Appendix C:
Biological Resources Supporting Information

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C.1 - Biological Resources Assessment

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Biological Resources Assessment

±27-Acre Walmart Store No. 2044-09 Expansion Project
City of Chico, Butte County, California

Prepared for: Wal-Mart Stores, Inc.

Contracted by: RSC Engineering, Inc.

Date: Revised December 2, 2015

Submitted by:

FOOTHILL ASSOCIATES

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1.0 EXECUTIVE SUMMARY

Foothill Associates' biologists prepared this Biological Resources Assessment (BRA) for the Walmart Store No. 2044-09 Expansion Project (Study Area), located in the City of Chico, Butte County, California. The purpose of this BRA is to summarize the general biological resources within the Study Area, to assess the suitability of the Study Area to support special-status species and sensitive habitat types, to provide recommendations for regulatory permitting or further analysis that may be required, and to provide recommended mitigation measures to avoid or minimize potential impacts to special-status species and sensitive habitat types.

Biological constraints within the Study Area include known or potential habitat for:

- Special-status plants including: Ahart's paronychia (*Paronychia ahartii*), Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), woolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*), adobe lily (*Fritillaria pluriflora*), Bidwell's knotweed (*Polygonum bidwelliae*), Butte County golden clover (*Trifolium jokerstii*), depauperate milkvetch (*Astragalus pauperculus*), Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*), hogwallow starfish (*Hesperevax caulescens*), pink creamsacs (*Castilleja rubicundula* var. *rubicundula*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), round-leaved filaree (*California macrophylla*), Tehama navarretia (*Navarretia heterandra*), and veiny monardella (*Monardella venosa*);

- Burrowing owl (*Athene cunicularia*);

- Swainson's hawk (*Buteo swainsoni*);

- Pallid bat (*Antrozous pallidus*);

- Vernal pool branchiopods including California linderiella (*linderiella occidentalis*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*);

- Western spadefoot (*Spea hammondii*);

- Migratory birds and other birds of prey; and

- Sensitive habitats (potentially jurisdictional waters of the U.S.).

2.0 INTRODUCTION

This BRA summarizes the findings of a biological resources assessment completed for the Walmart Store No. 2044-09 Expansion Project (Study Area), located in the City of Chico, Butte County, California. This BRA addresses the onsite physical features, biological communities, and the special-status plant and wildlife species with the potential to occur within the Study Area. Furthermore, the suitability of habitats onsite to support special-status species are analyzed and recommendations are provided for any regulatory permitting or further analysis required prior to development occurring within the Study Area.

3.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. The CEQA significance criteria are also included in this section.

3.1 Federal Jurisdiction

3.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, FESA would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

3.1.2 Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

3.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof." Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

3.2 State Jurisdiction

3.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), formally California Department of Fish and Game, when preparing California Environmental Quality Act (CEQA) documents. The purpose is to ensure that the state lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows the CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

3.2.2 California Department of Fish and Game Codes

Fully protected fish species are protected under Section 5515; fully protected amphibian and reptile species are protected under Section 5050; fully protected bird species are protected under Section 3511; and fully protected mammal species are protected under Section 4700. The California Fish and Game Code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited.

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the

destruction of raptor nests. Sections 2062 and 2067 define endangered and threatened species.

3.2.3 California Department of Fish and Wildlife Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened. In addition to Species of Special Concern, the CDFW identifies animals that are tracked by the CNDDB, but warrant no federal interest and no legal protection. These species are identified as California Special Animals.

3.3 Jurisdictional Waters

3.3.1 Federal Jurisdiction

The Corps regulates discharge of dredge or fill material into waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the

presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

3.3.2 State Jurisdiction

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq*. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds…except when the department has been notified pursuant to Section 1601." Additionally, CDFW may assert jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over 4 inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Section 13260(a) of the Porter-Cologne Water Quality Control Act (contained in the California Water Code) requires any person discharging waste or proposing to discharge waste, other than to a community sewer system, within any region that could affect the quality of the waters of the State (all surface and subsurface waters) to file a report of waste discharge. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the State. All of the wetlands and waterways in the Study Area are waters of the State, which are protected under this act.

Historically, California relied on its authority under Section 401 of the CWA to regulate discharges of dredged or fill material to California waters. That section requires an applicant to obtain "water quality certification" from the State Water Resources Control Board (SWRCB) through its Regional Water Quality Control Boards (RWQCB) to ensure compliance with state water quality standards before certain federal licenses or permits may be issued. The permits subject to Section 401 include permits for the discharge of dredged or fill materials (CWA Section 404 permits) issued by the USACE. Waste discharge requirements under the Porter-Cologne Water Quality Control Act were typically waived for projects that required certification. With the recent changes that limited the jurisdiction of wetlands under the CWA, the SWRCB has needed to rely on the report of waste discharge process.

3.4 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

3.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

All plants appearing on CNPS List 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

3.5 Regional and Local Jurisdiction

3.5.1 City of Chico General Plan

The *City of Chico 2030 General Plan* outlines under Section 10, Open Space and Environment Element, goals, policies, and actions regarding open space and the environment (City of Chico 2011). The following goals, policies, and actions are applicable to biological resources.

Goal OS-1: Protect and conserve native species and habitats.

Policy OS-1.1 ***(Native Habitats and Species)***
Preserve native species and habitat through land use planning, cooperation, and collaboration.

- *Action OS-1.1.1 (Development/Preservation Balance): Direct development to appropriate locations consistent with the Land Use Diagram, and protect and preserve areas designated Open Space and areas that contain sensitive habitat and species.*

- *Action OS-1.1.2 (Regional Conservation Planning): Actively participate in regional conservation planning efforts, in particular the Butte County Habitat Conservation Plan process, sponsored by the Butte County Association of Governments, which seeks the preservation of habitat areas needed for the ongoing viability of native species.*

- *Action OS-1.1.3 (Sustainable Community Strategy): In support of AB 32, work with the Butte County Association of Governments to implement the Sustainable Community Strategy (SB 375), which directs smart-growth development to urbanized areas.*

- *Action OS-1.1.4 (Community Collaboration): Consult with conservation groups to identify sites and projects for fund-raising and volunteer participation in public education, enhancement, maintenance, and protection of natural resources within the City's Sphere of Influence.*

- *Action OS-1.1.5 (Control Invasive Species): Prioritize efforts to remove non-native species within Bidwell Park and other City greenways, and condition new development adjacent to Bidwell*

Park and greenways to protect native species and habitat from the introduction of invasive species.

Policy OS-1.2 ***(Regulatory Compliance)***
Protect special-status plant and animal species, including their habitats, in compliance with all applicable state, federal and other laws and regulations.

- *Action OS-1.2.1 (State and Federal Guidelines): Ensure that project-related biological impacts are considered and mitigated, and require applicants to obtain all necessary local, state and federal permits for projects that may affect special status species or their habitat.*

Policy OS-2.5 ***(Creeks and Riparian Corridors)***
Preserve and enhance Chico's creeks and riparian corridors as open space for their aesthetic, drainage, habitat, flood control, and water quality values.

- *Action OS-2.5.1 (Setbacks from Creeks): Consistent with the City's Municipal Code, require a minimum 25-foot setback from the top of creek banks to development and associated above ground infrastructure as a part of project review, and seek to acquire an additional 75 feet. In addition, require a larger setback where necessary to mitigate environmental impacts.*

Policy OS-2.6 ***(Oak Woodlands)***
Protect oak woodlands as open space for sensitive species and habitat.

3.5.2 Butte Regional Conservation Plan

The *Butte Regional Conservation Plan's* (BRCP) Conservation Strategy provides a regional approach for the long-term conservation of covered species and natural communities, including wetlands and streams, within the Plan Area, while allowing for compatible future land use and development under County and City general plan updates and the regional transportation plans and programs. The BRCP identifies and addresses existing, planned, and proposed land use activities that are proposed and may result in take of covered species within the plan area (SAIC 2012).

4.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section. The following site-specific information was reviewed:

- California Department of Fish and Wildlife (CDFW). 2015. *California Natural Diversity Data Base* (CNDDB: *Chico, Hamlin Canyon, Llano Seco, Nelson, Nord, Ord Ferry, Paradise West, Richardson Springs,* and *Shippee* U.S. Geological Survey (USGS) 7.5-minute series quadrangles (quadrangles)), Sacramento, CA. [Accessed 08/26/2015] (**Appendix A**);

- California Native Plant Society (CNPS). 2015. *Inventory of Rare and Endangered Plants* (online edition, v8-02) (CNPS: *Chico, Hamlin Canyon, Llano Seco, Nelson, Nord, Ord Ferry, Paradise West, Richardson Springs,* and *Shippee* quadrangles). [Accessed 08/26/2015] (**Appendix A**);

- U.S. Fish and Wildlife Service (USFWS). 2015a. *Information for Planning and Conservation (IPaC) Trust Resource Report: Butte County*. [Accessed 08/26/2015] (**Appendix A**); and

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2006. *Soil Survey of Butte Area, California, Parts of Butte and Plumas Counties*. U.S. Department of Agriculture.

Foothill Associates' biologists conducted general biological and focused botanical surveys and a wetland delineation on September 10, 2015. The biological surveys consisted of conducting botanical inventories, evaluating biological communities, mapping wetlands and waterways, and documenting habitat for special-status species with the potential to occur within the Study Area. Plants and wildlife observed within the Study Area are identified in **Appendix B**. The botanical inventory followed CDFW's (2009) protocol plant surveys. The wetland delineation consisted of mapping wetlands and waterways. The results of the wetland delineation are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2015b).

A Foothill Associates ISA-Certified Arborist conducted an arborist survey within the Study Area on August 19, 2015. The results of the arborist survey are summarized herein and are discussed in detail under a separate cover (Foothill Associates 2015a).

5.0 RESULTS

5.1 Site Location

The ±27-acre Study Area is located in a commercial area within the City of Chico in the northwest section of Butte County, California. The Study Area consists of two separate parcels: (1) a currently developed 16.46-acre parcel (APN 002-370-055) that contains the Walmart store and associated parking lot; and (2) an adjacent 10.62-acre undeveloped parcel (APN 002-170-004) that is located immediately south of the existing Walmart store. The Study Area is bordered by Highway 99 to the west, by Baney Lane to the north, by Forest Avenue to the east, and Talbert Drive (formerly Wittmeier Drive) to the south. The Study Area is located within Township 22 North, Range 2 East, Section 31 of the *Chico* 7.5-minute quadrangle. The approximate location of the Study Area is 39° 43' 21.021" North, 121° 48' 14.046" West (**Figure 1**).

5.2 Physical Features

5.2.1 Topography and Drainage

The topography within the Study Area is relatively flat. The northern parcel is paved and landscaped. The southern undeveloped parcel contains interspersed low spots that are evident of man-made tire tracks along the north and west boundaries, two billboards adjacent to Highway 99, and a concrete and debris stockpile along the southwestern portion. The elevation within the Study Area ranges from 223 to 231 feet above mean sea level (MSL).

The Study Area lies within the Lower Butte Watershed (Hydrological Unit Code 12-180201580301). There are no waterways, canals, or drainages that occur adjacent to or within the Study Area. The hydrologic regime is dominated by irrigation runoff, seasonal stormwater runoff, and direct precipitation.

5.2.2 Soils

The Natural Resources Conservation Service (NRCS) has mapped two soil units within the Study Area (**Figure 2**): **Redsluff Gravelly Loam, 0 to 2 Percent Slopes** and **Galt Clay, 0 to 1 Percent Slopes**. General characteristics associated with these soil types are described below (USDA, NRCS 2006, 2015a, and 2015b).

- **(300) Redsluff Gravelly Loam, 0 to 2 Percent Slopes**: This soil unit occurs on fan terraces typically located from 180 to 400 feet above MSL. The Redsluff consists of fine-loamy alluvium derived soils from igneous metamorphic and sedimentary rock. Permeability is moderately well-drained and this soil has a moderately high capacity to transmit water. The hydric soils list for Butte County identifies this soil type as hydric (USDA, NRCS 2015b).

- **(336) Galt Clay, 0 to 1 Percent Slopes**: This soil unit occurs on terraces typically located from 140 to 300 feet above MSL. Surface runoff is high and the soil has a very low capacity to transmit water. The Galt Clay consists of clayey alluvium over cemented loamy alluvium derived from volcanic rock. The hydric soils list for Butte County identifies this soil type as hydric (USDA, NRCS 2015b).

5.3 Wildlife Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The Study Area is not part of a major or local wildlife corridor/travel route because it does not connect two significant habitats. The Study Area is surrounded by commercial and residential development. There are no riparian corridors, drainages or contiguous habitats that connect from the Study Area to surrounding natural habitats. Therefore, there are no wildlife corridors that occur within the Study Area.

5.4 Biological Communities

The following biological communities occur within the Study Area: non-native annual grassland, disturbed/developed, and depressional seasonal wetland. **Table 1** summarizes the biological communities by acreages. Dominant vegetation observed within each biological community is discussed in detail below. A comprehensive list of plants observed within the Study Area is provided in **Appendix B**. The biological communities are depicted in **Figure 3**.

Table 1 — Biological Communities by Acreages

Biological Community	Total Acreage[1]
Non-Native Annual Grassland	10.78
Disturbed/Developed	16.05
Depressional Seasonal Wetland	0.02
Total	**26.85**

[1]GIS calculations may not reflect the exact acreage of the Study Area due to rounding.

5.4.1 Non-Native Annual Grassland

Non-native annual grassland occurs within the southern portion of the Study Area. The majority of the non-native annual grassland has been modified by human disturbance. Deep cracks and sparse small-sized burrows and a debris stockpile occur throughout the non-native annual grassland. The perimeter of the non-native annual grassland had been mowed prior to the September 10, 2015 biological survey of the Study Area. Dominant vegetation includes: medusahead (*Elymus caput-medusae*), wild oat (*Avena fatua*), rye grass (*Festuca perennis*) and wall barley (*Hordeum murinum*).

5.4.2 Disturbed/Developed

Disturbed/developed areas occur throughout the northern portion of the Study Area and are comprised of paved roads and a parking lot, commercial infrastructure (i.e. Walmart store), and ornamental landscaped areas. Ornamental trees and shrubs are interspersed throughout the parking lot and trees occur within landscaped planter boxes within designated areas along the perimeter within the Study Area. Dominant vegetation includes: Chinese pistache (*Pistacia chinensis*), Chinese hawkberry (*Celtis sinensis*), London planetree (*Platanus* x *acerifolia*), pin oak (*Quercus palustris*), cork oak (*Quercus suber*), and crape myrtle (*Lagerstroemia indica*). The dominant understory consists of ornamental shrubs including juniper (*Juniperus* sp.) and rosemary (*Rosmarinus officinalis*).

5.4.3 Depressional Seasonal Wetland

A depressional seasonal wetland occurs within the southwestern portion of the Study Area, adjacent to Highway 99. The feature appears to hold water for short durations of time until water percolates into the ground. This feature appears to have recently formed as a result of the installation of the fence and routine mowing of the non-native annual grassland within the Study Area. Dominant vegetation includes: Great Valley button celery (*Eryngium castrense*), rye grass, and annual hairgrass (*Deschampsia danthonoides*).

5.5 Wildlife Observed

Wildlife observed foraging within the Study Area includes: western scrub jay (*Aphelocoma californica*), Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), and western fence lizard (*Sceloporus occidentalis*). A comprehensive list of wildlife species observed within the Study Area is provided in **Appendix B**.

