

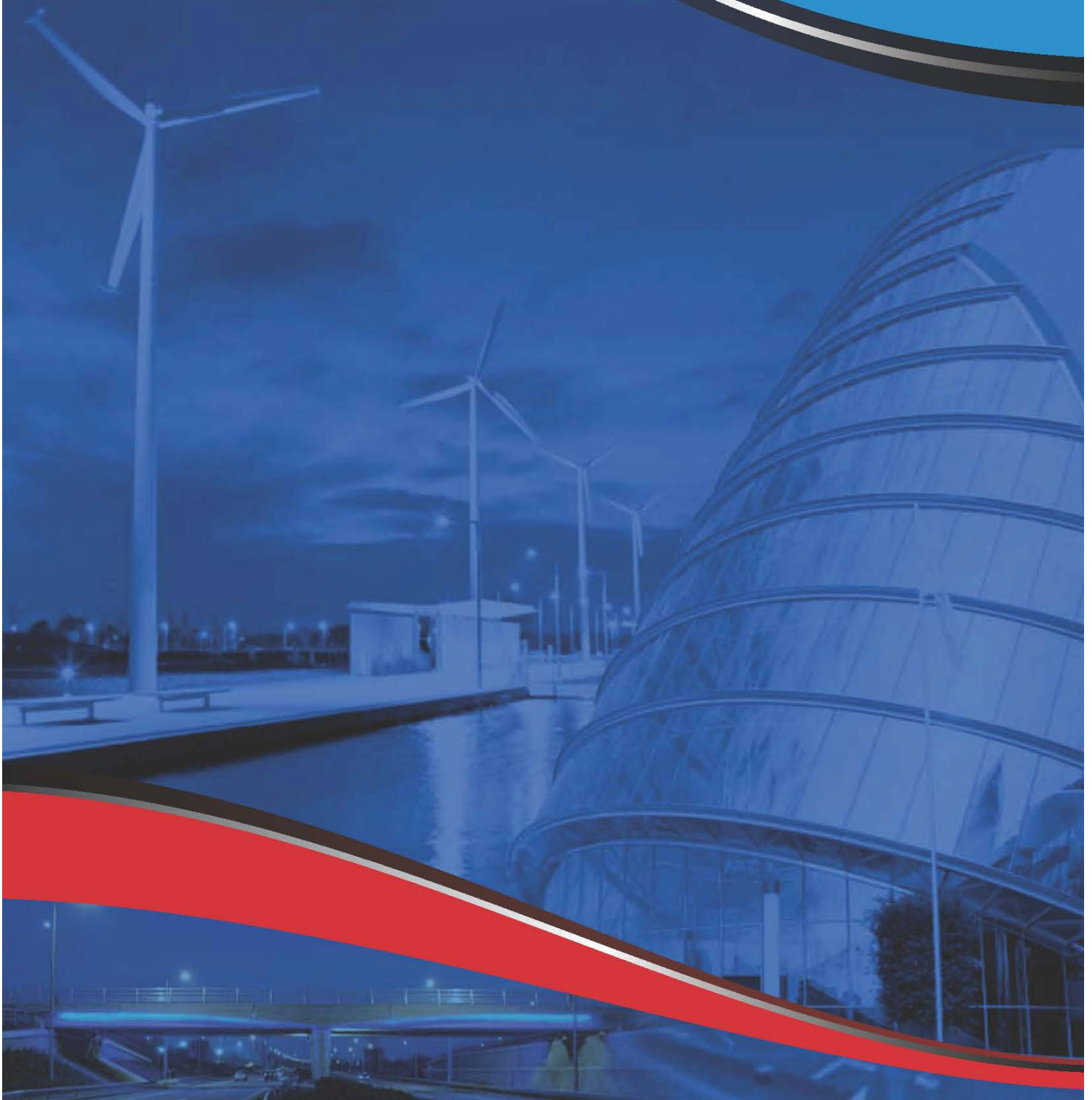


E-Car Charger Report

Project Shoreline GA01

Project No. R500

19th May 2021



Electrical Vehicle Charger Report



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DOCUMENT CONTROL & HISTORY

OCSC Job No.: R500	Project Code	Originator Code	Zone Code	Level Code	File Type	Role Type	Number Series	Status/ Suitability Code	Revision
	R500	OCSC	XX	XX	RP	E	0003	S4	P06
Rev.	Status	Authors	Checked	Authorised	Issue Date				
P06	Planning	BR	JD	PC	19.5.2021				
P05	Planning	BR	JD	PC	11.05.2021				
P04	Draft planning	BR	JD	JD	05.03.2021				
P03	Planning	BR	CmcC	CmcC	15.10.2020				
P02	Planning	YM	CMcC	RB	28.05.2020				
P01	Draft for Planning	YM	YM	RB	14.05.2020				

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1. INTRODUCTION

Client: The Shoreline Partnership

Project: Alterations to Shoreline GA01 Lands at Baldoyle

The proposed development site is located at Stapolin Growth Area 1, Baldoyle, Dublin 13.

The development will consist of alterations to the permitted development, as permitted under FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046) of 544 no. residential units (385 no. apartments and 159 no. houses), retail and a crèche, to the development of 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail, crèche, parking, and public realm, over a total site area of c. 9.1 ha, and site development area of c. 8.89 ha. Landscaping will include extensive communal amenity areas, and significant public open space provision.

This report outlines the design criteria and considerations taken into account with regard provision for charging of electrical vehicles within the proposed development at Shoreline GA01 Lands at Baldoyle, Co Dublin.

The development will comprise 882 no. residential units

Blocks A1-3	288 units
Blocks D1-3	295 units
Block B1	49 units
Block B2	39 units
Block C1a	43 units
Block C2a	33 units
Houses	135 units

Landscaping will include extensive communal amenity areas, and significant public open space provision.

The proposed development shall make provision for the charging of electrical vehicles. All car parking spaces, serving both individual houses and apartments, shall be provided with electrical connections, to allow for the provision of future charging points.

Electrical charging points will be provided by the developer as follows

- a) 10% of covered spaces
- b) 1% of surface spaces.

Details of how it is proposed to comply with these requirements, including details of design of, and signage for, the electrical charging points and the provision for the operation and maintenance of the charging points (where they are not in the areas to be taken in charge) shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

This report outlines design approach to achieve compliance with car charging requirements in residential developments in Fingal.

This report shall be read in conjunction with OCSC drawings:

R500-OCSC-XX-XX-DR-ME-0001	Site
R500-OCSC-GA01-00-DR-E-0200	Blocks A1-3, D1-3
R500-OCSC-XX-XX-DR-ME-0005	Blocks B1-B2
R500-OCSC-XX-XX-DR-ME-0003	Blocks C1-C2-C3-C1a-C2a

Electric vehicles chargers (EVC) today ranges from 3 kW to 100 kW and the charging time depends on type of the electric car charger, the model of vehicle and how full the car battery is when it is plugged in.

The following standards currently apply to EVSE (Electric Vehicle Supply Equipment);

- IEC 62196 – Vehicle Connector and Inlets
- IEC 61851 – Electric Vehicle Conductive Charging System
- IEC 15118 – Road Vehicles V2G
- I.S. 10101:2020 5th edition /CRU/Safe Electric
- OCPP (Open Charge Point Protocol) /OCA (Open Charge Alliance)
- EMI3 Ertico

2. THE DESIGN

There are total 818 parking spaces in the GA01 development distributed as follows:

EV chargers to be provided as follows

Covered parking 10% Allowance

Area	Total spaces	EV space allocation
A1-3 & D1-3 Covered	314	32
Commercial	54	6

Surface parking 1% Allowance

Block B	208	
Block C1	189	
Commercial	53	4

Overall total	818	42
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To comply with the above requirement, 42 no. EV chargers will be supplied and installed as part of the proposed development.

The attached drawings show proposed locations of EV chargers.

The proposed EVCs are Zaptec 7.3 kW twin stations with average charging time from 2-3 hours to 8 hours depending on model of vehicle.

The final installation may use EVCs by other manufacturer with modified positioning and aiming to achieve the same result.

All EV charges will be controlled and maintained by the appointed management company. Power supply for the EV charges will be taken from metered Landlord supplies.

Power supply for the EV charging points in housing zones will be taken from ESB mini Pillars.

ESB mini Pillars will provide metered 63 Amp TP supplies to the dedicated Car Charger mini pillars. EV Charger mini pillars will have sufficient power to power 15-20 EV chargers. EV charger Mini Pillars will be positioned around the development to accommodate future expansion of the car charger network up to 100%.

The EV chargers will be complete with Sim cards to allow for billing.

To optimise energy usage and vehicle charging time a Dynamic Load Management (DLM) system will be installed for EV chargers.

The system is designed for an intelligent energy management of several charging stations that work simultaneously. It allows charging more EV cars in less time using the available power more efficiently.

All wiring will be designed in accordance with National Rules for Electrical Installations 5TH EDITION I.S. 10101:2020

2.2 Provision for future 100% EV Charges.

- The provision of the load management system allows for the most economical use of the available power in the development. This system allows several cars to be charged simultaneously reducing the MIC required across the site by managing the charging power and prioritising power to cars with lower battery levels.

Undercroft carparks - will be fitted with dedicated cableways to provide for the extension of the carpark EV charging and management network to every space.

Street parking - EV charger Mini Pillars will be positioned around the development to accommodate future expansion of the EV car charger network and management system to cater for all spaces. Ducting will be provided from EV charger mini pillars to local banks of car parking spaces to allow easy installation of future charging stations as they are required.

Any future EV charging stations can be easily added to the existing network and integrated into the existing load management system (DLM). All future EV charging stations will be controlled and maintained by the appointed management company.

Underground ducts will be installed to 100% of external car parking spaces in housing zones allowing for installation of EV charging stations in the future.

All wiring will be designed in accordance with National Rules for Electrical Installations. 5th edition I.S. 10101:2020