1. I have the proper knowledge and expertise to safely and humanely remove and relocate bees.
2. I am in compliance with any New Mexico laws and regulations concerning bees and beekeeping as those laws and regulations apply to me.

B. Volunteer Rules:

As a condition for participating as a Volunteer Beekeeper in the City of Santa Fe's Safe Swarm Removal Program, I hereby agree to abide by the following rules while acting as a Volunteer Beekeeper and understand that violation of any of the rules will result in my

dismissal as a Volunteer Beekeeper:

1. I will accept responsibility for removing a swarm from City property only if I am capable of handling the location and size of the swarm. If removal and relocation of a swarm is beyond my capability, I will decline the request so another Beekeeper can be called.
2 When I accept a swarm removal request, I will make every reasonable effort to remove the swarm that same day. However, if it is late in the day, it is permissible to allow the swarm to sit overnight as long as I will be on-site the next morning.
3. I will act professionally, courteously, and as an informative advocate for bees.
4. As a Volunteer Beekeeper, my safety and the safety of any bystander(s) is the first and most important consideration.
5. I will wear proper safety equipment when removing bee swarms from City property.
6. I will handle the bees in a humane manner.
7. I will make every reasonable effort to retrieve the entire colony. This means leaving the swarm retrieval box until sundown and returning to collect it once the foragers and scouts have an opportunity to return to their colony. If I leave the swarm box in a public area, sufficient contact information should be left at the scene to notify the public or anyone who may come in contact with the box.
8. I will make every effort to bring all the necessary equipment to the site and will not rely on the City to provide any equipment and materials.
9. I will remove the swarm to a hive on private property (with the property owner's permission).
10. I understand that I am City volunteer (not a City employee), and I will not be compensated for my volunteer services.
11. I will provide the IPM Manager with current contact and availability information.

C. Current Contact and Availability Information:

1. I am available to remove and relocate bee swarms on the following days and times:

_____
_____
_____
_____
_____

2. My primary contact phone number is: _____

3. A second contact phone number is: _____

I hereby certify that that the Volunteer Representations are true and correct and have read, understand, and agree to abide by the Volunteer Rules.

_____ _____

Signature of Volunteer Beekeeper **Date**

_____

Name of Volunteer Beekeeper (printed)

CITY OF SANTA FE SAFE SWARM REMOVAL PROGRAM

Volunteer Beekeeper Waiver of Liability

Department/Division: Parks & Recreation – IPM

Name of Volunteer Beekeeper _____

Date of Birth _____ (Must be over age 18 to participate.)

_____ _____ _____

Address City, State Zip Code

_____ _____

Home Phone Work Phone

_____ _____

Emergency Contact Name Emergency Contact Phone Number

I (the undersigned) hereby acknowledge and agree that there is potential risk of injuries in activities involved in the removal and relocation of bees. I further acknowledge that I have the proper knowledge and expertise to safely and humanely remove and relocate bees. Therefore, in consideration of the opportunity to participate as a Volunteer Beekeeper with the City of Santa Fe Safe Swarm Removal Program, I, my heirs and assigns, hereby waive all claims for injuries, damages or losses to my person or property which may be caused, directly or indirectly, by any act, omission, or negligence arising from or related to any activities of the City of Santa Fe.

I understand that by participating as a Volunteer Beekeeper I will be exposed to the risks of accident and injury and to risks inherent in removing and relocating bees and I will follow the rules provided to me on the form entitled "Volunteer Representations and Rules" and will follow general beekeeping safety standards.

I hereby release and hold harmless the City of Santa Fe and its officers, agents, and employees from any and all claims, including bodily injury, death, or property damage which may occur due to my participation as a Volunteer Beekeeper.

I, my heirs and assigns, hereby covenant and agree to indemnify and hold harmless the City of Santa Fe and its officers, agents, and employees from any and all costs, charges, claims, demands, losses, damages, causes of action, suits and liabilities of any kind, including the expenses of litigation, court costs and attorney's fees, for injuries to, or the death or illness of any person, or for damage to any property, arising out of or in connection with my involvement in swarm removal or relocating activities.

I, my heirs and assigns, hereby further covenant and agree not to sue the City of Santa Fe, its officers, agents, or employees for any matter which arises from the execution of removing and relocating bee swarms from City property.

_____ _____

Signature of Volunteer Beekeeper **Date**