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DESCRIPTION OF DEMONSTRATION WETLAND AT KELLY POND NO. 2

INTRODUCTION

The purpose of this report is to summarize the proposed project to create a wetland using reclaimed water in Kelly Pond No. 2. The objective of the proposed project is to determine the habitat value of created wetland and riparian habitat and the water quality benefits derived from processing reclaimed water through the wetland. The proposed project is described in greater detail in the attached technical memorandum.

CURRENT CONDITIONS

Kelly Pond No 2 is located on Kelly Farm, a city-owned facility operated for the disposal of reclaimed water through irrigation. Kelly Farm is located east of the Laguna de Santa Rosa, south of Occidental Road and north of Sebastopol Road. The site is described in Figure 1.

Kelly Pond No. 2 was constructed as an irrigation storage reservoir but the levee does not meet safety specifications. The structural problems with the levee are such that ponds cannot be filled to capacity. (The water elevation in the proposed demonstration wetland will be below the elevation of the structural flaws in the levee.)

The pond was constructed in a swale and rainfall and irrigation runoff are the only source of water to the pond. Kelly Pond No. 2 currently contains water to an elevation of about 60 feet (above sea level). Vegetation in the pond consists primarily of annual grasses. Waterfowl and other wildlife are occasionally present in small numbers at the site. The pond is surrounded by a six foot fence with locked gates.

Kelly Pond No. 2 is located immediately north of a swale in which irrigation runoff is collected (recovery area). The recovery area is divided into two basins by a berm. Wetland plants grow in the recovery area but are periodically removed as indicated by Kelly Farm management needs.

PROPOSED PROJECT

Three wetland cells are proposed for creation in Kelly Pond No. 2. Reclaimed water will flow clockwise from the southwest corner to the northwest corner to the southeast corner where it will flow through the embankment (via a pipe) to the upper eastern edge of the recovery wetlands located between Kelly Pond No. 1 and No. 2. Internal weir/transfer structures will control water elevation of the three wetland cells in Kelly Pond No. 2. Internal channels along with piping and valving between ponds will allow for

isolation and drainage of each wetland cell for vegetation and vector management. The proposed wetlands will be fed by reclaimed water from the main supply lines which transects Kelly Farm directly east of Kelly Ponds No. 1 and No. 2. The average flow to the wetland system will be 350 gpm (0.5 MGD). A pipeline will be constructed on the soil surface and will extend from the pressurized transmission pipeline to the southwest corner of Kelly Pond No. 2.

The proposed project also includes planting of wetland and riparian habitat, creation of islands and permanent wet areas for fish and wildlife habitat. These amenities were designed in consultation with staff of the Department of Fish and Game.

Management and operations plans will be developed by City consultants to allow City personnel to operate the proposed wetland. A monitoring program will be established to provide a basis to modify aspects of the project such that the objectives are more fully achieved.

PROPOSED CONSTRUCTION ACTIVITIES

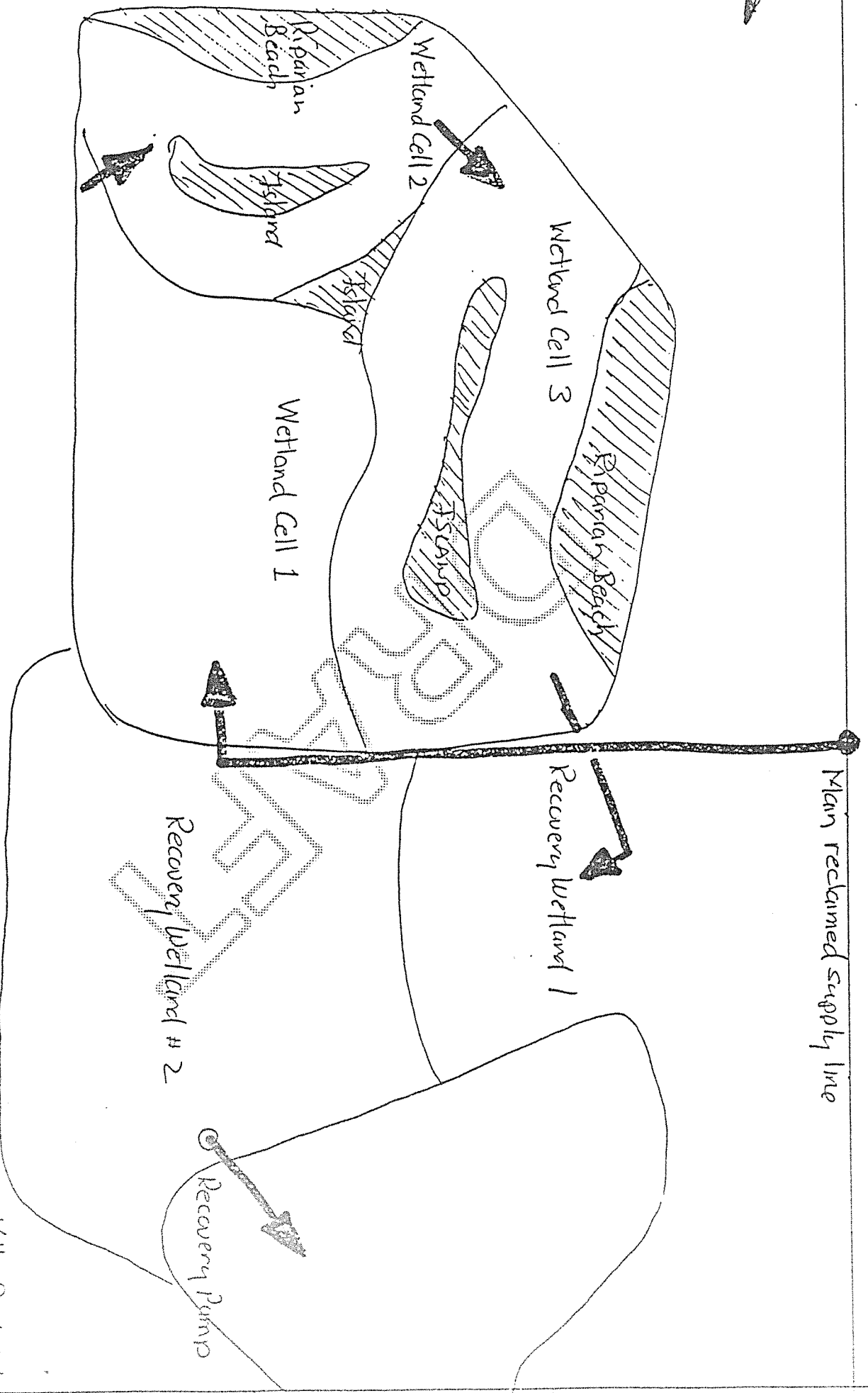
Construction activities will involve the following:

- o Regrading of soil within Kelly Pond No. 2 and the recovery area.
- o Installation of about 1900 feet of surface and subsurface pipelines.
- o Miscellaneous electrical and pump installations.
- o Replacement or realignment of part of the existing fence.

No fill material will be brought to or removed from the site.

POTENTIAL IMPACTS OF PROPOSED PROJECT

The primary impacts of the proposed project will be beneficial. Additional wetland habitat will be created by the proposed project in an area where elimination of wetland habitat is a cause of considerable public concern. The proposed project will provide additional flood storage volume. As flood waters rise on the outside of the existing Kelly Pond No. 2 levee, water will be allowed to flow into the pond via pipes used routinely for discharge. Flood waters do not currently enter the pond unless they overtop the levee. Potential vector problems have been mitigated by design modifications at the suggestion of staff of the Marin Sonoma Mosquito Abatement District.



Kelly Pond #2

Main reclaimed supply line

Configuration of Proposed Construction Wetland

Kelly Pond #1

Recovery Wetland #2

Recovery Wetland 1

Recovery Pump

Wetland Cell 1

Wetland Cell 3

Wetland Cell 2

Parish Beach

Parish Beach

Island

Island

Island