



THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: March 24, 2011

TO: Balboa Park Committee  
Agenda of April 7, 2011

FROM: Kathleen S. Hasenauer, Deputy Director, Developed Regional Parks Division

SUBJECT: Informational Item – Balboa Park Electric Vehicle Chargers

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SUMMARY

THIS IS AN INFORMATIONAL ITEM ONLY. NO ACTION IS REQUIRED ON THE PART OF THE COMMITTEE.

BACKGROUND

Ecotality, Inc. is a company specializing in the development and distribution of electric vehicle (EV) charging stations and related technologies. In 2009 Ecotality, Inc. was awarded a \$100 million grant from the U.S. Department of Energy for the installation and monitoring of approximately fifteen thousand (15,000) EV charging stations and the collection of data regarding vehicle usage. The project will also include the distribution of eight thousand three hundred (8,300) EVs. An additional grant from the Department of Energy and partnering matches from General Motors and Nissan has increased the project to \$230 million.

The project will include six states (Arizona, California, Oregon, Tennessee, Texas, and Washington) and the District of Columbia. Los Angeles, San Diego and San Francisco are the three cities selected in California.

Ecotality is proposing to locate EV charging stations in Balboa Park. Approximately three to four (3-4) chargers would be located in the South Carousel Parking Lot, two to three (2-3) chargers would be located in the Pepper Grove North Parking Lot and three to four (3-4) chargers would be located in either the Spreckels Organ Pavilion Parking Lot or the Palisades Parking Lot. Please see the attached map for locations.

Installation of the EV chargers will be at no cost to the City of San Diego or to the Park and Recreation Department. City metered electricity will be used to charge vehicles. However, the charging stations have an internal meter and the cost of electricity will be recouped by the City plus a percentage of the profit. Owners of EVs opting to utilize these stations will be billed for the electricity used. EV owners will be able to reserve charging stations on line or use them on a first-come-first-served basis provided a station has not already been reserved. Ideally, the parking spaces associated with charging stations would be reserved for EVs. If so, enforcement would need to be implemented by the City's Parking Management Division or by Park Rangers.

EV chargers are planned for the Zoo Lot as well. However, these stations will be planned separately from the locations identified herein.

Staff from Ecotality, Inc. will be in attendance at the meeting to answer any questions regarding the project



Kathleen S. Hasenauer  
Deputy Director

KSH/cd

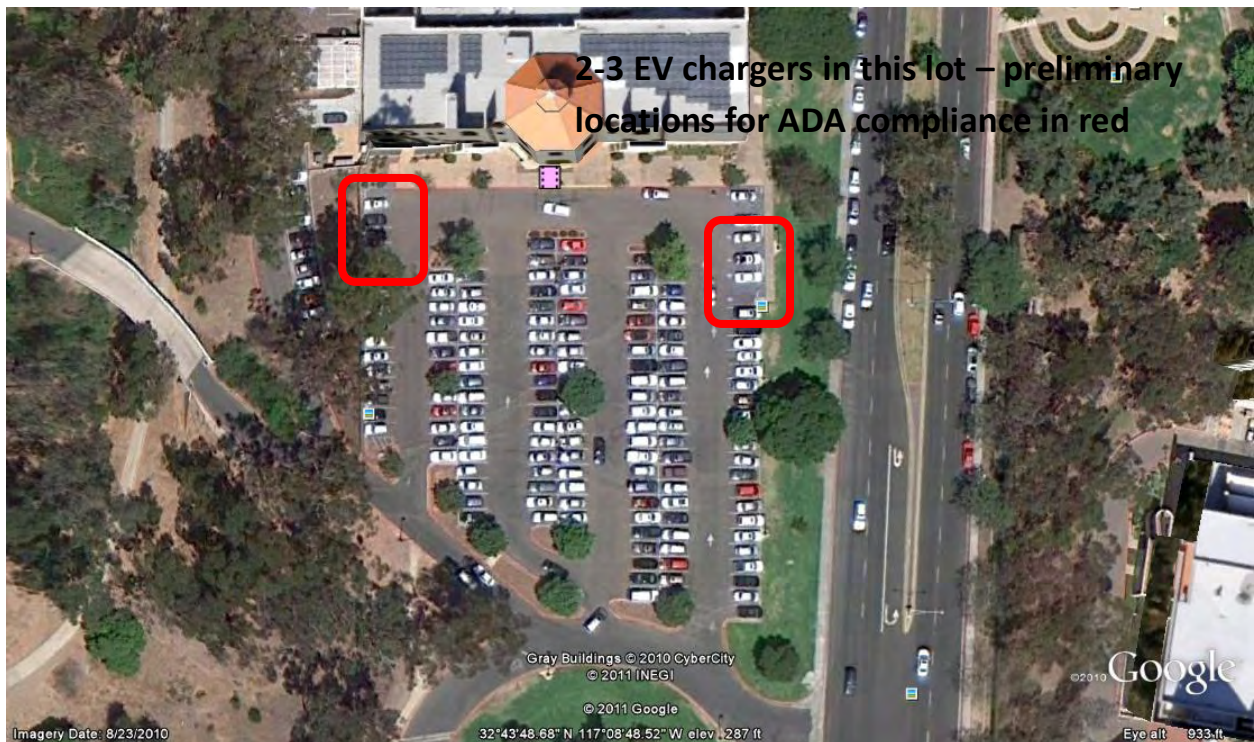
- Attachments:
1. Map showing potential charging stations and quantities
  2. Information regarding charging stations
  3. Photographs of charging stations

cc: Council District 3

## **Balboa Park – EV Project: Possible Level 2 EV Charger Locations**



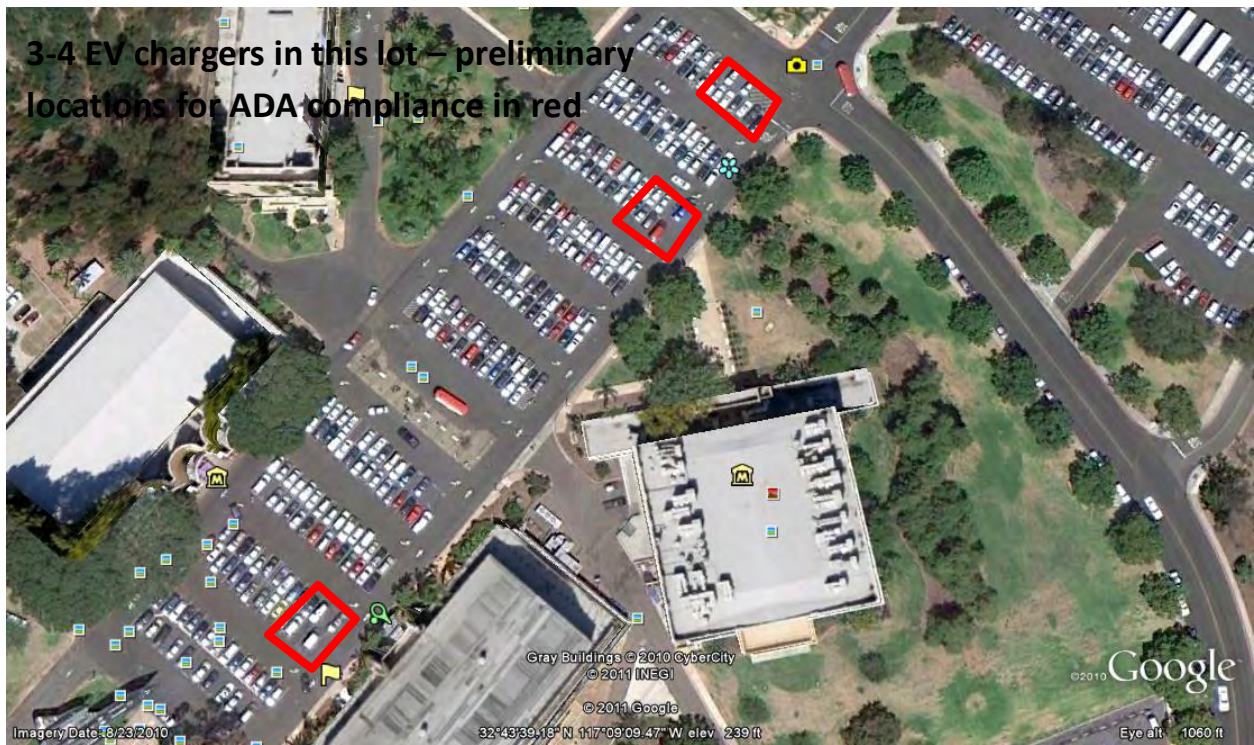
**And** the lot south of Reuben H. Fleet Science Center



And in one of two lots south of Spreckles Organ Pavilion



OR EV chargers in lot below



Simply smarter.

## Level 2 Pedestal EVSE

### Simply Smart Pedestal Design

Electric Vehicle Supply Equipment (EVSE) provides convenient means to charge electric vehicles. Level 2 charging (240 volt AC input) is the primary and preferred method for charging in residential and public locations. The ECOtality design provides intelligent, user-friendly features to easily and safely charge electric vehicles

### Benefits of ECOtality's Unique Binary Design

- Dramatic, timeless, stylish appearance
- Ease of installation
- Specified advertising space on pedestal
- Convenient cable management for long reach and storage between uses
- Connector holster for protection and storage
- Intuitive connector docking
- Selective height design for convenient compliance with ADA requirements
- 360° beacon light for easy wayfinding

### J1772 Standard EV Connector

The SAE J1772 is the standard for electric vehicle charging in the United States.

- Ergonomic design
- Prevents accidental disconnection
- Grounded pole - first to make contact, last to break contact
- Designed for over 10,000 cycles
- Can withstand being driven over by a vehicle
- Safe in wet or dry use

### Energy Meter

- Internal meter to monitor energy and demand usage
- Supports energy usage data evaluation
- Supports electric utility EV billing when certified to ANSI 12.20 and IEC standards

### Touch Screen

- Convenient, user-friendly touch screen display
- Charge status and statistics
- Find charging stations
- Status messages delivered to user's smart phone





# Proven technology and reliable safety



## Features

- Charge circuit interruption device (CCID) with automatic test
- Ground monitoring circuit
- Nuisance-tripping avoidance and auto re-closure
- Cold load pickup (randomized auto-restart following power outage)
- Certified energy and demand metering
- Wireless IEEE 802.11g
- LAN capable
- AMI interface capable
- Web-based bi-directional data flow
- Cord management system

## ECOtality's Blink Level 2 Electric Vehicle Supply Equipment (EVSE) Specifications

Input Voltage	208 VAC to 240 VAC +/- 10%
Input Phase	Single
Frequency	50/60 Hz
Input Current	30 Amps (maximum); 12A, 16A, 24A available
Breaker Size	40 Amps; settings at 15A/20A/30A available
Output Voltage	208 VAC - 240 VAC +/- 10%
Output Phase	Single
Pilot	SAE J1772-compliant
Connector/Cable	SAE J1772-compliant; UL-rated at 30A maximum
Cable Length	18 feet (estimated)
Exterior Dimensions	Pedestal: 66" H x 20" W x 17" D
Temperature Rating	-22° F (-30° C) to +122° F (+50° C)
Enclosure	NEMA Type 3R; sun-and-heat-resistant

## Additional Features

- Smart Phone Applications for status charges and notification of completion or interruption of charge
- Controllable output to support utility demand response requests
- Revenue systems support
- Multiple input current settings to conveniently accommodate electric service capabilities
- Communication systems, multiple modes of communications including wireless, cellular, and LAN

## Safety

- Interlocks with EV drive system so EV cannot drive when connector is inserted in vehicle inlet
- De-energizes EVSE if connector and cable are subjected to strain
- Charge current interrupting device (CCID) with automatic test feature for personal protection
- Connector parts are de-energized until latched in vehicle inlet
- Meets all National Electric Code requirements

## Standards and Certifications

- SAE J1772 compliant
- NEC article 625 electric vehicle charging system
- UL and ULc to 2594



**Left** – EV Charging Station front and rear view.



**Below** – EV Charging Station in context.