Contra Costa County
DECISION DOCUMENTATION for VEGETATION MANAGEMENT AT WEST COUNTY DETENTION FACILITY

Date: 11/19/2020

Departments: Office of the Sheriff
Public Works—Facilities Services Division
CAO—Office of Reentry & Justice

Location: 5555 Giant Highway, Richmond

Situation: Presence of nuisance vegetation throughout 47-acre site

What vegetation management mandates apply to the site?	Meet the regulatory expectations of the Richmond Fire Department. Some are listed below: *"All brush, weeds, grass, and fire-hazardous vegetation within 10 feet of any usable road surface, public way, or combustible fence shall be maintained in a non-hazardous condition with a fuel break." (*The City of Richmond defines a fuel break as *"An area in which all flammable vegetation or combustible growth is reduced and cleared away according to established standards, thereby limiting the mass and arrangement of fire hazardous vegetation fuels which can rapidly transmit fire. Appropriate ornamental landscaping is permissible within a fuel break. Fuel reduction standards for fuel breaks limit the height of certain vegetation, remove from trees any fuels which can ladder into the canopies, and provide adequate spacing between remaining plants.)* Within fuel breaks, *"Adequately irrigated and maintained ornamental landscaping is not flammable vegetation or combustible growth, and is encouraged within a firebreak…All fire-hazardous vegetation with the exception of weeds and grass shall be cleared and maintained to a height of no greater than 18 inches off the ground…All weeds and grass shall be cleared and maintained at a height no greater than 6 inches above the ground."* *"Ornamental landscaping is encouraged throughout the City of Richmond to enhance fire safety. Ornamental landscaping consists of decorative plants growing within a tended garden or yard which are well-watered, maintained and located to provide aesthetic decoration and functional utility, such as privacy screening, shade, weed suppression and erosion control."* http://www.ci.richmond.ca.us/DocumentCenter/View/38822 Additional mandates from the Office of the Sheriff: Maintain bare ground in the 25-foot-wide secured area between perimeter fences to allow for optimal operation of the security system.
What are the vegetation management goals for the site?	The management goals are to maintain site vegetation in a manner that reinforces the safety, security, and restorative beauty of the facility. Innovative and regenerative strategies are prioritized and are consistent with the stated mission of each department as follows: *"Public Works employees deliver cost effective, safe, reliable and sustainable projects, programs and quality services with a focus on our communities and provide support services that are competitive, attentive, responsive, efficient and safe to enable County Departments to provide high quality services to the public."* *"The Office of the Sheriff works in partnership with our diverse community to safeguard the lives, rights and property of the people we serve. With unwavering dedication we provide innovative professional law enforcement services to our community. We accomplish this mission by maintaining our Core Values (Honor—Courage—Commitment—Leadership—Teamwork) while always conducting ourselves with the highest ethical standards."* Vegetation management objectives include the following: 1. Keep vegetation below 6 inches tall in area between outermost perimeter fence and the roadway. 2. Proactively manage vegetation between housing units and the innermost perimeter fence, the open space surrounding the property, the main entrance area, and the inner gardens with the intent of ensuring clear sightlines while allowing for sustainable growth of desirable vegetation. 3. Keep weeds from establishing in the cracks of paved areas throughout the facility.

	4. Keep weeds and desirable vegetation from obstructing walkways throughout the facility. (See *Contra Costa County Landscape Standards at https://www.contracosta.ca.gov/DocumentCenter/View/46596)* 5. Ensure sufficient clearance over walkways and other designated paths of travel that occur under tree canopies.	
How often is the site monitored?	Personnel from the Office of the Sheriff monitor the site daily, but not specifically for vegetation issues. Typically once the height vegetation becomes apparent, a facility deputy initiates a work order to the Grounds Division to perform mowing or post-emergent herbicide application Grounds staff visit the site weekly, but are generally focused on trash pickup tasks and minor vegetation issues near the facility entrance. Additional time should be set aside for supervisors and leads from the Grounds Division to perform regular (monthly?) and thorough inspections throughout the property. In any case, there is an evident disconnect as it pertains to making vegetation management-related decisions and more quality control inspections from Grounds personnel are recommended.	
Weeds have been identified as the following:	In the secure area between the two perimeter fences, all vegetation is considered a weed. Any broadleaf weeds or grasses growing higher than six inches between the outermost perimeter fence and the adjacent roadway are also considered weeds. Vegetation growing in all other areas throughout the facility are considered weeds if they create visual obstructions or are not maintained according to mutual expectations of applicable departments.	
Are populations high enough to require control? Explain	Vegetation must be eliminated in the secured area between the two perimeter fences. Vegetation between the innermost perimeter fence and housing units shall not create visual obstructions that impede sightlines. Proactive strategies that consider a long-range perspective should be employed when considering how the various spaces throughout the facility are programmed and managed.	
Is this a sensitive site?	Is this a "highly sensitive site" as defined by PWD Environmental staff? A highly sensitive site contains a known habitat for, or is close to sightings of, endangered or threatened species.	No
	Are any sites under management part of any of the court-ordered injunction?	No
	Are any of the sites known or potential habitat for any endangered or threatened species?	No
	Are any of the sites on or near an area where people walk or children play?	Yes
	Are any of the sites near a drinking water reservoir?	No
	Are any of the sites near crops?	No
	Are any of the sites near desirable trees or landscaping?	Yes
	Are any of the sites on soil that is highly permeable, sandy, or gravelly?	No
	Is it within a Groundwater Protection Area?	No
	Is there a well head near the site?	No
Which cultural controls were considered?	**Alternative Site Programming-** The West County Detention Facility was "designed to operate as a co-educational, program-oriented facility." [i] A deeper exploration of potential strategic partnerships that will maximize land-asset utilization is warranted. The 2011 Public Safety Realignment Act (Assembly Bill 109) placed additional responsibility for Counties to house low level offenders locally, provide post-incarceration supervision, and allocate associated revenues from the state. The current landscape maintenance arrangement between the Office of the Sheriff and Public Works may not have the capacity to manage the site beyond the reactive methods currently employed. However, existing reentry partnerships[ii] could be enhanced—and potentially funded—through AB 109 sources. Some County-stated objectives in this regard aspire to "create linkages between the incarcerated person and various needed services and community programs,"[iii] and to "Explore options to maximize use of local jail facilities to serve the needs of the AB 109 population."[iv] There are multiple regional programs[v] and community based organizations[vi] in the region that may inform potential collaborative strategies. **Competitive Planting:** A variety of ornamental vegetation could prevent nuisance varieties from reestablishing. However, due to the historical amount of vegetal pest pressures at this location, a passive approach such as reseeding may not effectively out-compete the current invasive pallet. Depending on which areas are prioritized, costs could escalate. Moreover, the current maintenance arrangement between Public Works and the Office of the Sheriff is not conducive to sustaining a higher level of service in preserving the investment in perpetuity, although a thoughtful redesign of vegetated areas could conceivably be more	

	conducive to the existing bandwidth of the maintenance function.[vii] Due to the size of the site, cover cropping pilot trials in the area between the housing units and inner perimeter fence are encouraged.[viii] **Mulching:** May be an effective strategy in the area between the housing units and the innermost perimeter fence, but it would require a substantial amount of wood chip mulch. A mulch product like that produced each year by Grounds personnel is recommended, since it is typically derived from heartwood and is less likely to unintentionally import undesirable vegetal pests. Additionally, the logistics of delivering loads of mulch is further complicated by the need to be escorted in and out of the secured perimeter area. Weed seeds could still take root in soil that will inevitably collect on top of the mulch. As the mulch layer breaks down, it improves the soil and would either need to be replenished or additional planting and irrigation projects would need to be undertaken. **Flaming:** May be effective on certain broadleaf species in smaller ornamental areas if timed to coincide with early phenological stages but may not be practical in highly infested locations or where access to water is limited. **Soil Solarization**: May be useful in some areas if there is agreement for additional staffing or third-party partners to assist in the effort. Additional research is required regarding the efficacy of the method in this relatively cool area of the County. **Summary Statement: Various security constraints make alternate programming difficult, but not impossible. Fiscal realities that affect the vegetation management operation of the facility will increase the need to rely on third party strategic partnerships in the future. Mulching and competitive planting are also feasible, near-term tactics that will literally build the agronomic foundation for future programming that maximizes the utility of the land as a facility asset. Both departments are willing to engage in a dialog to initiate competitive planting solutions.**
Which physical or mechanical controls were considered?	**Mowing:** Grounds staff currently mow taller vegetation upon the request of the Office of the Sheriff. If the Grounds Division had more flexibility in determining the timing of when the mowing occurs, problematic weed growth may be better controlled. **Additional Paving**: This could be a consideration for the area between the perimeter fences where there is no tolerance for vegetation. Any project that adds a certain amount of impervious paving is subject to Section C.3 of the Municipal Regional Stormwater NPDES Permit (MRP)[ix] which requires the onsite treatment of storm water runoff on the new sections of pavement. Paving the perimeter area alone would add approximately 100,000 square feet of new paving. There would still be cracks and seams where weeds could grow. Herbicide use may be curtailed in the short-term but may increase as the pavement breaks down. The cost of maintaining and replacing the additional pavement would be significant but may be the best option to ensure facility security. **Cultivation:** Discing or plowing disturbs the soil and opens areas up to wind and water erosion and continued weed reinfestation. Mowing may be more suitable in this instance. **Crack sealing**: This practice may be useful in certain areas, but most concerns at the facility that deal with tolerance levels of vegetation height are not in paved areas. **Burning**: If part of a competitive planting program is implemented, this technique could be used in certain areas of the property if appropriately coordinated with the Richmond Fire Department and the Bay Area Air Quality Control Board. **Electrothermal weeding (Ubiqutek):** This method uses a probe carrying electricity at a high voltage (3,000 to 5,000 to volts) and low amperage (0.5 to 2 amps) to heat plant tissue and kill both roots and above ground plant material. The probe must contact each individual weed. This method is more efficient than steaming or flaming weeds but would be very slow compared to mowing by machine or hand. High voltage can be lethal, so the device is potentially dangerous to the operator. This method also poses a fire risk because of the intense heat at the point of contact with the plant that can produce sparks and small flames. Currently there have been no independent evaluations of this method. **Steam weeding (Weedtechnics):** This method works by sending water under pressure through a diesel boiler and then out through hoses to an application head. The water comes out at 205 to 218 degrees Fahrenheit. This method is slower than other weed management techniques (it appears that the applicator must drive around 2 mph to treat effectively). A new model (the SW3800KD) is advertised as killing weeds faster. It uses 30 L of water per minute, and with a 1000 L water tank (apparently the largest size available), staff would have to refill the tank about every ½ hour. This tactic should be considered as a contact-only treatment and should not be expected to kill underground portions of the plant. Treatment would have to be repeated periodically during the season. **Summary Statement: Mowing is a tactic currently used by Public Works and the Office of the Sheriff is amenable to ensuring better timing moving forward. The other techniques merit further exploration. Additional paving in the security perimeter would be costly and is not being considered at this time. Steam weeding is a tactic that could replace some of the post emergence herbicide applications but would require Public Works acquiring the appropriate equipment.**

Which biological controls were considered?	**Grazing:** A small herd of goats and/or sheep could feasibly be utilized in the area south of the main entrance and in the area between the innermost perimeter fence and the housing units. **Summary Statement: This may prove to be a difficult scale for the targeted grazing vendor community as it represents relatively small and fragmented sub-parcels—some of which require a unique level of security that isn't common in this specialized marketplace.**
Which chemical controls were considered? For more information on pesticides listed here visit the National Pesticide Information Center (NPIC). This a joint project of Oregon State University and the US EPA. http://npic.orst.edu/ You can communicate with an actual person at **1.800.858.7378** or **npic@ace.orst.edu** They are open from 8:00AM to 12:00PM Pacific Time, Mon-Fri	**Pesticides may potentially exhibit both acute and chronic toxicity. The Signal Words below refer to acute hazards. For information on chronic toxicity, contact NPIC (info on left).** **Herbicides and application methods are chosen that prevent or minimize the potential for drift and exposure to humans and wildlife.** As with all weed control techniques, herbicides must be reapplied periodically to suppress weeds over the long term. **Note that the Weed Science Society of America (WSSA) and the Herbicide Resistance Action Committee (HRAC) both create resistance group designations to help weed managers reduce the likelihood of creating resistant weeds.** **Possible herbicide choices (These product names are subject to change.)** **Pre-emergent Herbicides** **Indaziflam (Esplanade®)**: This pre-emergent herbicide controls a broad spectrum of weeds if applied before germination. It does not generally control weeds after they have emerged. For maximum weed control, the herbicide needs to reach the soil surface and be activated by rainfall or adequate soil moisture. It is applied in the fall to control winter germinating weeds and in the spring to control spring germinating weeds. Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Before weeds sprout in either fall or spring near the time rain is expected. Herbicide Resistance Management Group: 29 On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater **Isoxaben (Gallery® S.C.):** This pre-emergent controls certain broadleaf weeds. Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Before weeds sprout in either fall or spring near the time rain is expected. Herbicide Resistance Management Group: 21 On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater **Post-emergent (contact) herbicides** **Caprylic and Capric Acid (Suppress® Herbicide EC):** control of annual and perennial weeds and grasses. Signal Word (indicates acute, or immediate, toxicity): WARNING Timing: works best on newly emerged weeds, ideally on weeds that are less than 6 inches in height. Herbicide Resistance Management Group: unclassified On Ground Water Protection list: No **Glyphosate (Roundup® Pro Concentrate):** Glyphosate is a systemic herbicide (it is absorbed into the plant and circulates to kill the entire plant) that will kill most types of vegetation. Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Varies depending on the location, the weather, the weed growth, the work load Herbicide Resistance Management Group: 9 **Enjoined for red legged frog On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater **Pre- and Post-Emergent Activity** **Aminopyralid (Milestone®):** Milestone is a systemic herbicide with both pre- and post-emergent properties that controls broadleaf weeds without affecting grasses. Milestone is used for the more woody and thick-stemmed weeds. Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Between fall and spring before seeds germinate, but it is a more flexible chemical because it also has contact properties Herbicide Resistance Management Group: 4 On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater **Flumioxazin (Payload®):** Used to maintain bare ground in secured perimeter area.

	Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Between fall and spring before seeds germinate, but it is a more flexible chemical because it also has contact properties Herbicide Resistance Management Group: 14 On Ground Water Protection list: No **Summary Statement: When the IPM process calls for the use of herbicides, the products described above are used when considering cost, efficacy, the environment, human communities, and resistance management. The abundance in which glyphosate applications have been historically prioritized on the site suggests the presence of resistant weeds, inadequate coordination of alternative tactics, or both.** **The Office of the Sheriff and the Public Works Grounds Division have committed to enhance their business relationship in order to place greater emphasis on the long-term prevention of problematic vegetation. Preemergent applications—particularly in the secure perimeter area—will be a tactic that is embraced in the short-term to ensure both site security and the decreased reliance on glyphosate applications. It is important to clarify that in many cases, the active ingredient of some pre-emergent products is more toxic and poses a greater risk to applicators and others who live and work at the facility. Other tactics listed in the preceding sections should be explored.**
Recommendations from the IPM Advisory Committee:	• Redefine vegetation management monitoring practices that promote proactive strategies. Efforts should include: o Adjusting how funds pertaining to grounds maintenance at the site are allocated. Proactive and regenerative maintenance practices should be prioritized over corrective maintenance requests. Personnel from the Office of the Sherriff and the Public Works Department should engage in a dialog with the IPM Coordinator to determine what alterations could be immediately implemented that would refine the business relationship as it pertains to vegetation management. o Incorporating a vegetation monitoring protocol that documents periodic status updates from onsite personnel to the Grounds Division. This may include sharing still photographs and/or video from the security system on a routine basis that keeps applicable County staff aware of current vegetation conditions. o Provision of supplemental training modules for all personnel who may be involved with vegetation management decisions that cover the County Integrated Pest Management Policy and these recommendations. • Where chemical controls are required, prioritize applications to reduce glyphosate dependence and continue to explore the feasibility of implementing alternative tactics such as steam weeding, mulching, and competitive planting. • Consider including a competitive planting component of the upcoming project to construct the West County Reentry and Mental Health Treatment Facility. The project will likely disturb a considerable amount of the soil, which could exacerbate vegetation issues on the site if not strategically planned to include site-appropriate native and adaptive plant species that are likely to out-compete invasives. The IPM Program is willing to assist in this pilot component of the broader project. • Foster mutually beneficial community partnerships that: o Allow County personnel to provide a higher level of service by focusing on core tasks, and o Maximize balanced cooperation between organized labor, community-based organizations, reentry programs, and employment training enterprises, and o Build on County and regional models that are financially sustainable and ecologically regenerative. o Facilitates collaborative landscape programming that allows every County-owned acre to be a shining example of a restorative community asset. • The IPM Coordinator is encouraged to play an active role continuing this dialog with other stakeholders in the County. These findings and additional site stewardship revelations at similar rehabilitation properties throughout the County should be presented to the appropriate County body for further consideration. That may include the Office of Reentry and Justice, The Public Protection Committee, The Community Corrections Partnership and associated committees, the Juvenile Justice Coordinating Council, or other relevant programs. • Continue to consider alternative tactics and reevaluate this document within the next three years. • Initiate a dialog with adjacent property owners East Bay Regional Parks and Union Pacific to explore formal, mutually beneficial partnerships to leverage maintenance resources in the vicinity of shared property boundaries.

[i] Contra Costa County Office of the Sheriff website: http://www.cocosheriff.org/bureaus/custody_services/west_county.htm

[ii] Contra Costa County Reentry System Strategic Plan for 2018-2023:
"The Sheriff's Office contracts with the Contra Costa County Office of Education (CCCOE) and two community-based organizations (Men and Women of Purpose and Reach Fellowship International) to provide in-custody education, job readiness, reentry preparation, and mentoring services."
https://www.contracosta.ca.gov/DocumentCenter/View/56655/2018-23-Reentry-Strategic-Plan?bidId=
[iii] Contra Costa County Reentry System Strategic Plan for 2018-2023. Mission Statement: *The Contra Costa County reentry system serves as a collaborative partnership that aids individuals, families, and their support system, in achieving successful community reintegration by facilitating access to a continuum of quality services and improving systemic practices.*
https://www.contracosta.ca.gov/DocumentCenter/View/56655/2018-23-Reentry-Strategic-Plan?bidId=
[iv]AB 109 Operations Plan for Contra Costa County as Approved and Adopted by the Executive Committee of the Contra Costa County Community Corrections Partnership. Adopted November 9, 2012. "*Overarching Approach: Use Collaboration, innovation, and ongoing evaluation to foster safety and long-term liberty in Contra Costa County…Agreements of Principle: **1**-Enhance public safety through reducing recidivism. **2**-Foster successful reintegration of individuals back into the community. **3**-Coordinate efforts to reduce duplication and increase efficiency. **4**-Identify additional resources to meet AB 109 objectives and maximize coordination. **5**-Explore options to maximize use of local jail facilities to serve the needs of the AB 109 population. **6**-Maximize public and private partnerships in all phases of implementation. **7**-Maximize interdepartmental and intergovernmental collaborations and partnerships at all phases of implementation.*
https://www.contracosta.ca.gov/DocumentCenter/View/8820/AB-109-Operational-Plan-as-Adopted-11-9-12?bidId=
[v]Related Programs within 30 mile Radius of WCDF: Insight Garden Program at San Quentin State Prison, California State Prisons—Solano & California Medical Facility—Solano; Marsh Creek Viticulture & Agriculture Programs, San Francisco County Jail San Bruno Complex—The Garden Project, Federal Correctional Institution—Dublin, Alameda County Juvenile Hall & Camp Sweeney, City View Farm (Alameda County Deputy Sheriffs' Activities League--Dig Deep Farms)
[vi] Nearby community-based organizations include but is not limited to Urban Tilth-North Richmond Farm, Plating Justice--El Sobrante Farm & Orchard, Pogo Park-Richmond, Groundwork Richmond, The Watershed Project, and Civicorps.
[vii] "*Fundamental to the success of an integrated approach to pest management is that the cost of control should not exceed the economic return or increased value of the plant host due to the management activity…Although they may be more expensive initially, the use of certain types of practices may bring benefits that more than pay for the investment…In areas where the risk of human hazard is high…the increased costs of more expensive alternatives may be well worth reducing the potential for problems."* from
Flint, M. L. and P. Gouveia. 2001. IPM in Practice: Principles and Methods of Integrated Pest Management. University of California ANR Publication 3418. Pg 44.
[viii] https://www.youtube.com/watch?v=k75WG8-V0Is&feature=youtu.be
[ix] California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit Order No. R2-2015-0049, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS612008, Nov. 19, 2015
https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2_2015_0049_amended.pdf