5.6 Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under the CESA or the FESA;
- Protected under other regulations (e.g. MBTA);
- CDFW Species of Special Concern;
- Plant species ranked by the CNPS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on the CNDDB, CNPS, and USFWS lists. CNDDB occurrences of special-status species documented within five miles of the Study Area are illustrated within **Figure 4** (CDFW 2015). **Appendix C** includes the common and scientific names for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species potential for occurrence within the Study Area:

- **Present**: Species known to occur within the Study Area based on CNDDB records and/or observed within the Study Area during the biological surveys.

- **High**: Species known to occur on or near the Study Area (based on CNDDB records within 5 miles and/or based on professional expertise specific to the Study Area or species) and there is suitable habitat within the Study Area.

- **Low**: Species known to occur in the vicinity of the Study Area and there is marginal habitat within the Study Area **-OR-** Species is not known to occur in the vicinity of the site, however, there is suitable habitat on the site.

- **None**: Species is not known to occur on or in the vicinity of the Study Area and there is no suitable habitat within the Study Area **-OR-** Species was surveyed for during the appropriate season with negative results **-OR-** The Study Area does not provide suitable soils or occurs outside of the known elevation or geographic ranges **-OR-** Species is not known in Butte County.

Only those species that are known to be present or have a high or low potential for occurrence are discussed further in the following paragraphs.

5.6.1 Listed and Special-Status Plants

The following special-status plants have a *high* potential to occur within the Study Area: Ahart's paronychia, Butte County meadowfoam, and woolly meadowfoam. The following special-status plants with a *low* potential to occur within the Study Area include: adobe lily, Bidwell's knotweed, Butte County golden clover, depauperate milkvetch, Ferris' milk-vetch, hogwallow starfish, pink creamsacs, Red Bluff dwarf rush, round-leaved filaree, Tehama navarretia, and veiny monardella.

Species with a High Potential for Occurrence

Ahart's Paronychia

Ahart's paronychia is listed as a CNPS 1B species. It is an annual herb found in cismontane woodland, vernal pools, and valley and foothill grassland from 98 to 1,673 feet (30 to 510 meters) above MSL. The identification period for this species is from February through June. There is one documented CNDDB record of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *high* potential for this species to occur within the non-native annual grassland within the Study Area.

Butte County Meadowfoam

Butte County meadowfoam is listed as a federal endangered, state endangered, and CNPS 1B species. It is an annual herb found in vernal pools and valley and foothill grassland, which are occasionally mesic, from 151 to 3,051 feet (46 to 930 meters) above MSL. The identification period for this species is from March through May. There are four documented CNDDB records of this species occurring within five miles of the Study Area (**Figure 4**) (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *high* potential for this species to occur within the non-native annual grassland within the Study Area.

Woolly Meadowfoam

Woolly meadowfoam is listed as a CNPS 4 species. It is an annual herb found on vernally mesic substrate within chaparral, cismontane woodland, vernal pools, and valley and foothill grassland from 197 to 4,380 feet (60 to 1,335 meters) above MSL. The identification period for this species is from March through June. There is one documented CNDDB record of this species occurring within five miles of the Study Area (**Figure 4**) (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *high* potential for this species to occur within the non-native annual grassland within the Study Area.

Species with a Low Potential for Occurrence

Adobe Lily

Adobe lily is listed as a CNPS 1B species. It is a perennial bulbiferous herb found on adobe within chaparral, cismontane woodland, and valley and foothill grassland from 230 to 2,313 feet (70 to 705 meters) above MSL. The identification period for this species is from February through April. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted

outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Bidwell's Knotweed

Bidwell's knotweed is listed as a CNPS 4 species. It is an annual herb found on volcanic sites within chaparral, cismontane woodland, and valley and foothill grassland from 197 to 3,937 feet (60 to 1,200 meters) above MSL. The identification period for this species is from April through July. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Butte County Golden Clover

Butte County golden clover is listed as a CNPS 1B species. It is an annual herb that is found on mesic sites in valley and foothill grassland and in vernal pools from 164 to 1,263 feet (50 to 385 meters) above MSL. The identification period for this species is from March through May. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Depauperate Milk-Vetch

Depauperate milk-vetch is listed as a CNPS 4 species. It is an annual rhizomatous herb often found on vernally mesic, volcanic substrate within chaparral, cismontane woodland, and valley and foothill grassland from 197 to 3,986 feet (60 to 1,215 meters) above MSL. The identification period for this species is from March through June. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Ferris' Milk-Vetch

Ferris' milk-vetch is listed as a CNPS 1B species. It is an annual herb found in meadows and seeps, which are occasionally vernally mesic, and valley and foothill grassland, which are occasionally on subalkaline flats, from 7 to 246 feet (2 to 75 meters) above MSL. The identification period for this species is from April through May. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and

identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Hogwallow Starfish

Hogwallow starfish is listed as a CNPS 4 species. It is an annual herb found within valley and foothill grassland on mesic and clay sites and within shallow vernal pools from 0 to 1,657 feet (0 to 505 meters) above MSL. The identification period for this species is from March through June. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Pink Creamsacs

Pink creamsacs is listed as a CNPS 1B species. It is an annual herb, which is occasionally hemi-parasitic, found on serpentinite in chaparral openings, cismontane woodland, meadows and sweeps, and valley and foothill grassland from 66 to 2,986 feet (20 to 910 meters) above MSL. The identification period for this species is from April through June. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Red Bluff Dwarf Rush

Red Bluff dwarf rush is listed as a CNPS 1B species. It is an annual herb found on vernally mesic sites on chaparral, cismontane woodland, meadows and seeps, vernal pools, and valley and foothill grassland from 115 to 4,101 feet (35 to 1,250 meters) above MSL. The identification period for this species is from March through June. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Round-Leaved Filaree

Round-leaved filaree is listed as a CNPS 1B species. It is an annual herb found in clay soils within cismontane woodland and valley and foothill grassland from 518 to 3,937 feet (15 to 1,200 meters) above MSL. The identification period for this species is from March through May. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside

of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Tehama Navarretia

Tehama navarretia is listed as a CNPS 4 species. It is an annual herb found within vernal pools and valley and foothill grassland from 98 to 3,314 feet (30 to 1,010 meters) above MSL. The identification period for this species is from April through June. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

Veiny Mondardella

Veiny monardella is listed as a CNPS 1B species. It is an annual herb found on heavy clay within cismontane woodland and valley and foothill grassland from 197 to 1,345 feet (60 to 410 meters) above MSL. The identification period for this species is from May through July. There are no documented CNDDB records of this species occurring within five miles of the Study Area (CDFW 2015). While this species was not observed within the Study Area, the September 10, 2015 biological survey was conducted outside of the evident and identifiable blooming period. There is *low* potential for this species to occur within the non-native annual grassland within the Study Area.

5.6.2 Listed and Special-Status Wildlife

The following special-status wildlife species have a *high* potential to occur within the Study Area: burrowing owl, Swainson's hawk, and pallid bat. The following special-status wildlife species have a *low* potential to occur within the Study Area: vernal pool branchiopods including California linderiella, vernal pool fairy shrimp, and vernal pool tadpole shrimp and western spadefoot toad.

Species with a High Potential to Occur

Burrowing Owl

Burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico, and east to Texas, and Louisiana. Although in certain areas of its range burrowing owls are migratory, these owls are predominantly non-migratory in California. The breeding season for burrowing owls occurs from March to August, peaking in April and May (Zeiner *et. al.* 1990). Burrowing owls nest in burrows in the ground, often in old ground squirrel burrows, but are also known to use artificial burrows including pipes, culverts, and nest boxes. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds. Burrow fidelity has been reported in some areas; however, more frequently,

burrowing owls reuse traditional nesting areas without necessarily using the same burrow.

Within the Butte County HCP/NCCP planning area, the most recent breeding season record was reported in 2000 along Nelson Road just east of Highway 99 and north of Thermalito Afterbay (SAIC 2012). There are two documented CNDDB records for this species within five miles of the Study Area (**Figure 4**) (CDFW 2015). The non-native annual grassland and stockpile of debris provides habitat for this species within the Study Area that could be utilized by burrowing owl. No burrowing owls or their sign were observed during the September 10, 2015 biological survey of the Study Area. This species has a *high* potential to breed or winter within the non-native annual grassland.

Swainson's Hawk

Swainson's hawk is a long-distance migrant with nesting grounds in western North America. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury *et. al.*, in prep.). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner *et. al.*, 1990). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley (County of Sacramento 2007). Nest locations are usually in close proximity (up to a 10-mile radius) to suitable foraging habitats, which include fallow fields, all types of grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops (SAIC 2012). Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water 1994).

Within the Butte County HCP/NCCP planning area, nest sites have been documented along the Sacramento River, Feather River, Butte Creek, and other riparian corridors, as well as non-riparian habitats associated with farmlands (SAIC 2012). There is one documented CNDDB record for this species within five miles of the Study Area (**Figure 4**) (CDFW 2015). This record was reported in 1998 just 2.5 miles southeast of Chico near the south end of the California State University, Chico Farm (CDFW 2015). Two Swainson's hawk adults were observed nesting in an English walnut (*Juglans regia*) tree within an orchard approximately 20 feet from the ground with adjacent wheat fields one mile to the north. There are nine CNDDB occurrences between five and ten miles of the Study Area. The most recent occurrence is from 2009 and is located approximately 9.6 miles northwest of the Study Area. The record states that a female was observed on a stick nest on a valley oak within riparian habitat that runs along Rock Creek. The male was observed foraging and bringing food to the female.

The Study Area does not provide suitable nesting habitat since it does not contain mature trees. No Swainson's hawk or sign were observed during the September 10, 2015

biological survey; however, the survey was conducted outside of the breeding and foraging season. There is a *high* potential for this species to forage in the non-native annual grassland within the Study Area.

Special-Status Bats, including Pallid Bat

California is home to several special-status bat species, including Pallid bat. Bat numbers are in decline throughout the U.S. due to loss of roosting habitat, habitat conversion, and habitat alteration. No bat species were observed roosting during the September 10, 2015 biological survey of the Study Area. The ornamental trees and Walmart building within the disturbed/developed area provide day roosting habitat and the non-native annual grassland provides foraging habitat for special-status bats. There is a *high* potential for these species to forage within the non-native annual grassland and to roost within the trees and buildings within the Study Area.

Species with a Low Potential to Occur

California Linderiella

California linderiella is not a listed species, but is identified on the CDFW Special Animal List. California linderiella is a relatively common branchiopod found in vernal pools, swales, and ephemeral freshwater habitats. Adults may be observed during the wet-season (December to May) and the cysts are present in the dry-season from June to November. There is one CNDDB occurrence documented within five miles of the Study Area (**Figure 4**) (CDFW 2015). The depressional seasonal wetland provides marginal habitat for this species given that it is shallow and has recently formed as a result of ongoing earth-moving activities associated with routine mowing practices within the non-native annual grassland. This species has a *low* potential to occur within the Study Area.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp are listed as federally threatened. Vernal pool fairy shrimp are found in vernal pools, swales, and ephemeral freshwater habitats. These species are most commonly found in grassed or mud bottomed pools or basalt flow depression pools in unplowed grasslands. The pools vary in size from over 10 hectares to only 20 square meters. There is one CNDDB occurrence documented within a preserve within five miles of the Study Area (**Figure 4**) (CDFW 2015). The depressional seasonal wetland provides marginal habitat for this species given that it is shallow, is only 0.02 acres in size, and has recently formed as a result of ongoing earth-moving activities associated with routine mowing practices within the non-native annual grassland. This species has a *low* potential to occur within the Study Area.

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp are found in natural and artificial seasonally ponded habitats including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Wetlands range from very small (2

square meters) to very large (356,253 square meters). There are six CNDDB occurrences documented for this species within five miles of the Study Area (**Figure 4**) (CDFW 2015). The depressional seasonal wetland provides marginal habitat for this species given that it is shallow and has recently formed as a result of ongoing earth-moving activities associated with routine mowing practices within the non-native annual grassland. This species has a *low* potential to occur within the Study Area.

Western Spadefoot

The western spadefoot toad is small toad that is native to California, lacks a cranial boss in between its eyes, and typically has four irregular colored stripes on its back. Members of this group of toads possess a small black wedge (spade) on the bottom surface of each hind foot, which is suspected to aid in digging. This species has been observed throughout the Central Valley and on the coast from Point Conception, south to the Mexican border. Western spadefoot breed in a variety of permanent and temporary wetlands, pools, rivers, creeks, intermittent streams, and vernal pools from January to May. They are most commonly found in valley and foothill grassland, open chaparral, and pine-oak woodland. This species spends most of the year underground (aestivation), where individuals seek refuge from desiccating weather by constructing and residing in small burrows.

Within the Butte County HCP/NCCP planning area, notes the most recent CNDDB records from 2006 along Intermittent Creek, near the intersection of Floral Avenue and Eaton Road in Chico (SAIC 2012). There are two documented CNDDB records for this species within five miles of the Study Area (**Figure 4**) (CDFW 2015). The seasonal wetland provides marginal breeding habitat and the non-native annual grassland provides marginal upland habitat for this species. This species was not observed during the September 10, 2015 biological survey of the Study Area. This species has a *low* potential to breed within the seasonal wetland or aestivate within the upland non-native annual grassland habitat in the Study Area.

5.6.3 Nesting Birds of Conservation Concern Protected under the Migratory Bird Treaty Act (MBTA) and §3503.5 Department of Fish and Game Code

Migratory birds and other birds of prey, including those identified as Birds of Conservation Concern in Table 2 in **Appendix C**, are protected under 50 CFR 10 of the MBTA and/or Section §3503.5 of the California Fish and Game Code. Migratory birds and other birds of prey have a *high* potential to nest within the non-native annual grassland and within the ornamental trees within the disturbed/developed areas within the Study Area during the nesting season. The generally accepted nesting season is from February 15 through August 31.

5.7 Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or

Section 404 of the Clean Water Act. Sensitive habitats within the Study Area include potential waters of the U.S., which includes one depressional seasonal wetland.

5.7.1 Potential Jurisdictional Waters of the U.S.

Potential jurisdictional wetlands and waters of the U.S. within the Study Area total approximately 0.02 acre and includes one depressional seasonal wetland located at the southwestern corner of the Study Area (**Figure 3**).

6.0 DISCUSSION AND RECOMMENDATIONS

Biological constraints within the Study Area include known or potential habitat for:

- Special-status plants including Ahart's paronychia (*Paronychia ahartii*), Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), woolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*), adobe lily (*Fritillaria pluriflora*), Bidwell's knotweed (*Polygonum bidwelliae*), Butte County golden clover (*Trifolium jokerstii*), depauperate milkvetch (*Astragalus pauperculus*), Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*), hogwallow starfish (*Hesperevax caulescens*), pink creamsacs (*Castilleja rubicundula* var. *rubicundula*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), round-leaved filaree (*California macrophylla*), Tehama navarretia (*Navarretia heterandra*), and veiny monardella (*Monardella venosa*);

- Burrowing owl (*Athene cunicularia*);

- Swainson's hawk (*Buteo swainsoni*);

- Pallid bat (*Antrozous pallidus*);

- Vernal pool branchiopods including California linderiella (*linderiella occidentalis*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*);

- Western spadefoot (*Spea hammondii*);

- Migratory birds and other birds of prey; and

- Sensitive habitats (potentially jurisdictional waters of the U.S.).

6.1 Plants

The non-native annual grassland within the Study Area provides habitat for the following non-listed species: Ahart's paronychia (blooms February through June), woolly meadowfoam (blooms March through June), adobe lily (blooms February through April), Bidwell's knotweed (blooms April through July), Butte County golden clover (blooms March through May), depauperate milkvetch (blooms March through June), Ferris' milk-vetch (blooms April through May), hogwallow starfish (bloom March through June), pink creamsacs (blooms April through June), Red Bluff dwarf rush (blooms March through June), round-leaved filaree (blooms March through May), Tehama navarretia (blooms April through June), and veiny monardella (blooms May through July). A qualified botanist should conduct two focused botanical surveys, one in April and one in May or June, prior to commencement of construction activities. If no special-status plants are observed, then a letter report documenting the results of the final survey should

be provided to the project proponent for their records, and no additional measures are recommended.

If any of the non-listed special-status plants occur within the Study Area, they should be avoided to the extent feasible. If the plants cannot be avoided, a mitigation plan should be prepared in consultation with the CDFW. At minimum, the mitigation plan should include locations where the plants will be transplanted in suitable habitat adjacent to the project footprint, success criteria, and monitoring activities. CDFW would need to approve the mitigation plan prior to transplantation and commencement of construction activities.

The non-native annual grassland and the seasonal wetland within the Study Area provide habitat for the federally and state endangered Butte County meadowfoam (blooms March through May). If this species is not observed during the April botanical survey identified above, then a letter report documenting the results of the final survey should be provided to the project proponent for their records, and no additional measures are recommended.

If Butte County meadowfoam individuals occur within the Study Area, they should be avoided to the extent feasible. If they cannot be avoided, then the project proponent must obtain a CESA Section 2081 (b) take permit through approval of a Habitat Conservation Plan. Measures to minimize the take and to mitigate the impacts caused by the take will be set forth in one or more attachments of the permit. Measures include, but are not limited to, purchasing credits from a mitigation bank.

6.2 Burrowing Owl

Burrowing owl has a high potential to occur within the sparse, small-sized burrows and debris stockpile within the non-native annual grassland habitat within the Study Area. A qualified biologist should conduct four protocol-level surveys during the breeding season (one site visit between February 15 and April 15 and three between April 15 and July 15, one of which should be conducted after June 15), at least three weeks apart, in accordance with the 2012 *California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation* (2012 Staff Report) (CDFW 2012). The survey area includes an approximately 500-foot (150-meter) buffer around the Study Area, where access is permitted. If the surveys are negative, then a letter report should be prepared documenting the methodology and results within two weeks following the final survey. If the surveys result in negative findings, the project proponent should conduct a take avoidance survey between 14 days and 30 days prior to commencement of construction, in accordance with the 2012 Staff Report. A letter report documenting the methodology and results should be submitted to the project proponent within two weeks following the results of the final survey for their records and no additional measures are recommended.

If burrows are observed within 500 feet of the Study Area, an impact assessment should be prepared and submitted to the CDFW, in accordance with the 2012 Staff Report. If it is determined that project activities may result in impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat, the project proponent should consult with CDFW and develop a detailed mitigation plan such that the habitat acreage, number of

burrows, and burrowing owls impacted are replaced. The mitigation plan should be based on the requirements set forth in Appendix A of the 2012 Staff Report.

6.3 Swainson's Hawk

The CDFW considers five or more vacant acres within ten miles of an active nest within the last five years to be significant foraging habitat for Swainson's hawk, the conversion of which to urban uses is considered a significant impact, in accordance with the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk in the Central Valley of California* (CDFG 1994; Staff Report). The Staff Report states that foraging habitat loss for projects located greater than five miles but less than 10 miles of an active nest tree documented within the last five years shall be mitigated at a 0.5:1 ratio. The Study Area occurs greater than five miles, but less than 10 miles of active Swainson's hawk; however, the nests were not documented within the last five years. Therefore, no mitigation is required for the removal of non-native annual grassland.

6.4 Bats

The ornamental trees within the disturbed/developed areas provide roosting habitat for special-status bats. Pre-construction surveys for special-status bat species are recommended within 14 days prior to the start of ground disturbance or tree removal. If no special-status bats are observed roosting, then a letter report documenting the results of the survey should be provided to the project proponent for their records, and no additional measures are recommended. If construction does not commence or if any trees anticipated for removal are not removed within 14 days of the pre-construction survey or halts for more than 14 days a new survey is recommended.

If bats are found, consultation with the CDFW is recommended to determine avoidance measures. Recommended avoidance measures establishing a buffer around the roost tree until it is no longer occupied. The tree should not be removed until a biologist has determined that the tree is no longer occupied by the bats.

6.5 Vernal Pool Branchiopods

The seasonal wetland provides marginal habitat for the federally-listed vernal pool fairy shrimp and vernal pool tadpole shrimp and the non-listed California linderiella. If the proposed project or future projects avoid the seasonal wetland, then no direct impacts to these species would occur. Indirect impacts to these species could occur should construction activities occur within 250 feet of the seasonal wetland. With implementation of the measures identified below, indirect impacts to the seasonal wetland, which could provide habitat for the federally-listed branchiopods, would be avoided:

- Install silt and high-visibility fencing a minimum of 50 feet from the edge of the seasonal wetland;
- Conduct a Worker Awareness Training Program prior to the start of construction;

- Have a qualified biological monitor on site during vegetation clearing and initial grading activities; and
- Develop and implement a dust control plan.

It is anticipated that the project will avoid impacts to this seasonal wetland. However, if impacts to the seasonal wetland are anticipated in the future, then the applicant can either assume presence or conduct protocol surveys for listed branchiopods in accordance with the USFWS *Survey Guidelines for the Listed Large Branchiopods* prior to any ground-disturbing activities. Protocol surveys consist of one wet-season survey and one dry-season survey (USFWS 2015b). If the applicant proposes to conduct protocol level surveys and the surveys result in negative findings of the federally listed species, then no additional measures are required so long as the USFWS accepts the negative survey results. Even if California linderiella is found, no mitigation measures are recommended since this species is not listed.

If listed branchiopods are found during protocol surveys or presence is assumed, then consultation with the USFWS through the Section 7 process will be required to determine avoidance, conservation, and mitigation measures. In accordance with Section 7 of the ESA, the Corps is required to consult with the USFWS to ensure that issuance of a 404 permit for the Proposed Action would not jeopardize the continued existence of any federally-listed species or result in adverse modification of designated critical habitat for federally-listed species. Formal consultation between the Corps and the USFWS is necessary for the issuance of any permit associated with a project that is likely to adversely affect federally-listed species. A Biological Opinion with an incidental take statement would be obtained from the USFWS. All conditions of the permits, including preservation and compensatory measures required by the USFWS would need to be implemented. At minimum, one creation credit and two preservation credits would be obtained from a USFWS-approved mitigation bank for every acre of habitat directly impacted prior to any discharge of fill material.

6.6 Western Spadefoot

Western spadefoot has a low potential to occur within the seasonal wetland and non-native annual grassland habitat within the Study Area. A qualified biologist should conduct a pre-construction survey within 14 days prior to the start of ground disturbance. If no western spadefoot are observed, then a letter report should be submitted to the project proponent for their records and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, a new survey is recommended.

If western spadefoot are found, additional avoidance measures should be implemented including, but not limited to, conducting an additional pre-construction survey within 24 hours prior to commencement of construction activities and monitoring onsite during the initial ground disturbance. If western spadefoot are found, the biologist should be onsite during initial grading. If western spadefoot toad is observed within the project footprint, all construction should temporarily halt until the biologist relocates the species to suitable habitat within the Study Area, but outside of the project footprint.

6.7 Migratory Birds and Other Birds of Prey

Migratory birds and other birds of prey, protected under 50 CFR 10 of the MBTA and/or Section 3503 of the California Fish and Game Code have the potential to nest in the non-native annual grassland and within the trees and shrubs within the non-native annual grassland, and disturbed/developed habitats. Vegetation clearing operations, including pruning or removal of the ornamental trees and shrubs, should be completed between September 1 and February 14, if feasible. If vegetation removal begins during the nesting season (February 15 to August 31), a qualified biologist should conduct a pre-construction survey for active nests. The pre-construction survey should be conducted within 14 days prior to commencement of ground-disturbing activities. If the pre-construction survey shows that there is no evidence of active nests, then a letter report should be submitted to the project proponent for their records and no additional measures are recommended. If construction does not commence within 14 days of the pre-construction survey, or halts for more than 14 days, an additional pre-construction survey is recommended.

If any active nests are located within the Study Area, an appropriate buffer zone should be established around the nests, as determined by the biologist. The biologist should mark the buffer zone with construction tape or pin flags and maintain the buffer zone until the end of breeding season or until the young have successfully fledged. Buffer zones are typically 100 feet for migratory bird nests and 250 feet for raptor nests. If active nests are found on the project site, a qualified biologist should monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. If establishing the typical buffer zone is impractical, the qualified biologist may reduce the buffer depending on the species and daily monitoring is recommended to ensure that the nest is not disturbed and no forced fledging occurs. Daily monitoring should occur until the qualified biologist determines that the nest is no longer occupied.

6.8 Sensitive Habitats

6.8.1 Potential Jurisdictional Waters of the U.S.

Potential jurisdictional waters of the U.S. within the Study Area total approximately 0.018 acres. These areas are potentially regulated by Sections 404 and 401 of the Clean Water Act. It is anticipated that the project will avoid impacts to the depressional seasonal wetland. Should the Proposed Project result in impacts to any waters of the U.S. and waters of the State, then a Section 404 Clean Water Act Permit should be obtained by Corps and a Section 401 Water Quality Certification should be obtained by the RWQCB prior to the issuance of a grading permit. Any waters of the U.S. or jurisdictional wetlands that would be lost or disturbed should be replaced or rehabilitated on a “no-net-loss” basis in accordance with the Corps mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the Corps and the RWQCB.

6.9 Summary of Avoidance and Minimization Measures

- It is anticipated that the project will avoid impacts to the depressional seasonal wetland. If the depressional seasonal wetland will be impacted by the Proposed Project, apply for appropriate permits from the Corps and the RWQCB;

- If the depressional seasonal wetland will be impacted by the Proposed Project or any future project, conduct protocol-level surveys for listed vernal pool branchiopods or assume presence and obtain a Biological Opinion from the USFWS through the Section 404 process;

- Conduct two (2) botanical surveys for special-status plants (one in April and one in May or June);

- Conduct four (4) protocol-level burrowing owl surveys during the breeding season;

- Conduct clearing and tree and shrub removal operations between September 1 and February 14 to minimize potential impacts to nesting birds;

- If construction begins or trees are anticipated for removal during the nesting season (February 15 – August 31), conduct a pre-construction survey for active bird nests within the Study Area; and

- Within 14 days prior to the initiation of construction activities, conduct a pre-construction survey for western spadefoot toad and special-status bat species.

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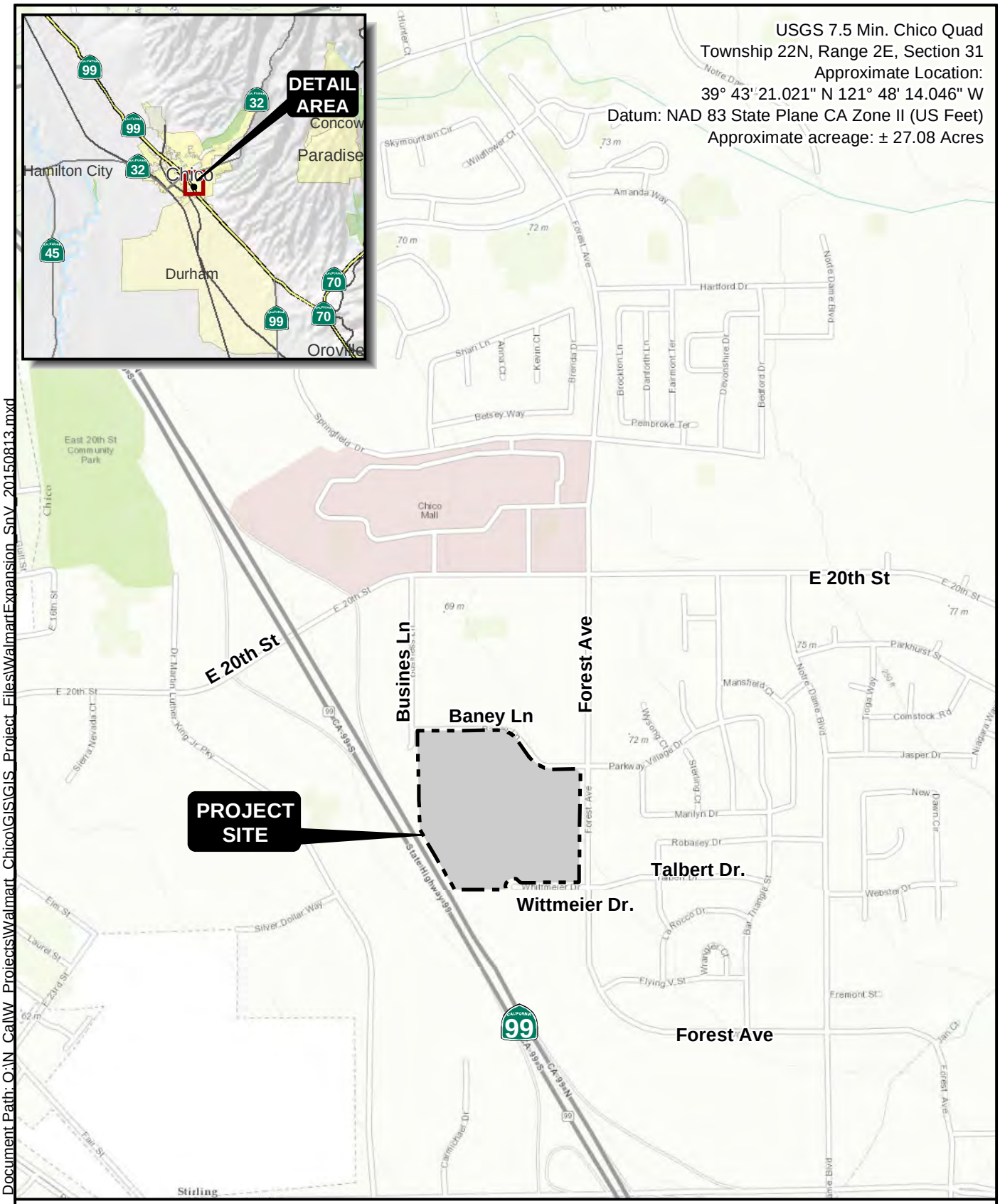

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SITE AND VICINITY

FOOTHILL ASSOCIATES
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Miles
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Drawn By: MUB
Date: 09/25/2015

FIGURE 1

WALMART STORE EXPANSION PROJECT

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SOILS

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Feet
1 inch = 200 feet

Drawn By: MUB
Date: 09/25/2015

FIGURE 2

WALMART STORE EXPANSION PROJECT

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Biological Communities

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SCALE IN FEET
1 inch = 150 feet

Date: 09/25/2015
Drawn By: MUB

FIGURE 3

WALMART STORE EXPANSION PROJECT

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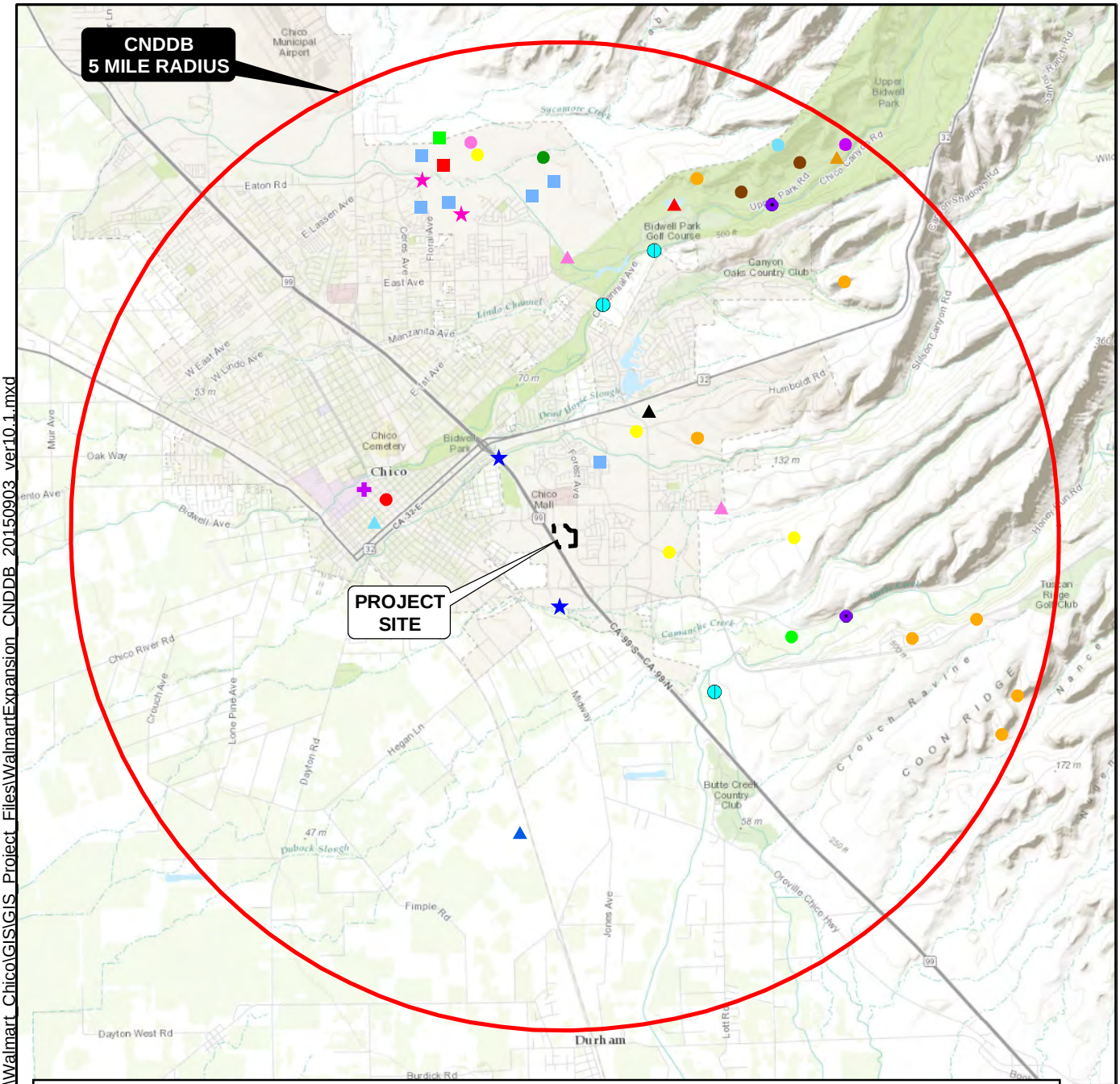

CNDDB Occurrences

- Ahart's paronychia
- big-scale balsamroot
- Butte County checkerbloom
- Butte County meadowfoam
- California beaked-rush
- flagella-like atractylocarpus
- slender-leaved pondweed
- woolly meadowfoam
- woolly rose-mallow
- California linderiella
- vernal pool fairy shrimp
- vernal pool tadpole shrimp
- valley elderberry longhorn beetle
- steelhead - Central Valley DPS
- western pond turtle
- western spadefoot
- bald eagle
- burrowing owl
- California black rail
- least Bell's vireo
- Swainson's hawk
- tricolored blackbird
- pallid bat

SOURCE: Department of Fish and Wildlife, CA Natural Diversity Database (CNDDB), 09/01/2015.
CNDDB points are centroids of polygon occurrences. These points do not represent actual point locations of occurrence.

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CNDDB

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SCALE IN MILES

Drawn By: MUB
Date: 09/22/2015

FIGURE 4

Appendix A — CDFW, CNPS, and USFWS Queries

CDFW CNDDB: *Chico, Hamlin Canyon, Llano Seco, Nelson, Nord, Ord Ferry, Paradise West, Richardson Springs* and *Shippee* Quadrangles

Wal-Mart Stores, Inc.
Foothill Associates © 2015

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (Chico (3912167) OR Hamlin Canyon (3912166) OR Llano Seco (3912158) OR Nelson (3912157) OR Nord (3912178) OR Ord Ferry (3912168) OR Paradise West (3912176) OR Richardson Springs (3912177) OR Shippee (3912156))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	503	7	None	None	G2G3	S1S2	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland
Anthicus antiochensis	Antioch Dunes anthicid beetle	Insects	IICOL49020	6	1	None	None	G1	S1	null	null	Interior dunes
Anthicus sacramento	Sacramento anthicid beetle	Insects	IICOL49010	13	2	None	None	G1	S1	null	IUCN_EN-Endangered	Interior dunes
Antrozous pallidus	pallid bat	Mammals	AMACC10010	402	1	None	None	G5	S3	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley & foothill grassland
Ardea alba	great egret	Birds	ABNGA04040	35	2	None	None	G5	S4	null	CDF_S-Sensitive | IUCN_LC-Least Concern	Brackish marsh | Estuary | Freshwater marsh | Marsh & swamp | Riparian forest | Wetland
Ardea herodias	great blue heron	Birds	ABNGA04010	133	3	None	None	G5	S4	null	CDF_S-Sensitive | IUCN_LC-	Brackish marsh | Estuary | Freshwater marsh | Marsh & swamp | Riparian forest |

											Least Concern	Wetland
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Dicots	PDFAB0F8R3	18	4	None	None	G2T1	S1	1B.1	BLM_S-Sensitive	Meadow & seep | Valley & foothill grassland | Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	1870	6	None	None	G4	S3	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland
Balsamorhiza macrolepis	big-scale balsamroot	Dicots	PDAST11061	43	2	None	None	G2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Ultramafic | Valley & foothill grassland
Branchinecta conservatio	Conservancy fairy shrimp	Crustaceans	ICBRA03010	42	5	Endangered	None	G1	S1	null	IUCN_EN-Endangered	Valley & foothill grassland | Vernal pool | Wetland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	754	26	Threatened	None	G3	S2S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland | Vernal pool | Wetland
Branchinecta mesovallensis	midvalley fairy shrimp	Crustaceans	ICBRA03150	126	1	None	None	G2	S2	null	null	Vernal pool | Wetland
Brasenia schreberi	watershield	Dicots	PDCAB01010	33	1	None	None	G5	S3	2B.3	null	Marsh & swamp | Wetland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2394	16	None	Threatened	G5	S3	null	BLM_S-Sensitive | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland
California macrophylla	round-leaved filaree	Dicots	PDGER01070	162	1	None	None	G3?	S3?	1B.1	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden | SB_SBBG-Santa Barbara Botanic Garden	Cismontane woodland | Valley & foothill grassland
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	Dicots	PDCON04012	121	4	None	None	G5T3	S3	4.2	null	Chaparral | Lower montane coniferous forest
Campylopodiella stenocarpa	flagella-like atractylocarpus	Bryophytes	NBMUS84010	3	1	None	None	G5	S1?	2B.2	null	Cismontane woodland
Cardamine pachystigma	dissected-leaved	Dicots	PDBRA0K1B1	19	4	None	None	G3G5T2Q	S2	1B.2	null	Chaparral | Lower montane coniferous forest | Ultramafic

var. dissectifolia	toothwort											
Castilleja rubicundula var. rubicundula	pink creamsacs	Dicots	PDSCR0D482	30	2	None	None	G5T2	S2	1B.2	BLM_S-Sensitive	Chaparral | Meadow & seep | Ultramafic | Valley & foothill grassland
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Dicots	PDONA050J1	31	8	None	None	G5T2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Ultramafic
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	6	None	None	G3	S2.1	null	null	Marsh & swamp | Wetland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	155	17	Threatened	Endangered	G5T3Q	S1	null	BLM_S-Sensitive | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Riparian forest
Delphinium recurvatum	recurved larkspur	Dicots	PDRAN0B1J0	96	1	None	None	G3	S3	1B.2	BLM_S-Sensitive	Chenopod scrub | Cismontane woodland | Valley & foothill grassland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	271	19	Threatened	None	G3T2	S2	null	null	Riparian scrub
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1146	6	None	None	G3G4	S3	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland
Eriogonum umbellatum var. ahartii	Ahart's buckwheat	Dicots	PDPGN086UY	28	1	None	None	G5T2	S2	1B.2	BLM_S-Sensitive | USFS_S-Sensitive	Cismontane woodland | Ultramafic
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	293	4	None	None	G5T4	S3S4	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | WBWG_H-High Priority	Chaparral | Cismontane woodland | Coastal scrub | Valley & foothill grassland
Euphorbia hooveri	Hoover's spurge	Dicots	PDEUP0D150	29	2	Threatened	None	G2	S2	1B.2	null	Vernal pool | Wetland
Falco peregrinus	American										CDF_S-Sensitive | CDFW_FP-Fully	

anatum	peregrine falcon	Birds	ABNKD06071	38	2	Delisted	Delisted	G4T4	S3S4	null	Protected | USFWS_BCC-Birds of Conservation Concern	null
Fritillaria eastwoodiae	Butte County fritillary	Monocots	PMLIL0V060	235	10	None	None	G3Q	S3	3.2	USFS_S-Sensitive	Chaparral | Cismontane woodland | Lower montane coniferous forest | Ultramafic
Fritillaria pluriflora	adobe-lily	Monocots	PMLIL0V0F0	107	7	None	None	G3	S3	1B.2	BLM_S-Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral | Cismontane woodland | Ultramafic | Valley & foothill grassland
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	Riparian	CTT61410CA	56	19	None	None	G2	S2.1	null	null	Riparian forest
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	Riparian	CTT61420CA	68	15	None	None	G2	S2.2	null	null	Riparian forest
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	Riparian	CTT61430CA	33	8	None	None	G1	S1.1	null	null	Riparian forest
Great Valley Willow Scrub	Great Valley Willow Scrub	Riparian	CTT63410CA	18	7	None	None	G3	S3.2	null	null	Riparian scrub
Haliaeetus leucocephalus	bald eagle	Birds	ABNKC10010	318	2	Delisted	Endangered	G5	S2	null	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Lower montane coniferous forest | Oldgrowth
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Dicots	PDMAL0H0R3	173	15	None	None	G5T2	S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Freshwater marsh | Marsh & swamp | Wetland
Imperata brevifolia	California satintail	Monocots	PMPOA3D020	31	2	None	None	G3	S3	2B.1	SB_SBBG-Santa Barbara Botanic Garden | USFS_S-Sensitive	Chaparral | Coastal scrub | Meadow & seep | Mojavean desert scrub | Riparian scrub | Wetland
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Monocots	PMJUN011L2	56	2	None	None	G2T2	S2	1B.1	BLM_S-Sensitive | USFS_S-Sensitive	Chaparral | Cismontane woodland | Meadow & seep | Valley & foothill grassland | Vernal pool | Wetland
											CDFW_SSC-Species of	

Lanius ludovicianus	loggerhead shrike	Birds	ABPBR01030	97	1	None	None	G4	S4	null	Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest | Desert wash | Joshua tree woodland | Mojavean desert scrub | Pinon & juniper woodlands | Riparian woodland | Sonoran desert scrub
Lasionycteris noctivagans	silver-haired bat	Mammals	AMACC02010	138	3	None	None	G5	S3S4	null	IUCN_LC-Least Concern | WBWG_M-Medium Priority	Lower montane coniferous forest | Oldgrowth | Riparian forest
Lasiurus blossevillii	western red bat	Mammals	AMACC05060	119	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Cismontane woodland | Lower montane coniferous forest | Riparian forest | Riparian woodland
Lasiurus cinereus	hoary bat	Mammals	AMACC05030	235	4	None	None	G5	S4	null	IUCN_LC-Least Concern | WBWG_M-Medium Priority	Broadleaved upland forest | Cismontane woodland | Lower montane coniferous forest | North coast coniferous forest
Laterallus jamaicensis coturniculus	California black rail	Birds	ABNME03041	241	3	None	Threatened	G3G4T1	S1	null	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_NT-Near Threatened | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of Conservation Concern	Brackish marsh | Freshwater marsh | Marsh & swamp | Salt marsh | Wetland
Lepidurus packardi	vernal pool tadpole shrimp	Crustaceans	ICBRA10010	316	29	Endangered	None	G3	S2S3	null	IUCN_EN-Endangered	Valley & foothill grassland | Vernal pool | Wetland
Limnanthes floccosa ssp. californica	Butte County meadowfoam	Dicots	PDLIM02042	21	19	Endangered	Endangered	G4T1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Valley & foothill grassland | Vernal pool | Wetland
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Dicots	PDLIM02043	54	5	None	None	G4T4	S3	4.2	null	Chaparral | Cismontane woodland | Valley & foothill grassland | Vernal pool | Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	425	14	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
											BLM_S-	

Monardella venosa	veiny monardella	Dicots	PDLAM18082	4	1	None	None	G1	S1	1B.1	Sensitive | SB_RSABG-Rancho Santa Ana Botanic Garden	Cismontane woodland | Valley & foothill grassland
Myotis yumanensis	Yuma myotis	Mammals	AMACC01020	260	3	None	None	G5	S4	null	BLM_S-Sensitive | IUCN_LC-Least Concern | WBWG_LM-Low-Medium Priority	Lower montane coniferous forest | Riparian forest | Riparian woodland | Upper montane coniferous forest
Northern Basalt Flow Vernal Pool	Northern Basalt Flow Vernal Pool	Herbaceous	CTT44131CA	28	1	None	None	G3	S2.2	null	null	Vernal pool | Wetland
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	Herbaceous	CTT44110CA	126	2	None	None	G3	S3.1	null	null	Vernal pool | Wetland
Northern Volcanic Mud Flow Vernal Pool	Northern Volcanic Mud Flow Vernal Pool	Herbaceous	CTT44132CA	7	2	None	None	G1	S1.1	null	null	Vernal pool | Wetland
Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	Fish	AFCHA0209K	31	4	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic | Sacramento/San Joaquin flowing waters
Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	Fish	AFCHA0205A	13	2	Threatened	Threatened	G5	S1	null	AFS_TH-Threatened	Aquatic | Sacramento/San Joaquin flowing waters
Pandion haliaetus	osprey	Birds	ABNKC01010	482	4	None	None	G5	S4	null	CDF_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern	Riparian forest
Paronychia ahartii	Ahart's paronychia	Dicots	PDCAR0L0V0	58	3	None	None	G3	S3	1B.1	BLM_S-Sensitive	Cismontane woodland | Valley & foothill grassland | Vernal pool | Wetland
Phrynosoma blainvillii	coast horned lizard	Reptiles	ARACF12100	728	1	None	None	G3G4	S3S4	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Chaparral | Cismontane woodland | Coastal bluff scrub | Coastal scrub | Desert wash | Pinon & juniper woodlands | Riparian scrub | Riparian woodland | Valley & foothill grassland
Rhynchospora californica	California beaked-rush	Monocots	PMCYP0N060	9	4	None	None	G1	S1	1B.1	BLM_S-Sensitive	Freshwater marsh | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Wetland
Rhynchospora capitellata	brownish beaked-rush	Monocots	PMCYP0N080	19	1	None	None	G5	S1	2B.2	null	Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Upper montane coniferous forest | Wetland
Riparia riparia	bank swallow	Birds	ABPAU08010	296	25	None	Threatened	G5	S2	null	BLM_S-Sensitive | IUCN_LC-	Riparian scrub | Riparian woodland

											Least Concern	
Setophaga petechia	yellow warbler	Birds	ABPBX03010	50	1	None	None	G5	S3S4	null	CDFW_SSC-Species of Special Concern | USFWS_BCC-Birds of Conservation Concern	Riparian forest | Riparian scrub | Riparian woodland
Sidalcea robusta	Butte County checkerbloom	Dicots	PDMAL110P0	34	29	None	None	G2	S2	1B.2	BLM_S-Sensitive	Chaparral | Cismontane woodland
Spea hammondii	western spadefoot	Amphibians	AAABF02020	425	3	None	None	G3	S3	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Cismontane woodland | Coastal scrub | Valley & foothill grassland | Vernal pool | Wetland
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Monocots	PMPOT03091	21	1	None	None	G5T5	S3	2B.2	null	Marsh & swamp | Wetland
Taxidea taxus	American badger	Mammals	AMAJF04010	478	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog & fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie | Coastal scrub | Desert dunes | Desert wash | Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | Ione formation | Joshua tree woodland | Limestone | Lower montane coniferous forest | Marsh & swamp | Meadow & seep | Mojavean desert scrub | Montane dwarf scrub | North coast coniferous forest | Oldgrowth | Pavement plain | Redwood | Riparian forest | Riparian scrub | Riparian woodland | Salt marsh | Sonoran desert scrub | Sonoran thorn woodland | Ultramafic | Upper montane coniferous forest | Upper Sonoran scrub | Valley & foothill grassland
Thamnophis gigas	giant garter snake	Reptiles	ARADB36150	345	16	Threatened	Threatened	G2	S2	null	IUCN_VU-Vulnerable	Marsh & swamp | Riparian scrub | Wetland
Trifolium jokerstii	Butte County golden clover	Dicots	PDFAB40310	11	5	None	None	G2	S2	1B.2	BLM_S-Sensitive | SB_USDA-US Dept of Agriculture	Valley & foothill grassland | Vernal pool | Wetland
Tuctoria greenei	Greene's tuctoria	Monocots	PMPOA6N010	48	5	Endangered	Rare	G1	S1	1B.1	null	Vernal pool | Wetland
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	467	2	Endangered	Endangered	G5T2	S2	null	IUCN_NT-Near Threatened | NABCI_YWL-	Riparian forest | Riparian scrub | Riparian woodland

											Yellow Watch List	
Wolffia brasiliensis	Brazilian watermeal	Monocots	PMLEM03020	6	3	None	None	G5	S1	2B.3	null	Marsh & swamp | Wetland

CNPS Inventory of Rare and Endangered: *Chico, Hamlin Canyon, Llano Seco, Nelson, Nord, Ord Ferry, Paradise West, Richardson Springs* and *Shippee* Quadrangles

Wal-Mart Stores, Inc.
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CNPS California Native Plant Society

Rare and Endangered Plant Inventory

Plant List

40 matches found. Click on scientific name for details

Search Criteria

Found in 9 Quads around 39121F7

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	4.3	S4	G4
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	1B.1	S1	G2T1
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual / perennial herb	4.2	S4	G5
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb	2B.3	S3	G5
Bryum chryseum	brassy bryum	Bryaceae	moss	4.3	S3	G5
California macrophylla	round-leaved filaree	Geraniaceae	annual herb	1B.2	S3?	G3?
Calycadenia oppositifolia	Butte County calycadenia	Asteraceae	annual herb	4.2	S3	G3
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	Convolvulaceae	perennial rhizomatous herb	4.2	S3	G5T3
Campylopodiella stenocarpa	flagella-like atractylocarpus	Dicranaceae	moss	2B.2	S1?	G5
Cardamine pachystigma var. dissectifolia	dissected-leaved toothwort	Brassicaceae	perennial rhizomatous herb	1B.2	S2	G3G5T2Q
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G5T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	4.2	S3	G3T3
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	1B.2	S2	G5T2
Claytonia palustris	marsh claytonia	Montiaceae	perennial herb	4.3	S4	G4
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	1B.2	S3	G3
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	1B.2	S2	G2
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	3.2	S3	G3Q
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	1B.2	S3	G3

Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	4.2	S3	G3
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb	1B.2	S2	G5T2
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2B.1	S3	G3
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Juncaceae	annual herb	1B.1	S2	G2T2
Lilium humboldtii ssp. humboldtii	Humboldt lily	Liliaceae	perennial bulbiferous herb	4.2	S3	G4T3
Limnanthes floccosa ssp. californica	Butte County meadowfoam	Limnanthaceae	annual herb	1B.1	S1	G4T1
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	4.2	S3	G4T4
Mimulus glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	4.3	S3	G3
Monardella venosa	veiny monardella	Lamiaceae	annual herb	1B.1	S1	G1
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	4.3	S4	G4
Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Polemoniaceae	annual herb	4.2	S3	G4T3
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	1B.1	S3	G3
Polygonum bidwelliae	Bidwell's knotweed	Polygonaceae	annual herb	4.3	S4	G4
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	1B.1	S1	G1
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	2B.2	S1	G5
Sidalcea robusta	Butte County checkerbloom	Malvaceae	perennial rhizomatous herb	1B.2	S2	G2
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	2B.2	S3	G5T5
Trifolium jokerstii	Butte County golden clover	Fabaceae	annual herb	1B.2	S2	G2
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	1B.1	S1	G1
Wolffia brasiliensis	Brazilian watermeal	Araceae	perennial herb	2B.3	S1	G5

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USFWS List for *Planning and Conservation (IPaC) Trust Resource Report: Butte County*

IPaC

My project Butte County, California

U.S. Fish & Wildlife Service

This project potentially impacts **26 resources** managed or regulated by the U.S. Fish & Wildlife Service

Endangered species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

Amphibians

California Red-legged Frog Rana draytonii

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Crustaceans

Conservancy Fairy Shrimp Branchinecta conservatio

Endangered (A species in danger of extinction throughout all or a significant portion of its range)

Vernal Pool Fairy Shrimp Branchinecta lynchi

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Vernal Pool Tadpole Shrimp Lepidurus packardi

Endangered (A species in danger of extinction throughout all or a significant portion of its range)

Fishes

Delta Smelt Hypomesus transpacificus

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Steelhead Oncorhynchus (=Salmo) mykiss

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Flowering Plants

Butte County Meadowfoam Limnanthes floccosa ssp. californica

Endangered (A species in danger of extinction throughout all or a significant portion of its range)

Insects

Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Reptiles

Giant Garter Snake Thamnophis gigas

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Critical habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

THERE IS NO CRITICAL HABITAT WITHIN THIS PROJECT AREA

Migratory birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

Bald Eagle Haliaeetus leucocephalus

Year-round

Black Rail Laterallus jamaicensis

Season: Breeding

Brewer's Sparrow Spizella breweri

Season: Breeding

Burrowing Owl Athene cunicularia

Year-round

Calliope Hummingbird Stellula calliope

Season: Breeding

Fox Sparrow Passerella iliaca

Year-round

Lewis's Woodpecker Melanerpes lewis

Season: Wintering

Loggerhead Shrike Lanius ludovicianus

Year-round

Mountain Plover Charadrius montanus

Season: Wintering

Nuttall's Woodpecker Picoides nuttallii

Year-round

Oak Titmouse Baeolophus inornatus

Year-round

Peregrine Falcon Falco peregrinus

Season: Wintering

Short-eared Owl Asio flammeus

Season: Wintering

Snowy Plover Charadrius alexandrinus

Season: Breeding

Tricolored Blackbird Agelaius tricolor

Year-round

Williamson's Sapsucker Sphyrapicus thyroideus

Year-round

Yellow-billed Magpie Pica nuttalli

Year-round

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss

the authorization process.

THERE ARE NO REFUGES WITHIN THIS PROJECT AREA

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

THERE ARE NO WETLANDS IDENTIFIED IN THIS PROJECT AREA

Appendix B — Plants and Wildlife Observed within the Study Area

Appendix B

Plants Observed within the Walmart Store No. 2044-09 Expansion Project Study Area

Family	Scientific Name	Common Name	*
Apiaceae	*Eryngium castrense*	Great Valley button celery	N
Asteraceae	*Cichorium intybus*	Chicory	--
Asteraceae	*Centromadia fitchii*	Spikeweed	N
Convolvulaceae	*Convolvulus arvensis*	Bindweed, Orchard Morningglory	--
Elymus	*Elymus caput-medusae*	Medusa head	I
Euphorbiaceae	*Croton setigerus*	Dove weed	N
Fagaceae	*Quercus lobata*	Valley oak, sapling	N
Geraniaceae	*Erodium botrys*	Storksbill, filaree	I
Onagraceae	*Epilobium ciliatum*	Willowherb	N
Poaceae	*Avena fatua*	Wild oat	I
Poaceae	*Sorghum halepense*	Johnsongrass	--
Poaceae	*Deschampsia danthonioides*	Annual hairgrass	N
Poaceae	*Briza minor*	Annual quaking grass, small quaking grass	I
Poaceae	*Festuca perennis*	Rye grass	I
Poaceae	*Hordeum marinum*	Mediterranean barley	I
Poaceae	*Hordeum murinum*	Wall barley	I
Polygonaceae	*Rumex crispus*	Curly dock	I
Vicia	*Vicia villosa*	Hairy vetch	--
Note: N = Native	**I = Invasive**		

Appendix B

Wildlife Observed within the Walmart Store No. 2044-09 Expansion Project Study Area

Scientific Name	Common Name
Birds	
Aphelocoma californica	Western scrub jay
Corvus brachyrhynchos	American crow
Euphagus cyanocephalus	Brewer's blackbird
Reptiles	
Sceloporus occidentalis	Western fence lizard

Appendix C — Regionally Occurring Listed and Special-Status Species

Table 1 — Regionally Occurring Special-Status Species

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Plants				
Adobe-lily *Fritillaria pluriflora*	--; --; --; 1B	Perennial bulbiferous herb found on adobe within chaparral, cismontane woodland, and valley and foothill grassland from 70 to 705 meters.	Blooming period: February – April	**Low**; the non-native annual grassland provides suitable habitat for this species.
Adobe navarretia *Navarretia nigelliformis* ssp. *nigelliformis*	--; --; --; 4	Annual herb found on clay and sometimes serpentinite within vernally mesic valley and foothill grassland and sometimes vernal pools from 100 to 1,000 meters.	Blooming period: April – June	**None**; no suitable habitat occurs within the Study Area that supports this species.
Ahart's paronychia *Paronychia ahartii*	--; --; --; 1B	Annual herb found in cismontane woodland, vernal pools, and valley and foothill grassland from 30 to 510 meters.	Blooming period: February – June	**High**; the non-native annual grassland provides suitable habitat for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Bidwell's knotweed *Polygonum bidwelliae*	--; -- ;--; 4	Annual herb found on volcanic sites within chaparral, cismontane woodland, and valley and foothill grassland from 60 to 1,200 meters.	Blooming period: April – July	**Low**; the non-native annual grassland provides suitable habitat for this species.
Big-scale balsamroot *Balsamorhiza macrolepis*	--; --; --; 1B	Perennial herb found in chaparral, cismontane woodland, valley and foothill grassland, and sometimes serpentinite from 90 to 1,555 meters.	Blooming period: March – June	**None**; the non-native annual grassland provides suitable habitat; however, the Study Area is outside of the elevation range for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Brassy bryum *Bryum chryseum*	--; --; --; 4	Moss found in chaparral openings, cismontane woodland, and valley and foothill grassland from 50 to 600 meters.	Blooming period: N/A	**None**; although the non-native annual grassland provides habitat, this species was not observed during the September 10, 2015 biological survey of the Study Area.
Brazilian watermeal *Wolffia brasiliensis*	--; -- ;--; 2B	Perennial herb found in marshes and swamps as well as assorted freshwater from 20 to 100 meters.	Blooming period: April – December	**None**; **n**o suitable habitat occurs within the Study Area that supports this species.
Brownish beaked-rush *Rhynchospora capitellata*	--; -- ;--; 2B	Perennial herb found on mesic sites within lower montane coniferous forest; meadows and seeps, marshes and swamps; and upper montane coniferous forest from 45 to 2,000 meters.	Blooming period: July – August	**None**; no suitable habitat occurs within the Study Area that supports this species.
Butte County calycadenia *Calycadenia oppositifolia*	--; --; --; 4	Annual herb found on volcanic, granitic, or serpentinite within chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland from 90 to 945 meters.	Blooming period: April – July	**None**; the non-native annual grassland provides suitable habitat; however, the Study Area is outside of the elevation range for this species.
Butte County checkerbloom *Sidalcea robusta*	--; -- ;--; 1B	Perennial rhizomatous herb found in chaparral and cismontane woodland from 90 to 1,600 meters.	Blooming period: April – June	**None**; no suitable habitat occurs within the Study Area that supports this species. Seven CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Butte County fritillary *Fritillaria eastwoodiae*	--; --; --; 3.2	Perennial bulbiferous herb found occasionally in serpentinite within chaparral, cismontane woodland, and lower montane coniferous forest (openings) from 50 to 1,500 meters.	Blooming period: March – June	**None**; no suitable habitat occurs within the Study Area that supports this species.
Butte County golden clover *Trifolium jokerstii*	--; -- ;--; 1B	Annual herb found on mesic sites in valley and foothill grassland and in vernal pools from 50 to 385 meters.	Blooming period: March – May	**Low**; the non-native annual grassland provides suitable habitat for this species.
Butte County meadowfoam *Limnanthes floccosa* ssp. *californica*	FE; CE; --; 1B	Annual herb found in vernal pools and valley and foothill grassland (mesic) from 46 to 930 meters.	Blooming period: March – May	**High**; the non-native annual grassland provides suitable habitat for this species. Three CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Butte County morning-glory *Calystegia atriplicifolia* ssp. *buttensis*	--; --; --; 4.2	Perennial rhizomatous herb found on rocky areas and sometimes roadside, in chaparral and lower montane coniferous forest from 565 to 1,524 meters.	Blooming period: May – July.	**None**; no suitable habitat occurs within the Study Area that supports this species.
California beaked-rush *Rhynchospora californica*	--; -- ;--; 1B	Perennial rhizomatous herb found in bogs and fens; lower montane coniferous forest; meadows and seeps; and freshwater marshes and swamps from 45 to 1,010 meters.	Blooming period: May – July	**None**; no suitable habitat occurs within the Study Area that supports this species. Two CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
California satintail *Imperata brevifolia*	--; -- ;--; 2B	Perennial rhizomatous herb found on mesic sites in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub from 0 to 1,215 meters.	Blooming period: September – May	**None**; no suitable habitat occurs within the Study Area that supports this species.
Depauperate milk-vetch *Astragalus pauperculus*	--; --; --; 4	Annual rhizomatous herb often found on vernally mesic, volcanic substrate within chaparral, cismontane woodland, and valley and foothill grassland from 60 to 1,215 meters.	Blooming period: March – June	**Low**; the non-native annual grassland provides suitable habitat for this species.
Dissected-leaved toothwort *Cardamine pachystigma* var. *dissectifolia*	--; --; --; 1B	Perennial rhizomatous herb found on serpentinite and rocky areas in chaparral and lower montane coniferous forest from 255 to 2,100 meters.	Blooming period: February – May.	**None**; no suitable habitat occurs within the Study Area that supports this species.
Ferris' milk-vetch *Astragalus tener* var. *ferrisiae*	--; --; --; 1B	Annual herb found in meadows and seeps, which are occasionally vernally mesic, and valley and foothill grassland, which are occasionally on subalkaline flats, from 2 to 75 meters.	Blooming period: April – May	**Low**; the non-native annual grassland provides suitable habitat for this species.
Flagella-like atractylocarpus *Campylopodiella stenocarpa*	--; --; --; 2B	Moss found in cismontane woodland from 100 to 500 meters.	Blooming period: N/A	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Greene's tuctoria *Tuctoria greenei*	FE; CR ;--; 1B	Annual herb found in vernal pools from 30 to 1,070 meters.	Blooming period: May – September	**None**; no suitable habitat occurs within the Study Area that supports this species.
Hairy Orcutt grass *Orcuttia pilosa*	FE; CE ;--; 1B	Annual herb found in vernal pools from 26 to 200 meters.	Blooming period: May – September	**None**; no suitable habitat occurs within the Study Area that supports this species.
Hogwallow starfish *Hesperevax caulescens*	--; --; --; 4	Annual herb found within valley and foothill grassland on mesic and clay sites; and shallow vernal pools from 0 to 505 meters.	Blooming period: March – June	**Low**; the non-native annual grassland provides suitable habitat for this species.
Hoover's spurge *Euphorbia hooveri*	FT; --; --; 1B	Annual herb found in vernal pools from 25 to 250 meters.	Blooming period: July – October	**None**; no suitable habitat occurs within the Study Area that supports this species.
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*	--; --; --; 4	Perennial bulbiferous herb found in openings of chaparral, cismontane woodland, and lower montane coniferous forest from 90 to 1,280 meters.	Blooming period: May – July	**None**; no suitable habitat occurs within the Study Area that supports this species.
Marsh claytonia *Claytonia palustris*	--; --; --; 4	Perennial herb found in meadows and seeps (mesic); marshes and swamps; and upper montane coniferous forest from 1,000 to 2,500 meters.	Blooming period: May – October	**None**; no suitable habitat occurs within the Study Area that supports this species.
Mexican mosquito fern *Azolla microphylla*	--; --; --; 4	Annual herb/perennial found often in marshes and swamps (ponds, slow water) from 3 to 100 meters.	Blooming period: August	**None**; no suitable habitat occurs within the Study Area that supports this species.
Parry's rough tarplant *Centromadia parryi* ssp. *rudis*	--; --; --; 4	Annual herb found on alkaline, vernally mesic, seeps, and sometimes roadsides within vernal pools and valley and foothill grassland from 0 to 100 meters.	Blooming period: May – October	**None**; no suitable habitat occurs within the Study Area that supports this species, however, the field survey was conducted during the bloom period for this species and it was not identified within the Study Area.
Pink creamsacs *Castilleja rubicundula* var. *rubicundula*	--; --; --; 1B	Annual herb, which is occasionally hemi-parasitic, found on serpentinite in chaparral openings, cismontane woodland, meadows and sweeps, and valley and foothill grassland from 20 to 910 meters.	Blooming period: April – June	**Low**; the non-native annual grassland provides suitable habitat for this species.
Recurved larkspur *Delphinium recurvatum*	--; --; --; 1B	Perennial herb found on alkaline sites within chenopod scrub, cismontane woodland, and valley and foothill grassland from 3 to 790 meters.	Blooming period: March – June	**None**; the Study Area does not contain the soils required for this species.
Red Bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	--; -- ;--; 1B	Annual herb found on vernally mesic sites on chaparral, cismontane woodland, meadows and seeps, vernal pools, and valley and foothill grassland from 35 to 1,250 meters.	Blooming period: March – June	**Low.** The non-native annual grassland provides suitable habitat for this species.
Round-leaved filaree *California macrophylla*	--; --; --; 1B	Annual herb found on clay in cismontane woodland and valley and foothill grassland from 15 to 1,200 meters.	Blooming period: March – May	**Low**; the non-native annual grassland habitat within the Study Area provides habitat for this species.
Shield-bracted monkeyflower *Mimulus glaucescens*	--; --; --; 4	Annual herb found on serpentinite seeps, and sometimes on streambanks, in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from 60 to 1,240 meters.	Blooming period: February – September	**None**; the non-native annual grassland within the Study Area may support this species, however, the field survey was conducted during the bloom period for this species and it was not identified within the Study Area.
Slender-leaved pondweed *Stuckenia filiformis* ssp. *alpina*	--; -- ;--; 2B	Perennial rhizomatous herb found within marshes and swamps and assorted shallow freshwater from 300 to 2,150 meters.	Blooming period: May – July	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Tehama navarretia *Navarretia heterandra*	--; -- ;--; 4	Annual herb found within vernal pools and valley and foothill grassland from 30 to 1,010 meters.	Blooming period: April – June	**Low**; the non-native annual grassland provides suitable habitat for this species.
Veiny monardella *Monardella venosa*	--; -- ;--; 1B	Annual herb found on heavy clay within cismontane woodland and valley and foothill grassland from 60 to 410 meters.	Blooming period: May – July	**Low**; the non-native annual grassland habitat within the Study Area provides habitat for this species.
Watershield *Brasenia schreberi*	--; --; --; 2B	Perennial rhizomatous herb found in marshes and swamps in freshwater from 30 to 2,200 meters.	Blooming period: June – September	**None**; no suitable habitat occurs within the Study Area that supports this species.
White-stemmed clarkia *Clarkia gracilis* ssp. *albicaulis*	--; --; --; 1B	Annual herb found sometimes on serpentinite sites, within chaparral and cismontane woodland from 245 to 1,085 meters.	Blooming period: May – July	**None**; no suitable habitat occurs within the Study Area that supports this species.
Woolly meadowfoam *Limnanthes floccosa* ssp. *floccosa*	--; -- ;--; 4	Annual herb found on vernally mesic substrate within chaparral, cismontane woodland, vernal pools, and valley and foothill grassland from 60 to 1,335 meters.	Blooming period: March – June	**High.** The non-native annual grassland provides suitable habitat for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	--; --; --; 1B	Perennial rhizomatous herb found often in riprap onsides of levees and in freshwater marshes and swamps from 0 to 120 meters.	Blooming period: June – September	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Wildlife				
Invertebrates				
California linderiella *Linderiella occidentalis*	--; CSA; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season: December to May (adults) Dry season: June to November (cysts)	**Low**; the shallow, recently formed seasonal wetland provides marginal habitat for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Conservancy fairy shrimp *Branchinecta conservatio*	FE; --; --; --	Inhabits large (42,787 to 80,729 square feet; 3,975 to 7,500 square meters) to very large (146,970 to 326,824 square feet; 13,654 to 30,363 square meters) clay-bottomed vernal pools and vernal lakes (USFWS 1992).	Wet season: November to April (adults) Dry season: May to October (cysts)	**No**; the seasonal wetland is not large enough to support this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT; -- ; --; --	Host plant is elderberry (Sambucus sp.) shrubs usually associated with riparian areas.	Adults emerge in spring until June. Exit holes visible year–round.	**None**; no suitable habitat occurs within the Study Area that supports this species. Three CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Vernal pool fairy shrimp *Branchinecta lynchi*	FT; --; --; --	Inhabits vernal pools and similar ephemeral wetlands. Most commonly found in grassed or mud bottomed pools or basalt flow depression pools in unplowed grasslands (Eng et al. 1990). The pools vary in size from over 10 ha to only 20 square meters..	Wet season: December to May (adults) Dry season: June to November (cysts)	**Low**; the shallow, recently formed seasonal wetland provides marginal habitat for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Vernal pool tadpole shrimp *Lepidurus packardi*	FE; --; --; --	Found in natural and artificial seasonally ponded habitats including vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Wetlands range from very small (2 square meters) to very large (356,253 square meters).	Wet season: November to April (adults) Dry season: May to October (cysts)	**Low**; the shallow, recently formed seasonal wetland provides marginal habitat for this species. Six CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Amphibians/Reptiles				
California red-legged frog *Rana aurora draytonii*	FT; --; --; --	Typically found in or within 300 feet of aquatic habitat. Breed in quiet, slow moving streams, ponds, or marsh communities with emergent vegetation or dense riparian vegetation. May disperse up to two miles between suitable aquatic habitat.	Aquatic surveys of breeding sites between January and September. Optimally after April 15.	**None**; no suitable habitat occurs within the Study Area that supports this species.
Coast (California) horned lizard *Phrynosoma blainvillii*	--;CSC; --; --	Inhabits open areas of sandy soils and low vegetation in valleys, foothills, and semiarid mountains. Found in grassland, coniferous forests, woodlands, and chaparral, with open areas and patches of loose sandy soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	Year – round (excluding extended periods of low temperatures or extreme heat)	**None**; no suitable habitat occurs within the Study Area that supports this species.
Giant garter snake *Thamnophis gigas*	FT; CT; --; --	Found in agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November – mid March). This species is known from Sacramento, Sutter, Butte, Colusa, and Glenn counties.	Active outside of dormancy period November – mid March	**None**; no suitable habitat occurs within the Study Area that supports this species.
Western pond turtle *Emys marmorata*	--; CSC; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Active outside of dormancy period November – February	**None**; no suitable habitat occurs within the Study Area that supports this species. Two CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Western spadefoot *Spea hammondii*	--; CSC; --; --	Found typically in washes, river floodplains, alluvial fans, playas and alkali flats in areas that contain sandy or gravelly soils (aestivation) within open vegetation and short grasses of valley and foothill grassland, open chaparral and pine-oak woodland. Requires rivers, creeks, pools of intermittent streams, vernal pools or temporary rain pools that hold water for at least 3 weeks, for breeding.	Year – round	**Low**; the seasonal wetland and the non-native annual grassland within the Study Area provide marginal breeding and upland habitat for this species. Two CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Fish				
Delta smelt *Hypomesus transpacificus*	FT; CE; --; --	Found in shallow fresh or brackish water tributary to the Delta ecosystem; spawns in freshwater sloughs and channel edge waters.	Spawn December – July. Present year – round in the Delta.	**None**; no suitable habitat occurs within the Study Area that supports this species.
Central Valley steelhead *Oncorhynchus mykiss*	FT; --; --; --	Inhabits rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems.	Spawn in winter and spring.	**None**; no suitable habitat occurs within the Study Area that supports this species. Two CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).
Central Valley Chinook salmon – spring run *Oncorhynchu tshawytscha*	FT; --; --; --	Inhabits rivers and streams tributary to the Sacramento-San Joaquin Rivers.	Spawn in spring.	**None**; no suitable habitat occurs within the Study Area that supports this species.
Birds				
Bald eagle *Haliaeetus leucocephalus*	FD; CFP, CE; --; --	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.	Winter	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Bank swallow *Riparia riparia*	--; CT; --; --	Nests in riverbanks and forages over riparian areas and adjacent uplands.	April – July	**None**; no suitable habitat occurs within the Study Area that supports this species.
Burrowing owl *Athene cunicularia*	--; CSC; --; -- (burrowing sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.	Year – round; Breeding season surveys between March and August.	**High**; the non-native annual grassland habitat provides suitable nesting habitat for this species. Two CNDDB occurrences are documented within 5 miles of the Study Area (CDFW 2015).

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
California black rail *Laterallus jamaicensis coturniculus*	--; CT; --; --	Saltwater, brackish, and freshwater marshes. This species is known from Alameda, Butte, Contra Costa, Imperial, Los Angeles, Marin, Napa, Nevada, Orange, Placer, Sacramento, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Sutter, and Yuba counties, in California.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Least Bell's vireo *Iereo bellii pusillus*	FE; CE; --; --	Found in riparian, shrubland/chaparral and hardwood woodland communities, often found in dense brush, mesquite, willow-cottonwood forest, streamside thickets and scrub oak in arid regions but often near water. Often nests in shrubs or low trees.	March – September (November)	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Swainson's hawk *Buteo swainsoni*	--; CT; --; --	Nest peripherally to Valley riparian systems and within lone trees or groves of trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees, ranging in height from 41 to 82 feet, are the most commonly used nest trees in the Central Valley. This species is known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Inyo, Kern, Kings, Lassen, Los Angeles, Madera, Merced, Modoc, Mono, Napa, Placer, Plumas, Sacramento, San Bernardino, San Joaquin, San Luis Obispo, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties.	March – October	**High**; although there are no trees that would provide suitable nesting habitat, the non-native annual grassland within the Study Area provides suitable foraging habitat for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Tricolored blackbird *Agelaius tricolor*	--; CSC; --; -- (nesting colony)	Nests in dense blackberry, cattail, tules, bulrushes, sedges, willow, or wild rose within freshwater marshes. Nests in large colonies (up to thousands of individuals).	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT; CE; --; --	Found in riparian forest (willow-cottonwood dominated).	Breeding: summer	**None**; no suitable habitat occurs within the Study Area that supports this species.
Yellow warbler *Setophaga petechia*	--; CSC; --; --	Occurs in wet, deciduous thickets with various species of willows (*Salix* sp.).		**None**; no suitable habitat occurs within the Study Area that supports this species.
Mammals				
American badger *Taxidea taxus*	--; CSC; --; --	Found in a variety of grassland, shrubslands, and open woodlands throughout California.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Pallid bat *Antrozous pallidus*	--; CSC; --; --	Most abundant in oak woodland, savannah, and riparian habitats. Roosts in crevices and hollows in trees, rocks, cliffs, bridges, and buildings.	Year – round	**High**; the trees and building provide roosting habitat for this species. One CNDDB occurrence is documented within 5 miles of the Study Area (CDFW 2015).
Western mastiff bat *Eumops perotis californicus*	--; CSC; --; --	Found in rugged, rocky areas where suitable crevices are available for day-roosts. Day-roosts are located in large cracks in exfoliating slabs of granite or sandstone. In California, they have been recorded from Butte County southward in the western lowlands through the southern California coastal basins and the western portions of the southeastern desert region.	Year – round	**None.** No suitable habitat occurs within the Study Area that supports this species.
Western red bat *Lasiurus blossevillii*	--; --; SSC; --	Found in cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.

Federally-Listed Species:
FE = federal endangered
FT = federal threatened
FC = candidate
PT = proposed threatened
FPD = proposed for delisting
FD = delisted

California State Ranked Species:
CE = California state endangered
CT = California state threatened
CR = California state rare
CSC = California species of special concern
CCT = California state threatened candidate
CFP = California fully-protected
CSA = California special animals

CNPS* Rank Categories:
1A = plants presumed extinct in California
1B = plants rare, threatened, or endangered in California and elsewhere
2 = plants rare, threatened, or endangered in California, but common elsewhere
3 = plants about which we need more information
4 = plants of limited distribution

Source: Foothill Associates © 2015

Special-Status Species list generated from queries of the USFWS for the Study Area and CNPS and CNDDB databases for the *Chico* quadrangle and eight surrounding quadrangles.

Table 2 — Nesting Birds of Conservation Concern Protected under the Migratory Bird Treaty Act (MBTA) and §3503.5 Department of Fish and Game Code

Birds of Conservation Concern	Habitat Requirements	Identification/ Survey Period	Potential for Occurrence
Brewer's Sparrow *Spizella breweri*	This species is a sagebrush obligate. Nest site is in tall and densely branching shrubs.	April – October	**None**; no suitable habitat occurs within the Study Area that supports this species.
Calliope hummingbird *Stellula calliope*	Nest site is usually in a pine or other conifer, sometimes in deciduous shrub. Usually 6-40 feet up, can be much higher. Sometimes built on base of old pine cone. Breeds from 1,200 meters up to the tree line.	April - August	**None**; no suitable habitat occurs within the Study Area that supports this species.
Fox sparrow *Passerella liaca*	Found in dense thickets in coniferous or mixed woodlands, chaparral, parks, and gardens, wooded bottomlands along rivers and creeks. Requires dense brushy cover during the nesting season. Sometimes nests up in shrubs or low trees, rarely more than 2 to 3 meters above ground.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Great blue heron *Ardea herodias*	Inhabits both freshwater and saltwater habitats and forages in grassland and agricultural field. Breeding colonies are located within 2 to 4 miles of feeding areas, often in isolated swamps or on islands, and near lakes and ponds bordered by forests.	May occur during migration	**None**; no suitable habitat occurs within the Study Area that supports this species.
Great egret *Ardea alba*	Occurs in freshwater and saltwater habitats.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Lewis's woodpecker *Melanerpes lewis*	Breeds in open forest and woodland, often logged and burned, including oak, coniferous forest (primarily ponderosa pine), riparian woodland and orchards, and less commonly in pinyon/juniper. Nest site is cavity excavated in tree (tree or limb usually dead), sometimes in utility pole, from 1.5 to greater than 30 meters above ground.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Loggerhead shrike *Lanius ludovicianus*	Occurs in agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Nest site is placed in a dense and often thorny tree or shrub, usually 5 to 30 feet above the ground. Nest is usually well hidden by foliage. Prefers semi-open country. Known from Alameda, Butte, Contra Costa, Fresno, Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Stanislaus, and Tulare counties.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Mountain Plover *Charadrius montanus*	Breeds on dry tablelands of the western Great Plains, and winters in dry grassland and deserts of northern Mexico and California. Found in xeric tablelands with sparse, low vegetation. Nests in short-grass prairie sites that have been historically or recently disturbed. Also found nesting in agricultural fields.	Wintering: November – February	**None**; no suitable habitat occurs within the Study Area that supports this species.
Nuttall's woodpecker *Picoides nuttallii*	Occurs in oak forest and woodland, chaparral, and riparian. Nest site is cavity excavated in tree between one and 18 meters above the ground.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Oak titmouse *Baeolophus inornatus*	Nest site is in a cavity in tree, stump, fence post, or pole. Most commonly found in oak woodland where oaks meet streamside trees or pines, rarely found in coniferous forest in mountains.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Short-eared owl *Asio flammeus*	Usually found in open areas with few trees, such as annual and perennial grassland, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands. Nests usually located on dry sites with enough vegetation to conceal incubating female.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species. .
Snowy Plover *Charadrius alexandrinus*	Ground nesting bird found primarily on unvegetated to sparsely vegetated coastal beaches, river bars, and shores of inland alkaline lakes. Uses man-made, agricultural wastewater ponds and reservoir margins.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Peregrine falcon *Falco peregrinus*	Nests on man-made structures and in the hollows of old trees or open tops of cypress, sycamore, or cottonwood trees 50 to 90 feet above the ground, mostly in woodland, forest, and coastal habitats.	Year – round (some migrate)	**None**; no suitable habitat occurs within the Study Area that supports this species.
Williamson's sapsucker *Sphyrapicus thyroideus*	Found in montane coniferous forests. Nest site is cavity in tree, often in aspen, pine, or fir, usually 1.5 – 18 meters above ground. Favors trees with dead heartwood and live outer layer, and may return to dig new nest holes in same tree year after year.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.
Yellow-billed magpie *Pica nuttalli*	Occurs in broken oak woodland interspersed with grassland or cultivated lands, open riparian woodland, and savanna.	Year – round	**None**; no suitable habitat occurs within the Study Area that supports this species.

Migratory Bird Treaty Act and Golden Eagle Protection Act list generated from queries of the USFWS for the Study Area (USFWS 2015).

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C.2 - Delineation of Waters of the United States

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Delineation of Waters of the United States

±27-Acre Walmart Store No. 2044-09 Expansion Project
City of Chico, Butte County, California

Prepared for: Wal-Mart Stores, Inc.

Contracted by: RSC Engineering, Inc.

Date: October 26, 2015

Submitted by:

FOOTHILL ASSOCIATES

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EXECUTIVE SUMMARY

This document presents the results of a delineation of waters of the United States (U.S.), which would be subject to federal jurisdiction and regulation under Section 404 of the Clean Water Act (CWA) at the ±27-acre Walmart Store No. 2044-09 Expansion Project (Study Area), located in the City of Chico, Butte County, California.

A total of 0.018 acres of aquatic features were mapped within the Study Area, which is comprised entirely of one depressional seasonal wetland.

1.0 INTRODUCTION

The purpose of this document is to present the results of a formal delineation of potentially jurisdictional waters of the U.S., including wetlands, on the ±27-acre Walmart Store No. 2044-09 Expansion Project (Study Area), located in the City of Chico, Butte County, California (**Figure 1**). The Assessor's Parcel Numbers (APNs) for the Study include 002-370-055 and 002-170-004.

This document presents the results of Foothill Associates' review of available literature, aerial photographs, soil surveys (**Figure 2**), and fieldwork within the Study Area. These results are summarized to depict wetlands following the technical guidelines provided in the *1987 U.S. Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratories) and *Arid West Regional Supplement* (Corps 2008) for identifying wetlands and distinguishing them from aquatic habitats and other non-wetlands. The jurisdictional boundaries for other waters of the U.S. were identified based on the presence of an ordinary high-water mark (OHWM) as defined in 33 C.F.R. 328.3(e).

Contact information and directions to the Study Area are provided in **Appendix A**. This document describes the delineation methodology followed by the results of the delineation. Details regarding soils (**Figure 2**), topography, hydrology, and vegetation are summarized herein and routine wetland determination data forms are provided in **Appendix B**. A detailed delineation map illustrating potential waters of the U.S. within the Study Area is included in **Figure 3**.

2.0 REGULATORY BACKGROUND

The U.S. Army Corps of Engineers regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act. "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Section 404 of the CWA requires approval prior to discharging dredged or fill material into the waters of the U.S. Typical activities requiring Section 404 permits are:

- Depositing of fill or dredged material in waters of the U.S. or adjacent wetlands.
- Site development fill for residential, commercial, or recreational developments.
- Construction of revetments, groins, breakwaters, levees, dams, dikes, and weirs.
- Placement of riprap and road fills.

Section 10 of the Rivers and Harbors Act of 1899 requires approval prior to the accomplishment of any work in or over navigable waters of the U.S., or which affects the course, location, condition, or capacity of such waters. Typical activities requiring Section 10 permits are:

- Construction of piers, wharfs, bulkheads, dolphins, marinas, ramps, floats, intake structures, and cable or pipeline crossings.
- Dredging and excavation.

Any person, firm, or agency (including federal, State, and local government agencies) planning to work in navigable waters of the U.S., or dump or place dredged or fill material in waters of the U.S., must first obtain a permit from the Corps. Permits, licenses, variances, or similar authorization may also be required by other federal, State and local statutes.

2.1 Waters of the United States

33 C.F.R. Section 328.3 provides that "waters of the U.S." include all waters that are currently used, or were used in the past, or are susceptible to use in interstate commerce, all interstate waters and wetlands, and all intrastate lakes, rivers or streams which could

affect interstate commerce. In addition, this regulation provides jurisdiction over waters that are tributary to these waters, and "wetlands" adjacent to them. Section 10 and/or Section 404 permits are required for construction activities in these waters. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of water is present. Methods for delineating wetlands and non-tidal waters are described below.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit positive indicators of three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

The lateral regulatory extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

2.2 The SWANCC Decision

The *Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), is more commonly referred to as the SWANCC decision. SWANCC involved a challenge to CWA jurisdiction over certain isolated, intrastate, non-navigable ponds in Illinois that formerly had been gravel mine pits, but which, over time, provided habitat for migratory birds. Although these ponds served as migratory bird habitat, they were non-navigable and isolated from the tributary system of other waters regulated under the CWA. In SWANCC, the Supreme Court held that the Corps had exceeded its authority in asserting CWA jurisdiction pursuant to § 404(a) over the waters at issue based on their use as habitat for migratory birds, pursuant to preamble language, commonly referred to as the Migratory Bird Rule (51 Fed. Reg. 41217 (1986)).

SWANCC squarely eliminates CWA jurisdiction over isolated waters that are intrastate and non-navigable, where the sole basis for asserting CWA jurisdiction is the actual or potential use of the waters as habitat for migratory birds that cross state lines in their migrations. CWA jurisdiction extends to waters, including wetlands, which are adjacent to navigable waters pursuant to the Supreme Court holding in Riverside Bayview Homes, which was endorsed in SWANCC as controlling law. Corps and the U.S. Environmental Protection Agency regulations currently define the term adjacent as "bordering, contiguous, or neighboring" 33 C.F.R. § 328.3(b). The case law on the precise scope of federal CWA jurisdiction, since SWANCC, is still developing.

3.0 METHODOLOGY

3.1 Site-Specific References

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this delineation are listed in **Section 6.0**. Pertinent site-specific reports and general references utilized for the delineation include the following:

- Baldwin. G., D. Goldman, D. Keil, R. Patterson, and T.J. Rosatti. 2012. *The Jepson Manual, 2nd Edition. Vascular Plants of California*. ISBN: 9780520253124;

- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS;

- Hanover Environmental Services, Inc. 2002. *Wetlands Delineation: Duncan Shopping Center Expansion*. October 28, 2002;

- Lichvar, R.W., Butterwick, M., Melvin, N.C., and Kirchner, W. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings*. Phytoneuron 2014-41: 1–42. Published April 2, 2014. ISSN 2153 733X;

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2006. *Soil Survey of Butte Area, California, Parts of Butte and Plumas Counties*. U.S. Department of Agriculture;

- U.S. Army Corps of Engineers (Corps). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* September 2008; and

- U.S. Geological Survey (USGS). 1950. *Chico, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

3.2 Research and Field Methodology

This delineation utilized the Corps' 1987 three-parameter (vegetation, hydrology, and soils) methodology to delineate potentially jurisdictional waters of the U.S., including wetlands. The Arid West Supplement was used in conjunction with the Corps Manual for this specific application. Where differences in the two documents occur, the Supplement takes precedence over the Corps Manual.

Additional methods to identify and delineate other waters of the U.S. (e.g., streams, drainages, lakes) were used as applicable. The method typically used for delineation of non-wetland waters of the U.S. is the delineation of the ordinary high water mark as defined in 33 C.F.R. 328.3(e).

A review of current and historic aerial photographs, topographic maps, the National Wetland Inventory (NWI), and soil survey data was conducted before delineating the Study Area. In addition, a 2002 Wetland Delineation Report that identifies 0.269 acres of wetlands within the Study Area (Hanover Environmental Services, Inc. 2002) was reviewed. Foothill Associates' biologists conducted a delineation on September 10, 2015. During the field survey, Foothill Associates' visually inspected the entire Study Area to delineate potential waters of the U.S. Soil, vegetative, and hydrological data were recorded. The biologists took several data points in areas where wetlands were previously mapped in the 2002 delineation. The location of each data point is depicted in **Figure 3** and corresponding routine wetland determination data forms are provided in **Appendix B**.

3.3 GPS Data Integration

Boundaries of aquatic features within the Study Area were surveyed and mapped with a Trimble GeoXT Global Positioning System (GPS) hand-held unit. This is a mapping-grade GPS unit capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded from the units and differentially corrected utilizing Trimble Pathfinder Office software and appropriate base station data, and then converted to ESRI® shape file format. Data are typically exported to the Geographic Information System (GIS) software in the State Plane coordinate system (NAD 83) with units as "survey feet." Within the GIS, data are edited and linear features are built into polygons using recorded width information. All aquatic feature shape files are merged to create a single file with calculated acreages. These results are presented in **Figure 3**.

4.0 RESULTS

4.1 Study Area Description

4.1.1 Location

The ±27-acre Study Area is located in a commercial area within the City of Chico in the northwest section of Butte County, California. The Study Area is bordered by Highway 99 to the west, by Baney Lane to the north, by Forest Avenue to the east, and by Talbert Drive (formerly Wittmeier Drive) to the south. The Study Area is located within Township 22 North, Range 2 East, Section 31 of the *Chico* 7.5-minute quadrangle. The approximate location of the Study Area is 39° 43' 21.021" North, 121° 48' 14.046" West (**Figure 1**).

4.1.2 Land Use

The Study Area consists of two separate parcels. The northern parcel is currently developed and contains the Walmart store and its associated parking lot constructed in 1998. The southern parcel consists of a vacant, undeveloped lot comprised primarily of disturbed non-native annual grassland that has been modified by human disturbance due to development to the north, east, and south and due to the installation of fencing to the west. The perimeter of the non-native annual grassland had been mowed to provide a fire break prior to the September 10, 2015 biological survey of the Study Area. The non-native annual grassland is comprised of remnant man-made tire tracks along the northern and western boundaries, two billboards adjacent to Highway 99, and a concrete and debris stockpile along the southwestern boundary.

4.2 Physical Features

4.2.1 Soils

The Natural Resources Conservation Service (NRCS) has mapped two soil units within the Study Area (**Figure 2**): **Redsluff Gravelly Loam, 0 to 2 Percent Slopes** and **Galt Clay, 0 to 1 Percent Slopes**. General characteristics associated with these soil types are described below (USDA, NRCS 2006, 2015a, 2015b).

- **(300) Redsluff Gravelly Loam, 0 to 2 Percent Slopes**: This soil unit occurs on fan terraces typically located from 180 to 400 feet above mean sea level (MSL). The Redsluff consists of fine-loamy alluvium derived soils from igneous metamorphic and sedimentary rock. Permeability is moderately well drained and this soil has a moderately high capacity to transmit water. The hydric soils list for Butte County identifies this soil type as hydric (USDA, NRCS 2015b).

- **(336) Galt Clay, 0 to 1 Percent Slopes**: This soil unit is found on terraces typically located from 140 to 300 feet above MSL. Surface runoff is high and the

soil has a very low capacity to transmit water. The Galt Clay consists of clayey alluvium over cemented loamy alluvium derived from volcanic rock. The hydric soils list for Butte County identifies this soil type as hydric (USDA, NRCS 2015b).

4.2.2 Topography

The topography within the Study Area is relatively flat. The northern parcel is paved and landscaped. The southern undeveloped parcel contains interspersed depressions that are evident of man-made tire tracks along the north and west boundaries. Within the Study Area the elevation ranges from 223 to 231 feet above MSL.

4.2.3 Hydrology

The Study Area lies within the Lower Butte Watershed (Hydrologic Unit Code 12-180201580301). There are no waterways, canals, or drainages that occur adjacent to or within the Study Area. The nearest waterways are Crough Ditch that runs east to west and is located approximately 0.22 miles to the south and Camache Creek that runs northeast to southwest and is located approximately 0.59 miles east of the Study Area.

The hydrologic regime is dominated by irrigation runoff, seasonal stormwater runoff, and direct precipitation. Annual average precipitation is approximately 26 inches and primarily falls between October through April, with the largest amount of rain per month occurring in January (SAIC 2012).

4.3 Vegetation

The dominant upland vegetation type occurring within the Study Area is non-native annual grassland and disturbed/developed. The non-native annual grassland is discussed below. Dominant vegetation within the aquatic habitat types are discussed in **Section 4.4**.

4.3.1 Non-Native Annual Grassland

Non-native annual grassland occurs within the southern portion of the Study Area. The majority of the non-native annual grassland has been modified by human disturbance. Deep cracks and sparse small-sized burrows and a debris stockpile occur throughout the non-native annual grassland. Non-native annual grassland is characterized primarily by an assemblage of non-native grasses and herbaceous species. Dominant vegetation includes: medusahead (*Elymus caput-medusae*), wild oat (*Avena fatua*), rye grass (*Festuca perennis*), and wall barley (*Hordeum murinum*).

4.3.2 Disturbed/Developed

Disturbed/developed areas occur throughout the northern portion of the Study Area and are comprised of paved roads, a parking lot, commercial infrastructure (i.e. Walmart store), and ornamental landscaped areas. Ornamental trees and shrubs are interspersed

within landscaped planter boxes within designated areas along the perimeter of the parking lot as well as throughout the parking lot within the Study Area. Dominant vegetation includes: Chinese pistache (*Pistacia chinensis*), Chinese hawkberry (*Celtis sinensis*), London planetree (*Platanus* x *acerifolia*), pin oak (*Quercus palustris*), cork oak (*Quercus suber*), and crape myrtle (*Lagerstroemia indica*). The dominant understory consists of ornamental shrubs, which includes juniper (*Juniperus* sp.) and rosemary (*Rosmarinus officinalis*).

4.4 Classification of Mapped Features

As discussed previously in **Section 2.0**, jurisdictional waters of the U.S. are classified into multiple types based on topography, edaphics (soils), vegetation, and hydrologic regime. Primarily, the Corps establishes two distinctions: wetland and non-wetland waters of the U.S. Non-wetland waters are commonly referred to as other waters. Potential jurisdictional features mapped within the Study Area include depressional seasonal wetland.

4.4.1 Depressional Seasonal Wetland

A total of **0.018 acres** of depressional seasonal wetland has been delineated within the Study Area (**Figure 3**). The depressional seasonal wetland occurs in the southwestern boundary of the Study Area. This feature appears to hold water for short durations of time until water percolates into the ground. Dominant vegetation includes: Great Valley button celery (*Eryngium castrense*), rye grass, and annual hairgrass (*Deschampsia danthonoides*).

5.0 CONCLUSIONS

Potentially jurisdictional wetlands identified in the Study Area include one depressional seasonal wetland. **Table 1** below provides acreage per class and summarizes the total acreage of estimated potentially jurisdictional wetlands and waters of the U.S. within the Study Area.

Table 1 — Waters of the U.S: Acreage According to Feature

CLASS	TOTAL ACREAGE
Depressional Seasonal Wetland	0.018
TOTAL	**0.018**

6.0 REFERENCES

Baldwin. G., D. Goldman, D. Keil, R. Patterson, and T.J. Rosatti. 2012. *The Jepson Manual, 2nd Edition. Vascular Plants of California*. ISBN: 9780520253124. January 12, 2013. 1,600 pp.

Environmental Laboratories. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.

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Reed, P.B., Jr. 1988. *National List of Plant Species That Occur in Wetlands: California (Region O)*. U.S. Fish & Wildlife Service.

Science Applications International Corporation (SAIC). 2012. *Preliminary Public Draft Report for the Butte Regional Habitat Conservation Plan/Natural Community Conservation Plan. Appendix A: Covered Species Accounts.* Prepared for: Butte County Association of Governments, Chico, California. November 30, 2012.

U.S. Army Corps of Engineers (Corps). 2007. Information *Requested for Verification of Corps' Jurisdiction*. San Francisco District. Department of the Army. San Francisco District, U.S. Army Corps of Engineers. 1455 Market Street, San Francisco, California 94103-1398. Revised November 2007. Available online at: http://www.spn.usace.army.mil/Portals/68/docs/regulatory/2%20-%20Info%20Req.pdf. Accessed [09/01/2015].

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USDA, NRCS. 2015b. *National Hydric Soils List by State*. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Last updated March 2014. Accessed [08/28/2015].

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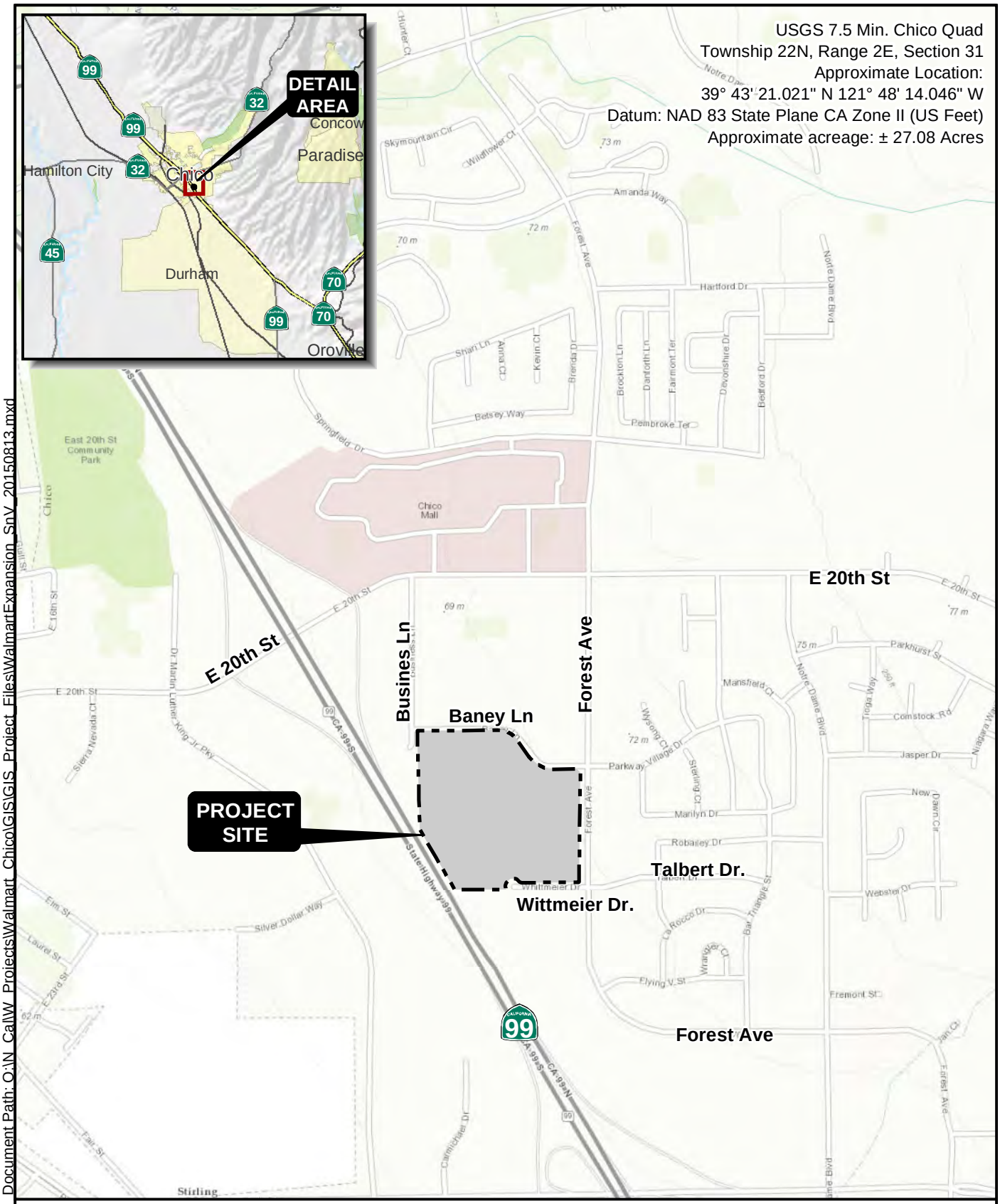
U.S. Geological Survey (USGS). 1950. *Chico, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.



Document Path: O:\N_Cal\W_Projects\Walmart_Chico\GIS\GIS_Project_Files\WalmartExpansion_SnV_20150813.mxd

SITE AND VICINITY

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

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N

0 0.095 0.19
Miles
1 in = 0.2 miles

Drawn By: MUB
Date: 09/25/2015

FIGURE 1

WALMART STORE EXPANSION PROJECT

Document Name: WalmartExpansion_SnV_20150813.mxd : 9/25/2015 2:31:01 PM

Document Path: O:\N_Cal\W_Projects\Walmart_Chico\GIS\GIS_Project_Files\WalmartExpansion_Soils_20150903.mxd

SOILS

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N

0 100 200
Feet
1 inch = 200 feet

Drawn By: MUB
Date: 09/25/2015

FIGURE 2

WALMART STORE EXPANSION PROJECT

Document Name: WalmartExpansion_Soils_20150903.mxd : : 9/25/2015 2:34:13 PM

Document Path: O:\N_Cal\W_Projects\Walmart_Chico\GIS\GIS_Project_Files\WalmartExpansion_Wetlands_20150911.mxd

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Wetland Delineation

N

0 150 300
SCALE IN FEET
1 inch = 150 feet

Date: 09/25/2015
Drawn By: MUB

FIGURE 3

WALMART STORE EXPANSION PROJECT

Document Name: WalmartExpansion_Wetlands_20150911

Appendix A — Contact Information

Client Contact Information:

Tiffany Ann Wilson
RSC Engineering, Inc.
c/o Wal-Mart Stores, Inc.
2250 Douglas Boulevard, Suite 150
Roseville, CA 95661
Phone: (916) 788-2884
t.wilson@rsc-engr.com

Delineation Conducted by:

Meredith Branstad, Principal Biologist
Kelly Bayne, Senior Biologist
Charlotte Marks, Biologist
Foothill Associates
590 Menlo Drive, Suite 5
Rocklin, CA 95765
Phone: (916) 435-1202
kbayne@foothill.com

Directions to Study Area:

From Sacramento, take Highway 99 North for 83 miles. Take Exit 384 for East 20th Street. Turn right onto East 20th Street. Turn Left onto Forest Avenue. The Study Area is located on your on the left.

Appendix B — Routine Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 1B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 19.2655" N Long: 121°48' 20.7713" W Datum: NAD 83

Soil Map Unit Name: Redsluff Gravelly Loam, 0 to 2 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Centaurea solstitialis	15	N	UPL
2. Hordeum murinum	15	N	FAC
3. Lactuca serriola	10	N	FACU
4. Avena fatua	30	Y	UPL
5. Elymus caput-medusae	30	Y	UPL
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/3	60					clay	
	rock/concrete	40						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: restrictive layer

Depth (inches): 6

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 2B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 18.9722" N Long: 121°48' 20.4357" W Datum: NAD 83

Soil Map Unit Name: Redsluff Gravelly Loam, 0 to 2 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Centaurea solstitialis	25	Y	UPL
2. Elymus caput-medusae	60	Y	UPL
3. Plantago lanceolata	10	N	FAC
4. Convolvulus arvensis	5	N	UPL
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/3	70	rock/concrete	30				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): 6

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 3B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): convex Slope (%): <1

Subregion (LRR): Lat: 39°43' 18.6429" N Long: 121°48' 19.7702" W Datum: NAD 83

Soil Map Unit Name: Redsluff Gravelly Loam, 0 to 2 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Festuca perennis	30	Y	FAC
2. Avena fatua	30	Y	UPL
3. Centromadia fitchii	10	N	FACU
4. Elymus caput-medusae	30	Y	UPL
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR4/3	63	2.5YR3/6	2				
			Rock	35				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): _____

Water Table Present? Yes ____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 4B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 19.8908" N Long: 121°48' 14.9713" W Datum: NAD 83

Soil Map Unit Name: Redsluff Gravelly Loam, 0 to 2 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Centaurea solstitialis	75	Y	UPL
2. Trifolium hirtum	3	N	
3.			
4.			
5.			
6.			
7.			
8.			
	78 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 22 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR3/3	80	Rocks	20				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard layer

Depth (inches): 6

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 5B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 19.7477" N Long: 121°48' 13.0380" W Datum: NAD 83

Soil Map Unit Name: Redsluff Gravelly Loam, 0 to 2 Percent Slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Centaurea solstitialis	30	Y	UPL
2. Festuca perennis	30	Y	FAC
3. Erodium botrys	30	Y	FACU
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR3/3	80	Rock	20				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard layer

Depth (inches): 4

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 6B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 19.6950" N Long: 121°48' 10.3819" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Centaurea solstitialis	30	Y	UPL
2. Festuca perennis	30	Y	FAC
3. Avena fatua	30	Y	UPL
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 6B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/3	60	Rock	40			clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 7B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 20.0294" N Long: 121°48' 7.2875" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Sorghum halepense	10	N	FACU
2. Lactuca serriola	30	Y	FACU
3. Avena fatua	40	Y	UPL
4.			
5.			
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: 7B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR3/3	70	Rock	30				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard layer

Depth (inches): 6

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 8B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 16.5520" N Long: 121°48' 8.6886" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	50	Y	FAC
2. Bromus hordeaceus	30	Y	FACU
3. Elymus caput-medusae	20	Y	UPL
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 8B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR3/2	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 9B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 16.6547" N Long: 121°48' 10.5417" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Elymus caput-medusae	50	Y	UPL
2. Avena fatua	20	N	UPL
3. Lactuca serriola	5	N	FACU
4. Briza minor	5	N	FAC
5. Trifolium hirtum	5	N	
6. Festuca perennis	20	N	FAC
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 9B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/3	80	Rock	20			clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard layer

Depth (inches): 8

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 10B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 17.3938" N Long: 121°48' 11.4122" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Elymus caput-medusae	60	Y	UPL
2. Vicia villosa	20	Y	UPL
3. Lactuca serriola	10	N	FACU
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 10B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/3	90	Rock	10			clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hardpan

Depth (inches): 8

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 11B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR): C Lat: 39°43' 16.3074" N Long: 121°48' 16.6941" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Centaurea solstitialis	40	Y	UPL
2. Epilobium ciliatum	10	N	UPL
3. Vicia villosa	10	N	UPL
4. Eryngium castrense	5	N	OBL
5. Elymus caput-medusae	35	Y	UPL
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 11B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR3/2	85	Rock	15			clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hardpan

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 12A

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: 39°43' 15.8470" N Long: 121°48' 18.1563" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: SW

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Formed from soil movement from tractor and fencing

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Festuca perennis	70	Y	FAC
2. Eryngium castrense	5	N	OBL
3. Deschampsia danthonioides	5	N	FACW
4.			
5.			
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 12A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/1	98	5YR3/4	2			clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ✓ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hardpan

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✓ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Walmart Store No. 2044-09 Expansion City/County: City of Chico/ Butte Sampling Date: 9/10/2015

Applicant/Owner: Wal-Mart Stores, Inc. State: CA Sampling Point: 12B

Investigator(s): Kelly Bayne, Charlotte Marks Section, Township, Range: Section: 31 Township: 22N Range: 2E

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): None Slope (%): <1

Subregion (LRR): C Lat: 39°43' 15.9553" N Long: 121°48' 18.0501" W Datum: NAD 83

Soil Map Unit Name: Galt Clay, 0 to 1 Percent Slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Hordeum murinum	30	Y	FACU
2. Festuca perennis	30	Y	FAC
3. Elymus caput-medusae	30	Y	UPL
4. Centromadia fitchii	2	N	FACU
5.			
6.			
7.			
8.			
	92 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 8 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 12B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR3/3	90	Rock	10			clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: