



PALM BEACH COUNTY

LAND DEVELOPMENT REGULATION ADVISORY BOARD (LDRAB) ELECTRIC VEHICLE CHARGING STATION (EVCSs) SUBCOMMITTEE

DECEMBER 10, 2020

SUBCOMMITTEE MEMBERS

**Dr. Lori Vinikoor, Chair (District 5)
Drew Martin, Vice-Chair (District 2)**

Terrence Bailey (Florida Engineering Society)

**Frank Gulisano (Realtors Association of
the Palm Beaches)**

Jaime M. Plana (American Institute of Architects)

Abraham Wien (Alternate At-Large #2)

INTERESTED PARTIES

Mike Gibaldi (Brickell Energy)

Evan Rosenblatt (Pebb Enterprises)

Emily O'Mahoney (2GHO & Associates, Inc.)

Ron Semp (PlugIn Stations Online)

Jeff Rothe (ChargePoint)

Linda Smithe (Destination Loop)

Board of County Commissioners

**Dave Kerner
Mayor, District 3**

**Robert S. Weinroth
Vice Mayor, District 4**

**Maria G. Marino
Commissioner, District 1**

**Gregg K. Weiss
Commissioner, District 2**

**Maria Sachs
Commissioner, District 5**

**Melissa McKinlay
Commissioner, District 6**

**Mack Bernard
Commissioner, District 7**

County Administrator

Verdenia C. Baker

**"An Equal Opportunity – Affirmative Action Employer"
2300 North Jog Road, West Palm Beach, Florida 33411-2711 (561) 233-5200**

LDRAB Subcommittee Meeting December 10, 2020

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**LAND DEVELOPMENT REGULATION ADVISORY BOARD (LDRAB)
ELECTRIC VEHICLE CHARGING STATIONS (EVCSs) SUBCOMMITTEE**

THURSDAY, DECEMBER 10, 2020 AGENDA
MEDIUM HEARING ROOM (VC-1W-60)/COMMUNICATIONS MEDIA TECHNOLOGY (CMT)
1:00 P.M.

A. CALL TO ORDER

1. Roll Call
2. Motion to Approve Remote Participation by CMT Due to Extraordinary Circumstances
3. Additions, Substitutions, and Deletions to Agenda
4. Motion to Adopt Agenda
5. Adoption of Minutes – November 19, 2020 (Exhibit A)

B. NEW BUSINESS

PAGES

1. EVCS Technologies – Presentation by the Office of Resilience (OOR)
 - a. Electric Vehicle Charging Technologies – Memo from Jake Leech, OOR (Exhibit B) 1 – 2
2. Unified Land Development Code (ULDC) Article 4 Use Regulations and EVCS;
Retail Gas and Fuel Sales – Presentation by the Zoning Division
3. EVCS Discussion
 - a. Subcommittee Members
 - b. Interested Parties
 - c. Public
 - d. Staff

C. FUTURE MEETINGS/ANTICIPATED EXHIBITS

1. January 6, 2021 – Initial Review of Draft ULDC Amendments
2. February 4, 2021 – Final Review of Draft ULDC Amendments

D. MEETING RECAP AND CONCLUSION

E. ADJOURNMENT

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EXHIBIT A

PALM BEACH COUNTY LAND DEVELOPMENT REGULATION ADVISORY BOARD (LDRAB) ELECTRIC VEHICLE CHARGING STATIONS (EVCSs) SUBCOMMITTEE (Updated 12/03/20)

Minutes of November 19, 2020 EVCSs Subcommittee Meeting

On Thursday, November 19, 2020, the Palm Beach County Land Development Regulation Advisory Board (LDRAB) Electric Vehicle Charging Stations (EVCSs) Subcommittee, met in the Medium Hearing Room (VC-1W-60), at 2300 North Jog Road, West Palm Beach, Florida and via Cisco Webex Events communications media technology (CMT).

A. CALL TO ORDER

1. Roll Call

Mr. Jeff Gagnon, Code Revision Principal Site Planner, called the meeting to order at 1:05 p.m. Mr. Alexander Biray, Site Planner I, called the roll.

Members Present: 6

Drew Martin (District 2, Commissioner Weiss)
Dr. Lori Vinikoor (District 5, Commissioner Sachs)
Terrence Bailey (Florida Engineering Society)*
Jaime M. Plana (American Institute of Architects)*
Frank Gulisano (Realtors Association of the Palm Beaches)*
Abraham Wien (Alternate At-Large #2)*

Interested Parties: 6

Mike Gibaldi (Brickell Energy)*
Emily O'Mahoney (2GHO & Associates, Inc.)*
Jeff Rothe (ChargePoint)*
Evan Rosenblatt (Pebb Enterprises)*

Ron Semp (PlugIn Stations Online)*
Linda Smithe (Destination Loop)

Members Absent: 0

County Staff Present: 10

Jon MacGillis, Zoning Director*
Wendy N. Hernández, Deputy Zoning Director
Jeff Gagnon, Principal Site Planner
Jerome Ottey, Site Planner II
Alexander Biray, Site Planner I
Scott A. Stone, Assistant County Attorney I*
Bryan Davis, Principal Planner*
Carolina Valera, Senior Planner*
Jake Leech, Environmental Analyst*
Lorinda J. Goldsmith, Senior Network Administrator*

* Present via Webex Events.

Motion to approve the attendance of Mr. Bailey, Mr. Plana, Mr. Gulisano, and Mr. Wien via CMT based on extraordinary circumstances of the coronavirus pandemic justifying the Board members' absence, by Dr. Vinikoor, seconded by Mr. Martin. The Motion passed unanimous (2-0).

2. Introduction – Subcommittee Members, Staff, and Interested Parties

Mr. Gagnon provided an overview of the Subcommittee scope and Mr. Biray introduced Staff and Interested Parties present in person and via CMT.

Mr. Stone and Mr. MacGillis clarified the LDRAB Rules of Procedure for quorum.

3. Elections – Chair and Vice-Chair

Mr. Gagnon opened the floor to nominations for Chair and Vice-Chair. Mr. Martin nominated Dr. Vinikoor for Chair and himself as Vice-Chair, seconded by Mr. Gulisano. Dr. Vinikoor accepted. The Motion passed unanimous (6-0).

4. Additions, Substitutions, and Deletions to Agenda

Mr. Gagnon noted there were no additions, substitutions, and deletions to the Agenda.

5. Motion to Adopt Agenda

Motion to adopt the Agenda, by Mr. Martin, seconded by Mr. Gulisano. The Motion passed unanimous (6-0).

B. BACKGROUND AND SUMMARY

1. Exhibit A – ULDC Electric Vehicle Charging Station

Mr. Gagnon and Ms. Hernández explained the Exhibit is excerpts of existing language related to EVs by Article in the Unified Land Development Code (ULDC), which the Subcommittee will use as a foundation in reviewing the proposed amendment to fulfill the Mission Statement and Goals. Article 4 enumerates EVCSs for charging of vehicles for a fee, while Article 6 enumerates Electric Vehicle Charging Parking Spaces (EVCPS) for charging vehicles without a fee.

Dr. Vinikoor suggested that EVCPS in Article 6 be defined as an acronym in Article 1. Mr. Martin asked if the EVs enumerated in the Article 4 definition of EVCS use the same charging equipment, specifically fuel cell. Dr. Vinikoor noted a typo in the definition, where a "be" should be included in "but not limited to." Mr. Wien noted chargers have different connectors. Mr. Leech explained Staff findings, and will provide the Board a memorandum on the different types of charging and connections. He also responded to Mr. Martin's question on fuel cells, which are not applicable to State law as hydrogen vehicles.

EXHIBIT A

PALM BEACH COUNTY LAND DEVELOPMENT REGULATION ADVISORY BOARD (LDRAB) ELECTRIC VEHICLE CHARGING STATIONS (EVCSs) SUBCOMMITTEE (Updated 12/03/20)

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C. GOALS AND OBJECTIVES

1. Mission Statement and Objectives

Ms. Hernández explained per Board of County Commissioners direction, Staff will require EVCS infrastructure for specific uses with specific degrees of infrastructure, including but not limited to new Multifamily, Retail Gas and Fuel Sales, Business or Professional Office, and Retail Sales development. She further noted existing development of such uses would be subject to these requirements based upon calculated improvement value thresholds.

Mr. Martin suggested EVCS Infrastructure for Retail Gas and Fuel Sales not be at gasoline pumps. Ms. Hernández responded that Staff has taken the location of spaces into consideration, and building and fire codes mandate distance requirements.

D. ITEMS FOR NEXT MEETING

1. Discussion Items

Dr. Vinikoor opened the floor to comments by Interested Parties.

Linda Smithe noted she worked on the design of the building where the meeting is held, and regretted not including a conduit in the parking areas for chargers based on a survey conducted by the Office of Resilience (OOR) of County Staff, where a quarter are interested in purchasing an EV, as well as future projections by the State. She also noted Retail Sales may use EVCSs as a lure to attract shoppers. She asked that Hotel or Motel, and Government Services, duration of charging as "opportunistic" versus long-term, and equitability be taken into consideration.

Dr. Vinikoor suggested Parks and Recreation facilities also be taken into consideration. Mr. Martin responded they may not have the electricity, but agreed on Hotel or Motel.

Mr. Gibaldi responded to Mr. Smithe, disagreeing that the OOR survey means a quarter of the parking spaces should be for EVs, because chargers use software to allow rotation and warrants less capital expenditures.

Mr. Plana noted the importance of time in determining EVCS Infrastructure, potential conflict with fire and building codes, and electrical capacity as it relates to costs. He also noted Retail Gas and Fuel Sales typically place EV spaces in the back of properties.

Mr. Martin asked if anything will be added to the Code to allow the flexible changing of space designations as trends change. Ms. Hernández responded it may be based on percentages, but noted smaller uses would be most affected. Mr. Martin also asked if EV spaces need to be closer to buildings to get a better connection. Mr. Plana responded it would be irrelevant if using direct current. Mr. Wien added that only cost from greater distance would be the trenching of the wires. Mr. Gibaldi noted alternating current for Level 2 charging has distance limitations, but can be mitigated by upsizing. He further noted Gold LEED certification mitigates costs.

Dr. Vinikoor asked about EV spaces if somebody is handicapped. Ms. Hernández responded that from consultation with the Building Division, EV spaces may all be one size and meet ADA requirements. Dr. Vinikoor noted handicapped spaces are generally located the closest to buildings.

2. Establish Meeting Schedule

Motion to accept a meeting schedule of Thursday, December 10, 2020, Wednesday, January 6, 2021, and Thursday, February 4, 2021, all at 1:00 p.m., by Mr. Martin, seconded by Mr. Gulisano. The Motion passed unanimous (6-0).

E. ADJOURN

Motion to adjourn, by Mr. Martin, seconded by Mr. Gulisano. The Motion passed unanimous (6-0).

The LDRAB EVCSs Subcommittee adjourned at 1:56 p.m.

Recordings of all LDRAB meetings are kept on file in the Palm Beach County Zoning/Code Revision office and can be requested by contacting the Code Revision Section at (561) 233-5243.

EXHIBIT B



**Palm Beach County
Office of Resilience**

DATE: November 20 2020
TO: LDRAB Electric Vehicle Charging Stations Subcommittee
FROM: Jake Leech, Office of Resilience
SUBJECT: Electric Vehicle Charging Technologies

On November 19, 2020, the Land Development Regulation Advisory Board Electric Vehicle Charging Stations Subcommittee asked for a brief overview of electric vehicle charging technologies. There are three levels of EV charging, which vary in plug shape, amount of power supplied, and speed of charging.

Level 1 chargers (AC Level 1) plug into a regular wall socket, and are the slowest type of charger. They are typically used for overnight charging at home. This is a universal type of charger, and can charge any type of electric vehicle.

Level 2 chargers (AC Level 2) are typically simple to install, use the same type of building electrical circuit as a clothes dryer or stove, and charge a vehicle at a medium speed. They are often installed at homes for overnight charging, or for charging at offices or other destinations. This is a universal type of charger, and can charge any type of electric vehicle.




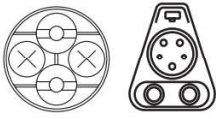
Level 3 chargers (DC Fast) are the fastest type of charger, and are typically installed where vehicle charging is required for long trips (such as along highways). They are more expensive to install than other types of charger, and usually require substantial updates to electrical infrastructure (such as replacement of the transformer supplying the site). Additionally, Level 3 chargers are *not* universal. There are three common types of Level 3 charger which use different plugs. Tesla vehicles use a proprietary type of charger which will not work with other vehicles. Japanese brands typically use a connector type called CHAdeMO. American and European brands typically use a connector type called Combo or CCS. Adaptors are available to adapt between some, but not all, of these connector types. Some electric vehicles cannot use Level 3 chargers at all.

Fuel cell vehicles use hydrogen as a fuel. The fuel cell in these vehicles is a sophisticated battery-like technology which uses the hydrogen to produce electricity to run the vehicle. Fuel cell vehicles are unlikely to be present in Florida.

The table on the next page, taken from a Florida Department of Transportation Draft EV Infrastructure Master Plan Status Report (available as a pdf at

https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/fto/evmp-status-111120.pdf?sfvrsn=ac348cf4_4) summarizes some of these differences and gives more information.

EXHIBIT B

EVSE Type	Supply Voltage	Charger Examples	Power Level	Charge Rate (miles/hr)	Cost to Install	Use Cases	KEY POINTS
Level 1	120V (Toaster)	 J1772 Connector	1 - 1.8 kW	3 - 7	\$	Home/ Overnight	 Obsolete for commercial purposes
			3.3 - 19.2 kW	10 - 60			
Level 2	208-240V (Clothes Dryer)	 J1772 Connector	7.7 kW typical	26	\$\$	Home/Work Destination Charging	
			50 kW	175			
DC Fast Charger	480V (Commercial HVAC Unit)	 CHAdeMO / SAE Combo	150 kW	500	\$\$\$	Roadside/ Travel Emergency Charging	Most applicable for long-range travel and evacuations
			350 kW	1,200			