BPPC Natural Resource Committee Report — Meeting Date 11/20/19

DATE: 11/14/19

TO: BPPC Natural Resource Committee (Commissioners Grist (Chair), Haar, and Smith-Peters)

FROM: Linda Herman, Parks and Natural Resources Manager

SUBJECT: CONSIDERATION OF A DRAFT RESTORATION PLAN FOR THE NATURE CENTER AREA

REPORT IN BRIEF:

On 5/20/19, the Bidwell Park & Playground Commission (BPPC) approved restoring the tree-clearing area near the Nature Center area in Lower Bidwell Park as a Valley Oak Woodland demonstration site. The Natural Resources Committee (NRC) will consider a rough draft restoration plan prepared by the City's consultant Dempsey Vegetation Management to achieve this goal.

> **Recommendation**: The Committee is requested to provide comments and recommendations regarding the draft restoration plan and questions from the consultant.

BACKGROUND:

At its 5/20/19 and 6/24/19meetings, the BPPC approved the NRC's recommendations to conduct a baseline vegetation survey, to treat invasive non-native weeds, and prepare the Oak Woodland restoration plan for the tree-clearing area near the Nature Center in Lower Bidwell Park. The Park Division contracted with Jim Dempsey of Dempsey Vegetation Management, who has vast experience and expertise in vegetation management and restoration, to complete these tasks. It was also agreed by the NRC and the BPPC to wait a period of time to see what transpires at the site after treatment and over the coming months.

DISCUSSION:

Mr. Dempsey has prepared a rough draft of a plan to attempt to restore the area as a Valley Oak Woodland demonstration site, which is attached as Exhibit A. In summary, the draft plan proposes to:

1. Restore the area as a native vegetation site to make it more fire resistant and climate change resilient.

2. Provide desirable native plants without irrigation, if possible, and to control undesirable plants.

3. Foster the growth of existing desirable native volunteers on site

4. Plant additional natives to complement and augment existing vegetation to:
   a. Re-establish shade canopy
   b. Achieve a shaded fire fuel break spacing standard
   c. Improves existing species diversity, and

5. Provide a 3-year plant establishment period and long-term maintenance schedule.

Mr. Dempsey provided an estimated cost of $1,287 for plant materials, $1,400 for herbicide weed control, and an estimate of 45 hours of skilled labor needed for planting. He is also seeking the NRC's input on the following questions and ideas presented in the draft plan that will help formalize the final plan:

- Whether to adjust the area to reflect the CARD's current leased boundaries of the Nature Center
- Whether the NRC and BPPC are interested in also providing recreational or interpretive uses in the area.
- Should existing standing exotic trees, such as Black Walnuts and Incense Cedars, be removed in phases.

Attachments:
Exhibit A: Draft Restoration Plan

Draft 11/11/19 J Dempsey

DRAFT RESTORATION PLAN FOR NATURE CENTER CLEARING AREA.

(NRC and BPPC questions - phase out remaining standing exotic trees: which if any black walnut and incense cedar to keep? See notes in 6/19/19 NRC agenda survey report on these species attached as Exhibit A)

PURPOSE

Restore the cleared area and surroundings (total two acres) to native vegetation. *(Assumes no recreation nor interpretive features are considered?)*. Within the tree canopy opening ("clearing" of ~0.7 acre), plantings will complement existing volunteer natives such that intended spacing is consistent with a shaded wildfire-fuel break vegetation spacing standard[1] after 10-15 years. All non-natives will be controlled over the entire two acres during the three years of establishment following initial plantings.

SITE LOCATION

(reduce this area per C.A.R.D. management of the Nature Center parcel/perimeter? Note that current positions of restoration area signs do not correspond with this description.)

The two acre area is delimited by Cedar Grove Way, the bike path on north side of East 8th Street, a line following the west roof line of the Nature Center to the large Valley oak between Nature Center and Lab, a line from that Valley oak to trunks of two walnut trees west of the Lab, and the paved road on the north side.

MEANS

Restoration consists of establishment of desirable plants without irrigation and control of undesirables.

Establishment of desirable plants involves finding native volunteers on site (selecting for species variety and structure at the shaded fuel break spacing standard) and encouraging their successful growth over three years. This may include placing temporary protection (staked tree tubes, wire mesh) from animals (deer, rodents, people) and wood chip mulch, and removing competing plants including natives within the mulch perimeter of 24"+ radius from each selected plant.

[1] *Shaded wildfire fuel break standard for this purpose: individual tree canopies separated by >=15' of open sky after 10-15 years growth= canopy ~20'diameter for Valley oaks; shrubs separated by open space that is 2x their mature height from adjacent shrubs or tree trunks or herbaceous patches; herbaceous vegetation planted in patches of 100-400 sq., ft. by species.*

Additional natives will be needed to complement volunteers for several reasons: lack of distribution of trees to reestablish shade canopy; the heavy wood chips on the site will suppress native seed bank that could otherwise volunteer; expected mortality ('crop failure' to weather or pathology, herbivory, human damage); and the opportunity to add native species diversity value in the course of restoration (ecological succession from sunny opening herbs/shrubs to shaded forest) of this future shaded Valley oak forest stand. Blue and interior live oak (10% of trees to be established) are suggested to hedge/adapt for climate change future (e.g. lowering of ground water table affecting Valley oaks).

Weed control will be needed for the three seasons of establishment: typically this may be early March and mid May for winter-spring control of annual weeds, May for follow up on resprouting stumps, and fall for treating additional mature trees to be phased out as plants grow out in the clearing.

Irrigation is not necessary, however manual irrigation during the first year or two can help ensure establishment, and this might be weekly to extend the spring growing season (until temperatures are 85-90degF), and thereafter only once a month deeply (e.g. 5 gallons/tree) until fall/winter rain.

FOLLOW UP WORK AFTER YEAR 3 OF PLANT ESTABLISHMENT

It may take 4-8 years for Valley oaks (from acorns) to grow sufficiently above deer browse height plus develop free standing trunk support before removing tree tubes and stakes.

Recommend phasing out of remaining exotic trees remaining on the site (Catalpa, hackberry, incense cedar, black walnut, pistache) after the clearing has sufficient growth to keep the area from looking too bare, perhaps starting in fall 2022. If any of these individuals do not pose a potential fall hazard and they are >7"diamter at 12' they might be left standing dead as a snag wildlife habitat (for bole nesting birds, bats, or perches), or if felled then the bole positioned on the site as whole as possible (minimize bucking up) with full ground contact as downed coarse woody wildlife habitat (insects important to food chain, reptiles, amphibians). Neither dead snags nor ground contact coarse wood contribute to wildfire fuels hazard (with respect to fire spread on this flat site).

Like the rest of the park but priority for value-added restoration sites, vegetation should then be monitored ongoing for invasives and promptly treated to prevent spread.

ESTIMATED COSTS

The following table provides estimated costs for nursery stock and protection materials, planting labor/tools, and weed control labor/materials.

Planting materials cost estimate:

	#	$/	cost
tree tubes 5', bird net, zip ties	50	4	$200
orchard stakes 8'x2"round	50	5	$250
hardware cloth 3/8", roll 25' x 24"	1	45	$45
Valley oak acorns/existing pots	20*	on hand	$-
shrubs coffeeberry, elderberry, ...	30*	10	$300
herbs milkweed, goldenrod, ...	49*	3	$147
x200 plugs of grass, sedge	2*	155 + 190	$345
			$1,287

Labor:

Using skilled labor (not volunteers) estimated at 45 hours (not volunteers).

Weed control, using existing City contract, estimated at $1,400 through fall 2022.

*Red numbers to be determined

RESTORATION TASK CALENDAR – Attached as Exhibit B

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ITEM 2.1 EXHIBIT A

SURVEY OF VEGETATION IN THE NATURE CENTER AREA

(Conducted by Jim Dempsey Vegetation Management on 6/2/19)

VEGETATION TYPE	LOCTATION AND OBSERVATIONS	RECOMMENDED ACTION
NON-NATIVE ANNUALS AND PERENNIALS		
Rubus armeniacus = Himalayan blackberry	Abundant more in open understory areas or clearing edge. Actively growing.	Recommend herbicide control asap while small or as long as actively growing to avoid collateral damage, outcompeting natives, and avoid buildup of thicket biomass later. Otherwise treat after fruiting is done in September until frost.
Vinca = periwinkle	Two patches — behind Nature Center Lab approximately 50'x20', and behind the Nature Center building patch is of similar size.	If herbicide control is desired this would be during active new growth starting late January - May, and can take a couple of years. Manual control would involve substantial root removal over similar period, releasing seed bank (weeds) from soil disturbance.
Silibum - milk thistle	Present, not currently abundant.	Should be eliminated ASAP before producing seed that would love to spread into the disturbed area.
Cirsium = bull thistle	Present, not currently abundant.	Should be eliminated ASAP before producing seed that would love to spread into the disturbed area.
Exotic weedy grasses (Bermuda, Italian ryegrass, squirrel tail etc.)	Present west side of Lab and between the Center and Lab	These seed sources could easily spread to the disturbed area, hence consider mowing short with a bagged lawnmower ASAP to collect and dispose of this season's seed production.
Exotic vetch	Could be an abundant colonizer in the disturbed area within 5 years if left alone,	Whether a priority for control depends on what is desired to accomplish and how, could compete with desired plantings.
Bur chervil (or similar various species)	This plant is a hassle for visitors, burrs in socks etc. A likely abundant colonizer in the disturbed area if left alone	Whether a priority for control depends on what is desired to accomplish and how, e.g. could compete with desired plantings.
Pigweed, dandelion, other common weeds	Potential abundant colonizers in the disturbed area if left alone	Candidates for control ASAP before spreading seed into the site.
Colutea = bladder senna	Potential abundant colonizers in the disturbed area if left alone	Should be manually removed with weed wrenches ASAP since this is starting to bloom and will set seed soon.
NON-NATIVE WOODY TREES AND SHRUBS		
Crataegus = Hawthorne	A proven invasive in lower park, abundantly resprouting from cut stems up to 8" diameter.	Suggest letting it resprout through summer, herbicide with foliar treatment in fall. A few standing saplings bearing fruit should all be removed.
Catalpa	Target of the tree removals; Most or all stumps are resprouting. A half dozen standing large trees near the Center along E 8th St,	Suggest letting them resprout through summer, herbicide in fall. May take a couple years to kill resprouting for such large stumps. Consider creating standing snag habitat with individuals along 8th street if not a fall hazard to the fence etc.
Pistache	A 9"dbh tree stands behind the Center amidst elderberries	This individual should be phased out as part of any actionable restoration.
Juglans = black walnut	Some sprouting from up to large stumps.	Suggest letting them resprout through summer, herbicide in fall. May take a couple years to kill resprouting for such large stumps.
Juglans x hindsii = northern Ca black walnut .	Not native to this part of the State, probably hybrid from ag root stock. Four 1 to 2 foot diameter standing individuals behind Lab	No urgency if considering conversion to snag habitat or removal.
Oliva = olive	Resprouting stumps	Suggest letting it resprout through summer, herbicide in fall.

ITEM 2.1 EXHIBIT A

SURVEY OF VEGETATION IN THE NATURE CENTER AREA

(Conducted by Jim Dempsey Vegetation Management on 6/2/19)

VEGETATION TYPE	LOCTATION AND OBSERVATIONS	RECOMMENDED ACTION
Celtis = hackberry	Resprouting Stumps. Significant seedlings present, especially near Cedar Grove Way entrance. Three mature trees (two 6"dbh, one 10"dbh) stand behind the Center.	Suggest letting it stumps resprout through summer, herbicide in fall. Seedlings could be manually removed with a weed wrench tool only after complete removal of Bladder Senna. Suggest phasing out mature trees as part of any restoration action.
Prunus = ornamental purple plum	A 10" dbh stump is resprouting along with multiple root sprouts, behind Center.	Suggest letting it resprout through summer, herbicide in fall.
NATIVE ANNUALS AND PERENNIALS		
Aristolochia calif = Calif pipevine	Abundant mostly in open understory, some along perimeter of clearing.	
Vitis = native grape	Abundant mostly in open understory, some along perimeter of clearing.	If active restoration is desired on this site, because of its vigor the grape could become a candidate for control to allow the full complement of restoration species to get established.
Juncus = rush	Present in open understory, doubt an indicator of wetland soils in this case	
NATIVE WOODY TREES AND SHRUBS		
Umbellularia = Ca bay	A number of cut stumps are vigorously resprouting on west side of clearing	No action.
Quercus lobata = Valley oak	Minority of cut stumps resprouting so far. Only noticed two first-year seedlings present, one in the open clearing.	No action.
Toxicodendron = poison oak	Abundant; dominant understory plant on south and west side.	No action.
Calocedrus = incense cedar	Not really native to the Valley floor, mature individuals were no doubt planted, and now we have seedlings volunteering nearby. Between the Nature Center and Lab there are a cluster of these crowding a large Valley oak	Suggest which individuals to keep for Nature interpretive purposes, but these are not in the natural character of lower Bidwell Park and otherwise should be removed in my opinion as they could become a gradual shade tolerant localized 'invasive'. Cedars near the Valley Oak should be removed at some point.
Fraxinus latifolia = Oregon ash	Good	No action.
Heteromeles arbutifolia = toyon	More a foothill than Valley species, probably here due to seed sources from nearby residential yards.	No action.
Quercus wislizenii = interior live oak	One mature tree and a couple of saplings between SW end of the area and road.	No action.
Sambucus = elderberry	Protected species	No action.
Solanum = nightshade	Need to ID species to determine if this is native or exotic.	Inviting looking berries are poisonous, possibly should be removed since it is near a Nature Center visited by swarms of children.

EXHIBIT B - RESTORATION PLAN SCHEDULE

Task Calendar - Restoration Plan for Nature Center clearing area. DRAFT 11/12/2019 Jdempsey	
Timing depends on weather	**Task** (Expected 'weeds' are annotated in the 6/19/19 BPPC NRC agenda site survey report.)
2019 = year 0	
November	Last fall weed control followup.. Remove coast(?)live oak seedlings along Cedar Grove Way. Determine # of what native plants desired, purchase plants and planting materials (materials/cost estimate attached)
early December	Planting installed with protection and mulched.
2020 = year 1 of planting establishment	
late January	Monitor winter annual weeds, start Vinca control (spray new growth through April).
March	Monitor to treat winter-early spring weeds.
April	Monitor to treat cut stump resprouts through June. ?supplemental watering until 85-90degF.
late May	Monitor to treat spring weeds. Maintain planting protection.
June	?supplemental watering monthly until fall/winter rain.
October	Monitor to treat weeds. Maintain planting protection.
December	Evaluate planting mortality and replant.
2021:yr 2 lateJan	Monitor winter annual weeds, start Vinca control (spray new growth through April).
March	Monitor to treat winter-early spring weeds.
April	Monitor to treat cut stump resprouts through June. ?supplemental watering until 85-90degF.
late May	Monitor to treat spring weeds. Maintain planting protection.
June	?supplemental watering monthly until fall/winter rain.
October	Monitor to treat weeds. Maintain planting protection.
December	Evaluate planting mortality and replant.
2022:yr 3 lateJan	Monitor winter annual weeds, start Vinca control (spray new growth through April).
March	Monitor to treat winter-early spring weeds.
April	Monitor to treat cut stump resprouts through June. ?supplemental watering until 85-90degF.
late May	Monitor to treat spring weeds. Maintain planting protection.
June	?supplemental watering monthly until fall/winter rain.
October	Monitor to treat weeds, to remove planting protection as ready. ?start phasing out exotic mature trees by priority: hackberry, pistache, Catalpa, walnut, incense cedar.
2023 March	Monitor to treat weeds, to maintain planting protection.
October	Monitor to treat weeds, to remove planting protection as ready. ?phase out exotic trees.
2024 March	Monitor to treat weeds, to maintain planting protection.
October	Monitor to treat weeds, to remove planting protection as ready. ?phase out exotic trees.
2025 March	Monitor to treat weeds, to maintain planting protection.
October	Monitor to treat weeds, remove planting protection. ?phase out exotic trees.

BPPC Natural Resource Committee Report — Meeting Date 11/20/19

DATE: 11/14/19

TO: BPPC Natural Resource Committee (Commissioners Grist (Chair), Haar, and Smith-Peters)

FROM: Linda Herman, Parks and Natural Resources Manager

SUBJECT: UPDATE ON DEVELOPMENT OF A VEGETATIVE FUELS MANAGEMENT PLAN

REPORT IN BRIEF:

The City was awarded a Community Wildfire Prevention grant from Cal Fire to develop a Vegetative Fuels Management Plan (VFMP) for Bidwell Park and City parks and greenways. Staff will provide an update on the status of the plan.

Recommendation: None, this is an information item only

BACKGROUND:

With the assistance from the Butte County Resource Conservation District (BCRCD), the City applied for and was awarded a $158,907 Community Wildfire Prevention grant from Cal Fire to develop the VFMP. The VFMP will cover approximately 6,800 acres of City parks, greenways and open spaces (see map as Exhibit A). The City pledged a local match of $55,828 for a total project cost of $214,735. The purpose of this grant is to build local capacity to complete community-based fire prevention projects, so the project also includes identification of five (5) potential "shovel-ready" implementation projects. The VFMP and all other associated planning work must be completed by March 2021.

DISCUSSION:

The City's grant application proposed collaborating with various local partners to achieve the following scope of work:

1. Grant Administration
2. Biological Surveys/Mapping
3. Fire Severity and Risk Analysis/Mapping
4. Identification of Treatment Methods (i.e. manual, prescribed burn, mechanical, grazing etc.)
5. Identification of the five potential implementation projects
6. Development of the Draft VFMP
7. CEQA review for both the VFMP and the five implementation projects
8. Development of Final VFMP
9. Public education and outreach for the VFMP and CEQA

Staff has been working on executing the contracts and agreements for the following consultants and partners who will be working on various aspects of the VFMP (Project Team):

- BCRCD - Project Management, CEQA Review, and Permitting
- Dempsey Vegetation Management – Composition of VFMP
- CSU, Chico Research Foundation - Interns for biological surveys under the guidance of the Big Chico Creek Ecological Reserve
- Deer Creek Resources – Wildfire risk assessment, mapping, and prevention planning
- Terra Fuego –Simtable public education demonstrations.

Potential Proposed Implementation Projects:

The Project Team has been meeting and reviewing existing plans developed for Bidwell Park, Comanche Creek, Little Chico Creek, and Lindo Channel. The Team has also been reviewing vegetation fuels management plans developed by other agencies, such as the East Bay Municipal Parks and the City of Oakland. The Team participated in a video conference with the consultant who is preparing the City of Oakland's plan, who provided valuable insight and information.

The Team has preliminarily identified the following five potential future fuel reduction locations/projects, but these may change after the fire risk mapping/analysis, environmental surveying, and BPPC and public input:

1. Removal of Arundo in Little Chico Creek.
2. Elevating/thinning/grazing of invasive and fire risk vegetation on Lindo Channel from Manzanita to HWY 99.
3. Elevating/thinning of invasive and fire risk vegetation on Lindo Channel from HWY 99 to Nord Ave.
4. Addressing yellow star thistle and invasive vegetation in Middle Bidwell Park.
5. Vegetation thinning/prescribed burn as needed for fuel reduction on south side of Upper Park (Chico Canyon area to 10-Mile House Road).

The BPPC and the City Council will have the final approval of the proposed implementation projects.

Environmental Review:

"After reviewing comparable plans developed by other cities, the Team found that preparation of an Environmental Impact Report (EIR) is likely the best and most streamlined approach. Under this approach, the Team would not prepare an Initial Study and will go straight to developing an EIR. The environmental review will also include the implementation projects with the intent to have preliminary CEQA review of these projects completed so that future funding, such as grants, can be pursued. The required project specific CEQA review and any regulatory permitting will still occur prior to implementation of the projects.

Public Outreach:

An important goal of this project is to provide ample opportunity for stakeholders and the general public to provide input on the VFMP and proposed projects. The Team intends to solicit ongoing public input through the NRC and BPPC regular meetings and will hold more focused public workshops as the project progresses. These will include field days and fire simulation demonstrations, among other events. Attached as Exhibit B is a tentative timeline and schedule of tasks for the development of the VFMP, CEQA, and public outreach.

Attachments:
Exhibit A: VFMP acreage map
Exhibit B: Proposed project timeline

City of Chico
Vegetative Fuels Management Plan
[18-FP-BTU-1051]:
Priority Communities and Wildfire Hazard

Scale: 1:80,000.

0 0.5 1 2 3 4 Miles

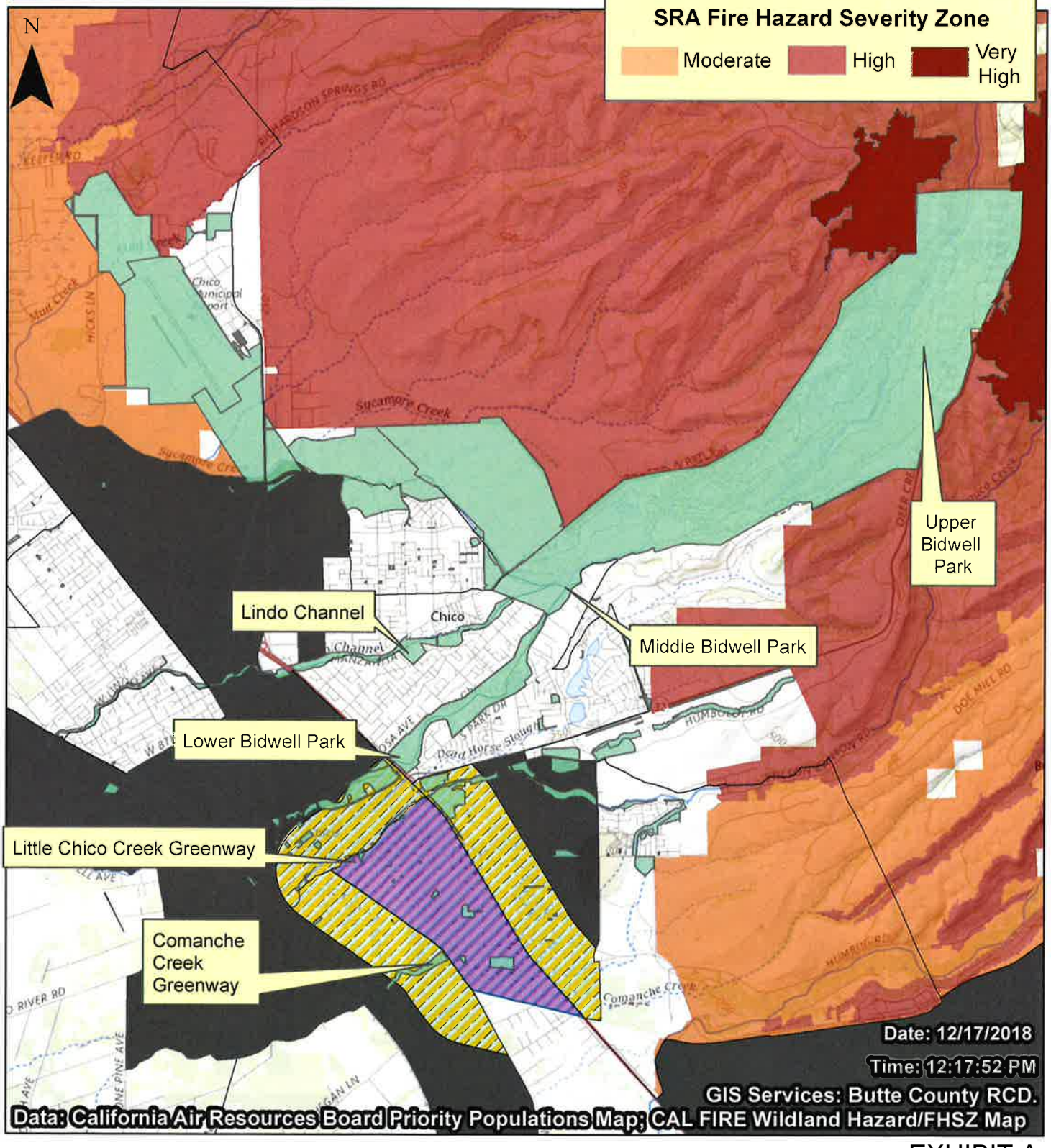

EXHIBIT A

VEGETATIVE FUELS MANAGEMENT PLAN TENTATIVE TIMELINE

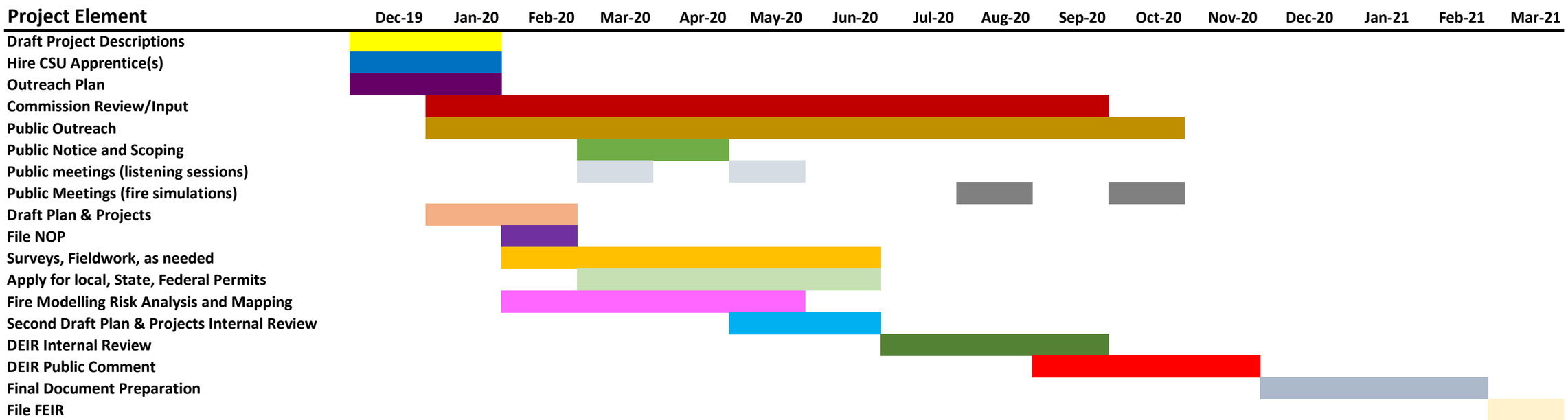

EXHIBIT B

BPPC Natural Resource Committee Report Meeting Date 11/20/19

DATE: 11/14/19

TO: BPPC Natural Resource Committee (Commissioners Grist (Chair), Haar, and Smith-Peters)

FROM: Linda Herman, Parks and Natural Resources Manager

SUBJECT: CONSIDERATION OF CHANGES TO THE ANNIE BIDWELL TRAIL IN UPPER BIDWELL PARK.

REPORT IN BRIEF:

The Committee will consider Staff's proposal to make some changes to the western portion of the Annie Bidwell Trail on the south side of Upper Bidwell Park.

> **Recommendation**: The Committee is requested to provide comments and recommendations to Staff and the BPPC regarding this proposal to reroute a portion of the trail.

BACKGROUND:

In 1995, the City purchased approximately 1,400 acres between Big Chico Creek and Hwy 32 as an addition to Bidwell Park. This acquisition provided public access and the opportunity for additional trails to some of the most scenic and diverse landscapes. In the early 2000s, work began on the Annie Bidwell Trail (ABT), which is accessed by the Pistol Range/Chico Canyon trailhead where Centennial Avenue, Chico Canyon Road, and Falcons Pointe Rd meet. The trail transverses eastward for approximately 4.5 miles to 10-Mile House Road.

DISCUSSION:

The official ABT is flat as it travels along Big Chico Creek to just past the pedestrian bridge to the golf course. After that, the trail elevation changes to involve climbing a pretty steep slope bringing the trail to a top of a ridge, which can be difficult for hikers and is susceptible to erosion. Over time, park users have developed an alternate route through the old olive orchard that continues along the golf course and rejoins the official ABT that continues to the junction of the South Rim and Guardian Trails. This alternate route, which has evidence of being cut and groomed by users, provides a cool, shady, trail that is used extensively by both hikers and bikers.

Staff is proposing that this alternate route be officially incorporated into the ABT trail and that the old ABT section in this area be decommissioned. Staff is also proposing that the section of Tennis Ball Hill/Old Jeep Road bypass also be decommissioned as it is severely eroded and is no longer safe and sustainable.

An initial botanical survey has been conducted on this alternate route and the bypass. There are a 3-4 individual Butte County Checker bloom plants and some Monkey Flower. A map of the proposed ABT and Tennis Ball Hill realignments is attached for the Committee's review and consideration. If approved by the NRC and BPPC, Staff will complete the environmental review, which is anticipated to be a mitigated negative declaration, before any work will be conducted to make these trail realignments official.

Attachments:
Exhibit A: Trail realignment map

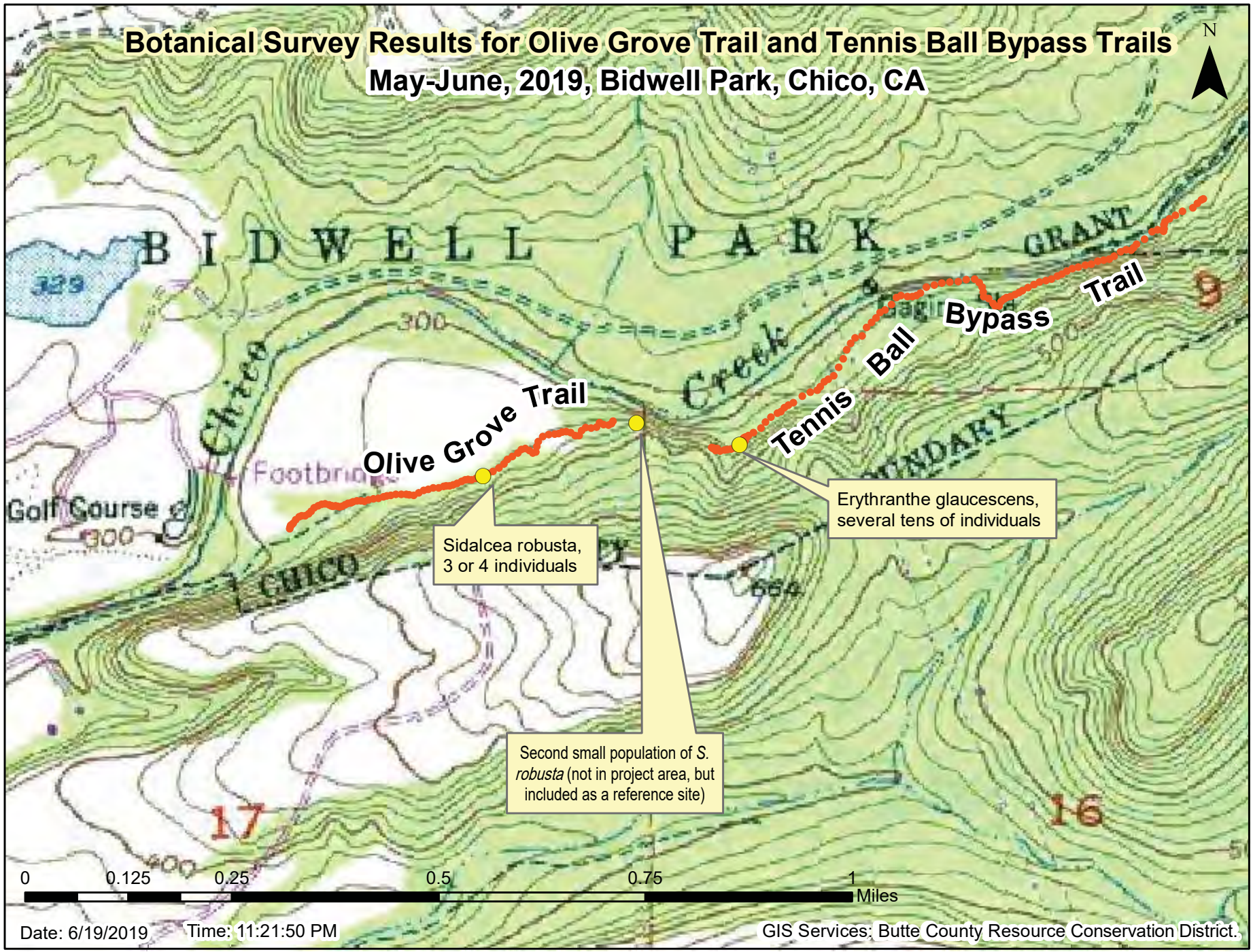
Botanical Survey Results for Olive Grove Trail and Tennis Ball Bypass Trails
May-June, 2019, Bidwell Park, Chico, CA
N
BIDWELL PARK
Chico Creek
GRANT
Olive Grove Trail
Tennis Ball Bypass Trail
Golf Course
CHICO
Sidalcea robusta, 3 or 4 individuals
Erythranthe glaucescens, several tens of individuals
Second small population of S. robusta (not in project area, but included as a reference site)
0 0.125 0.25 0.5 0.75 1 Miles
Date: 6/19/2019
Time: 11:21:50 PM
GIS Services: Butte County Resource Conservation District.

EXHIBIT B