RARITAN VALLEY COMMUNITY COLLEGE
Facilities & Grounds Department
P. O. Box 3300 ● Somerville, New Jersey 08876-1265
ph: 908-526-1200 ● fax: 908-526-0306

Integrated Pest Management Plan for RVCC Grounds

Developed by Sue Dorward, Sustainability and Energy Coordinator
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As part of the River-Friendly certification process, RVCC is required to develop and adopt a comprehensive Integrated Pest Management (IPM) plan covering outdoor pest and weed management, including exterior pesticide and herbicide applications. This plan includes goals to decrease pesticide use and identifying less toxic alternatives. Other components of the plan include: a map of high, medium, and low maintenance areas and associated action thresholds; identification of local pest problems and problem areas; a list of control mechanisms; pest-specific control processes and decision trees; and record keeping sheets.

1. Goals

   The goals of RVCC's IPM program are similar to those of the mandated New Jersey Schools IPM program for public schools, in that the health and safety of the people on our campus are our primary concern. A strong secondary concern is the health of our local eco-system, including the campus and surrounding grounds and waterways. RVCC is acutely aware of the potential negative impact that the use of pesticides and herbicides on campus grounds may have on the local streams and the Raritan River. RVCC is highly motivated to reduce the usage of these chemicals on campus.

   This IPM program is intended to reduce the health and environmental risk of our pest management activities by reducing our reliance on potentially-harmful chemicals for outdoor pest control. By moving from a reactionary pest-control process to a holistic process that includes prevention, structural and sanitary improvements, and non-chemical and low-impact treatments, we will reduce the health and environmental risk to both the people and the environment on and around our campus.

   Implementation of IPM procedures will determine when to control pests and whether to use physical, mechanical, biological or chemical methods. Applying IPM principles prevents unacceptable levels of pest damage by the most economical means and with the least possible hazard to people, property, and the environment.

   RVCC shall consider the full range of management options, including no action at all. Non-pesticide pest management methods are to be used whenever possible. The choice of using a pesticide shall be based on a review of all other available options and a determination that these options are not effective or not reasonable. When it is determined that a pesticide must be used, low impact pesticides and methods are preferred and shall be considered for use first.

   This plan provides details of outdoor pest identification, prevention and control processes to be used in RVCC's implementation of IPM. It includes:

   a. a definition of the IPM Coordinator role
   b. an initial inventory of pest problems, problem areas, and current monitoring and control activities;
   c. threshold action levels for all anticipated outdoor pests;
   d. an outline of nonchemical controls that will be routinely practiced on campus grounds;

e. links to resources that provide details about the use of low-impact controls (rather than non-low-impact pesticides) for identified pests;
f. and sample record sheets for maintaining records of all IPM activity.

2. Opportunities

RVCC's current pest control vendor, Western, has been using IPM methods to some extent, including using monitoring, traps, bait, pellets, and glue pads and sticks rather than spraying pesticides. In addition, the Facilities and Grounds department has made structural repairs in some cases (at the Daycare Center in particular) to prevent pests from entering buildings.

However, there are opportunities to improve our IPM practices. Of eight chemical controls used by Western at RVCC over the past two years, only two (Advance Dual Choice 360A (124) and Contrac Rodenticide Bulk Pellets (30D)) are considered low-impact. RVCC has contacted Western and requested that they use low-impact controls whenever possible. They have agreed to follow the IPM program that they use for New Jersey public schools.

In addition, Facilities and Grounds could be more proactive in implementing non-chemical controls such as habitat modification (e.g., trimming back vegetation, improving drainage) and physical controls (e.g., replacing door sweeps and seals to prevent pests from entering buildings). By naming an IPM Coordinator, RVCC will help ensure that pest complaints are evaluated from an IPM perspective and that associated non-chemical controls are implemented in a timely fashion whenever possible.

3. IPM Coordinator

The IPM Coordinator is the individual who is in charge of pest control activities for the college. The IPM Coordinator has the primary responsibility for ensuring the IPM plan is carried out, and is the primary contact for the college community and public. Ultimately, this person is directly responsible for the integration of all IPM activities through the coordination of all parties.

Specific duties of the IPM Coordinator include**:**

a. Implement the IPM Plan.
b. Maintain information about the IPM Plan in place on campus.
c. Maintain information about pesticide applications on campus including records obtained from the pesticide applicator, Material Safety Data Sheets (MSDS) when available for pesticides used, and labels for all pesticide products used.
d. Maintain records of any pest monitoring and non-pesticide controls implemented.
e. Respond to inquiries and providing information to students and staff regarding IPM.
f. Provide training in IPM practices to the school community as needed.
g. Ensure that all persons conducting pesticide applications have all NJDEP-required training, certification, and licensing. Also ensure that they follow the IPM Plan, as well as the precautions of the pesticide label. *The one exception is in cases of stinging, flying pests that may harm or cause allergic reactions in humans (e.g., yellow jackets, hornets, bees, and wasps). For such emergencies, the Facilities and Grounds staff may apply a pesticide.*
h. Obtain training sufficient to implement the Policy and Plan.

RVCC has appointed Philip Weaver, Assistant Director of Compliance and Facilities, as the campus IPM Coordinator.

4. Turf and Herbicides

RVCC turf grass is made up of annual and perennial blue grass, rye grass, and tall and fine fescues. RVCC mows the athletic fields to 2.5" height and other lawn areas to 3" height. The athletic field turf is aerated annually, though this was not done in 2009 due to moisture-sensing sprinkler system installation.

The grass is affected by brown patch and snow molds in some areas of the athletic fields, but these are not treated. The soil tests showed that the soccer field has a low pH and high levels of calcium. It is possible that there are acid-producing soils there. We will need to retest in spring 2011 and determine how to address this. Weeds on campus are generally not treated, except in a few athletic areas (details below). Weeds removed in other areas will be pulled by hand or trimmed, not treated.

RVCC currently uses only organic fertilizers and herbicides, and only in athletic areas. RVCC plans to use the results of the annual soil tests to guide the application of fertilizer semi-annually. The 2010 soil tests showed no need for fertilizer on the fields with the exception of the soccer field, where lime was applied in fall 2010. No fungicides are used on RVCC campus and we do not expect to use them in the future.

RVCC applies an organic herbicide to kill weeds in the gravel warning tracks (for playability) and fence lines (for visibility) of the baseball and softball fields, and along the fence line of the soccer field (for visibility). The herbicide currently in use here is Burnout II, an all-natural, non-selective herbicide for broadleaf and grass weeds. Its active ingredients are citric acid, clove oil, and sodium lauryl sulfate. Burnout is organic, biodegradable, and OMRI listed. Due to its mechanism of action, Burnout generally requires multiple applications in order to effectively kill weeds. In 2010, two or three applications were applied over the course of the growing season. RVCC considers these areas medium maintenance areas that can have some weed presence, and generally expects to be able use the minimum number of applications. Should an organic herbicide prove insufficient in these areas, weeds will be pulled by hand.

Burnout is a non-selective herbicide which could be used to spot-treat small areas, but grass in the treated area would be killed as well. The fields do need to be playable – with sufficient grass for good traction and erosion control - and large areas of weeds could still present a problem. The most effective action here is preventative, focusing on pre-emergent methods. Decision tree for treating weeds in the athletic fields:

- As a preventative/pre-emergent, seed grass to choke out weeds.
- If weed growth is interfering with playability of the field in a particular area,
    - spot-treat with Burnout if feasible (limited damage to surrounding grass)
    - or pull weeds prior to grass reseeding
    - or pull weeds and apply corn gluten meal as a pre-emergent
- If the above is insufficient and further post-emergent treatment is required, as a last resort apply spot treatment of an herbicide that uses dithiopyr as its active ingredient (*eg*, Dimension). Dithiopyr is a potential groundwater contaminant, but it appears to be the best available option at the present time (according to information provided by Heather Barrett). According to Rutgers bulletin E233, written in 2000, dithiopyr is labeled only for postemergence crabgrass control, and is best used in early (1- to 4-leaf stage) postemergence.

During the stream assessment behind the fields in November 2010, we found only very low levels of pollution-tolerant invertebrates, indicating that pollution in the stormwater (from campus fields and lots, and from the adjoining residential stormwater basin) is likely having a negative impact on the stream. Prior to April 2010, RVCC was blanket spraying the athletic fields with a pre-emergent herbicide and a weed-killer two or three times per year. Details are provided here for historical documentation. The pre-emergent herbicide previously used was Barricade (EPA Reg. No. 100-834), applied 20 ounces per acre. It is a dinitroaniline herbicide, and its active ingredient is Prodiamine. (The MSDS says that Prodiamine

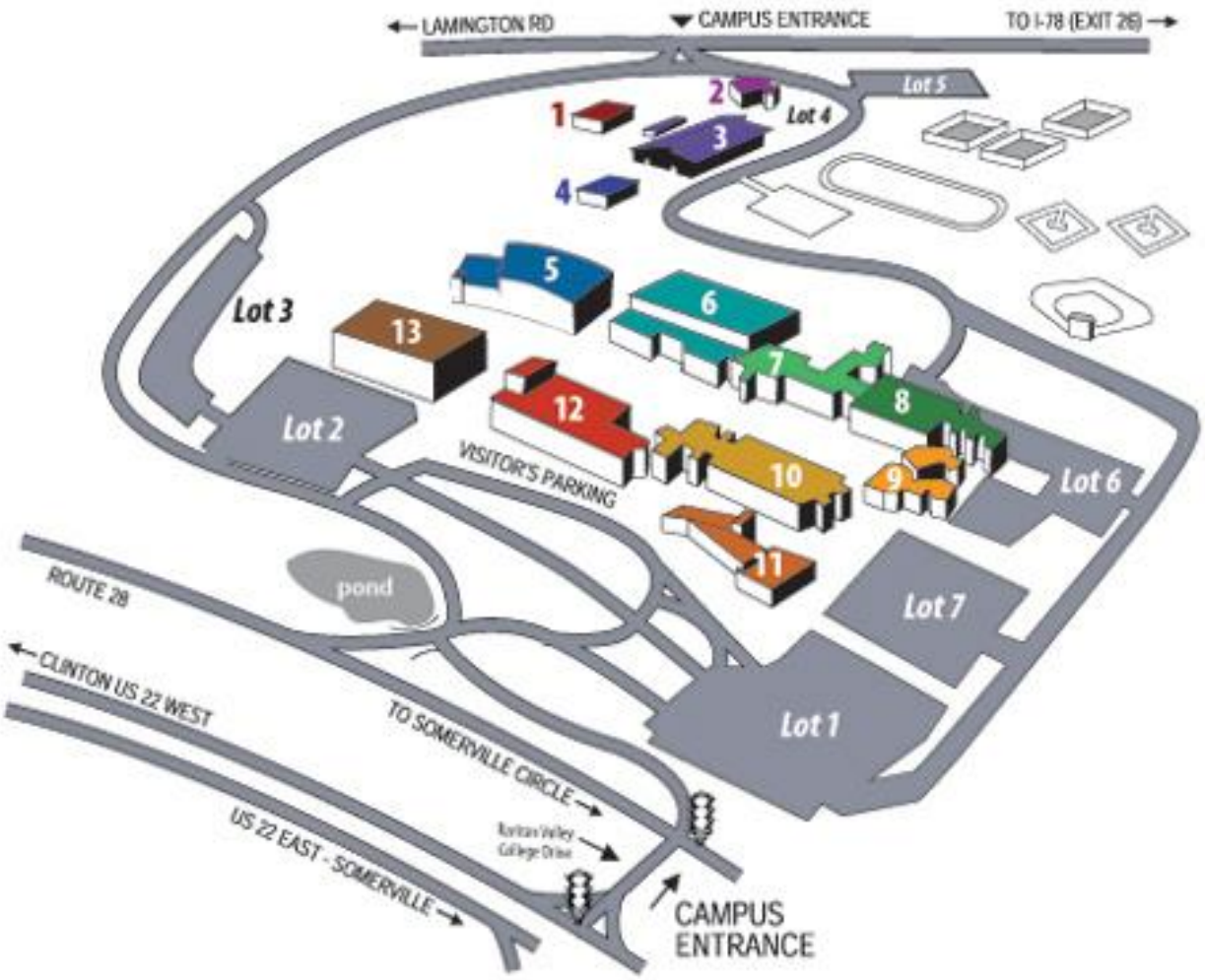
is highly toxic to fish and invertebrates.) The weed-killer previously used was Escalade 2 (EPA Reg. No. 228-442), applied 2.9 pints per acre. It is a mixture of 2,4-D, Fluroxypyr, and Dicamba. (The MSDS says that the product may be toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.) A sticker, LI 700, was also used at a strength of 1 pint per 100 gallons. It is a blend of methylacetic acid, processed lecithin, and surfactant (MSDS number L17-04-LPI). Thankfully, the River Friendly certification process is resulting in RVCC no longer using these products, and we hope to see improvements in stream health in the near future.

The organic fertilizer used prior to soil testing in April 2010 was 14-2-4, applied 5 pounds per 1000 square feet.

5. Maintenance Area Map

   Outdoor pest maintenance primarily occurs in the surrounding areas of buildings, where the pests may interfere with access to the building, cause harm to individuals, and/or gain access to the building's interior. High maintenance areas include the Daycare Center (2) and playground, the Arts Building (3), the Power Plant (4), and the College Center loading dock (back of building 7 on map). Medium maintenance areas are the immediate surroundings of the remaining campus buildings (buildings 1 and 5-13 on map). Low (non) maintenance areas include the parking lots, athletic fields, lawn and natural areas of the campus. See map below.

   In general, pest damage to buildings or equipment on campus will have a low action threshold, meaning that little or no damage will be tolerated. Pest damage to the rain garden and other planted areas will have a medium action threshold, meaning that some damage will be tolerated but we will act to save the plants if their survival is threatened. Pest damage to fields and grounds will have a high action threshold, meaning that action will not be taken unless the situation is extreme, for example interfering with use or playability of the athletic fields.



6. Local Pest Problems
   The information below is based on problem reports recorded in the Special Service Record pages of the Western Pesticide binder from January 2009 to February 2010.

   a. Ants – Ants have been reported outside the Daycare Center, Somerset Hall, and in the courtyard.
   b. Mice – Mice have been reported outside the Daycare Center, Arts building, Physical Plant, and College Center (dumpster).
   c. Wasp and bees nests – These have been found in various locations on campus, including over doorways, windows, and in vestibules. Reported locations include Receiving, College Center entrance (by Advising and Counseling), Science Building entrance, Library entrance, Security and Athletics office windows, the gazebo by the Planetarium, the bus stop, basketball court bleachers, and the Daycare Center eaves, playground, and utility box.
   d. Skunk – There was one incident with a skunk in the courtyard (between Physical Education and Science buildings).

7. Hot Spots
   Several areas on campus have had chronic ant and rodent problems. These areas have been and will continue to be monitored by Western, though now under the supervision of RVCC's IPM Coordinator.

The Daycare Center building and playground has been a hot spot for bees, ants, and mice. Insect monitors and rodent bait stations have been placed at this location and are checked regularly. There are currently 3 rodent bait stations along the building perimeter.

Additional hot spots for mice are at the College Center receiving area, the Arts building, and the Physical Plant. Rodent bait stations have been placed at these locations and are checked regularly. There are currently rodent bait stations along the building perimeters (1 at College Center, 9 at Arts Building, 1 at Physical Plant).

8. Action Thresholds

Due to the presence of young children at the Daycare Center and playground, RVCC will have a low threshold for acting on pest complaints for this location.

Due to health and safety issues associated with bee hives, wasp nests, and mice, the action threshold for complaints about the presence of these pests is low and immediate action is advised. Reports of pests damaging buildings or equipment on campus will have a low action threshold. For select pests, see the table below for action thresholds. (This table is adapted from the NJ Schools IPM sample plan. See also p. 16 of the "NJPMA Study Guide for IPM Credentials" for a more detailed sample threshold table for indoor pests.) For additional pests, see the category guidelines that follow.

Pest	**Threshold**
Ants (carpenter)	nest is within 25 feet of building, damage concern, or trail results in 5 ants in a room
Ants (other)	2 mounds/yard or trail results in 5 ants in a room
Bees (carpenter)	threat to humans, or damage concern (1 per 5 linear feet near susceptible wood)
Bees (other)	threat to humans
Mice	activity within 25 feet of building or playground
Spiders (poisonous)	possibility of human contact
Wasps, Hornets, Yellow jackets	threat to humans, or over 10 in 10 minutes at a trash receptacle

Low threshold: If there is an immediate health, safety, or damage, a single complaint will result in immediate action to address the problem (see decision trees below) and effectively remove the pests as soon as possible. Evaluation, monitoring, and structural changes may follow as appropriate. Carpenter bees, carpenter ants, poisonous spiders, mice, bees, wasps, hornets, and yellow jackets fall under this category. Daycare Center and playground pest issues will generally be considered low threshold due to the presence of children.

Medium threshold: If there is no immediate health, safety, or damage issue, a complaint will result in physical removal (if possible) followed by monitoring, evaluation, and the implementation of low-impact controls as needed. Non-carpenter ants fall under this category.

High threshold: Pest issues that are not interfering with normal campus activities and do not present health, safety, or damage issues will have a high threshold for action. They will be monitored for risk to the campus and only non-chemical responses will be considered.

9. Pest Control Process and Mechanisms
   Effective IPM requires inspection, monitoring, and evaluation in addition to the actions (if any) taken to control the pests.

   a. Inspection
   When a pest problem is reported, the pest must be correctly identified before the proper action can be taken. For example, there are many types of ants which have different thresholds and require different responses to control them. The IPM Coordinator or Pest Management Professional will identify the pest if there is any question. (The Pest Management Professional may place a monitor to facilitate collection and identification of a sample pest.) They will also assess the threat to humans and damage, both current and potential, posed by the pest(s), and determine whether the action threshold has been reached.

   b. Monitoring
   Once a pest is correctly identified, monitoring methods, schedules, and controls will be determined based on its life cycle, food sources, habitat preferences, and natural enemies.

   Pests will be monitored via direct inspection, sticky traps, pheromone baits, tracking powder, mechanical traps, and glue boards as necessary. If baits or traps of any kind are used:
   - Each bait station or trap is assigned an identification number.
   - A map is prepared showing the location and number of each trap or bait placement.
   - Each trap or bait station is marked with appropriate warning language.
   - Traps will be checked by the Pest Management Professional twice monthly during the early stages of solving a serious pest infestation, then taper off to monthly, once the pest problem is under control.
   - Captured rodent pests will be recorded and disposed of regularly.

   The Pest Management Professional will maintain and keep records of any pest monitoring, including traps.

   c. Evaluation
   The IPM Coordinator and the Pest Management Professional will discuss monitoring reports and determine corrective actions. The Pest Management Professional should make recommendations for corrective actions to the School IPM Coordinator. They will consider all options, including no control, and look at pest activity levels versus thresholds. They will consider EPA-defined criteria for selecting a treatment strategy:
      i. Least hazardous to human health
      ii. Least disruptive of natural controls
      iii. Least toxic to non-target organisms
      iv. Most likely to be permanent
      v. Easiest to carry out safely and effectively
      vi. Most cost-effective
      vii. Most site-appropriate

   They will generate a pest management priority list to optimize a plan of corrective actions.

   d. Control

All implemented controls should be documented in the log by the IPM Coordinator or Pest Management Professional, depending on who implemented the control.

Wherever possible, RVCC will take a preventive approach by identifying and removing, to the degree feasible, the basic causes of the problem rather than merely attacking the symptoms (the pests). This prevention-oriented approach is best achieved by integrating a number of strategies, described with examples below.

i. Non-chemical methods
    1. Habitat modification
        a. Food - sanitation, sealing waste and food; clean trash containers and secure lids
        b. Water - repair leaks, fix drainage problems
        c. Shelter - trim nearby vegetation, caulking cracks/crevices, remove cardboard boxes, etc.
    2. Physical and Mechanical controls
        a. Physical removal - vacuum, fly swatter, trap in glass jar
        b. Traps - glue pads, fly paper/stick, insect monitors, light traps
        c. Structural repair – screens, sealing gaps, replacing door sweeps and seals
    3. Biological controls
        a. Beneficial insects or bacteria – some pests have natural enemies that can be encouraged with necessary food and shelter
        b. Diatomaceous earth (food-grade) – a dust of tiny marine organisms called diatoms, which cut and irritate soft-bodied pests such as ants

ii. Chemical methods
    Pesticides will be selected when other control methods are not effective or practical in resolving a pest problem. Pesticides will not be used on campus grounds unless both the pest has been identified and its presence verified. It is neither possible, nor desirable to completely exterminate every pest and potential pest from every population on school property. Low-impact pesticides will be used in preference to higher-impact pesticides when possible.
    1. Low-impact – gels, baits, pellets, boric acid; see http://www.pestmanagement.rutgers.edu/IPM/SchoolIPM/NJAct/lowimpact.htm for more information about low-impact options
    2. Higher-impact – traditional pesticide sprays, etc., to be used as a last resort and only upon explicit approval from the IPM Coordinator

10. Pest-specific Remedies
    Pest-specific control strategies and tactics can be found in Chapter 8 (Common School Pests) of the NJ Schools IPM Manual found online at http://www.nj.gov/dep/enforcement/pcp/bpc/ipm/How_to_Do_IPM.pdf . For additional information, see the University of Nebraska-Lincoln Extension's pest web site at http://lancaster.unl.edu/pest/ . (Both resources were recommended by NJDEP.) Another useful resource is the New Jersey Pest Management Association's "Study Guide for IPM Credentials," Chapter 4. Western provided RVCC with a paper copy.

i. Ants
    a. Detection and Monitoring
        i. During inspection, bring a caulking gun and seal holes and cracks to prevent ant entry.
        ii. Look for food sources (storage, refuse, crumbs) and encourage regular cleaning, including rinsing of recyclables.
        iii. Place glue boards or sticky traps for monitoring.
        iv. For carpenter ants, look for water problems or soft nesting materials (foam, moist/rotting wood).
        v. Look for ant nests. Some build mounds, others are under rocks/boards/leaves. Carpenter ants are nocturnal and may require evening inspection.
        vi. Our Pest Management Professional can place an insect monitor (Western code #99 for Western Watchdog).
    b. Management
        i. Reduce entryways - Caulk potential entryways with mildew-resistant silicone caulking compound, beginning with the ants' current entry points. Look at baseboards, cupboards, pipes, sinks, toilets, electrical outlets. Weather strip doors and windows where ants may enter.
        ii. Water - Repair water leaks, fix drainage issues, and replace moist/rotting wood.
        iii. Sanitation – Eliminate their food through daily cleaning. Sweep/mop/vacuum floors in food areas daily, drain sinks and remove debris. Periodically clean kitchen areas thoroughly (drains, vents, fryers, ovens, stoves, hard to reach areas) and use a powerful vacuum. Remove food garbage daily. Wash recyclable items with soapy water. Don't let dishes sit with food debris, rinse debris immediately. Seal garbage bags and place in rodent-proof dumpster/receptacle. Keep dumpsters/receptacles clean.
        iv. Ant trails – Clean all trails with soapy water to remove pheromone trail. Look for trails along baseboards and under carpet edges.
        v. Food storage – Keep food in refrigerator or tightly-sealed non-cardboard containers (snap-top lids, jar lids with rubber gaskets). Store sweets (sugar, honey) in refrigerator. Do not store food on the floor. If ants are entering refrigerator, apply petroleum jelly temporarily on the edge of the door seal.
    c. Controls – As a rule of thumb for ants, expect to spend 80% of your time on the previous phases, 20% on controlling.
        i. Non-chemical controls
            a. Biological controls – Use diatomaceous earth (food-grade) to interrupt the ant trail. This is a dust of tiny marine organisms called diatoms, which cut and irritate soft-bodied pests such as ants.
            b. Physical controls - The Pest Management Professional can place a glueboard (Western code 100). Other sticky barriers like double-sided tape or petroleum jelly may be effective. If ants are feeding on honeydew from insects in trees, apply a sticky barrier around the tree trunks.
        ii. Chemical controls
            a. Low-impact – Our Pest Management Professional can place a low-impact bait (e.g., Western code 124, Advance Dual Choice 360-A with .011% abamectin B1, EPA #499-496).
            b. Traditional – Locating and destroying the nest is the most effective way to control ants, but doing this effectively often requires chemical controls. As a

last resort for an intolerable infestation that has not responded to other measures, and with approval from the IPM Coordinator, the Pest Management Professional may use a chemical pesticide, selecting one with the lowest-possible environmental impact available at the time.

ii. Stinging, flying pests
    a. Detection and Monitoring
        i. IMPORTANT: Proactive prevention is essential, given that any stinging threat to humans will likely lead to spraying non-low-impact chemicals.
        ii. Inspect problem areas monthly to catch new nests early, from early spring until first frost.
        iii. Inspect problem areas methodically to locate nests. Yellowjacket nests may be in the ground (under shrubs, logs, rocks, etc.), eaves, wall voids.
        iv. Inspect outdoor trash cans and food areas, track pests back to nest if possible.
        v. Install a few traps and check them weekly.
    b. Management
        i. Ensure that outdoor trash receptacles have tight-fitting lids and are kept closed and surrounding area is clean.
        ii. Use ammonia and water to clean garbage cans, to repel yellowjackets.
        iii. Locate recycling bins away from sensitive sites, as the sugar residues are particularly attractive to bees and yellowjackets. Empty and wash them frequently, and make sure they have lids.
        iv. Empty and power-wash dumpsters regularly. Wash dumpster pad regularly.
        v. Bees are attracted to water, so address water issues and change watering times as appropriate.
        vi. Repair screens and windows near problem areas where pest may enter buildings.
    c. Controls
        i. Physical Controls
            1. Traps – Unbaited sticky traps near ground nests may suffice in some cases. Sturdy bait traps can be very effective if used in sufficient numbers. Cone-type traps are a good long-term option, though place them away from human activity (and inaccessible to children) as the bait may attract a large number of pests. For yellowjackets, use a lot of traps. (Worst cases, like 20,000 during the fall, may require 100 traps in a week.) Empty and replace bait frequently.
            2. Nest removal – The Pest Management Professional may be able to remove the nest without using a pesticide.
            3. Vacuuming – The Pest Management Professional may be able to vacuum out the nest, which may be appropriate for nests in wall voids, disturbed nests, or environmentally sensitive areas.
            4. Swarm removal – In spring and early summer, bees may start a new colony and a swarm of bees may cluster while finding a new home. This can last for hours or days. If it must be removed, preferred solutions are to locate a bee-keeper to remove it or vacuum the bees.
        ii. Chemical Controls – Due to the hazard to humans, the use of traditional (non-low-impact) chemical controls may be necessary. Obtain prior approval from IPM Coordinator if at all possible. (At this time, no low-impact chemical controls have been identified for stinging, flying pests.)

1. Silica aerogel and pyrethrins – This dust can be used to destroy underground or wall void nests. Made from sand, it damages the pests' bodies.
2. Wasp freeze – This is a pyrethrin aerosol (spraying 10-20 feet) that stuns the pests. (e.g., Western code #123, Wasp Freeze, EPA #7969-209)
3. SpectracidePRO Wasp and Hornet Killer (EPA #9688-141-8845) – This spray may be used by RVCC employees or contractors in emergency situations that require an immediate response to protect humans from stinging pests. Follow directions carefully. Do not apply to water.

iii. Mice

a. Detection and Monitoring
   i. Check for rodent activity, estimate populations, identify travel routes, and feeding, watering, nesting, and hiding locations. Look for burrows, droppings, tracks, gnawing damage, and grease marks.
   ii. Look for contributing factors, such as trash handling, food disposal, debris, weeds, etc.
   iii. For difficult infestations, consider one or more evening inspections, starting an hour after sunset. Use a strong flashlight and record findings on a map.
   iv. Use nontoxic monitoring bait blocks, such as DETEX Blox, to identify activity. These blocks can pinpoint problem areas and reduce the amount of rodenticide needed. Use evidence of gnawing on the blocks to determine where to place traps or glue boards.

b. Management
   i. Habitat Reduction - Remove debris regularly. Remove weeds and trim vegetation, trees, and grass at least 18 inches from buildings. Remove soil and straw from catch basins and sediment ponds. Keep fence lines clear of trash, debris, and weeds. Do not store equipment in fields for an extended period or allow them to be overgrown with weeds.
   ii. Mouse Proofing – Fix or block entry points within 30 feet of mouse activity, including cracks in concrete and brick, openings around conduits and pipes, unscreened roof and wall vents, roof and wall joints and edges without proper flashing, poorly sealed HVAC ducts, floor drain covers, doors (hang lower, fix threshold and weather strip) including loading dock doors, and gaps around air shafts. Cover dumpster drainage holes with galvanized hardware mesh. When patching, add broken glass to mortar or concrete to prevent mouse re-entry before patch hardens.

c. Controls
   i. Physical Controls
      1. Traps – Traps are preferable to rodenticide because the remains are easily removed. (Poisoned rats may die inside walls and cause long-term odor problems.) Place traps in known runways, usually along walls or objects. First bait a large number of traps 6-10 feet apart. For trap-wise rodents, place traps but do not set them. Then after a week or two, set all traps. Check traps and dispose of rodents regularly.
      2. Bait – Suggested mouse bait includes peanut butter, gumdrops, rolled oats, birdseed, and (when food is abundant) nesting material such as a cotton ball tied to the trigger.
      3. Glue boards – Glue boards have a 1/8 to ¼ inch layer of glue and are most effective against juvenile mice. Do not place in wet or dusty areas, near

open flame, on carpet, or where people (especially children) may touch them. (They are not hazardous to people, just annoying.) Secure with a nail or double-sided tape if placed in a precarious location.

ii. Low-impact Chemical Controls
    1. Bait stations – Food baits combine rodenticide and food. They should be placed in secured tamper-resistant bait stations to prevent the bait from being removed. Bait stations should have warning labels. Check and refresh bait regularly. Some bait stations have compartments for water baits, which can be used if food is plentiful but water is not.
    2. Rodenticide – Our Pest Management Professional can use low-impact rodenticide (e.g., Contrac pellets, Western code #30D, EPA #12455-69, which has .005% bromadiolone as its active ingredient). In general, do not place rodenticide pellets in wet areas, use paraffin blocks instead.

11. Record Keeping Sheets

RVCC will begin utilizing a new **Pest Activity Monitoring and Control Log**, for the IPM Coordinator to record monitoring, sightings, and complaints as well and control measures performed. This log sheet was adapted from the NJ Schools IPM sample IPM plan appendix and will replace the Special Services Record previously used (provided by Western). A copy is included below.

We will continue to utilize the **Pest Control and Sanitation Log Report** provided and completed by the Pest Management Professional during each visit. A copy of a sample report is provided separately, along with a copy of the Special Services Record that we will be phasing out.

RVCC Integrated Pest Management
Pest Activity Monitoring and Control Log

Month/Year:_____

Pest Activity (monitoring, sightings, & complaints)			Control Measures		Check one	
Date & time	Location: Caller's Name & Extension Bldg. #/ Room #/Specific Location/Trap Type & Number	Type & Number of Pest(s) Sighted	Date	Action Taken	School Staff	Pest Contractor