

**On 10 March 2008 the waters of the Dart were spilling over on to the riverbank. Since then flood protection measures upstream have increased the risk of flooding downstream.**

**For the reasons this letter of representation goes on to explain, it is far from a good idea to plan to keep electric vehicles in such close proximity to water**





**PLANNING REF: Ref 3995/23/FUL**

**DESCRIPTION: Full planning application for the phased delivery of a mixed-use development comprising marine workshops (Use Class B2) and boat storage, offices (Use Class E), care home (Use Class C2), houses and apartments (Use Class C3), mixed commercial uses (Use Class E) and associated infrastructure.**

**ADDRESS: Baltic Wharf Boatyard, St Peters Quay, Totnes, TQ9 5EW**

**LETTER OF OBJECTION FROM THE SOUTH HAMS SOCIETY**

**15 February 2024**

### **The South Hams Society interest**

For the last 60 years, the South Hams Society has been stimulating public interest and care for the beauty, history and character of the South Hams. We encourage high standards of planning and architecture that respect the character of the area. We aim to secure the protection and improvement of the landscape, features of historic interest and public amenity and to promote the conservation of the South Hams as a living, working environment. We take the South Devon Area of Outstanding Natural Beauty very seriously and work hard to increase people's knowledge and appreciation of our precious environment. We support the right development - in the right places - and oppose inappropriate development.

The South Hams Society objects to this application, predicated as it would appear on the desire of the developer to generate a projected profit of almost £13 million rather than making any noticeable contribution to satisfying housing needs in Totnes, improving air quality, safeguarding the high street, or enhancing the natural and built environment both in and on the edge of the town.

Not only does the applicant now argue that it is financially impossible for them to provide a single affordable housing unit, let alone the minimum of 30% that a development on this scale would normally require, but the size of the boatyard is to be reduced and the continuing care retirement community removed. Various retail outlets and restaurant/café's are to be added. And the height and density of the buildings being proposed for the site are disproportionately excessive. All changes supposedly necessary in order to ensure economic viability.

As a result, and as this letter of representation will go on to detail, the proposal being put forward asks the LPA to ignore conflict with policies in both the Totnes Neighbourhood Plan and the Plymouth and South West Devon Joint Local Plan, together with all possible damage to the character of the town and its economy, simply to benefit the applicant.

By definition all development is speculative. But the planning system does not exist to guarantee developers a healthy profit. Instead, as the NPPF makes clear (7):

The purpose of the planning system is to contribute to the achievement of sustainable development, including the provision of homes, commercial development, and supporting infrastructure in a sustainable manner

As it stands, and for the reasons detailed in the sections that follow, this development is far from sustainable.

The Society respectfully requests this application should be refused. •

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## The Application and the Planning History

The Plymouth and South West Devon Joint Local Plan makes it clear that the Baltic Wharf site as a whole is expected to accommodate 190 dwellings.

As a consequence of application 56/1939/10/O, first submitted in August 2010; Reserved Matters application 56/0104/13/RM, subsequently submitted in January 2013; and application 56/1979/13/DIS, submitted in August 2013, 95 of those dwellings have already been built, leaving a further 95 to be delivered.

A separate application 56/0103/13/O was also submitted in December 2012, but this was not pursued.

The development that has taken place is that approved in 56/1939/10/O, a fact confirmed on both the application form submitted with 56/0104/13/RM and the Council’s own website.

Summary	
Application Number	56/0104/13/RM
Location Address	Baltic Wharf, St Peters Quay, Totnes, Devon, TQ9 5EW
Proposal	Reserved Matters Application (phase one of development comprising 93 dwellings, roads and footways through site landscaping, access and associated highway works) pursuant to outline planning permission 56/1939/10/O.
Status	Approved
Application Type	Approval Of Reserved Matters
Appeal Decision	N/A

It is therefore surprising to observe that instead of seeking to comply with both the JLP and the site’s planning history, this latest application (3995/23/FUL) is now looking to construct an additional 194 units. Were consent to be given there would be no fewer than 289 dwellings, shoehorned on to the site, well in excess of the 190 for which consent exists.

Had it been suggested that as many as 289 dwellings would be put forward in the JLP when it first went out for public consultation there would almost certainly have been a significant public response, and the Society contends that response would have been far from favourable.

Here it is worth noting that application 56/1939/10/O followed on from 56/0928/09/O. The application proposed:

*"Mixed use development comprising; up to 6300 sq.m marine and business centre and further offices; up to 11,000 sq.m. boat storage; a continuing care retirement community including up to 60 bed nursing home and up to 100 assisted living units and communal facilities; up to 250 dwellings comprising open market, affordable housing and live / work accommodation; up to 950 sq.m. of cafe and restaurant uses, small scale retail, financial and professional services; public plaza; car parking; internal roads, cycleways and paths; formal and informal open recreation space; wetland area; riverside walkway; and electricity sub stations".*

It was submitted in May 2009 and although recommended for approval by officers was refused in Committee in February 2010 on the grounds that:

*1. The proposed mixed use development includes the construction of a maximum 250 dwellings, together with a 60 bed nursing home and 100 assisted living units. The Totnes & Dartington DPD was approved by the Council on 17 December 2009 for consultation purposes. This document proposes the mixed use regeneration of Baltic Wharf but such mixed use should only consist of about 150 dwellings. The current outline proposal is therefore contrary to the aims of Proposal T1 of this DPD.*

*2. The proposal is considered unacceptable in principle, this is due to the construction of new buildings outside of the approved development boundary of Totnes (as identified in the 1996 adopted South Hams Local Plan) and also the resultant inability to allow for the future expansion of the proposed marine and business centre and boat storage areas within the existing development boundary because of their restricted siting at the south eastern periphery of the site and close proximity to adjoining "continuing care retirement community" uses. As such the proposal comprises overdevelopment of the site and is contrary to LDF Core Strategy policy CS1; Devon County Structure Plan policies ST5, ST15, CO4, CO5; South Hams Local Plan policies SHDC1, SHDC3; and relevant Central Government guidance within PPS1, PPS3 and PPS7.*

*3. Having due regard to the details submitted as part of the outline proposals, including proposed densities of buildings, perceived building heights and layout, the proposal is considered to consist of an excessive density and mass of new development. The combination of extent of site coverage to accommodate such new structures, the number of the residential units per hectare being proposed, and the proposed massing, scale and heights of some of the structures would not respect local distinctiveness, nor respect the character of the surrounds. As such, the proposal would have a detrimental impact on the landscape character of the locality and on the appearance of this prominent waterfront location, which is an important edge of town centre site and on the main river approach into the town, and therefore would be contrary to LDF Core Strategy policies CS1, CS2, CS7, CS9; Devon County Structure Plan policies CO1, CO4, CO5, CO6; South Hams Local Plan policies SHDC1 (and associated planning principles), SHDC3, SHDC15; and relevant Central Government guidance within PPS1, PPS3 and PPS7.*

*4. Notwithstanding the proposed highway visibility improvements and other alterations along St. Peters Quay, the proposed scale of the development (including provision of over 500 parking spaces) will generate unacceptable levels of traffic volume to and from the site, which is served by approach roads and junctions unsuitable to accommodate such increase in traffic volumes. This will result in conditions of danger and inconvenience to all road users and public safety in general, thus contrary to LDF Core Strategy policy CS7; Devon County Structure Plan policies ST1, ST4, TR5, TR10; South Hams Local Plan policy SHDC1 (and associated planning principles); and relevant Central Government guidance in PPS1, PPS7 and PPG13.*

*5. Policy AH3 of the adopted DPD; Affordable Housing states that on unallocated sites with a capacity for 15 or more dwellings, 50% of the dwellings shall comprise affordable housing. The proposal is for*

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*a minimum number of affordable homes at 20% (or 50 units) with grant based on the maximum 250 dwellings being proposed with a ceiling of up to 40% of affordable homes (a potential of 100 units) with grant, dependent upon what is deemed viable at a given point in time. Having considered the viability considerations submitted by the applicant, the Council is not persuaded that there is an overriding requirement to disregard the requirements of Policy AH3. An objection to the proposal is raised for this reason.*

The numbers matter and the applicant is being disingenuous in their Marketing Report-Continuing Care Retirement Community (3.3) when claiming that the:

194 new homes (includes 80 assisted living units now not being provided in scheme as noted below, so net increase by 19 residential units on site from allocation)

To justify this contention the applicant argues in that Report (2. Extant Permission and Planning Policy Position) that planning consent 56/1939/10/O, of which the 80 assisted living units was part, is still extant. It is not.

As the Head of Development Management (West Devon) confirmed to the Society in a letter dated 12 May 2023:

**The Society's opinion is that it is not possible to submit any further reserved matters for the planning application 56/1939/10/O and that there are no longer any valid permissions for the boatyard for the Baltic Wharf owners to rely on.**

**Question 2: Can the local planning authority confirm that there are no 'live' planning permissions existing for the development of the Baltic Wharf boatyard?**

The outline permission provided a period of time within which the reserved matters were to be submitted. That timescale was:

- 2. The first application(s) for the approval of any of the reserved matters must be made not later than the expiration of 5 years beginning with the date of this permission.**

There was a further outline permission granted in 2013, which retained the conditions on the original outline, bar condition 3,4,5 and 7. Therefore the above condition remained in place. Reserved matters applications were therefore able to be submitted up until 2018.

56/0104/13/RM was approved in March of the same year.

With regard to live planning applications for Baltic Wharf. There are no current applications and because of the timescale, any new proposal would need to be submitted as a full application or a new outline application. The site remains an allocation in the Joint Local Plan for a mixed use redevelopment.

In other words this latest application is unable to rely on any previous application but instead must be considered purely on its own merits as a new application which, if it is to comply with the JLP, can only seek approval to construct a further 95 dwellings on the site. •

## Flood Risk and EV Fire Safety Considerations

The Society is concerned that the site is a Flood Zone 3, an area with a high risk of flooding. The main flood risk is from sea levels and salt water.

The applicant's submitted Flood Risk Assessment acknowledges that risk. We highlight the following paragraphs from Appendix B – Technical Note dealing with Flood Risk:

- 1.3. Flood Zone 3 is defined as a 'high probability' zone assessed as having a 1 in 100 (1%) or greater annual probability of river flooding, or land having a 1 in 200 (0.5%) **or greater annual probability of sea flooding.**
- 1.5. Paragraph 159 of the NPPF states that **inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk**, but where development is necessary, making it safe without increasing flood risk elsewhere.
- 2.6. The study showed the site to be partially located within the fluvial floodplain for all modelled scenarios with the exception of the 1 in 5-year fluvial event. The hydraulic model was updated to represent the raising of the proposed development out of the floodplain, i.e. the 'glass wall' scenario. The comparison of peak water levels and flows showed that there would be no significant impact on peak water levels for all modelled scenarios. This is due to the displaced water being spread over a large area, resulting in a minor increase in modelled water levels of up to 3mm. **The exception was a small area of 12mm increase immediately to the north of the site;** this increase was present in the fluvial scenarios at the 1 in 100-year + 41%, 1 in 100-year + 53% and 1 in 1000-year events only.
- 2.7. From a review of the Figures contained in the Summary Note, the identified 12mm increase in water levels over a small area was in the vicinity of a new building immediately adjacent to the site's northern boundary. **Aegaea advised that this was a result of water flowing down the River Dart and slightly 'backing up' behind the glass wall before flowing downstream.** However, the new building sits immediately north (upstream) of the site, so that water flowing down the River Dart would be deflected by the new building rather than the raised site/ glass wall. Also, the 'glass wall' represents a worst-case scenario with the whole of the site raised out of the floodplain, whereas the development proposals include significant areas that would be maintained at, or close to, existing levels including land adjacent to the northern boundary and along the River frontage; any localised increase in water levels would therefore occur within the development rather than immediately upstream of the site.
- 2.10. The Environment Agency's subsequent letter dated 25 May 2022 provided additional advice on its requirements for the further modelling that would be required to support a planning application, **and confirmed that the 4.98m AOD tidal+UE flood level from the Aegaea hydraulic model should be used to set to set levels on the development.**

*(We have emphasised in bold the key issues)*

In other words the buildings should be raised above the level of the flood zone but the surrounding site levels should remain as they are, causing flood levels within the development itself to possibly increase.

Totnes has also recently had the benefit of a £3.8M flood defence scheme that has improved defences along the Dart from the mainline railway bridge to the Steam Packet Inn, as can be seen on the press release included overleaf.

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## Press release: Work begins on £3.8million flood scheme in Totnes

The scheme involves improving existing flood defences along the River Dart from the mainline railway bridge to the Steam Packet Inn. Other measures include providing a new flood wall within Morrisons car park, raising Ashford slipway and providing flood resilience measures to individual properties and flood gates.

Work began on a section of the scheme which didn't need planning permission in January but now South Hams District Council has given the rest of the scheme the green light.

Dan Borwell, for the Environment Agency, said:

This is a fantastic milestone for us and the residents we have been working with to help us shape our designs.

Since the construction of the original defences flood risk has changed and in recent years there have been at least 2 occasions – 2008 and 2014 – where some properties in the town have come close to flooding from the River Dart.

We always ask people to stay flood aware. People can [check their flood risk online](#), by calling Floodline on 0345 988 1188 or by following @EnvAgency and #floodaware on Twitter for the latest flood updates.

Once work is completed on Broadmarsh Industrial Estate, work will move to the areas of New Walk, Throgmorton and the Morrisons car park.



March 2008

### *Totnes Flood Prevention Scheme press release*

The effect of this scheme, by preventing flooding upstream from the Steam Packet Inn, will be to increase the potential of flooding on sites such as Baltic Wharf immediately downstream.

Significantly, according to the applicant:

#### Frontage & Undercroft Parking

These areas have been designed to mimic existing levels and have therefore been set at 3.5m.

This has ramifications for the proposed provision of parking on this vulnerable site and we would refer officers to the Parking Strategy and EV Chargers drawing.

Parking allocation schedule			
Block	Number of Bays	Primary Bays	Secondary Bays
Block A	0	0	0
Block B	32	21	11
Block C	33	27	6
Block D	37	27	10
Block E	20	17	3
Block F	18	15	3
Block M	17	16	1
Block N	18	15	3
Block P2	27	17	10
Boatyard	0	0	0
Carehome	13	13	0
House	75	39	36
Unallocated	34	28	6
<b>Total</b>	<b>324</b>	<b>235</b>	<b>89</b>

16/06/2023 First Issue

[status]	rev	date	description
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CLIENT: Acorn Property Group

REVISOR BY: ML

CHECKED BY: DE

ORIGINATOR NO: 153884

CONSULTANT: STRIDE TREGLOWN

www.stridetreglow.com © Stride Treglow Limited 2019

PROJECT: Baltic Wharf Totnes, Phase 2

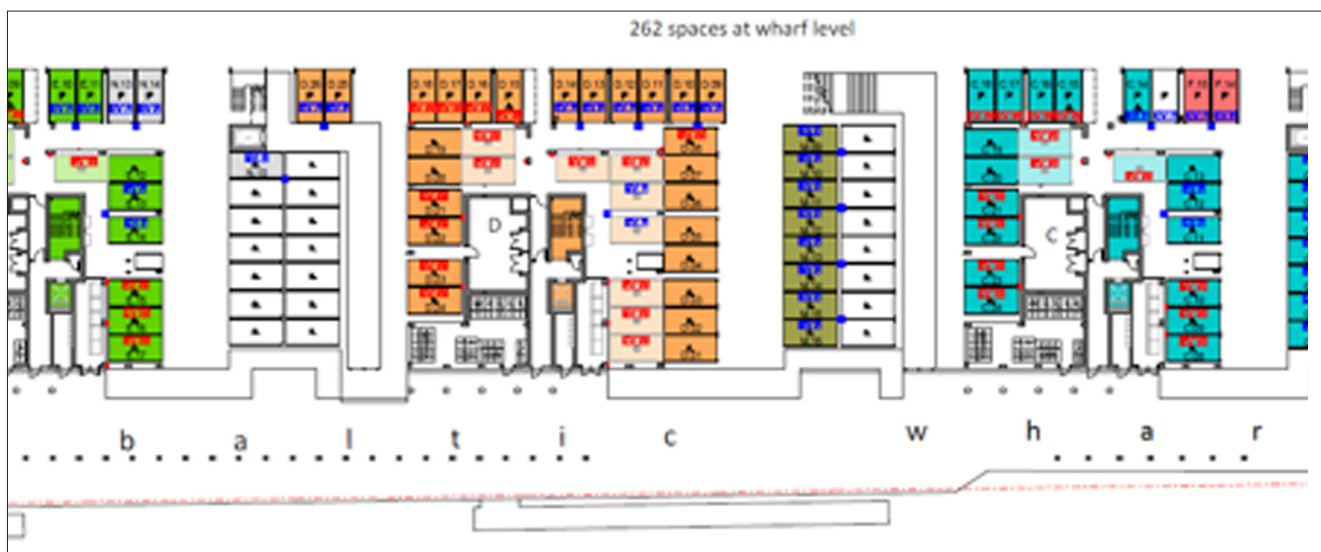
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DRAWING TITLE: parking strategy & EV chargers

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STATUS CODE: PL: PLANNING	SCALE: 1: 250@A0
DRAWING USAGE:	1: 715@A3
PROJECT - ORIGINATOR - VOLUME - LEVEL - TYPE - ROLE - NUMBER: 153884-STL- P-074	STATUS - REVISION - CLASS:

Not only is the site compact but many of the parking spaces are alongside the River Dart with 'undercroft parking'.



Self-evidently, the site will have one of the largest densities of EV charging points in Totnes. Yet the applicant would not appear to have 'risk assessed' the practicalities of placing large numbers of EV vehicles in an area where there will be no flood prevention measures, potentially putting hundreds at risk of flooding.



Here the Society would refer you to the advice of probably the most well-known and best regarded EV car producer Tesla:

[https://www.tesla.com/ownersmanual/models/en\\_us/GUID-7FE78D73-0A17-47C4-B21B-54F641FFAEF4.html](https://www.tesla.com/ownersmanual/models/en_us/GUID-7FE78D73-0A17-47C4-B21B-54F641FFAEF4.html)

The manuals state under the heading of High Voltage Battery Information:

**Submerged Vehicle**

As with any vehicle, if your Tesla has been exposed to flooding, extreme weather events or has otherwise been submerged in water (especially in salt water), treat it as if it’s been in an accident and contact your insurance company for support. Do not attempt to operate the vehicle before Tesla Service has inspected it, but you should tow or move it away from any structures.

The United States Coastguard have emphasised the point about salt water:

<https://www.workboat.com/viewpoints/saltwater-intrusion-causes-damage-to-electronic-vehicle-batteries#:~:text=Saltwater%20exposure%20can%20significantly%20degrade,.%2C%20with%20potential%20for%20damage>

**UNITED STATES COAST GUARD**  
U.S. Department of Homeland Security

**MARINE SAFETY ALERT**

*Inspections and Compliance Directorate*

February 3, 2023  
Washington D.C.

Safety Alert 01-23

**SALTWATER INTRUSION CAUSES DAMAGE TO ELECTRIC VEHICLE BATTERIES**

Recently, Hurricane IAN caused significant damage and flooding throughout Florida and the Southeastern United States. During the response and reconstitution after the hurricane, first responders encountered numerous vehicle fires involving Electronic Vehicles (EVs) that are powered by Lithium-Ion batteries. Subsequent investigations have revealed that the vehicle fires resulted from exposure of the Lithium Ion batteries to salt water. Many vehicles had been susceptible to flooding. Saltwater exposure can significantly degrade lithium-ion (Li-ion) batteries, causing a chemical reaction that creates an extreme fire risk. Review of vehicle registration records revealed there are over 7,000 electric vehicles (EVs) in Lee County, Florida with potential for damage.

*Naples Fire Department Responding to EV Fire*

With most EV vehicles it is the Lithium Batteries which give the greatest concern and, significantly, they are located in the lowest part of the vehicle structure.

During the past six years there have also been a number of serious EV vehicle fires in the UK that has led to the Government to issue interim guidance for covered car parks.

Consequently the Society can only conclude that this is a high risk development, given that 262 car parking spaces are at 'Baltic Wharf level' and therefore likely to be subjected to both fresh and sea water flooding (salt water).



*Visualisation of Block F with wharf-level car parking below*

We refer the local planning authority to the interim guidance, spelt out overleaf.

<https://assets.publishing.service.gov.uk/media/64ac2988b504f7000ccdb8aa/covered-car-parks-fire-safety-guidance-for-electric-vehicles.pdf>

Office for Zero Emission Vehicles (OZEV)

ARUP

## T0194 – Covered car parks - fire safety guidance for electric vehicles

Interim guidance to support parking and/or charging of electric vehicles and the installation of electric vehicle chargepoints in covered car parks

Issue | July 2023

**'Executive Summary**

*This guidance document outlines fire safety considerations and measures that operators, designers, and owners of covered car parks (both new and existing) can take with regards to electric vehicles (EVs) or electric vehicle chargepoints (EVCPs) when:*

- *Retrofitting existing covered car parks for the provision of EVs/EVCPs.*
- *Designing new covered car parks for the provision of EVs/EVCPs.*

*The term 'covered car park' will be used for consistency with Approved Documents which cover infrastructure for charging electric vehicles under the Building Regulations, and encompasses open-sided and enclosed car parks, refer to Section 2.1'.*

**'1.3 What is the legal status of the interim guidance?**

*This document is not a legal compliance document and does not replace existing regulations or the need to comply with them, nor does it directly support compliance with:*

- *The functional requirements of the Building Regulations 2010 (as amended) for new builds, alterations or extensions as covered,*
- *The Regulatory Reform (Fire Safety) Order 2005 (as amended) for existing premises as covered.*

*It is the responsibility of those who need to adhere to the above (and other legislation) to demonstrate how they will comply by providing a design proposal or an assessment of the risk. This must be supported with appropriate evidence from a competent person and a risk assessment.*

*Always refer to the relevant legislation when considering the risk from fire for a covered car park, including but not limited to:*

- *The Regulatory Reform (Fire Safety) Order 2005 (as amended) (and similar in devolved administrations)*
- *The Building Regulations 2010 (as amended)*
- *Health and Safety at Work Act 1974 and associated secondary regulations*
- *The Building Safety Act 2022 and associated secondary legislation*
- *The Electric Vehicles (Smart Chargepoints) Regulations 2021 (if a private chargepoint)*
- *Equality Act 2010*
- *Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR)*

*This guidance does not consider any aspects covered under DSEAR. Guidance on managing obligations and risk under DSEAR can be found on the Health and Safety Executive (HSE) website.*

**1.4 Why provide guidance for fire safety of electric vehicles in covered car parks now?**

*New legislation, The Building Regulations etc. (Amendment) (England) (No. 2) Regulations 2021, which came into force 15 June 2022 requires all new residential and non-residential buildings, and those undergoing major renovation, with associated parking, to have an EV chargepoint installed. Approved Document S was also published by DLUHC, to be read in conjunction with the legislation to provide guidance on how the Building Regulations can be satisfied.*

*Covered car parks have been exempted from the full requirements of this legislation until further research is completed (although cable routes are still required). This legislation applies to England only however we will continue to work closely with our counterparts in the devolved administrations to support the transition to zero emission vehicles. Although electric vehicle chargepoints are not required in covered parking areas under the Building Regulations, cable routes are and chargepoints themselves can be voluntarily installed in new or existing buildings. This guidance has been created for these purposes.*

**1.5 Why does the guidance have interim status?**

*All guidance that is not statutory has interim status. However, emphasis is put on the interim nature of this guidance as it is based on currently available data (i.e. up to April 2022, with Government data from Q3 12* →

2022) surrounding EV fires which will continue to develop.

*Empirical evidence relating to EVs is evolving rapidly as the EV industry is comparatively young (around 12 years old) in comparison with the ICEV industry (around 150 years). The effects that ageing (>10 years) has on fire risk of EVs and their batteries is not yet understood due to the low number of EVs of this age.*

*The intent of this document is therefore to provide an overview of the current knowledge of fire safety of EVs and EV chargepoints and set out fire safety considerations and measures to manage and mitigate an EV fire. The guidance is subject to change should new evidence emerge which significantly impacts appropriate mitigation measures.*

*There is also an ongoing, larger scale review of fire safety in buildings, currently overseen by the Department of Levelling Up, Housing and Communities (DLUHC) Building Regulations Technical Policy Division. This review will consider whether current provisions for structural fire resistance and fire separation are sufficient to address modern car park designs’.*

### **‘2.1.2 Types of fires or explosions that can occur**

*The Li-ion battery is currently the most widely adopted technology for EVs. Lithium is used as a charge carrier in the form of ions in a hydrocarbon-based electrolyte. The electrolyte within the battery is highly flammable and there is a risk of ignition of the battery if thermal runaway occurs. If there is a reaction between the electrolyte and the electrodes within the battery, an accelerated process can occur – due to the self-supply of oxygen from the chemical reactions occurring. An important differentiator to the standard fire triangle is that in the fire triangle for Li-ion battery, the battery provides the fuel and the oxygen and potentially the heat source, see Figure 18.*

*Depending on the environmental conditions around the battery, the release of flammable gases can lead to four different scenarios.*

- *Scenario 1: a free burning fire where ignition of the flammable gases occurs in the presence of an ignition source.*
- *Scenario 2: a jet fire, where the vented gases are released with some momentum in a particular direction and ignite.*
- *Some EV batteries are designed to side vent to minimise the overpressure as a result of accumulation of flammable gases within the battery however this can lead to side projection of flames from below the vehicle.*
- *Scenario 3: flash fire (or deflagration) where the vented gases exist in the right mixture so that a subsonic flame front can propagate through that mixture but in a manner that creates negligible or no damaging overpressure.*
- *Scenario 4: a vapour cloud explosion (VCE), where the vented gases form a cloud within the flammable range and there is sufficient confinement to generate an explosion’.*

The Society also refer to the ecological considerations in the event of a fire which could be serious if a fire spread to a number of EV vehicles.

### **‘2.7 Ecological considerations**

*Firefighting water run off: Research performed in Switzerland in a tunnel in 2019 [9] on a battery module of 4.15 kWh (compared to an EV battery system that has around 8-10 times the power) studied the impact on the chemical makeup of firefighting water after fighting an EV battery. The firefighting water run off was found to contain contaminant levels for Lithium and heavy metal concentrations which far exceeded the limits permitted for industrial effluent entry into their sewage system. This emphasises that water used to fight an EV fire may need to undergo treatment before it can be released into sewers / the environment’.*

It is hard to see how the local planning authority can be satisfied that the Baltic Wharf location, lying outside the Totnes flood protected area, is a sensible location for EV car parking on this scale. Not only is it an area where there is a high probability of flooding, but access to and from the site is both narrow and constrained by buildings.

The Society would therefore refer officers to the attached pdf 'Zurich Resilience Solutions Risk Insight: Electrical Vehicle Charging'. As it makes clear when discussing Location on page 3:

External charging units are exposed to changing weather conditions, and whilst these are designed to withstand a degree of exposure to the elements, the location where stations are installed must be assessed for flood. Flooding can come from a number of sources such as rivers, surface water during heavy rainfall, and inadequate storm drainage. Charging units should not be installed in any location where flood or excessive surface water run-off and pooling is considered a risk.

	Overview	<b>Location</b>	Fire Detection & Suppression	General Controls	Electrical Installation & Distribution	Solar Car Parks	E-bikes & Mobility Scooters	Liability Considerations	Conclusion
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# Location

Prior to installation a fire risk assessment should be carried out in compliance with the Regulatory Reform (Fire Safety) Order 2005 (or equivalent legislation in Scotland and Northern Ireland) that considers the control measures required when selecting and designing charging/parking areas.

Permanently installed charging units are preferred to mobile charging devices, ideally installed externally, and located as far as possible from important buildings, structures and utilities. The distance required between a charging unit/parking area and buildings, etc. will be primarily driven by the construction of the building walls.

Ideally, electric vehicle charging, and parking should be located at least 10 m from combustible walls or at least 75 m from unprotected openings/extensive glazing in non-combustible walls.

Consideration as to what is stored externally will also be needed. Electric charging units/parking areas should not be located within a minimum of 10 metres of external combustible or flammable storage areas, such as waste compounds, pallet storage or gas cylinder cages.


External charging units are exposed to changing weather conditions, and whilst these are designed to withstand a degree of exposure to the elements, the location where stations are installed must be assessed for flood. Flooding can come from a number of sources such as rivers, surface water during heavy rainfall, and inadequate storm drainage. Charging units should not be installed in any location where flood or excessive surface water run-off and pooling is considered a risk.

In circumstances where electric vehicle charging units are installed internally, charging/parking areas should be located as close as possible to exits and preferably on the ground level to allow easy access for the fire brigade. The high combustible fire load of modern cars in general and the high energy generated in these types of fires, can result in a well-developed fire involving numerous vehicles by the time the fire brigade arrives.

Internal charging/parking areas should be in a separate fire compartment with a minimum of 60 minutes fire resistance, subject to consideration of the hazards presented by the occupation of the building. Basement level charging/parking areas present additional complexities for firefighting therefore these compartments should achieve a minimum of 120 minutes fire resistance.

The generation of toxic gases is particularly problematic for firefighting activities in below ground charging areas. It is therefore essential that below ground or concealed charging and parking areas are provided with adequate ventilation.

Wall mounted charging units, whether internal or external, should be installed on non-combustible walls and installation beneath or next to unprotected openings/extensive glazing should be avoided.



Significantly, as the photo accompanying the Press Release on page 15 shows, Totnes came close to flooding in 2008 and again in 2014. As a result a flood wall had to be built in front of Throgmorton House (below) and, as the Environment Agency map on the next page illustrates, the site for this development is very clearly in Flood Zone 3!





And as was noted previously, Valeport, the building alongside, rises 16.0 metres in total above the towpath. Consequently officers should note the development proposal for Valeport set the Finished Floor Level (ffl) at 4.630m AOD.

## 10 Development Proposals

10.1 The proposals for the re-development of the site at St Peter's Quay includes;

- A new three storey building located south of existing Valeport building with finished floor levels (FFL) set at 4.630m AOD. This building will contain a workshop on the ground floor and two further floors of office space.
- A thirty six space staff and visitor car parking set at 3.870m AOD.

But as the image below shows the levels of the car parks are visibly different. That which the applicant is now proposing is some 370mm below the level required for Valeport in 2012, since when severe weather events have become ever more common and the flood risk has greatly increased.

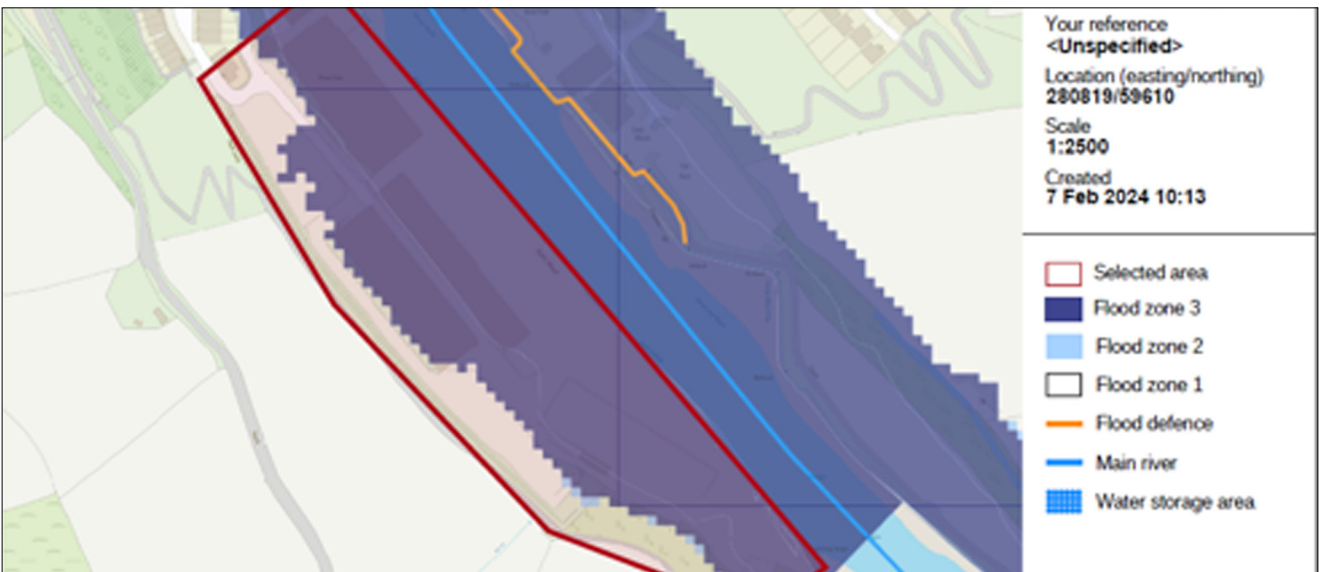




Two of the pinch points on St Peter's Way, above and below.



And the site itself is clearly in Flood Zone3. •



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# Air Pollution

The SLR Consulting Limited Air Quality Report states:

3.2.2 The dispersion modelling has been undertaken using 2019 data from the Exeter Airport meteorological station, located approximately 39km to the north-east of the Site – the most representative meteorological station relative to the Site with sufficient data capture.

However the only building in relatively close proximity to the Exeter Airport station is located around 20 metres away to the east. To the south is a road while to both the west and north is the apron of the airport itself. Consequently nothing appears to shelter the station from the prevailing winds from the south-west. That is not the case with any of the monitoring locations in Totnes.

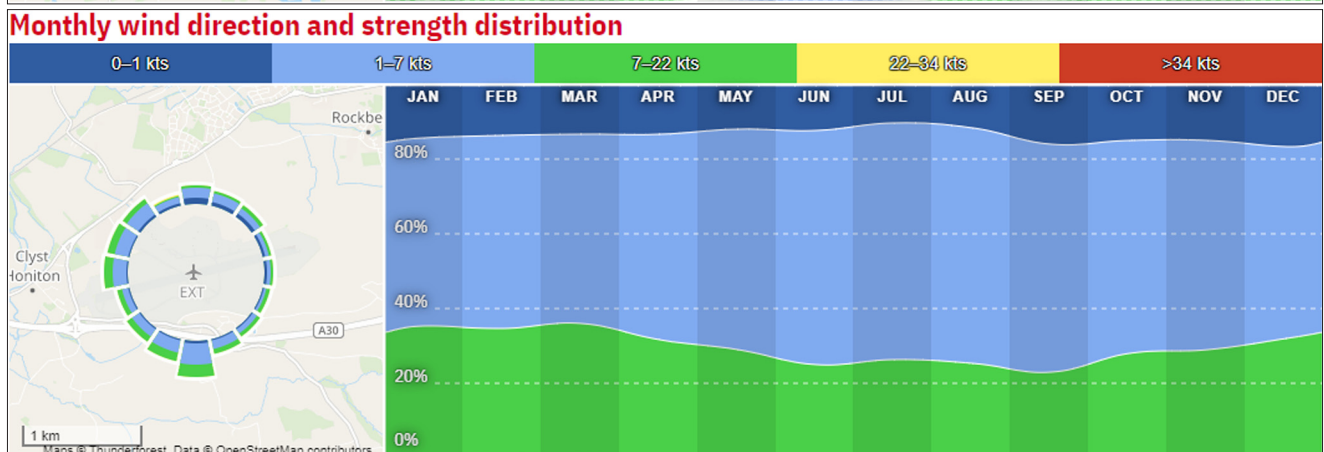
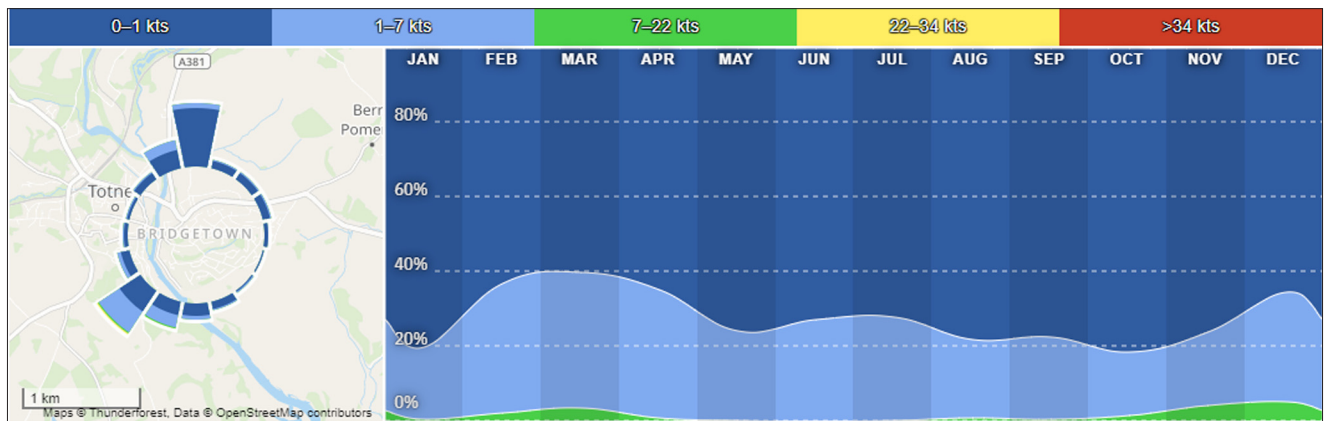
Indeed, on page 23 of the Report, SLR acknowledge:

The terrace of houses (on Bridgetown Hill) would impede dispersion and the gradient would likely result in a greater emission concentration, resulting in a higher predicted concentration.

So it should be noted there are also junctions and pinch-points on all routes from the site to both the Bridgetown/ Coronation Road roundabout and then on towards the A385. The same is true of the route along St Katharine’s Way to the Western By-Pass and Plymouth Road which also boasts a steep hill.

Logically such factors are also likely to result in a greater emission concentration impeding dispersion, as would the fact that the route from the site, whether along Warland or New Walk and the Plains, is very largely lined by residential dwellings and other buildings to either side of the carriageway. Similarly, apart from St Katharine’s Way, all routes run south to north rather than west to east, so providing a shield from the prevailing winds, again inhibiting dispersion.

It is also worth noting that according to the *Monthly wind direction and strength distribution measurements* to be found on the website for Totnes ([https://www.windfinder.com/windstatistics/totnes\\_river-dart](https://www.windfinder.com/windstatistics/totnes_river-dart)) and the Exeter station (<https://www.windfinder.com/windstatistics/exeter>) wind speeds in Totnes are consistently lower than those experienced at Exeter Airport.





Therefore many might consider it sensible to exercise caution in basing conclusions on the impact the proposed development will have on air quality in Totnes on any data derived from the Exeter Airport meteorological station.

Similarly, in 4.1.1 of their Report SLR note:

The latest publicly available LAQM report for SHDC at the time of writing is the 2021 Annual Status Report (ASR)<sup>23</sup>. The monitoring data published therein has therefore been used for the purposes of informing this assessment.

However, between 6 January until 29 March of 2021 England was in Lockdown, and it was not until 19 July that almost all restrictions were lifted, so it would be wrong to assume this monitoring data is in any way representative of COVID-free years.

Again, SLR claim (3.2.1):

It has also been confirmed that based on historical data, any committed development is unlikely to result in a measurable growth of traffic in the area.

Yet as has already been mentioned, the Totnes Neighbourhood Plan reminds us (5.6.12):

70% of peak hour traffic on Station Road is through traffic, giving rise to significant problems such as reducing local environmental quality, dividing neighbourhoods, 'rat running' through the town centre and deterring some from visiting the town thus undermining its retail and service roles

and given that there are a number of major new developments at either end of the A385, for example those in Dartington and Churston Ferrers, it is hard to believe there will be 'no measurable growth in traffic' along Station Road as a consequence.

Any additional traffic from those developments to the east of Totnes that wishes to travel towards Kingsbridge, Ivybridge, Sherford or Plymouth is also likely to turn left at the Bridgetown/Coronation Road roundabout, drive along The Plains, and then turn right up St Katharine's Way. In doing so they will potentially delay those vehicles wishing to go from New Walk towards the roundabout, adding to emissions immediately outside the Catharine House Surgery.



*New Walk is currently a largely traffic-free residential street*

Separately SLR suggest that vehicles travelling to and from the Baltic Wharf development will be able to maintain an average speed of 48kph until after they pass the Bridgetown/Coronation Road roundabout, and would appear to be basing their emissions calculations on this supposition. Even without having to slow down or wait at any of the pinch points or junctions en route this would seem absurdly optimistic, while the inevitable stopping, starting, accelerating and braking will only add to emissions.

Despite this, SLR conclude their Report (8.2 Operational Phase):

In accordance with EPUK & IAQM guidance, the impacts of the Proposed Development on NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations at all existing and proposed assessed receptor locations are considered to be 'negligible'. Unmitigated effects associated with NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> concentrations at all assessed receptor locations are therefore considered 'not significant'.

Here it is worth noting that District Council's Air Quality Action Plan for Totnes makes it clear that (2) the installation of electric vehicle charging points can make an important contribution to reducing the impact of emissions:

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Progress to Date	Estimated Completion Date
1	Carry out a review of pedestrian crossing points on the A385 corridor and associated highway locations.	Traffic Management and Promoting Travel Alternatives	Promotion of walking	DCC	2019	2020	Carry out a safety and design review of the proposed crossing locations.	Some modelling work done on some of the options have shown a moderate beneficial impact on air quality.	2020
2	Installation of an Electric Vehicle Charging Points within Council car parks	Reduction in Emissions	Other	SHDC	2019	2020	Install two evcp within one of the Totnes Public Car Parks	Grant application made to fund the installation of the EVCP.	2020
3	Promotion of alternatives to private car use through the use of green travel vouchers	Alternatives to Private car use	Other	SHDC	2019	2020	Delivery of green travel vouchers and appointment of green travel planner for new developments.	Conversations had with a green travel planning co-ordinator to estimate costs of a post so that planning contributions can be sought.	2020
4	Installation of bike racks and e-bike hubs in key locations to promote cycling usage to replace short journeys.	Promoting Travel Alternatives and Transport Planning and Infrastructure	Promotion of cycling and Public Hire Schemes	DCC	2019	2021	Delivery of cycle hoops on the Plains in Totnes. Discussions with an E-bike provider to look at installing e-bike hubs at the following locations:- The Plains, Totnes The train station Follaton House	The cycle hoops are procured just awaiting installation.  Conversation had to get estimates for price of e-bike hubs est. £40,000 per hub.	2022

So it is worth making mention that the applicant proposes to provide a considerable number of EV charging points, given this might be thought to support one of their stated aims, to 'encourage sustainable modes of transport' and satisfy 3.28 of the Joint Local Plan Supplementary Planning Document:

**3.28** The LPAs expect all new development proposals to take into consideration the below list of potential measures:

- Provision of electric vehicle charging points (Guidance on the requirements of electric vehicle charging points can be found at 'Specific provisions relating to transport (DEV29)');
- Designation of parking spaces for low emission vehicles;
- Provision of facilities to encourage sustainable travel, such as cycling facilities;
- Travel planning with new residents/businesses to encourage travel by sustainable transport modes as well as the uptake of ultra-low emission vehicles;
- Green travel vouchers;
- Facilities within developments which support active modes of transport such as: drying rooms; showers and lockers etc.
- Ensuring good connectivity to existing and future public transport, cycle and pedestrian routes; and,
- The provision of appropriate trees and landscaping features to reflect the importance of 'right tree (or landscaping feature) in the right place'.

But as detailed in the previous section of the Society's submission, the risks inherent in locating so many of the charging points beneath the undercroft and in a flood zone makes such provision both unwise and arguably irresponsible at the very best.

Consequently, and for the reasons stated earlier, the suppositions upon which the applicant has based their claims that any impacts would be 'negligible' and 'not significant' would appear to be far from well founded. But even were any effects in themselves to be 'not significant', those effects cannot be considered in isolation.

There is therefore every probability that this application is in conflict with JLP Policies DEV2.1 and DEV2.2:

### **DEV2.1 and DEV2.2 – Air**

**3.23** Both DEV2.1 and DEV2.2 aim to minimise negative air quality impacts by development proposals.

**3.24** Developments will normally be refused where a development is going to have a significant impact on an Air Quality Management Areas (AQMAs), create a new AQMA, or result in an adverse effect on a European Site.

In addition Paragraph 4.1.8 of the Totnes Neighbourhood Plan states:

It is imperative that new development does not make local air quality worse and if possible, makes it better. This is particularly important in the A385 Air Quality Management Area (AQMA). The main impact on local air quality is from traffic, which the location and size of new development can influence.

While JLP Spatial Priority Policy SP6: Spatial Priority for development in Totnes:

seeks to enhance the vibrancy and sustainability of Totnes. This will include:

3. Ensuring that all development, singularly or cumulatively, will not negatively impact on the ability of the relevant authorities to improve air quality within the A385 AQMA.

The SLR Consulting Limited Air Quality Report makes no claim that local air quality will not be made worse by the proposed development or that in itself, or in combination with other already consented developments, it will not negatively impact on the ability of the relevant authorities to improve air quality within the A385 AQMA.

Paragraph 192 of the NPPF makes it clear that:

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas.

The NPPF is accompanied by web based supporting Planning Practice Guidance (PPG) :

Whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impact in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife).

In other words, the almost certain adverse impact of this proposed development on air quality in Totnes is clearly a material consideration that weighs against consent. •

## The Impact on Totnes

To be fair, the applicant does not suggest that the proposed development will have no adverse impact on air quality and traffic congestion in the town, only that that impact will be 'tolerable'.

Similarly there is no attempt to claim that reducing the size of the boatyard will of itself make no difference to the services that can be provided, only that 'operationally the small reduction in boats numbers does not affect the viability of the boatyard'.

Both of these assertions are open to question. The reduction in boat numbers is far from small.

However it is clear that there will be a considerable increase in traffic – Devon and Cornwall Police have pointed out:

Having consulted with the local neighbourhood policing team they have expressed concerns regarding the impact of additional traffic at rush hour along St Katharines Way which can become gridlocked now.



*The junction of The Plains and New Walk with St Katharine's Way. Traffic waiting to turn right on to St Katharine's Way while waiting for the transporter to do so. Were vehicles also trying to turn right from St Katharine's Way on to New Walk to get to access Baltic Wharf congestion would be exacerbated still further.*

What the development will provide, at least according to the applicant, is 'the potential for a major employment boost to the town with up to 300 new jobs'. It also supposedly 'secures the future of the boatyard with significant investment and a 25 year lease, opens up a private site for public use with a large public plaza together with new riverside and hillside walks as well as much needed homes that are necessary to fund these benefits'.

But what it will not do, at least at the applicant's expense, is to provide any much needed affordable homes. Nor will it, as this letter of representation goes on to explain, satisfy the requirements of Policy En1 of the adopted Totnes Neighbourhood Plan, which states:

1. Within the settlement boundary development will only be supported in accordance with the development plan and where:
  - a. it will help to meet local needs or enhance local services and facilities;

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- b. it will make efficient use of the site in terms of layout, density and mix of uses;
- c. its scale and character will be in keeping with the site and surroundings;
- d. it will maintain or enhance local identity and distinctiveness; and
- e. it will incorporate all reasonable measures to reduce adverse impacts and deliver environmental benefits including improved access for all.

3. In all cases development should be of a high design quality, respecting and complementing the site and its setting, being of sustainable construction, promoting sustainable lifestyles and incorporating the latest energy efficiency measures.

Only against 1.e of this Policy can there said to be any element of compliance, while Policy E3 makes the point:

5. Retail developments outside the town centre's primary shopping area will be resisted unless:
- a. they are minor and ancillary to an established business, or
  - b. it can be demonstrated that there is an operational need for them to be so located, there is no suitable central site available and they satisfy the requirements of the sequential test set out in the JLP.

The Policy exists (5.2.2) to:

ensure that the vitality and viability of the town centre is protected and enhanced, focussing new retail development and activity there and resisting it elsewhere. Town centre floorspace and shopping frontages ought also to remain predominantly in retail use.

The inclusion of some 156m<sup>2</sup> of retail floorspace is likely to adversely impact the town centre and increase the number of cars travelling to and from the site by those living outside the centre wishing to shop there. Essentially, anything other than a convenience store to service the residents of the development and those living on Baltic Way would be problematic.

Similarly, and for the same reasons, the 467m<sup>2</sup> of restaurant/café floorspace, collectively capable of offering in the region of 300 covers will need to take business away from existing facilities in the town to be economically sustainable. Only 422 residents are projected to occupy the site's 194 dwellings, and obviously they will not all be eating out every day.

Again, more vehicle journeys are an inevitable consequence. As indeed will be the impact of imposing, at least by Totnes standards, a high rise housing estate with no fewer than 289 dwellings, if Phase 1 is included, on a site originally intended to accommodate no more than 190.

Many of the dwellings are also likely to be purchased by the elderly moving in from elsewhere searching for somewhere to retire, or by would-be second home owners. As the Neighbourhood Plan recognises (2.3.3):

There is a lot of demand to live in Totnes. House prices are high, pressure for development is strong, and there is a large unmet need for affordable housing. This creates particular problems for younger people, families and older households, who can struggle to meet their housing needs either for affordable or open market housing. This, in turn, means that there is difficulty attracting young people and families to and retaining them in the town. It is vital therefore that any of the limited opportunities for new housing and business development in Totnes make the greatest possible contribution to meeting local needs.

This application does not make such a contribution, and there is currently no suggestion that a Devon Primary Residence restriction can or will be imposed on the site.

Policy V1 of the Neighbourhood Plan makes it clear that:

Support will be given to new development in Totnes which conserves and enhances the town and its reputation by:

- a) respecting local distinctiveness and historic character in land use, scale, form and appearance;

Again, and as this letter of representation goes on to explain, this application does not fulfil that objective.

As it stands and were it to be approved, this application would fundamentally change the character of the 22 →

town and its setting, increase pollution, congestion and flood risk, add to the pressure on existing services, and diminish the amenity of all who live along roads leading to and from the site.

When application 56/1939/10/O was first approved the Officer report noted:

it has been demonstrated that there is overriding support for the proposals within the local community and this is in marked contrast to the objections raised against the previous application.

That is far from the case with this latest application and, by the time of the second and final public consultation, 88% of respondents still had concerns about the scheme, according to Question 3 of the statement of Community Involvement.

Paragraph 137 of the NPPF suggests:

Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community.

The applicant has obviously attempted to take those views in to account, but to do so fully would have made their proposed development impossible to deliver. •



*The development will destroy the existing view downstream towards the boatyard*

## Traffic and Travel

The applicant's submitted Transport Statement (1:8):

... concludes that the proposed development will be highly accessible to those travelling to the site on foot, cycle and public transport services. It also concludes that the access is appropriate and vehicular traffic associated with the development can be accommodated without detriment to future safety or operation of the surrounding highway network.

It then goes on to claim (2.8):

the distance up to which people would ordinarily walk, is 1,950m

As a consequence (2:10):

... the entirety of Totnes, and all the facilities within, are accessible within an acceptable 25-minute walk from the proposed development, including Totnes rail station. As aforementioned, the existing pedestrian network is of high quality and given the range of facilities that can be reached, there is significant potential for future journeys to and from the development to be made on foot.

Whether that will prove to be the case in winter, when it is dark, windy and raining, or when the weather is otherwise inclement, might be open to question, while Sustrans (<https://www.sustrans.org.uk/media/10520/walkable-neighbourhoods-report.pdf>) are on record as saying most people won't walk more than 800m. It is also doubtful whether many people will enjoy walking along the A385 and Coronation Road from the station, breathing the traffic fumes, in order to access the site.

Similarly (2.17) of the Statement goes on to say:

Central government research states that for journeys between 5km and 8km, cycling has the potential to replace car trips. An 8km cycled distance is equivalent to a 30-minute journey (assuming a reasonable cycling speed of 4.2m/s). In reality, and particularly with the introduction and increased uptake of electric bikes, the distance people are prepared to cycle is increasing and journeys to work by bike often exceed 8km. The opportunity for commuting by bike will depend on personal preference and the type of facilities available to cyclists at the end of their journey such as shower and laundry facilities and bike storage (albeit that e-bikes can reduce the requirement for showers and changing facilities).

That suggestion might be thought credible were it to be a product purely of desk research. In practice it appears unlikely the report authors actually attempted cycling in to Totnes from any of the outlying towns or villages. Few in their right minds would risk many of those routes, least of all in winter or the rush hours.

Their Statement then goes on to say 'the site access point on Baltic Way has been used as the starting point' (2.9) to measure distances to shops, buses and other local facilities. However it's worth noting that the entrances to both Blocks B and F of the development are roughly a further 75m from the entrance to the site, while the entrance to Block P is around 250m. So when the Statement suggests the southbound bus stop on Coronation Road can be accessed within a 750m walk from the site, if you're a resident starting off from your front door, you'll have further to go, and somewhat more than the 800 metre Sustrans' limit.

Almost all facilities other than the southbound bus stop are comfortably more than 1km away for the vast majority of prospective residents. Given that more than 80% of the residential accommodation will have two or fewer bedrooms, and given the probable open market selling price of the accommodation, it can safely be assumed that many of the purchasers will be the affluent elderly, while any younger purchasers are likely to be well-paid professional working couples, both of whom need to commute to work.

Indeed Paragraph 5.6.6 of the Totnes Neighbourhood Plan makes the point that new developments:

... such as at Camomile Lawn, Baltic Wharf and Follaton Oak... add to the levels of congestion, with the residents commuting to jobs outside of Totnes.

Consequently it is not unreasonable to assume that both residents and visitors to the site will make greater use of their cars than the applicant's Transport Assessment assumes.

The Transport Assessment also states (5.4):

The trip rates for the residential aspect of the development were calculated based on observed vehicle 24 →

movements from the existing 95 dwellings at Phase 1 of Baltic Wharf.

However whereas in Phase 1 64% of the dwellings were houses, that is only true of 20% of the dwellings in the proposed development. Similarly in Phase 1 half of the dwellings had three or more bedrooms, the proposed development 16%. Therefore, given their differing accommodation requirements, residents in the two phases may have little in common, whether it be in age, marital status, number of children living at home, occupation, or time and frequency of car usage.

	Bloor Homes Housing Mix			This Application		
	Apartments	Houses	Total	Apartments	Houses	Total
<b>1-bed</b>	<b>15</b>	<b>0</b>	<b>15</b>	<b>56</b>	<b>0</b>	<b>56</b>
<b>2-bed</b>	<b>19</b>	<b>14</b>	<b>33</b>	<b>88</b>	<b>18</b>	<b>106</b>
<b>3-bed</b>	<b>0</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>8</b>	<b>19</b>
<b>4-bed</b>	<b>0</b>	<b>36</b>	<b>36</b>	<b>0</b>	<b>13</b>	<b>13</b>
<b>Totals</b>	<b>34</b>	<b>61</b>	<b>95</b>	<b>155</b>	<b>39</b>	<b>194</b>

Despite this Table 5.2 of the Transport Assessment suggests there will only be a total of 119 vehicles either departing or arriving at the development during the morning peak period (08:00-09:00am) that need to be added to the 13 already arriving and 17 departing the Phase 1 development (Table 6.3 TA Part2), while during the evening peak (17:00-18:00pm) there will be 103 arrivals and departures in total from the proposed development to add to the existing 28 from Phase 1.

Of these only nine of those in the morning and one in the evening will be connected to the boatyard workshops. Yet historically (Table 2.6) the boatyard alone is said to have generated 54 or more two-way trips during the morning peak and 36 or more during the evening. It is hard to reconcile this projection with the applicant’s claim on page 19 of the Design and Access Statement that:

The boatyard facilities will provide storage for a similar number of active boats as are stored there currently and larger workshop facilities increasing the employment potential.

The boatyard will provide a range of marine business facilities including offices, chandlers/reception area, larger workshops (increased employment potential) and boatyard storage (for similar number of active boats) complying with the outline application and allocation. The workshops have been developed in consultation with the existing tenants to provide the best possible purpose built modern facilities. The proposal allows for the storage of boats with modern workshops at wharf level and marine office space over with built-in future-proofing for expansion and adaptability.

Noticeably, of the nine morning trips, only six are arrivals – the other three are departures. If the boatyard is to have the sustainable future the applicant suggests and provide any form of employment potential vehicle numbers will need to be far closer to historic levels than those now being predicted.

Similarly Table 5.9 suggests that only 28 of the car driver trips during morning peak will be residents commuting, 15 of which we are told will be made by those leaving the site to travel to their place of work, while the other 12 will arrive. Nor is this the only mathematically challenged claim in both this and Table 5.10. There are also discrepancies in morning peak Leisure, Retail and Workshop, and Care Home evening peak.

More pertinently, given the likely resident mix, it is hard to believe that no more than 15 cars will be leaving the site to take people to work, while it is equally difficult to accept that nobody will be arriving in a vehicle to work in or make deliveries to any of the restaurants and/or cafés during the morning peak either. Indeed, as far as Table 5.10 is concerned, the collective morning peak arrivals for the 300 jobs provided in combination by the care home, retail, restaurant, office and workshop will only result in a mere 45 vehicles coming to the site.



Consequently there is every reason to suspect the Transport Assessment may well underestimate the traffic volumes the proposed development will in reality generate. And, were this to be the case, the impact at both the St Katherine's Way/Warland and Bridgetown/Fore St/Coronation Rd junctions would be that much the greater.

Already vehicles travelling along The Plains and wishing to turn right towards Bridgetown can experience a 33 second delay (Table 6.6). The summary of modelling results suggests the additional traffic from the development will increase that to 59 seconds and, were the Assessment to underestimate traffic volumes, the consequent congestion would be even greater.

It is therefore surprising that although 6.47 of the Assessment acknowledges 'the Bridgetown/Coronation Rd/Fore St mini-roundabout is shown to be approaching capacity, with an RFC of 0.91 reported' it then goes on to claim (7.8) the 'development impact at this junction is not considered to be significant with minimal impact on queuing and delay.'

At best delay times will effectively double. Few would consider that 'minimal'.

Consequently 5.6.15 goes on to require:

Proposals for new development should be accompanied by whatever measures are necessary to ensure that it can be delivered and used sustainably and a statement explaining how it will seek to improve the local transport network by measures such as:

- c. Ensuring that new development does not make congestion and air quality in the town worse.

By its own admission the Transport Assessment acknowledges the development will make congestion worse and, as we detailed previously on page 16 of the Society's objection to this application, it is almost certain to have a similarly adverse impact on air quality.

Separate from the impact on the Bridgetown/Coronation Rd/Fore St mini-roundabout, the development is also likely to result in rat-running along Warland by drivers trying to avoid possible delays on New Walk and wishing to head towards Kingsbridge, Ivybridge or Plymouth by turning up St Katharine's Way and on to The Lamb and Cistern Street, and then turning either on to the Western By-Pass or Plymouth Road.



*Warland is effectively a single lane. Note the traffic queuing along St Katharine's Way in the distance*

Unfortunately the width of the Warland carriageway is only 4.54 metres with residents' vehicles parked in many places along its length. To all intents and purposes it is single lane. Leaving aside the impact on resident amenity, should anybody be 'rat-running' in the opposite direction at the same time towards the proposed development, 26 →

congestion will inevitably ensue. Nor is there any way of preventing it from occurring unless Warland was to be made one-way, but that in turn would increase vehicle volumes on New Walk



*Rather than travel straight on along New Walk towards The Plains traffic leaving the site wanting to cut through to Warland and St Katharine's Way might well turn left and rat-run past the houses in the background*  
 5.6.12 of the Neighbourhood Plan makes the point about rat-running:

70% of peak hour traffic on Station Road is through traffic, giving rise to significant problems such as reducing local environmental quality, dividing neighbourhoods, 'rat running' through the town centre and deterring some from visiting the town thus undermining its retail and service roles.

And it is probable that the proposed development will not only add to the number of vehicles using Station Road, but in all probability will add to rat-running elsewhere in Totnes, with all the consequences identified in the Neighbourhood Plan.

There are also three pinch-points on St Peter's Quay, where the carriageway is reduced to a single lane, firstly at the north-eastern entrance to the site itself, then again a 100 or so metres to the north, and finally beside



*The pinch-point at the entrance to the site is impossible to widen*

the Stream Packet Inn. Inevitably some vehicles will have to brake and wait at these locations with their engines idling, before then having to accelerate away once more in order to proceed, adding even more emissions in the process. Elsewhere there is also a pinch-point on St Katharine's Way.

JLP Policy DEV29 states:

Development will be required to contribute positively to the achievement of a high quality, effective and safe transport system in the Plan Area. It will promote sustainable transport choices and facilitate sustainable growth that respects the natural and historic environment. Development proposals should therefore, where appropriate:

6. Mitigate the environmental impacts of transport, including impacts on air quality, noise pollution, landscape character and the quality and distinctiveness of urban and rural environments.

It is hard to see how in adding to the number of vehicles using the local highway system this development would 'contribute positively to the achievement of a high quality, effective and safe transport system in the Plan Area', nor how it will successfully mitigate 'impacts on air quality, noise pollution, landscape character and the quality and distinctiveness of urban and rural environments'. •



*A taxi entering Baltic Way as a car passes through the pinch point on St Peter's Way beside the Steam Packet Inn below and heads towards New Walk in the distance*

## Environmental Considerations

In 2022, the last year for which data is available, the Totnes Sewage Treatment Works, the Bridgetown Steamer Quay Sewage Treatment Works and the Totnes Town Sewage Pumping Station collectively discharged sewage in to the Dart on no fewer than 70 separate occasions, and for a total of 1,334.63 hours.

However, as the monitoring equipment was only operational for 41% of the time, the situation in reality will have been somewhat worse. Indeed, in 2021, when the monitoring equipment was fully operational, there were some 211 spills, together lasting a total of 1,521.44 hours.

As there are only 8,760 hours in a non-leap year such as 2021, that equates to sewage being continuously dumped in to the Dart for more than two out of the twelve months.

Perhaps not surprisingly, South West Water accept sewage treatment in Totnes is 'approaching design capacity'. And in Table 21 of their Drainage and Wastewater Management Plan Dart May 2023 they accept there is an Immediate high risk of risk of sewer flooding occurring in a 1 in 50 year event along with pollution incidents happening, as well as an immediate moderate risk of internal sewer flooding, a risk of sewer flooding in a 1 in 10 year event and a risk to storm overflow performance.

Suffice to say Table 22 goes on to accept the catchment requires additional investment to make it resilient for the future, with 5.1% of all properties within the catchment predicted to be at risk of sewer flooding, while of the 13 overflows in the catchment only four have been classed as 'satisfactory', three are 'substandard (medium)' and two are 'substandard (high)', with the remaining four simply 'unsatisfactory'.

Yet despite this, and despite the volume of sewage currently going in to the Dart, South West Water propose no immediate action:

We are monitoring performance at the treatment works and there may be a need to increase capacity as part of a medium/long term strategy.

Included in the works the company suggests may be necessary would be to increase the capacity of the existing foul/combined networks by constructing new stormwater storage systems, to separate surface water from combined systems by either modifying existing or constructing new surface water networks or both, and to also develop a program to reduce surface water infiltration. None of this will happen immediately.

Instead the only work that might be undertaken would be to increase treatment plant capacity, but by how much and when is not stated.

Nor will that work necessarily be sufficient, given that Table 19 of the Drainage and Wastewater Management Plan noticeably fails to anticipate any further planned residential development in Totnes.

Were another 194 new dwellings to be built on Baltic Wharf the town's population could increase from the 2021 Census total of 9,214 by 427 to 9,641, or by around 4.6%, adding yet further pressure on a wastewater system already incapable of coping.

Even before the Dart reaches Totnes it is already having to contend with sewage dumped in it upstream by wastewater treatment works at Kilbury (Buckfastleigh), Ipplepen, Denbury, Staverton, Broadhempston and Princetown (see the table below). Sadly only the durations and not the volumes being dumped are available.

Location	2021			2022		
	Spill Hours	No. Spills	Op%	Spill Hours	No. Spills	Op%
Totnes	1,521.44	211	100%	1,334.63	70	41%
Kilbury (Buckfastleigh)	2,113.95	219	100%	1,089.16	82	100%
Denbury	1,818.22	147	100%	252.09	61	100%
Staverton	47.33	13	100%	57.36	7	92%
Broadhempston	1,503.28	303	100%	1,049.59	113	100%
Princetown	n/a	n/a	n/a	0	0	100%

And as South West Water themselves admit:

When untreated/partially treated wastewater is discharged to a watercourse it may have potential to affect the downstream environment including river and coastal areas. This will be dependent on the duration of any discharge and the dilution offered by the receiving watercourse. This discharge could be from blockages in the sewerage network, wastewater spills or leaks, from misconnections (when wastewater from households is incorrectly connected to the surface water sewer) or from storm overflows.

But separate from any possible impacts on human health, overflows in the Dart catchment can also impact on the River's shellfish waters.

Although South West Water acknowledge:

New developments can cause an increase in the volume of wastewater requiring conveyance and treatment. Improvements to the foul sewerage system to support new development will be assessed by South West Water's New Developments Team and infrastructure charges paid by new developments will fund required upgrades to ensure sewer flooding risk is not increased.

The company also already admit that more than one in twenty of all properties within Totnes are known be at risk of sewer flooding. Consequently, until that risk has been eliminated, or unless the applicant is prepared to pay to ensure that risk is eliminated, this proposed development should not be permitted to proceed.

To quote JLP Policy DEV2:

Development proposals which will cause unacceptable on- or off-site risk or harm to human health, the natural environment or living conditions, either individually or cumulatively, will not be permitted.

As for South West Water, in response to this application they have as yet been 'unable to comment as there appears to not be a drainage strategy within the documents.' •



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## The Scale of Development

The Valeport (56/1954/15/F) and Tor Homes buildings to the north on the west bank of the river and Quantum House on the opposite bank are all around 16 metres high. The proposed development will be noticeably taller. Both of Blocks C and D will rise some 21.6 metres above the existing towpath (wharf level).

The other two Blocks lining the riverfront to either side, Blocks B and E, are slightly lower at 18.525 metres, according to 4.2.1.4 of the applicant's submitted Landscape and Visual Appraisal. Blocks, P2, N and M, built on the raised central deck, itself 3 metres above wharf level, will effectively have heights of 21.75m, 18.6 metres and 18.6 metres above wharf level respectively, while the Carehome built further up on the slope immediately behind them to the west will be taller still. Only Blocks F and A at the northern end of the site will be perceptibly lower, at 16.8 metres and 10.0 metres above wharf level respectively.

However officers might like to note that on the submitted elevations the ground floor of each of the buildings quotes a finished floor level (ffl) of at least 3.5 metres. What is not clear is whether this would represent any increase above the existing towpath. Were it to do so it would increase the effective height of the proposed buildings that much the further.



*The red line above Valeport shows the heights of Blocks C and D relative to Valeport*

Conversely what is clear is that although all previous planning permissions have lapsed (see 'The Impact on Totnes'), and because the phase one permission was implemented and as a result can no longer be relied upon, the outline planning conditions imposed when consent was given to application 56/1939/10/O still apply. Condition 42 states:

No building (or part of any building) on the site shall be constructed to a height greater than 14 metres above ground level.

Reason: To ensure that the height of the development does not exceed the parameters agreed at outline stage and in the interest of scale and massing considerations and the impact on visual amenity.

Consequently a variation order for its amendment or its removal by the LPA would be necessary before this latest application could be approved.

Between the two rows of buildings, and because of the way the blocks are spaced in order to maximise river views, a brick and render curtain will be created, effectively blocking out the existing views of the undeveloped hillside to the west from both the river and the public right of way on the opposite bank.

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By packing the buildings together far more tightly and some 35% higher than their immediate neighbours on the approach to the town centre to the north will inevitably exacerbate their impact on their setting, creating a canyon-like quality towering over any boats coming up river from Dartmouth. Rather than gradually tapering higher from south to north and gently leading the eye up and in to the town itself, as would normally be expected, the proposal will instead impose a large incongruous, unsympathetic and unsightly overdevelopment, located at what has been the historic marine gateway to the town.

It is perhaps significant that during the public consultation a noticeable number of respondents expressed concerns about both building heights and overdevelopment, to which the applicant offered the following response:

With any development, a balance needs to be struck between acceptability and viability, else there would be no development at all. This application has been informed by multiple assessments, including a visual assessment and heritage assessment, which have shaped the proposal into a scheme befitting of the wider area context, whilst also acknowledging that the site is not without its constraints.

This statement could alternatively be interpreted as: ‘while we acknowledge we’re packing an awful lot in to a confined space it’s the only way we can get it to work for us financially, so tough’.

Even so, Policy V1 of the Neighbourhood Plan is unequivocal:

Support will be given to new development in Totnes which conserves and enhances the town and its reputation by:

- a) respecting local distinctiveness and historic character in land use, scale, form and appearance;

And as put forward, few would accept this application satisfies that requirement. As 4.4.1 of the Neighbourhood plan emphasises:

The high quality, undeveloped landscape around Totnes frames the town as it nestles in the surrounding hills. The town’s place in the wider landscape and the views of important buildings (the Castle and St Mary’s Church) within Totnes are both essential parts of local landscape character. This is particularly important at key ‘gateway’ sites to the town, for example: views descending Kingsbridge Hill and Bridgetown Hill; from **boats approaching Totnes up the river**; on the road approaches from Dartington and Newton Abbot;



*The view boats approaching Totnes currently enjoy*

and from the railway lines. The NP therefore aims to protect both the landscape setting of the town and the town's contribution to the wider local landscape.

For these reasons NP Policy En4 insists:

1. New development should protect the landscape setting of Totnes and its historic landscape features in accordance with national policy and the development plan.
2. New building should not be of a height or mass to obscure important views shown on the Proposals Map, nor of a height to break the historic skyline.
3. New development should protect and where possible enhance the contribution the town makes to the landscape character of the wider area.

The proposed development singularly fails to protect the landscape setting of Totnes and its historic landscape features, while there can be no doubt its height will break the historic skyline and do nothing to protect, let alone enhance, the contribution the town makes to the landscape character of the wider area.

As 4.5.1 says:

The River Dart is a key feature in the local landscape and the prime reason for the town's location. The Dart valley is Totnes' essential landscape feature, has been a mainstay of its economy and is an important resource for leisure and recreation.

So to quote NP Policy En5:

Development on or adjacent to the river should:

- a. conserve or improve local identity and the appearance of the riverside;

In terms of the height and density of the buildings, their architecture, such features as the central walkway and the much diminished boatyard, this overdevelopment will do nothing to conserve or improve local identity and the appearance of the riverside. Instead it will impose the same canyon-like quality on the waterfront that has so disfigured and aesthetically degraded large stretches of the banks of the Thames in London. •





## Insufficient Car Parking

According to the Framework Travel Plan (1.11):

It is proposed that 324 car parking spaces are provided for the development of which 241 will be provided for the residential dwellings, 13 spaces will be allocated for the use of the care home and the remaining 70 spaces allocated to the commercial uses or as visitor spaces. It is expected that each commercial unit will be provided with one or two car parking spaces each.

This proposal fails to comply with the Indicative car parking standards set out within the Plymouth and South West Devon Joint Local Plan 2014-2034 Supplementary Planning Document, adopted in July 2020. Those standards specify, for example, that there should be 190 parking spaces in total for the 2-bed apartments and houses. In reality only 121 are to be provided, a shortfall of 69.

Given the likely cost of those apartments and houses they will in all probability only be affordable to young professional couples, older affluent retired couples and second/holiday home occupants. As 5.6.6 of the Totnes Neighbourhood Plan points out 'new developments add to the levels of congestion, with the residents commuting to jobs outside of Totnes', and the younger couples in particular may well each need a car in order to get to work.

Again, older retired couples may well each have a car, with no wish to lose the independence provided by having their own vehicle, while second/holiday home occupants often arrive separately in their own vehicles.

Similarly the 19 3-bed apartments and houses should between them provide 60 car parking spaces. Instead only 38 are to be made available, a shortfall of 22 spaces, while only 26 spaces are allocated to the 13 4-bed houses against the indicative number of 39.

As a result it is entirely possible that many, if not all, of the remaining 70 spaces being allocated for commercial use or as visitor spaces will in practice be occupied by residents. But, even were that not to prove to be the case, the 70 spaces being allocated for commercial use or as visitor spaces are in themselves 58 short of the number required by indicative car parking standards.

This in itself is a further concern. The proposed commercial uses are offices, retail and restaurant/café. 'As such,' to quote 4.4 of Transport Assessment Part 1, 'there is expected to be in the region of 156m<sup>2</sup> of retail floorspace, and 467m<sup>2</sup> of restaurant/café floorspace.' In all, according to Ed Lewis, the Regional Director of the developer Acorn Property Group, who was speaking to the Totnes Times, the development is predicted to generate 'up to 350 full-time jobs'.

Unfortunately Mr Lewis offered no explanation as to how he had arrived at that figure, but it is safe to assume that many of those jobs, and certainly those in the care home and in the retail and hospitality outlets, will only pay the minimum wage. None of those employees will be able to afford to live on site.

So inevitably many of all those working there will commute in to work by car, as will many of those coming to visit them for whatever purpose. And even if all 194 houses and apartments are built and occupied, the occupants alone are unlikely to be capable of providing sufficient custom to enable the restaurant/café floorspace to be financially viable.

According to Nisbets 'industry experts recommend that allocating 1.5m<sup>2</sup> per restaurant seat is a good base to work from when trying to establish rough size requirements'. Were 20% of the allocated restaurant/café floorspace to be taken up by kitchen/storage requirements, that could still leave space for some 250 covers. Even if conservatively only half were to travel to the site by car, and were each car were to have two occupants, parking would still have to be found for at least 60 vehicles for this purpose alone.

And that's before any parking might need to be found for the staff of those establishments, or for the customers or staff of any of the shops.

An inevitable and immediate consequence of any lack of parking spaces will be vehicles arriving at the site only to turn round and go back again the way they have come, inevitably adding to both emissions and congestion. Longer term, the financial viability of the retail and restaurant outlets could well be called in to question unless their clientele can be confident of finding somewhere to park.

The nearest alternative parking is to be found on St Katharine's Way, more than 600 metres away. A short-stay car park during the day permitting a maximum stay of three hours, insufficient time perhaps to get there and back and also enjoy a relaxing lunch. And few will be particularly happy discovering they might have to make that trek, particularly if it is dark, cold, windy and/or wet.

Consequently officers might wish to question whether it is wise to approve this development given its very obvious failure to satisfy indicative car parking standards.

They might also wish to question whether it is sensible to accept that no fewer than 323 of the parking spaces are underground, with bays no more than 2.5 metres wide and 5 metres deep. In the UK, according to *The Times* on January 23 (<https://www.thetimes.co.uk/article/most-new-cars-are-too-wide-for-minimum-standard-parking-space-ffpz8rbr5>) 'new cars sold in the first half of last year were on average 180.3cm wide'. Even if parked perfectly that would only leave a gap of less than 34cm to either side of the vehicle, certainly insufficient to allow anybody overweight, or wearing a heavy coat or carrying a baby-chair, to enter or exit.

And, of course, some cars are even bigger. A 2025 Range Rover Velar for example is 2.04 metres wide and 4.8 metres long! As the *Guardian* (<https://www.theguardian.com/business/2024/jan/22/cars-growing-wider-europe-report>) recently pointed out, 'new cars in the EU and UK have grown 1cm wider every two years, driven by large luxury SUVs whose sales show no sign of slowing'. So such potential problems could yet become even more pronounced.

Finally, while it is encouraging to note the applicants intend to provide vehicle charging points with many of the bays, a report in the *Daily Mail* last July should give pause for thought, with London Fire Brigade's deputy commissioner Dom Ellis telling the paper (<https://www.dailymail.co.uk/news/article-12325611/Fire-crews-fears-electric-car-blazes-having-double-crews-sent-deal-batteries-cause-rocket-like-infernos.html>):

Over the past year, the number of fires involving lithium batteries has risen frighteningly fast. LFB have dealt with 143 blazes involving electrically-powered vehicles and hybrids so far this year, compared to just 31 in the whole of 2020 - equivalent to an eight-fold increase.

Normal car fires take between 220 and 400 gallons of water to extinguish. But up to 6,600 gallons is needed for electric vehicles. Precautions also have to be taken to limit the amount of contaminated water entering water courses.

Nor is contaminated water the only potential problem electric vehicle fires can pose. To quote *Air Quality News* (<https://airqualitynews.com/cars-freight-transport/electric-vehicle-fires-should-we-be-concerned/>):

During an electric vehicle fire, over 100 organic chemicals are generated, including some incredibly toxic gases such as carbon monoxide and hydrogen cyanide – both of which are fatal to humans.

Consequently, not only are many of the parking bays located directly beneath many of the buildings, in themselves posing a potential threat to those buildings, but in the event of an EV catching fire in a confined space it would in all probability spread very rapidly and pose very considerable dangers to those trying to bring it under control.

The implications of Flood Risk and EV fire safety considerations in covered car parks were of course examined in greater detail in the Section beginning on page 5 of this letter of representation. •

## The Lack of Affordable Housing

According to Policy C4 of the Neighbourhood Plan:

1. New housing development should address housing needs, particularly in terms of tenure and size, with priority given to meeting local housing needs.
2. Affordable homes should be included at least in line with adopted targets and arrangements should be made to ensure that they remain affordable in perpetuity.

with further clarification being provided (6.4.3):

A central concern of this NP is meeting local housing need rather than satisfying demand for housing. This includes meeting known needs for housing in terms of size, tenure and affordability, and specifically increasing the number of smaller homes to meet the needs of local young and older people.

The JLP also acknowledges this concern (5.100):

A key challenge for Totnes throughout the plan period is how to provide new homes that are affordable to local people

And makes clear (Policy DEV8):

3. Within the whole policy area a minimum of at least 30 per cent on-site affordable housing will be sought for all schemes of 11 or more dwellings. Off-site provision or commuted payments in lieu of on-site provision will only be allowed where robustly justified.

Nor originally was there any reason to suppose the applicants would fail to meet this requirement. Their 2021 public consultation boards even went so far as to promise:

The development will provide much needed affordable housing within South Hams in a vibrant, mixed-use community and accessible location. The project will provide a mix of housing that is suitable to help meet local need. The floorspace and building massing of the previously consented 80 Assisted Living apartments and 60 bed Care Home can be re-provided as affordable and market housing.

Yet now there is no suggestion the applicant will provide any of the much needed affordable housing. According to page 21 of their Design & Access Statement:

Due to the abnormal site development costs (which include the re-provision of the boatyard, provision of employment space, flood level mitigation requirements and the significant extra expense caused by the brownfield nature of the site) the amount of affordable housing will depend upon the agreed viability position.

That means for any affordable housing whatsoever to be delivered the money will have to come from grant funding from Homes England. Were this to be agreed the applicant now proposes:

a minimum of 16% (31) of the dwellings will be delivered as affordable. Subject to further viability assessments the scheme has been designed to provide a further 14% affordable housing so that up to 30% affordable dwellings could be provided to meet Policy DEV8.

Quite simply, this is unacceptable. The Local Planning Authority should not be asked to disregard its own policies in order to allow the applicant to deliver a development that will fail to satisfy identified local housing needs and, at the same time, effectively guarantee the applicant an eight-figure profit. •

# Devon and Cornwall Fire Service

In response to this proposal Devon & Cornwall Fire Service emphasised:

the proposal must comply with the functional requirements of Approved Document B of the Building Regulations, to include access requirements for Fire Service Vehicles (B5). These include Vehicle Access, including minimum road widths, turning facilities for fire service vehicles and maximum reversing distances of 20 meters.

To quote Building Regulations: Approved Document B Volume 1, 2019 edition:

13.4 Dead-end access routes longer than 20m require turning facilities, as in Diagram 13.1. Turning facilities should comply with the guidance in Table 13.1.

It should therefore be noted that the length of South Street for example, the road running east down towards the river from the junction to the care home (the red line), and along which appliances would have to reverse is 35m, with any turning facilities conspicuously absent. •



## NHS Devon Integrated Care Board ICB

Concerns have also been raised by the Head of LPA Engagement on behalf of NHS Devon Integrated Care Board ICB. At present the combined capacity of both the Catherine House Surgery and the Leatside Surgery is theoretically 18,118 patients. Between them they currently have a patient list size of 19,452. In other words they are already functioning at 107% of capacity, and many report that obtaining a GP appointment in Totnes is far from easy.

According to the Head of LPA Engagement 194 new homes will result in a further 427 patients registering with one or another of those surgeries and without a contribution of £114,500 'to increase the physical capacity, the proposed development will put too much strain on the said health infrastructure, putting people at risk. Waiting times would increase and access to adequate health service would decline, resulting in poorer health outcomes and prolonged health problems. Such an outcome is not sustainable as it will have a detrimental socio-economic impact.'

Surprisingly however the Head of LPA Engagement appears not to have taken in to consideration the impact the residents of the proposed 55-bed care home would have, not only on local GPs but inevitably, as anybody will elderly relatives will know, also on hospitals and the ambulance service.

Arguably until such time as the health service can cope effectively with existing pressures on A&E, ambulance waiting times and GPs, the LPA should acknowledge its duty of care as set out in JLP Policy SPT2:

Development should support the overall spatial strategy through the creation of neighbourhoods and communities which:

9. Have the appropriate level of facilities to meet the identified needs of the local community, including provision of education and training opportunities, employment uses, health care, arts, culture, community facilities, open space, sport and recreation, and places of worship.

Neither Totnes nor much of the South Hams currently have the appropriate level of facilities to meet the identified health care needs of existing residents, and JLP Policy DEV30 makes the point:

Major housing developments will be considered in the context of the sufficiency (or otherwise) of the community infrastructure to meet the demands generated by the development.

As the Totnes Neighbourhood Plan makes clear (6.5.3):

Totnes has two general practices and a minor injuries unit and hospital which serves not just the town but the wider hinterland. The additional strain the new developments will place on the existing medical facilities need to be considered. The NP will ensure that new development does not diminish the services and facilities of the town and will encourage their enhancement and the provision of new services and facilities.

Unfortunately the NHS Devon Integrated Care Board ICB recommendation of an S106 contribution of less than £115K will do next to nothing to resolve the problem. There are already insufficient doctors in Totnes to cope with existing demand, and financially far more will be necessary if local needs are to be met, let alone enhanced. And as for being able to register with an NHS dentist... •

## The Boatyard

Policy TTV21 of the Plymouth and South West Devon Joint Local Plan requires the: retention of boatyard and associated facilities.

Unfortunately, at least according to the applicant:

this cannot be in the form as it is now otherwise the remainder of the allocated uses will not be possible to deliver on site

Nor is this the only allocated use not being delivered. The 'continuing care retirement community including a nursing home (up to 60 bed spaces) an assisted living facility (up to 80 units) and communal facilities' has been drastically diminished to no more than a 55-bed care home, sacrificed to make way for more open-market housing necessary to guarantee developer profitability.

And the boatyard has been reduced in size and scale for the same reason.

On page 22 of their Design & Access Statement the applicant argues:

It is clear that the existing (boatyard) buildings are no longer fit for purpose and cannot be economically repaired so the only option to secure the future of the boatyard is to build modern, purpose built and forward-looking spaces for the existing tenants as well as new occupiers.

The boatyard is clearly smaller than the existing boatyard however it has been designed to be a much more efficient layout than the existing site and which works much more efficiently in the space provided for it. This has resulted in a boatyard that will have be able (sic) to retain all of the core services it currently does (excluding a spray booth and blast bay as these have environmental impacts that are unacceptable) as well as a very similar number of boats that can be stored on site. Operationally the small reduction in boats numbers does not affect the viability of the boatyard.

Yet despite the acknowledgement that 'the boatyard is clearly smaller than the existing boatyard', the applicant claims on page 32 that the boatyard:

still provides storage space for only a slightly reduced number of boats. This will be compensated for by no longer accommodating the inactive boats currently on site which offer no work for the marine businesses. It was felt that priority should be given to marine employment opportunities in place of more boat storage. The boatyard future is further secured with a 25 year lease that will be provided by APG.

However no explanation is offered as to how many of the boats currently on site are 'inactive' and, even were that to be the case, would the boatyard future not be better secured by replacing them with 'active' boats offering work for the marine businesses?

Certainly the applicant has no expectation that any significant marine work will be generated by boats being transported to the site. To quote their Landscape & Visual Impact Assessment (4.2.1.3):

Baltic Wharf would experience only light traffic with one or two boat deliveries a month.

While an indication as to how many boat parking spaces are to be lost might be provided by one of the respondents to the consultation who wrote:

At present, with 200 + boats stored over winter and at least 100 in the height of the season it is a thriving business.

According to the Planning Statement (2.6):

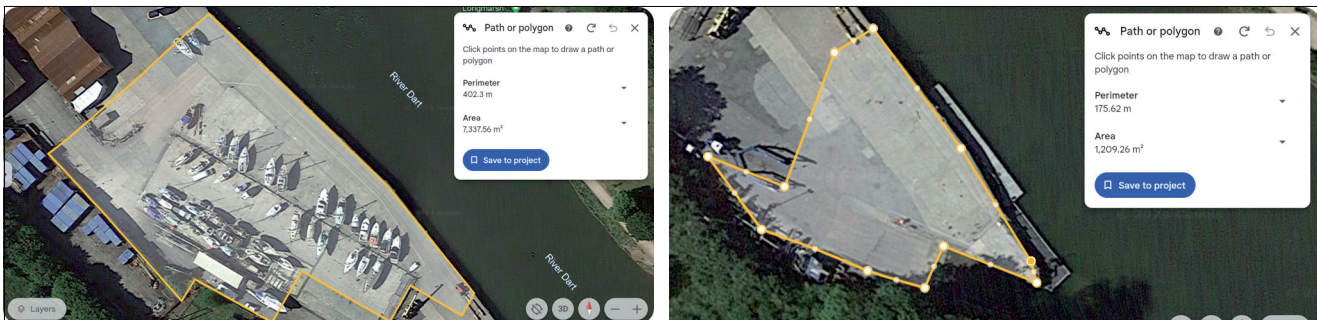
The boatyard... accommodates a seasonal winter peak of 220 boats

The Block Layout on page 23 of the Design & Access Statement now suggests the yard will only be able to accommodate around 110 boats, packed tightly in to the space being made available. Conversely the proposed masterplan on page 20 has reduced the number of boats shown parked to 30!

Our own estimate is that there will be room for (at the very most) 60 boats.

To illustrate this, the two images that follow on the next page show the extent and areas of the proposed boat storage area (7,337 m<sup>2</sup>) and the slipway/waiting area (1,209 m<sup>2</sup>) superimposed onto the existing site.

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The proposed boat storage area (above left) measures 7,337 m<sup>2</sup> and the slipway/waiting area (right) 1,209 m<sup>2</sup>

Yet even those figures might prove optimistic. On page 31 it is stated:

Boatyard parking for the B2 workshops and marine offices is distributed throughout the large area surrounding the two buildings.

So part of the boat storage space will be lost to car parking.

That suggests the only boats being allowed to remain will be some of those stored on site throughout the year, even though it is entirely possible that those boats that only winter on the quayside may well use one or more of the site's marine business in preparation for the new season before departing.

It is hard to envisage how such a reduction in the number of boats that can be kept on site will prioritise marine employment opportunities. In addition the exclusion of both the spray booth and blast bay will inevitably result in boat owners going elsewhere for all the work they require. And by their own admission the applicant has no expectation of boats needing work done actually being brought to the site by road.

Although the applicant may consider the environmental impacts of the spray booth and blast bay to be unacceptable in the context of the open market housing development being proposed, they might well be both acceptable and necessary as part of any thriving marine facility. Without them boat owners will have to take their vessels elsewhere to have their hulls shot blasted to remove and replace antifoul in order to increase hull efficiency and prolong the life of their boat. Similarly a spray booth is necessary to isolate and remove overspray and vapour produced during the spray application process, boost productivity, improve paint quality and ensure worker safety.

Both the spray booth and blast bay are boatyard associated facilities, and both are a fundamental part of any fully functioning boatyard. Their removal would be in conflict with the requirements of TTV21, while 5.1.7 of the Neighbourhood Plan makes clear:

Existing employment space must also be safeguarded, and this is even more important in view of the difficulty in finding suitable sites for new employment development. The JLP protects existing employment land and premises, especially for sites which have potential to contribute towards the regeneration of the community, the expansion of existing businesses or with access to wharves or deep water. Each of these categories is relevant for Totnes, and this NP reinforces the JLP in requiring that existing employment land and premises be safeguarded.

Baltic Wharf as it stands is perhaps the only site in Totnes that has the potential to contribute towards the regeneration of the community with the space necessary to allow existing businesses to expand offering access to wharves and deep water.

It is also worth noting that of the 54 respondents to the consultation, 34 specifically wished to retain the boatyard, with many making the (obvious) point that size mattered. •

## Landscape and Setting

In their assessment of application 56/1939/10/O officers considered the following to be the key issues to be considered in relation to Visual Impact and Landscape Character, namely:

- The impact of extension of high density development, with a depth through the site, running almost the length of the site.
- The proposal for tall buildings along much of the length of the site, although with indicative relief when compared to the original submission, and the impact on the pattern of development adjacent to the Dart.
- The impact of development on the gateway entering the town along the river.
- The visual impact of the development when viewed from Steamer Quay, Bridgetown, and in particular, the lateral and vertical increase in the massing.
- The impact of the development in the foreground when viewed from the Sharpham Drive and from the west – again, in relation to the lateral extension and the increase in vertical height.
- Impact on key views and landmarks – particularly when entering the town from the river and reverse views from high points in the town.

Their report then went on to say:

In light of the submitted details, I have limited concerns about the following issues which will need to be given careful consideration. These will either need to be controlled at this outline stage, or addressed at reserved matters stage.

- Proposed height across such a wide frontage and the impact this might have on views through the site from the river and eastern bank and reverse views from Sharpham Drive to the river and obliquely up and down the River Dart. Detailed layout, porosity, height and massing will all influence this.
- Elevations facing the river and particularly the raised elevation of the CCRC facing to the south when viewed from the River Dart. Illustrative details still infer an unsympathetic flank to the river.
- Coherence of the development and avoiding excessive over dominance from tall buildings immediately to the frontage or to the public realm (including detailed analysis and understanding of shading and the availability of light during the day, particularly bearing in mind the elevated hillside immediately to the south and west).

To which the case officer responded (9.6):

Given that the scheme is only an outline application the building designs will be developed at the reserved matters stage of the application process. It is however important at this stage to be confident



*The view of the Dart from the footpath that will be lost to the proposed development*



that the proposed reduced floorspace quantum can be accommodated in building forms that are an appropriate height, scale and mass. The Development Schedule Plan and the illustrative masterplan sets out a development footprint for the proposed building blocks, and confirms that none of the buildings will stand taller than 24.00 metres AOD or 14m above the ground level.

Significantly that is not the case with this latest application, in which all but Block A will rise noticeably more than 14 metres above ground level, and in a number of cases by no less than 7.5 metres, or than half as much again.

As the then landscape officer clearly had concerns about the impact of the proposed development when none of the buildings stood at more than 14 metres above the ground it is hard to imagine how either he or his successor will find buildings that are now more than 21 metres high, and in themselves also more than a third higher than others in the immediate locality, in any way acceptable.

It is also worth noting the National Design Guide (NDG) (January 2021) lists 10 characteristics which contribute to a well-designed place. Three are particularly apposite here:

- Context – enhances the surroundings.
- Identity – attractive and distinctive.
- Built form – a coherent pattern of development.

Similarly Totnes Neighbourhood Plan Policy En4 states:

1. New development should protect the landscape setting of Totnes and its historic landscape features in accordance with national policy and the development plan.
2. New building should not be of a height or mass to obscure important views shown on the Proposals Map, nor of a height to break the historic skyline.
3. New development should protect and where possible enhance the contribution the town makes to the landscape character of the wider area.

While Policy En5 requires development on or adjacent to the River Dart to:

- a. conserve or improve local identity and the appearance of the riverside;

It is hard to see how the imposition of what will be, certainly when compared to the existing Totnes townscape, a densely-packed high rise housing estate incongruously located in a highly sensitive location on the settlement edge can in any way enhance its surroundings.

To visualise the damage it will cause think only of the effect that Applegate Park has had on the setting of Kingsbridge or the development at Cotton Farm on the approach to Dartmouth.

And although this proposed development will certainly be distinctive few will consider it architecturally attractive, while it remains questionable as to just how well the render finishes will with time weather.

Nor does a built form of this magnitude in this location in any way represent a coherent pattern of development. Logically the built form should rise both gently and gradually from the settlement outskirts towards the centre, with the buildings clustering more closely together as they distance themselves from the surrounding countryside. Were consent to be given to this development it will unquestionably damage and detract from the contribution the Totnes makes to the landscape character of the wider area.

Indeed, the Design Review Panel makes the following comment on page 2 of their report:

It is noted that the setting is not an urban environment but is rather that of a town on a river. It would therefore be beneficial for the design proposals to ensure they demonstrate that this existing character has been considered and reflected within the proposals. It may be helpful for the proposals to be seen as a continuation and part of that existing character of the town, when viewed upon approach from the river, the Sharpham footpath or from the opposite side of the river.

Instead of the existing boatyard and workshops continuing to provide a functioning reminder of the town's marine heritage, nestled comfortably amongst their surroundings, ready to welcome all who approach along the river, footpaths and cycleways from the south, there will be an intimidatingly tall tightly-packed render, 42 →

cladding and brick curtain which will extend unsympathetically along the western riverbank, overshadowing the waters, out of scale and out of keeping with the existing town and its historic architectural character.

Joint Local Plan Policy DEV10 states:

Housing developments should be designed to be integrated with the adjacent developments and not appear to be an unrelated addition to the rest of the town, village and neighbourhood.

with the considerations that need to be applied according to 4.122 of the Supplementary Planning Guidance:

Great care needs to be taken in the design and layout of new housing development, including at the edge of built up areas, to ensure that it functions as a seamless part of the existing community rather than an unrelated addition.

The Society can only conclude that in the context of its surroundings, this development will unquestionably be perceived as an unrelated addition.

Similarly the applicant's own Landscape and Visual appraisal acknowledges the sensitivity of many of the local visual receptors. According to Section 6.5:

For viewers on public footpaths including regionally recognised walking routes (Dart Valley Trail and John Musgrave Heritage Trail), the value of the viewpoints along the footpaths/ routes is medium, whereas the value of viewpoints along Sustrans National Cycle Route is High. The susceptibility of walkers to changes in views is generally high since they tend to be focused on the surrounding landscape. It follows that viewers on the local footpath network and regional routes are generally of Medium to High sensitivity whilst walkers and cyclists on the National Cycle Route are of High sensitivity.

The River Dart is of Medium value; a tourist attraction in its own right. Users of the River Dart would either



be passive receptors taking boat cruises and appreciating the surrounding landscape or active users as such rowers and kayakers largely focused on their sport. As such these receptors would experience varying levels of susceptibility ranging from High to Medium depending on their activity. Visitors to other tourist attractions within the town would also be of High susceptibility to change and subject to the value of the attraction be of Medium to High sensitivity.

Residential properties are of Low or Medium value, depending on the precise location of the viewpoint with a higher value where views overlook the river valley; a popular tourist destination around the Site. Residents are particularly susceptible to changes in their views as such residents around the Site are mostly of Medium to High sensitivity....

Residents along the eastern bank would experience at worst a substantial magnitude of change due to the Site's proximity and elevation the scale and change in view would be extensive altering the composition and depth of field....

Residents receptors at the Mount, residents off St Peter's Quay, Baltic Way and Totnes Down Hill would at worst experience a Medium to Substantial magnitude of change....

a substantial magnitude of change would be experienced by users of Totnes Footpath 1. Due to its proximity and elevation the scale and change in view would be extensive...

Users of Paradise Walk and Totnes Measured Mile would experience a Medium to Substantial magnitude of change....

medium to substantial magnitude of change would be experienced by users of Totnes Footpath 2 (viewpoint 7 and 9) and users of the John Musgrave Heritage Trail (viewpoint 6)...

a substantial magnitude of change would be experienced by boat users on the River Dart...

Eastern side of the River Dart: Users of local roads would at worst experience a Substantial magnitude of change.

It is not unreasonable to assume that any applicant is going to present the best possible case in support of their proposed development. So it's safe to assume that if their submission acknowledges the resulting scale of change will be high or substantial it is certain to be far from insignificant. So it's important to note that in their conclusion to their appraisal they admit:

The nature of the effects in this LVA is more than worst case when considering the Proposed Development



in relation to an extant permission.

When evaluating this proposal officers will no doubt give regard to JLP Policy DEV23 that intends, according to 7.4 of the Supplementary planning Guidance:

to ensure new development conserves and enhances landscape, townscape and seascape character and avoids adverse landscape or visual impacts. This will be achieved by considering the character and distinctiveness of the area and how the siting and design of the proposed development responds to the landscape and townscape character.

To quote DEV23 in full:

**Landscape character**

Development will conserve and enhance landscape, townscape and seascape character and scenic and visual quality, avoiding significant and adverse landscape or visual impacts. Development proposals should:

1. Be located and designed to respect scenic quality and maintain an area's distinctive sense of place and reinforce local distinctiveness.
2. Conserve and enhance the characteristics and views of the area along with valued attributes and existing site features such as trees, hedgerows and watercourses that contribute to the character and quality of the area.
3. Be of high quality architectural and landscape design appropriate to its landscape context.
4. Be located and designed to prevent erosion of relative tranquility and intrinsically dark landscapes, and where possible use opportunities to enhance areas in which tranquility has been eroded.
5. Restore positive landscape characteristics and features that reinforce local landscape quality and distinctiveness.
6. Where necessary, be supported by Landscape and Visual Impact Assessments and landscaping schemes that enhance that proposed development.
7. Avoid, mitigate, and where appropriate compensate, for any residual adverse effects and take opportunities to secure landscape character and visual enhancements.

Suffice to say there is little on offer to avoid, mitigate or compensate for the many residual adverse effects that will result should this propose development be permitted to proceed. •



Resilience Solutions

# Risk Insight: Electric Vehicle Charging





**As Electric Vehicles continue to become more popular in the UK, and as private companies and local authorities strive to reduce their carbon footprints, the demand for a charging infrastructure and dedicated parking areas has exponentially increased. This document provides a brief overview of the main Property and Liability hazards associated with Electric Vehicle charging, and appropriate controls from a loss prevention perspective.**

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## Overview

Significant investment by the UK Government (via the 'Charging Infrastructure Investment Fund'), and by public authorities and private organisations, has resulted in new electric vehicle charging facilities becoming a prominent feature in a wide range of premises from multi-storey car parks, to national parks and commercial/retail premises.

Electric Vehicles (EV), including Hybrid Cars, E-bikes and Mobility Scooters, typically store energy in Lithium batteries of different capacities and chemistries to supply the vehicle's power demand. Recent loss history has shown that fires involving these batteries can create a serious challenge for firefighting.

Many Electric Vehicles use Lithium-Ion batteries (Li-Ions or LIBs) as a power source for the electric motor and other electrical components utilised in modern vehicles. Compared to other, conventional battery types, Lithium batteries provide higher energy densities and extended lifetimes. If the Electric Vehicles are operated according to manufacturer's specifications, operation is safe. However, the hazards increase if normal operating conditions are deviated from such as:

- Age and usage
- Modification of the Lithium batteries and/or configuration of the vehicle
- External damage or impact to Lithium batteries (e.g. accident/impact, mechanical and thermal stress, extreme vibrations, etc.)
- Electrical malfunction during charging and discharging

In the worst-case scenario, the above-mentioned conditions can cause a thermal runaway of the battery cells, which is a highly exothermic reaction creating toxic, flammable, and/or explosive chemical components.

The gaseous components generated, such as hydrogen, carbon monoxide, etc. by the fire, and those created by cooling and extinguishing activities, such as hydrogen fluoride and other toxins, present an increased risk to fire fighters and building occupants, and can contribute to a high degree of environmental contamination and damage in the surrounding area.

## Guidance

There are a number of factors that should be considered prior to and following the installation of electric vehicle charging units at your premises to ensure that the associated hazards are adequately managed. The following sections highlight the main areas that should be considered.



# Location

Prior to installation a fire risk assessment should be carried out in compliance with the Regulatory Reform (Fire Safety) Order 2005 (or equivalent legislation in Scotland and Northern Ireland) that considers the control measures required when selecting and designing charging/parking areas.

Permanently installed charging units are preferred to mobile charging devices, ideally installed externally, and located as far as possible from important buildings, structures and utilities. The distance required between a charging unit/parking area and buildings, etc. will be primarily driven by the construction of the building walls.

Ideally, electric vehicle charging, and parking should be located at least 10 m from combustible walls or at least 7.5 m from unprotected openings/extensive glazing in non-combustible walls.

Consideration as to what is stored externally will also be needed. Electric charging units/parking areas should not be located within a minimum of 10 metres of external combustible or flammable storage areas, such as waste compounds, pallet storage or gas cylinder cages.

External charging units are exposed to changing weather conditions, and whilst these are designed to withstand a degree of exposure to the elements, the location where stations are installed must be assessed for flood. Flooding can come from a number of sources such as rivers, surface water during heavy rainfall, and inadequate storm drainage. Charging units should not be installed in any location where flood or excessive surface water run-off and pooling is considered a risk.

In circumstances where electric vehicle charging units are installed internally, charging/parking areas should be located as close as possible to exits and preferably on the ground level to allow easy access for the fire brigade. The high combustible fire load of modern cars in general and the high energy generated in these types of fires, can result in a well-developed fire involving numerous vehicles by the time the fire brigade arrives.

Internal charging/parking areas should be in a separate fire compartment with a minimum of 60 minutes fire resistance, subject to consideration of the hazards presented by the occupation of the building. Basement level charging/parking areas present additional complexities for firefighting therefore these compartments should achieve a minimum of 120 minutes fire resistance.

The generation of toxic gases is particularly problematic for firefighting activities in below ground charging areas. It is therefore essential that below ground or concealed charging and parking areas are provided with adequate ventilation.

Wall mounted charging units, whether internal or external, should be installed on non-combustible walls and installation beneath or next to unprotected openings/extensive glazing should be avoided.



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# Fire Detection and Suppression

Internal Electric Vehicle charging and parking areas should be equipped with automatic fire detection. The fire detectors should be installed close to the charging units/Electric Vehicles. Alarms should be automatically transferred to an approved and permanently attended alarm receiving centre.

Installation of sprinkler protection is recommended, particularly in circumstances where chargers are run unattended. The sprinkler system should be designed and installed in accordance with the LPC Sprinkler Rules incorporating BS EN 12845 (ref:31) by engineers having appropriate certification from an independent UKAS accredited third party certification body. If sprinkler protection is already installed, the level of protection should be reviewed with any remedial actions necessary being implemented before charging commences.

Automatic fire detection and sprinkler systems should be interfaced with the power supply for all vehicle chargers to isolate the power automatically in the event of activation.



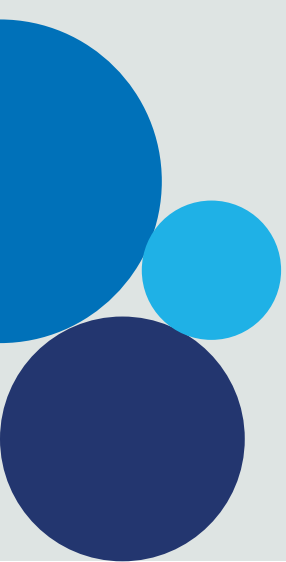




# General Controls

In addition to the location of charging/parking areas, and the provision of automatic fire detection and suppression, there are a wide range of general operational controls that require due consideration as part of the overall decision to install charging/parking areas on your premises. These include:

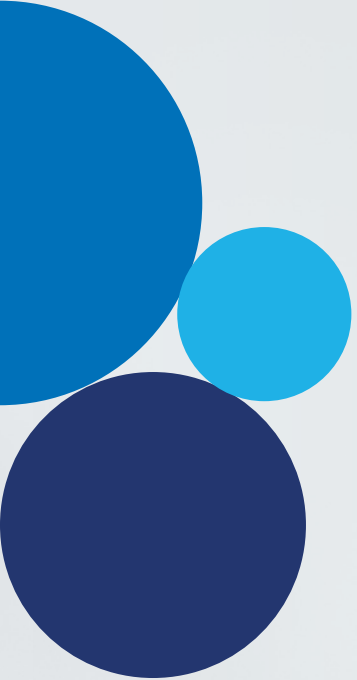
- UK grid connection rules, local planning laws and safety regulations will need to be complied with.
- The presence and operation of charging/parking areas should be integrated into the main fire risk assessment process of the site as a whole.
- Installation – charging units should be installed in accordance with manufacturers guidance and the IET Code of Practice for Electric Charging Equipment Installation.
- Maintenance and Servicing – charging units should be maintained and serviced in accordance with manufacturers recommendations, unless the suggested service programme is superseded by the IET Recommendations. The exception to this being ‘Rapid’ or ‘Fast’ Direct Current (DC) charging units which should be maintained and inspected on an annual basis. Planned maintenance and servicing should be accompanied by arrangements for reactive maintenance e.g. user reported unit damage.
- All installation, maintenance and servicing activities should be carried out by suitably certified contractors such as those with NICEIC, ECA, SAFed, NAPIT or SELECT accreditation. If fast DC charging units are installed, these must only be maintained and serviced by contractors who are certified to work with DC equipment.
- A minimum distance of at least 2m around the charging unit and vehicle should be maintained clear of waste, vegetation, storage of stock, and other combustible materials at all times.
- It is recommended charging units are visually inspected on a daily basis, especially when these are openly available for public use. If the charging unit, cables and connectors and/or associated infrastructure is mechanically damaged or electrically deficient, the charging unit should immediately be shut-off and be locked until appropriately repaired.
- Charging/parking areas should clearly be marked with signs. Where rapid DC charging units are provided they should be clearly marked to differentiate them from conventional chargers due to the hazards associated with direct current.
- Adequate spacing between charging/parking areas and access for the fire brigade should be provided in case of a fire.
- Designated cable holders (reels) should be provided near the charging unit to prevent unnecessary tension and subsequent damage/wear and tear.
- Charging unit should be protected with impact protection which is suitably positioned to prevent accidental contact with parking vehicles.
- Where there is open public access to the charging stations, consider whether additional physical protection against malicious damage and vandalism is needed.
- It is important local site staff are provided with suitable training highlighting the increased hazards of DC equipment (if applicable), how to operate the equipment, requirements for day to day visual inspections, how to isolate the charging units and emergency procedures for shut down.
- Vehicle charging should be avoided when the site is unattended for example overnight or at weekends
- Appropriate fire extinguishing appliances should be provided in close proximity to charging parking areas.





# Electrical Installation and Distribution

- A residual current device (RCD), should be provided to automatically separate the charging station from the electrical power supply in case of a ground fault. It is recommended these are tested on a 6 monthly basis as per IET Code of Practice for Electric Vehicle Charging Equipment Installation.
- Emergency manual isolation of charging stations should be provided in a prominently sign posted and easily accessible location to allow safe shutdown of equipment in the event of a fault or failure of equipment. When choosing a location consider whether this will remain accessible if a vehicle is on fire.
- In case of an electrical malfunction, the charging station should be automatically disconnected from the electrical supply.





# Solar Car Parks

Installation of photovoltaic (PV) solar systems as part of an integrated EV charging system across surface and multi-storey car parks is becoming increasingly common, however the installation of PV panel arrays introduces additional fire and liability hazards to the site that must be understood, and controls put in place to manage those hazards.

There are a variety of different PV panel/roof canopy designs, with the more traditional systems involving mounting (often as a retrofit project) the PV panels onto conventional roof structures such as profiled metal sheeting. There is also now increasing use of PV glazing systems which involves replacing the traditional roof covering with PV panels such that the panels form both the roof and the PV system. This can be achieved with specially designed mounting and sealing solutions that ensure water tightness and structural strength.

More detailed guidance on the fire and other safety considerations for PV solar systems is provided in our separate Risk Topic Photovoltaic Panels and Systems Design.

Installation and Maintenance. In addition to the controls suggested within that guidance, there are additional considerations relating specifically to the addition of PV solar panels to surface or multi-storey car parks, including:

- Roof Canopy Construction – to reduce the risk of fire spread the use of non-combustible materials should be used. Specifically, the use of combustible decorative linings/cladding is to be avoided as these can aid rapid fire spread.
- Impact Damage Potential – roof stanchions/supports of the roof canopy should be built to with stand vehicle impact or be provided with suitable impact protection in addition to the charging unit as previously stated.
- Surface Water Drainage – consideration should be given for adequate drainage provision for the surface water running off the PV panel canopy roof areas to ensure this does not potentially cause additional risks such as slip hazards etc. during winter conditions.
- DC Cables/Inverters – PV panels generate DC current which is higher risk and therefore this additional risk must be managed, particularly in public spaces. DC cables from the panels should be concealed in integrated cable trays, and inverter panels should ideally be sited in a dedicated electrical room/building which is secured. Adequate warning signage should be provided highlighting the risks of DC electrical equipment.

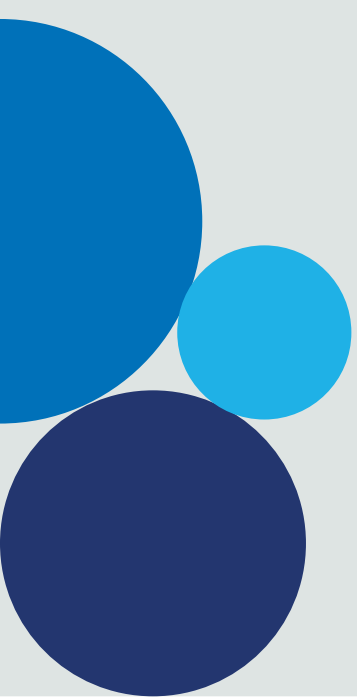
- Automatic Fire Alarm/Sprinkler Systems – where automatic fire alarm protection and/or sprinklers systems have been provided, these should be extended to provide protection underneath the PV solar panel roof canopy structure.

- Inspections and Maintenance – PV panels should be adequately maintained and inspected in accordance with manufacturer's recommendations. It is important that panels are inspected regularly to identify damage, kept clean and clear of litter, nesting materials and other debris which can increase the risk of fire spread. Regular servicing/maintenance should only be carried out by electricians suitably qualified under NICEIC, ECA, SAFed, NAPIT or SELECT for DC installations.

- Staff Training/Instruction – Local site staff should be fully trained on requirements for day to day visual inspections, general maintenance/cleaning of PV panels, and emergency shut down including the location of the emergency isolation switch.

- Security – Consideration needs to be given for the provision of adequate security protections of the site as the PV solar panels are likely to be more easily accessible and are potentially at higher risk from malicious damage and theft.

Some of these integrated PV solar and EV charging systems can also incorporate Energy Storage Systems such as battery storage facilities. Again it is important that the additional fire risks associated with Energy Storage Systems are also fully understood and careful consideration is given to the installation of these types of systems. For further guidance on this topic please refer to your local Zurich Risk Engineer.





# E-Bikes and Mobility Scooters

As previously stated, E-Bikes and Mobility Scooters can also operate on the same Lithium batteries as any other Electric Vehicle. Whilst these machines may be smaller and charged using different types of equipment, there is still a risk of a thermal runaway fire and as such, in addition to the location and operational controls previously covered, due consideration for controls specific to this type of charging is needed.

Both E-Bikes and Mobility Scooters have options to charge the battery whilst in situ, or the battery can be removed and charged independently in a separate location. As popularity for E-bikes has grown, so has the demand for charging facilities for employees and site visitors. As a minimum, the following control measures should be considered:

- Designated charging areas for E-Bikes should be provided, preferably outside buildings and in line with the spatial separation previously set out.
- Designated charging areas for Mobility Scooters and E-Bikes must not obstruct fire exit routes - this is particularly important where batteries are being charged in situ and there will be an accumulation of machines.
- Only charging equipment supplied by the manufacturer of the machine should be used to charge the battery. All charging equipment should be CE marked, and manufactured for the UK electrical supply – the use of voltage converter adaptors should not be permitted.
- All charging equipment utilised on your premises, whether it belongs to the organisation or individual employees, should be included within a documented Portable Appliance Testing Programme.
- Unattended charging, particularly in residential buildings, should not be permitted.
- The use of multi-point adaptors should not be used for charging purposes. Additional sockets should be provided if current provisions in the charging area are not sufficient.

Should the demand for this type of charging facilities be significant, consideration should be given to the provision of charging cabinets with individual lockable boxes constructed of metal or with fire resistance, and each with its own electrical connection.





# Liability Considerations

The increase in demand both to provide and use electric vehicle charging units, also presents an increased liability risk to business and organisations. This means from a liability perspective, a risk-based approach to asset management is essential.

In addition to the property controls already discussed, many of which also contribute to managing the liability exposure, the following should be considered as 'best practice' when it comes to liability risk mitigation for providers of electric charging units:

- **Accessibility** – It is important that the design of the electric vehicle charging units and associated parking areas comply with the Equality Act 2010, Disability Discrimination Act (DDA) 1995 guidelines and Department for Transport (DfT) Inclusive Mobility – a guide on best practice on access to pedestrian and transport infrastructure (May 2002) guidelines.
- **Appropriate signage** – Appropriate signage with suitable and sufficient information and instructions on usage which mitigates risk of injury and property damage, emergency procedures (including emergency contact details) and general user safety etiquette e.g. prohibition of smoking (Terms of Use Agreement) should be provided.
- **Environment** – Appropriate safety measures for all user profiles should be considered. Considerations should be made on lighting, noise, ventilation, charging bay space, height of the charging unit and general housekeeping e.g. removal of combustible materials.

In addition to your responsibilities as the operator of the charging equipment, the user (i.e. employee or site visitor) will also owe a duty of care to other road users including pedestrians. The following should be considered as 'best practice' when it comes to liability risk mitigation for electric vehicle charging unit users:

- **Physical conditions** – Before and after charging, users should visually inspect charging cables for any damage (including wear and tear and/or vandalism) which may expose live copper wiring.
- **Slips/Trips/Falls** – When the charging cable is plugged into the charging unit, users should refrain from overtly stretching the cable and/or trailing the cable across pedestrian walkways or access points. The distance between the vehicle charging unit and the vehicle should be kept to a minimal and trailing cables covered using a safety protection mat/cover where necessary (the cable should be of sufficiently bright and different colour to the footpath so as to make it clear and obvious to users of the footpath).
- **Reporting** - Users have a responsibility to report any visual damage on the charging unit itself and subsequently refrain from using the unit. Reporting procedures/instructions should be clearly displayed at the charging area.

Further information regarding the liability risks associated with Electric Vehicles is provided in our Risk Topic 'Electric Vehicles'.



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# Conclusion

Recent fires involving modern cars have shown that these pose a significant challenge to the fire brigade due to the high combustible fire load of materials used in their manufacture, and speed with which the fire can spread between vehicles.

Fires involving Lithium-Ion batteries, such as those present in Electric Vehicles, have shown that defective batteries can create severe fires with high temperatures and exothermic reactions, creating significant challenges for fire fighting.

Together these two factors create an increased fire risk to your premises which if not adequately controlled, could lead to significant loss of property and income. Appropriate separation/compartimentation, early detection, and implementation of good operational controls such as regular inspection and maintenance, staff training, and effective signage are key to manage and mitigate the property and liability risks associated with the provision of Electric Vehicle charging and parking.

## Zurich Resilience Solutions

For further information about any of the topics mentioned in this guidance, or to discuss a specific Electric Vehicle charging installation project, please speak to your local Zurich contact, or email Zurich Resilience Solutions at [zrs.property.uk@uk.zurich.com](mailto:zrs.property.uk@uk.zurich.com).



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  - Fire Safety Regulations (Northern Ireland) 2010

