City of Santa Barbara
MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION

Dept **Parks** IPM Coordinator **Jazmin LeBlanc** Phone **805-564-5513**

Pesticide Applicator (employee or company) Name **Parks Division, Steve Biddle** Phone **805-564-5439**

Application Site **Alice Keck Park** Specific Location **Landscape Beds**

Date(s) of Application _____

Date of Request **4/24/2023**

Product Name Sedgehammer Active Ingredient: Halosulfuron-methyl

Number of Applications: ❑ **One-time** ☒ Other Two applications; 10 weeks apart

- Type: ☒ Emergency ❑ Trial ❑ Other _____

Product type: ☒ Herbicide ☐ Insecticide ❑ Fungicide ❑ Other _____

Application: ☒ Ornamental ❑ **Turf** ❑ Golf ☐ Vector Control ❑ Park Tree ❑ Street Tree

❑ Right of Way ❑ Vertebrate pest ❑ Other _____

Is the pesticide on the *Tiered Materials List*? ❑ No ☒ Yes If yes, provide the Tier Red

If the pesticide is not on the *Tiered Materials List*, provide the following screening information. See the IPM Strategy and the *Tiered Materials List* for instructions on screening the pesticide.

EPA Reg #_____ Signal _____ Estimated Tier _____

Restricted ❑ No ❑ Yes/Describe _____

P Waste _____ PBT _____ WA PBT _____ Persistent _____ Mobil _____

Cancer _____ Repro _____ Neuro _____ Endocrine _____

Bird _____ Fish _____ Bees _____ Wildlife _____

☒ Attach product label and MSDS to this form.

Describe the pest problem.

Nutsedge has become a prolific problem in most Park's spaces, but most notably in Alice Keck Park Memorial Garden in the last few years. This extremely invasive weed is very impactful to our landscaped areas, especially in the diverse and exquisite plantings we have at Alice Keck Park where we do not want to lose the value of this botanic collection to this outcompeting and profuse undesirable weed.

In the last few years soil was removed from one landscape bed in Alice Keck Park to a depth of nearly one foot with new clean soil brough in after so as to remove any dormant nutsedge seeds or bulbs. After the new soil was installed, a plastic weed mat was applied on top to thwart any new seed from being introduced. Even with these efforts nutsedge still proceeded to propagate and invade these landscape areas.

When removing the nutsedge, if only the green foliage is removed, foliage will regrow in a matter of days. To properly eradicate nutsedge, removal of the bulbs/tubers/nuttlets is necessary. Removal of all bulbs/tubers/nuttlets is extremely difficult due to the fact that each plant produces a prolific amount with some growing quite deep in the soil and any that are not removed will begin to grow a new stand of nutsedge that will quickly coalesce into large groups.

Describe the management goals and objectives for this site.

Our goal is to use low volumes of selective herbicide in two planters of Alice Keck Park that would be fenced to gain control of the excessively invasive nutsedge. Without the chemical control of nutsedge these weeds will continue to propagate and magnify their areas of invasion until all sections of each landscape bed is filled. The ever-present nutsedge will continue to be an issue with the desirable select specimen vegetation that is currently growing, as well as for the plants that are planned to be installed for it will cultivate around and within the foliage of those plants and will affectively start choking them out, as well as, turning those areas into unsightly landscape areas.

What is the damage threshold for this pest at this site?

10% coverage of landscape bed surface by invasive weeds would be our desired threshold.

Describe the monitoring of the pest and potential predators that was conducted and the control methods previously used at the site.

Monitoring and actions conducted:

- Parks staff has spent endless hours attempting to remove nutsedge mechanically.
- Staff has dug down more than 8 inches into the soil to remove the roots and found roots embedded deeper that the 8 inches.
- Parks staff has also attempted to torch the grass, but only to keep it under control in areas that are paved where it grows in the cracks, between stone pavers, along curbs, and other non vegetated areas.
- The nutsedge will also root and spread in the mulch layer and attempt to tap into the soil through the sheeting. Even with this method Parks staff continues to mechanically remove the weed as much as possible.
- Parks staff has also attempted to solarize the area by first removing 12" inches of contaminated soil, installing plastic sheeting over the infested area, and then mulching on top of the sheeting. This method has been the best so far to suppress nutsedge and other undesirable weeds but we have discovered that due to condensation, and water infiltration into the sheeting, the nutsedge can puncture through the layer of plastic. This site was roughly 3,800 square feet and staff worked roughly 130 hours

Current actions taken:

- **Contractor** is working roughly 16 hours per week pulling weeds and nutsedge
- **Park's Staff -** 42 hours per week pulling weeds and nutsedge
- **Volunteers Coordinators -** 88 hours per week pulling weeds and nutsedge
- **Volunteers -** 30 hours per week per week pulling weeds and nutsedge
-

Describe how the product would be applied including frequency, concentration, and method of application.

Sedgehammer will be applied with a backpack sprayer at a concentration of 0.9 g of product in 1 gal of water to treat 1000 sq ft. Two applications will be warranted, 10 weeks after initial application.

What non-target impacts are anticipated?

There are no anticipated non-target impacts. Target area would be only inside a fenced area with 6' high fences and in beds clear of other desirable vegetation.

How does the use of this product help achieve the site management goals? Note if this is curative or preventative.

The site management goal for this site is to provide areas that are visually appealing, along with an area for desired specimen plants to thrive, for public enjoyment.

In terms of preventative management, we hope to use a regular program of this herbicide, at a limited volume, on two landscape beds to keep weeds from going to seed and/or spreading via nuttlet to bordering areas. We will continue with mechanical and cultural practices to reduce weed and seed production.

How will the effectiveness of this product be monitored? Include expected results and indicators of success.

These sites are walked by staff multiple times per week to check plantings, trash and irrigation needs. Checks will initially be daily to observe results for the first week and then go to a more normal 2 times per week inspection to monitor weed reduction and impacts to existing turf. Indicators of success include dying weeds and no new sprouting.

Describe site conditions, for example consider the following: restricted access, distance from a creek or body of water, degree of runoff, site is a pesticide-free zone, etc.

City of Santa Barbara
MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION

The landscape beds are in the middle of Alice Keck Park and will be accessed through a locked gate. No herbicide will be applied outside the fenced areas. The nearest body of water is the recirculating stream and pond roughly 50 to 100 feet away from any point of the beds for treatment. Foliar spray will only be applied under desirable conditions when there is no precipitation or high winds. No irrigation will be applied to these areas during this period. No runoff to watersheds is anticipated and low volumes of active ingredients will be used.

List alternatives considered, alternatives implemented and why they were eliminated.

Hand weeding was tried along with the soil remediation and use of "green" chemicals, though these courses of action were unsuccessful due to area size and the prolific nature of nutsedge/nuttlets. The costs associated with the programs implemented are not sustainable in the long term budget as well as yielding low control rates.

Justification: describe why is applying this pesticide is the best solution and why a less-hazardous chemical, non-chemical option or taking no action is not feasible.

Due to the nature of botanic gardens once an infestation of a weed of this nature is introduced it is extremely difficult to eradicate without damaging the surrounding desirable densely populated plants, whereas these areas are primarily void of any other vegetation and make it a prime candidate for a targeted chemical response. We have up until this time tried to provide a quality botanic landscape area with no chemicals and only cultural and mechanical controls. These landscape beds have laid unplanted for the last few years because of this issue where the desire to remediate these areas and introduce desired plantings back in is of high interest.

We anticipate that the improvement of landscape beds will ultimately save our department money with the reduction in labor to temporarily eradicate nutsedge on a continual basis. Desirable plants, once an established and thick stand is prevalent, will typically out compete weeds and conceivably choke them out.

Was outside expertise utilized? ❑ No X Yes / Describe

Our in-house expertise includes two Volunteer Coordinators with extensive backgrounds in landscape plant material and tenure at Santa Barbara Botanic Gardens. We also had in-field consultations with experts from Santa Barbara Botanic Gardens. We have also utilized the vast field experience of our Management and Supervisory staff that consist of three individuals with CA DPR chemical licenses and many years' experience with a multitude of chemical use and knowledge. It is the Parks Division's focus to sustain quality landscapes and a strong emphasis on pursuing healthy soil and landscapes as our primary motivation to this proposed program of achieving high-quality landscape bed areas.

Describe future plans to prevent using the chemical again.

While we would ideally want to avoid all use of chemicals at these sites, we do anticipate that there may be times in the future when we request applications for the reasons explained above. We also plan to use more cultural control methods such seed removal from any plants in other areas adjacent to thwart new propagation. To ultimately be successful, we will need to employ all of the above strategies in these challenging sites.

Signatures_____ _____

Department IPM Coordinator **City IPM Coordinator**

City of Santa Barbara
MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION

Completed by the City of Santa Barbara Staff IPM Committee

Vote Tally ____ Disposition: ❑ Approved ❑ Denied/Reason _____

If approved, follow the attached best management practices.

Comments:

Completed by the IPM Advisory Committee

Vote Tally ____ Disposition: ❑ Approved ❑ Denied/Reason _____

If approved, follow the attached best management practices.

Comments: