Appendix 1 - Financial Summary for 83 & 85 Craigmoor Avenue

	Homes Prudential Borrowing Period
Scheme Costs	
Works	
Fees	
Other costs (Contingency at x%)	
Interest (during Build Phase)	
Land Acquisition costs	
	Total Scheme Cost
ISchama Funding	
Scheme Funding	Funding rate (per unit)
Homes England Grant - TBC Affordable Housing (. ,
Homes England Grant - TBC Affordable Housing (Homes England Grant - Accelerated Construction	. ,
Homes England Grant - TBC Affordable Housing (Homes England Grant - Accelerated Construction Affordable Housing s106 Contributions	. ,
Homes England Grant - TBC Affordable Housing (Homes England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership	. ,
Homes England Grant - TBC Affordable Housing (Homes England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account	. ,
Homes England Grant - TBC Affordable Housing (Homes England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account - Capital Funding - 1 for 1 Right to Buy Receipts	. ,
Homes England Grant - TBC Affordable Housing Ones England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account - Capital Funding - 1 for 1 Right to Buy Receipts - Capital Funding - Reserve allocation	. ,
Homes England Grant - TBC Affordable Housing Ones England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account - Capital Funding - 1 for 1 Right to Buy Receipts - Capital Funding - Reserve allocation Prudential Borrowing - additional borrowing	. ,
Homes England Grant - TBC Affordable Housing Ones England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account - Capital Funding - 1 for 1 Right to Buy Receipts - Capital Funding - Reserve allocation Prudential Borrowing - additional borrowing OPE funding	Grant
Homes England Grant - TBC Affordable Housing Common Homes England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account - Capital Funding - 1 for 1 Right to Buy Receipts - Capital Funding - Reserve allocation Prudential Borrowing - additional borrowing OPE funding Total Scheme Funding (as C	abinet and Council Approved)
Homes England Grant - TBC Affordable Housing Common Homes England Grant - Accelerated Construction Affordable Housing s106 Contributions Sales - Shared Ownership Housing Revenue Account - Capital Funding - 1 for 1 Right to Buy Receipts - Capital Funding - Reserve allocation Prudential Borrowing - additional borrowing OPE funding Total Scheme Funding (as C	Grant

	HRA July 2023		Comment
2 50	50	2 50	
Affordable Rent £000s	Shared Ownership £000s	TOTAL £000s	
538 78 54 11 0		538 78 54 11	
681	0	681	
(57) (204) (50) (370)		(50) (370) 0	30% of TSC (excluding land) Asset repair cost saving
(681)	0	(681) 0	
0	0	0	

Appendix 2 -	Longterm cashflow f	for 83 & 85 Crai	gmoor Avenue
--------------	---------------------	------------------	--------------

Key Data	Target Cost	Borrowing Term	Loan Interest	Inflation	Annual Borrowing Costs	Annual Operational Costs (Year 1)	Annual Income Requiremen t	Expected income (Year 1)	Variance
	£	Years	%	%	£	£	£	£	£
PWLB borrowing element	359,000	50	5.50%	2.00%	(19,886	(2,100)	(21,986)	19,014	(2,972)

10 year detailed summary		Year -3	Year -2	Year -1	Construction Phase Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30	Year 31-40	Year 41-50
Construction Phase cost		0	(359,000	359,000														
Sales income						0													
Gross Residential Rent	2%				0	(19,014)	(23,197)	(23,660)	(24,134)	(24,616)	(25,109)	(25,611)	(26,123)	(26,646)	(27,178)	(303,547)	(370,023)	(451,056)	(549,835)
Service charge						0	0	0	0	0	0	0	0	0	0	0	0	0	0
Voids	2% of Gross resi	dential rent			0	380	464	473	483	492	502	512	522	533	544	6,071	7,400	9,021	10,997
Gross Rent after allowance for Vo	oids				0	(18,634)	(22,733)	(23,187)	(23,651)	(24,124)	(24,607)	(25,099)	(25,601)	(26,113)	(26,634)	(297,476)	(362,623)	(442,035)	(538,838)
RSL Management	2.0% CPI				0	795	970	989	1,009	1,029	1,050	1,071	1,092	1,114	1,136	12,691	15,471	18,859	22,990
Maintenance	2.0% CPI				0	1,305	1,592	1,624	1,656	1,690	1,723	1,758	1,793	1,829	1,865	20,836	25,397	30,959	37,737
Major Repairs	2.0% CPI				0	0	0	0	0	0	0	0	0	0	4,283	57,218	69,749	85,023	103,643
Service cost	2.0% CPI					0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual operational spend					0	2,100	2,562	2,613	2,665	2,719	2,773	2,829	2,885	2,943	7,284	90,745	110,617	134,841	164,370
Net Income before debt repaymer	nt				0	(16,534)	(20,171)	(20,574)	(20,986)	(21,405)	(21,834)	(22,270)	(22,716)	(23,170)	(19,350)	(206,731)	(252,006)	(307,194)	(374,468)
Repayment of Borrowing (interest)		0	(14023	14,023	16,477	19,885	19,886	19,886	19,886	19,886	19,886	19,886	19,886	19,886	198,860	198,860	198,860	198,860
Repayment of Borrowing (principal)		0	(0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Surplus) / Deficit		-	-	373,023	373,023	(57)	(286)	(688)	(1,100)	(1,519)	(1,948)	(2,384)	(2,830)	(3,284)	536	(7,871)	(53,146)	(108,334)	(175,608)
Cumulative (Surplus) / Deficit		-	-	373,023	373,023	(57)	(343)	(1,031)	(2,131)	(3,650)	(5,598)	(7,982)	(10,812)	(14,096)	(13,560)	(21,431)	(74,577)	(182,911)	(358,519)

Asset valuation (inflation method)

Appendix 3 - Appraisal Assumptions for 83 & 85 Craigmoor Avenue

Accommodation So	chedule_			Rent Leve	els per wk						
Unit size m2	Unit type	Number of units	Tenure		level (which rdable Rent)	Affordable ren market rent		Social rent	S/O rent	Market rent	
	1b2p			£	137.74						
	2b3p			£	174.90						
84	3b4p	2	Affordable Rent	£	218.63	£	294.37	£	138.50	£	367.96
	4b6p			£	287.67						
TOTAL		2									

Service Charges Nil Build costs (rate £m2) £3,200 Contingency 10% Voids and bad debts 2% Management £477unit/pa Based on historic variable costs per unit £783 unit/pa Based on historic variable costs per unit Maintenance 0.8% of build cost deferred to Yr10 As agreed with Principal Surveying Manager **Major Repairs** 5.5% Short term; 5.5% Long term Loan interest rate %

Loan term and type50 year interest only 50 year interest only 50 year interest only 50 year Maturity, MRP

	,	,	,	,	,	allowance	
On costs/Fees element	Amount		Amount	Amount		Amount	
Planning Application fees	£	924.00					
Valuation Fee	£	395.00					
Architect	£	4,000.00					
Employers Agent & QS	£	4,200.00					
Legal - Acqisition	£	750.00					
Ground Investigation	£	7,000.00					
Topographical Survey	£	1,250.00					
Arborcultural Survey	£	450.00					
Principle Designer (Precontract)	£	455.00					
CIL and s106 payments	£	-					
HLS Staff cost (Dev income)	£	10,000.00					
Homeloss Payments	£	14,200.00					
Disturbance Costs	£	3,000.00					
Heathland Mitigation HOUSES	£	788.00					
ASbestos removal	£	5,000.00					
Rent loss	£	22,000.00					
Party wall	£	2,000.00					
Carbon reduction report	£	995.00					
Principle Designer (Post Contract)	£	500.00					
Pre app fee	£	180.00					
Total	£	78,087.00					
		•					

Note: On costs/fees are split by number of units to each financial appraisal

App 1-3 Craigmoor Ave .xlsx

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Impact Summary

Climate Change & Energy	Amber - Minor negative impacts identified / unknown impacts	
Communities & Culture	Green - Only positive impacts identified	
Waste & Resource Use	Amber - Minor negative impacts identified / unknown impacts	
Economy	Amber - Minor negative impacts identified / unknown impacts	
Health & Wellbeing	Green - Only positive impacts identified	
Learning & Skills	No positive or negative impacts identified	
Natural Environment		
Sustainable Procurement	Amber - Minor negative impacts identified / unknown impacts	
Transport & Accessibility	Amber - Minor negative impacts identified / unknown impacts	

Answers provided indicate that the score for the carbon footprint of the proposal is: ${f 0}$

Answers provided indicate that the carbon footprint of the proposal is:	Low	
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Decision Impact Assessment Final Report

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



DIA Proposal ID: 539

Proposal ID: 539

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue, Bournemouth

Type of Proposal: Project

Brief description:

Replacement of existing 2 x 3 bed houses with 2 x 3 bed houses. BCP (HRA) owned and managed properties.

Proposer's Name: Lindsay Shearer

Proposer's Directorate: Environment & Community

Proposer's Service Unit: Housing

Estimated cost (£): Between £25K and PCR15 threshold

If known, the cost amount (£):

Ward(s) Affected (if applicable):

Muscliff & Strouden Park

Sustainable Development Goals (SDGs) supported by the proposal:

1. No Poverty 3. Good Health and Well Being 7. Affordable and Clean Energy 8. Decent Work and Economic Growth 9. Industry, Innovation and Infrastructure 10. Reduced Inequalities 11. Sustainable Cities and Communities 12. Responsible Consumption and Production

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Climate Change & Energy

Is the proposal likely to have any impacts (positive or negative) on addressing the causes and effects of climate change? **Yes**

If the answer was No, then the explanation is below (in this case there are no answers to subsequent questions in this section):

- 1) Has the proposal accounted for the potential impacts of climate change, e.g. flooding, storms or heatwaves? **Yes**
- 2) Does it assist reducing CO2 and other Green House Gas (GHG) emissions? E.g. reduction in energy or transport use, or waste produced. **Yes**
- 3) Will it increase energy efficiency (e.g. increased efficiency standards / better design / improved construction technologies / choice of materials) and/or reduce energy consumption? **Yes**
- 4) Will it increase the amount of energy obtained from renewable and low carbon sources? **Yes**

How was the overall impact of the proposal on its ability to positively address the cause and effects of climate change rated?

Amber - Minor negative impacts identified / unknown impacts



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

The development will provide highly efficient homes. It will help address the 2019 BCP Council declared Climate and Ecological Emergency and future proof the new homes against the 2025 Future Homes Standard for housing. The development will contribute to the Council's commitment to achieving a net zero carbon emission targets. Short-term emissions will be generated through the demolition of the existing building, materials supply chain and construction process. The successful contractors will be encouraged to minimise their environmental impact by the use of sustainable procedures and processes.

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

We intend to build the scheme to the principles of Passivhaus standard. This standard offers the benefit of very low carbon heating requiremeths and world leading levels of energy efficiency by not relying on fossil fuel heating systems. Further environmental assessments will be undertaken in later stages of procurement.

Decision Impact Assessment Final Report

DIA Proposal ID: 539

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Communities & Culture

Is the proposal likely to impact (positively or negatively) on the development of safe, vibrant, inclusive and engaged communities? **Yes**

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

- Will it help maintain and expand vibrant voluntary and community organisations?
 Yes
- 2) Will it promote a safe community environment? **Yes**
- 3) Will it promote and develop cultural activities? **Don't know even though may be** relevant

How would the overall impact of the proposal on the development of safe, vibrant, inclusive and engaged communities be rated?

Green - Only positive impacts identified



Reasoning for the answer (details of impacts including evidence and knowledge gaps):

100% of the new homes will be affordable housing. The housing scheme will provide accommodation for those who are on the Housing Register and in housing need. As such, many households will have protected characteristics and vulnerabilities. The housing scheme will bring many benefits to the residents and the wider community through the provision of private amenity space for prospective residents to help create an attractive area which improves the local community.

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

Input on the scheme will be sought from Neighbourhood Management, Housing Delivery Enabling and Housing Options and Partnerships teams, as well as from Ward Councillors.

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Waste & Resource Use

Is the proposal likely to have any impacts (positive or negative) on waste resource use or production and consumption? **Yes**

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

- Will it prevent waste or promote the reduction, re-use, recycling or recovery of materials? Yes
- 2) Will it use sustainable production methods or reduce the need for resources?
 Yes
- 3) Will it manage the extraction and use of raw materials in ways that minimise depletion and cause no serious environmental damage? Don't know even though may be relevant
- 4) Will it help to reduce the amount of water abstracted and / or used? Yes

How would the overall impact of the proposal on the sustainable production and consumption of natural resources be rated?

Amber - Minor negative impacts identified / unknown impacts



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

Resources will be used and and waste generated in the demolition of the existing properties and construction of the new homes. However, the high sustainability standards of the new housing will reduce the resource use over the lifespan of the building, especially in regards to fossil fuels

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

The high sustainability standards of the new housing will reduce the resource use over the lifespan of the building, especially in regards to fossil fuels

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Economy

Is the proposal likely to impact (positively or negatively) on the area's ability to support, maintain and grow a sustainable, diverse and thriving economy? **Yes**

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

- Will the proposal encourage local business creation and / or growth?
 Don't know even though may be relevant
- 2) Will the proposal enable local jobs to be created or retained?
 Don't know even though may be relevant
- 3) Will the proposal promote sustainable business practices?
 Don't know even though may be relevant

=How would the overall impact of the proposal on it's potential to support and maintain a sustainable, diverse and thriving economy be rated?

Amber - Minor negative impacts identified / unknown impacts



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

Exact local impacts are unknown at this stage. There will be an economic benefit to the suppliers/ contractors involved in this scheme and use of local suppliers will be encouraged. Local retailers may benefit from site personnel shopping in their establishments during the construction phase. Residents will benefit financially from low energy bills as a result of highly efficient building standards.

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

We will work with the Council's Strategic Procurement Team regarding the letting of contracts.

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,

BCP Council

Health & Wellbeing

Is the proposal likely to impact (positively or negatively) on the creation of a inclusive and healthy social and physical environmental for all? **Yes**

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

1) Will the proposal contribute to improving the health and wellbeing of residents or staff?

Yes

2) Will the proposal contribute to reducing inequalities?
Yes

3) Will the proposal contribute to a healthier and more sustainable physical environment for residents or staff?

Yes

How would the overall impact of the proposal on the creation of a fair and healthy social and physical environmental for all be rated?

Green - Only positive impacts identified



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

The scheme will provide much needed affordable housing, allowing at least 2 families to come off the Housing register. The high energy efficiency of the proposed new homes will help alleviate the financial and mental stresses of fuel poverty. The proposed scheme gives careful consideration to wider issues, it will provide private amenity space for prospective residents to help create an attractive area which would have a positive impact on health and wellbeing.

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

Potential to undertake resident surveys to evidence improvements in health and wellbeing.

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Learning & Skills

Is the proposal likely to impact (positively or negatively) on a culture of ongoing engagement and excellence in learning and skills? **No**

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

No provision at this stage to support community learning and development or skill based learning. Opportunities to include provisions such as apprenticeships through the supply chain can be explored with the Strategic Procurement Team.

- 1) Will it provide and/or improve opportunities for formal learning?
- 2) Will it provide and/or improve community learning and development?
- 3) Will it provide and/or improve opportunities for apprenticeships and other skill based learning?

How would the overall impact of the proposal on the encouragement of learning and skills be rated?

No positive or negative impacts identified



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Natural Environment

Is the proposal likely to impact (positively or negatively) on the protection or enhancement of local biodiversity or the access to and quality of natural environments?

Yes

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

No provision at this stage to support community learning and development or skill based learning. Opportunities to include provisions such as apprenticeships through the supply chain can be explored with the Strategic Procurement Team.

- 1) Will it help protect and improve biodiversity i.e. habitats or species (including designated and non-designated)? **Yes**
- 2) Will it improve access to and connectivity of local green spaces whilst protecting and enhancing them? **Don't know even though may be relevant**
- 3) Will it help protect and enhance the landscape quality and character? Yes
- 4) Will it help to protect and enhance the quality of the area's air, water and land? **Partially**

How would the overall impact of your proposal on the protection and enhancement of natural environments be rated?



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

As per recommendations in Environmental Impact Assessment.

Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

As per recommendations in Environmental Impact Assessment.

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Sustainable Procurement

Does your proposal involve the procurement of goods, services or works? Yes

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

Has or is it intended that the Strategic Procurement team be consulted? **Yes – planning to discuss**

If the Strategic Procurement team was not consulted, then the explanation for this is:

1) Do the Government Buying Standards (GBS) apply to goods and/or services that are planned to be bought?

Yes

- 2) Has sustainable resource use (e.g. energy & water consumption, waste streams, minerals use) been considered for whole life-cycle of the product/service/work? Yes
- 3) Has the issue of carbon reduction (e.g. energy sources, transport issues) and adaptation (e.g. resilience against extreme weather events) been considered in the supply chain?

Yes

- 4) Is the product/service fairly traded i.e. ensures good working conditions, social benefits e.g. Fairtrade or similar standards? Not Relevant
- 5) Has the lotting strategy been optimised to improve prospects for local suppliers and SMEs?

Don't know even though may be relevant

6) If aspects of the requirement are unsustainable then is continued improvement factored into your contract with KPIs, and will this be monitored? Don't know even though may be relevant

How is the overall impact of your proposal on procurement which supports sustainable resource use, environmental protection and progressive labour standards been rated?

Amber - Minor negative impacts identified / unknown impacts



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

Procurement exercises for the supply of goods and services yet to be undertaken - impacts unknown at this stage.

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DIA Proposal ID: 539

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Details of proposed mitigation/remedial action and monitoring (inc. timescales, responsible officers, related business plans etc):

Ongoing liaison with the Strategic Procurement Team

Proposal Title: Housing scheme at 83 and 85 Craigmoor Avenue,



Transport & Accessibility

Is the proposal likely to have any impacts (positive or negative) on the provision of sustainable, accessible, affordable and safe transport services - improving links to jobs, schools, health and other services? **Don't Know**

If the answer was No, then the explanation is below (there are no answers to subsequent questions in this section):

- Will it support and encourage the provision of sustainable and accessible modes of transport (including walking, cycling, bus, trains and low emission vehicles)?
 Yes
- 2) Will it reduce the distances needed to travel to access work, leisure and other services? **Don't know even though may be relevant**
- 3) Will it encourage affordable and safe transport options?
 Yes

How would the overall impact of your proposal on the provision of sustainable, accessible, affordable and safe transport services be rated?

Amber - Minor negative impacts identified / unknown impacts



The reasoning for the answer (details of impacts including evidence and knowledge gaps):

There are bus stops close to the development site. Local amenity facilities, educational and retail centres are accessible on foot for able bodied people. The location of the scheme may enable residents to rely less on personal transport.

Details of proposed mitigation and monitoring (inc. timescales, responsible officers, related business plans etc):

Impacts dependent on the scale of sustainable travel provisions and circumstances of the residents.

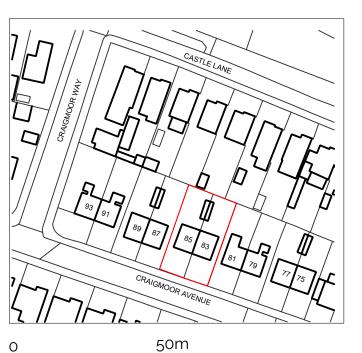


Block Plan (1:500)

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- 5. Electrical layouts to be agreed with client & added to drawing
- 6. Drawings to be read in conjunction with specification.



Location Plan (1:1250)

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PROJECT STAGE: PLANNING

CLIENT:

BCP (Bournemouth) Council

PROJECT & DRAWING TITLE:

83 & 85 Craigmoor Avenue, Bournemouth BH89LR

 Scale ® A3:1:500. 1:1250
 Drawn by : CR

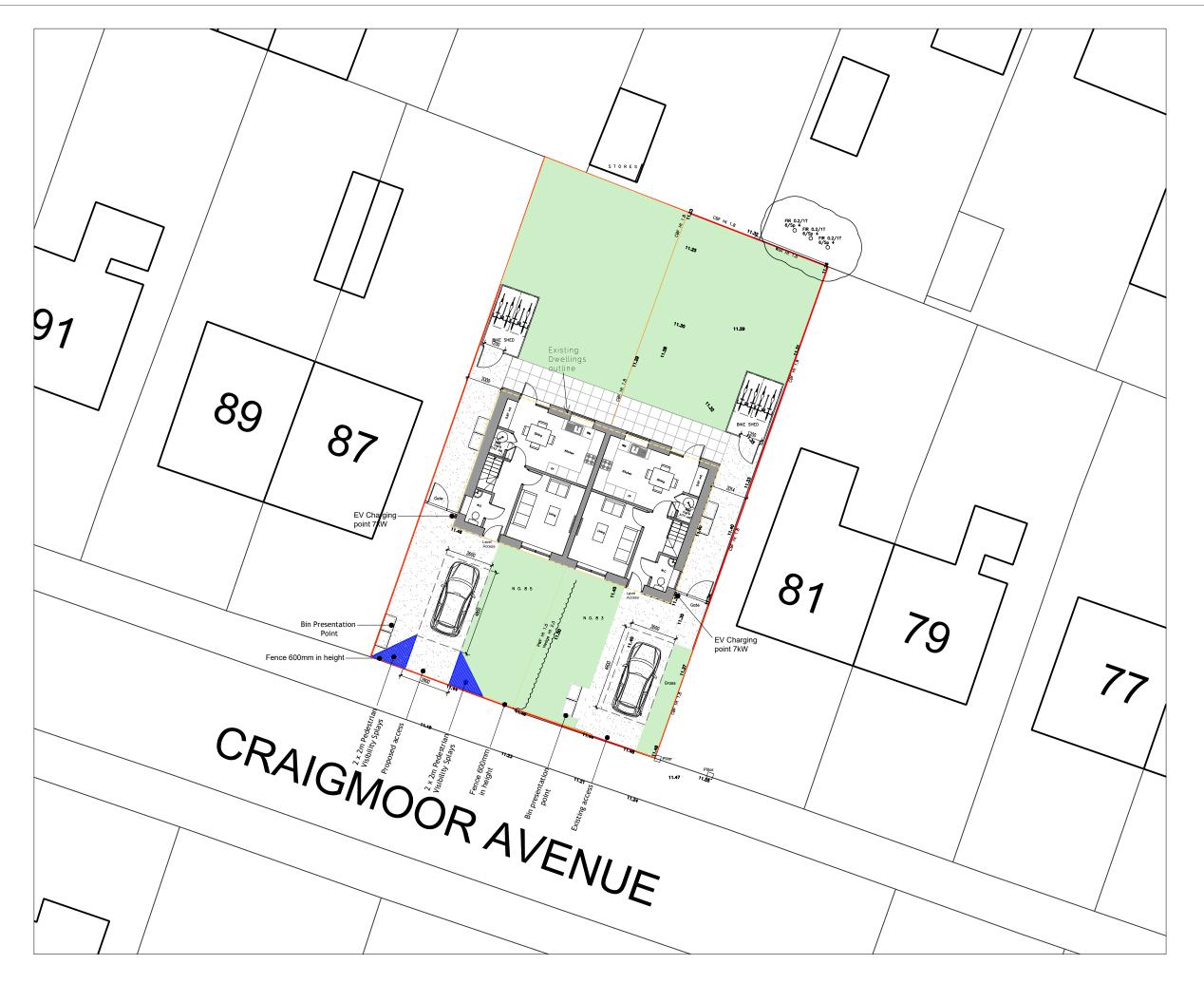
 Date : ○ 09.03.23
 Checked by : NDP

DRAWING No: ASP.22.055.P001 REVISION:

ARCHITECTURE - PLANNING - PROJECT MANAGEMENT - CDM







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- 4. Lower ground construction/ retaining structure to be structure
- 5. Electrical layouts to be agreed with client & added to drawing
- 6. Drawings to be read in conjunction with specification.

A 15.03.23 Cycle sheds moved, EV charger points added Rev Date Description REVISIONS:

PROJECT STAGE: PLANNING

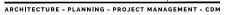
CLIENT:

BCP (Bournemouth) Council

PROJECT & DRAWING TITLE:

83 & 85 Craigmoor Avenue, Bournemouth BH8gLR Proposed Site Plan

ale @ A3:1:200	Drawn by : NDP	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
te:⊙ 09.03.23	Checked by :	%
AWING No:		REVIS
ASP.2	22.055.P002	



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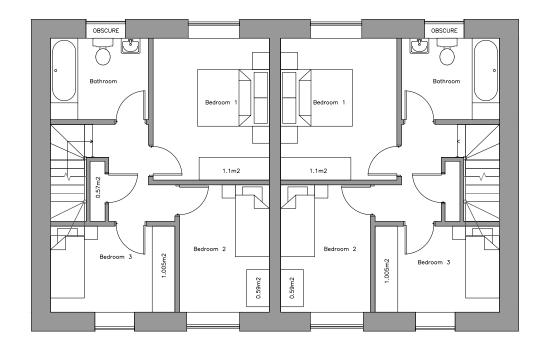


Proposed Site Plan 1:200

20m

WM

Ground Floor Plan 1:100

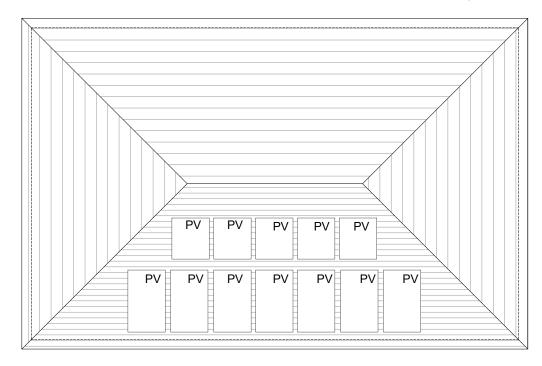


First Floor Plan 1:100

Proposed Plans 1:100 10m

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- 6. Drawings to be read in conjunction with specification.



Roof Floor Plan 1:100

2 x 3B4P @84m2

B 30.03.23 Obscure glazing show to WC A 15.03.23 PV added to Roof Plan

PROJECT STAGE: PLANNING

BCP (Bournemouth) Council

PROJECT & DRAWING TITLE:

83 & 85 Craigmoor Avenue, Bournemouth BH89LR Proposed Plans

Scale @ A3:1:100 Date: © 09.03.23

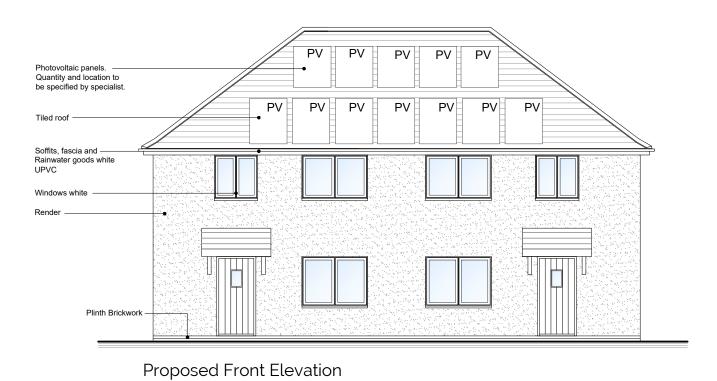
DRAWING No: ASP.22.055.P100

REVISION:

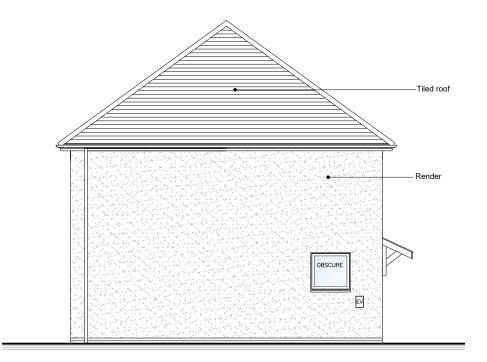
ARCHITECTURE - PLANNING - PROJECT MANAGEMENT - CDM



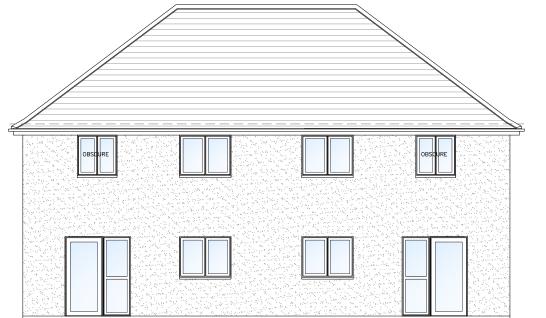




Proposed Side Elevation



Proposed Side Elevation



Proposed Rear Elevation

Proposed Elevations 1:100

10m



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- Contractors must verify all dimensions and report any discrepancies before putting work in hand or making any shop drawings.
- 5. Electrical layouts to be agreed with client & added to drawing
- 6. Drawings to be read in conjunction with specification.

B 30.03.23 Window material changed A 15.03.23 PV's added to front elevation

PROJECT STAGE: PLANNING

CLIENT:

PROJECT & DRAWING TITLE:

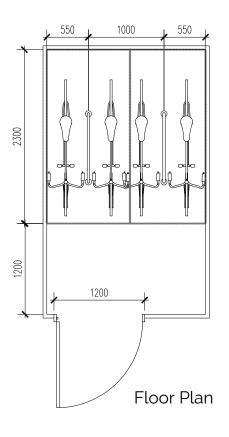
83 & 85 Craigmoor Avenue, Bournemouth BH89LR Proposed Elevation

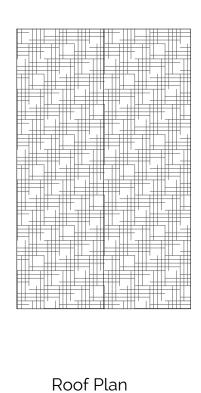
Scale @ A3:1:100	Drawn by :	NDP / CR	
Date: ○ 09.03.23	Checked by :	NDP	
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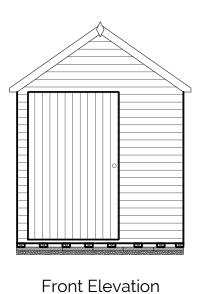
ARCHITECTURE - PLANNING - PROJECT MANAGEMENT - CDM

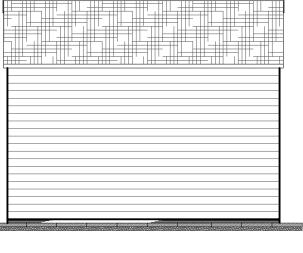


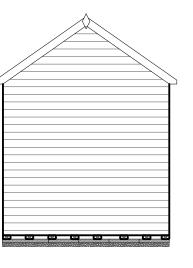


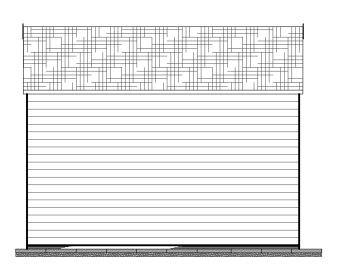












Side Elevation Rear Elevation

Side Elevation

Proposed Bike Store 1:50

5m

NOTES:

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- Contractors must verify all dimensions and report any discrepancies before putting work in hand or making any shop drawings.
- Lower ground construction/ retaining structure to be structure
 angineers design.
- 5. Electrical layouts to be agreed with client & added to drawing
- 6. Drawings to be read in conjunction with specification.

By P

PROJECT STAGE: PLANNING

ENT:

P (Bournemouth) Council

PROJECT & DRAWING TITLE:

83 & 85 Craigmoor Avenue, Bournemouth BH89LR Proposed Cycle Store Plan & Elevations

Scale @ A3:1:50	Drawn by: NDP / CR	
Date: 0 09.03.23	Checked by : NDP	
DRAWING No:	REVIS	ION:
	22.055.P202	

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4 Stour Road, Christchur Dorset, BH23 1PS 01202 473222

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Existing Street Scene 1:200



Proposed Street Scene 1:200

Proposed Street Scene 1:200

20m

NOTE

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- 2. Scaled drawing for Planning purposes only.
- Contractors must verify all dimensions and report any discrepancies before putting work in hand or making any shop drawings.
- Lower ground construction/ retaining structure to be structural engineers design.
- 5. Electrical layouts to be agreed with client & added to drawing
- 6. Drawings to be read in conjunction with specification.

A 15.03.23 PV's added to front elevation

Rev Date Description

REVISIONS:

PROJECT STAGE: PLANNING

CLIENT:

P (Bournemouth) Council

PROJECT & DRAWING TITLE:

83 & 85 Craigmoor Avenue, Bournemouth BH89LR Proposed Street Scene

Scale @ A3:1:100	Drawn by :	NDP / CR	
Date: ○ 09.03.23	Checked by :	NDP	
DRAWING No:			REVISION:
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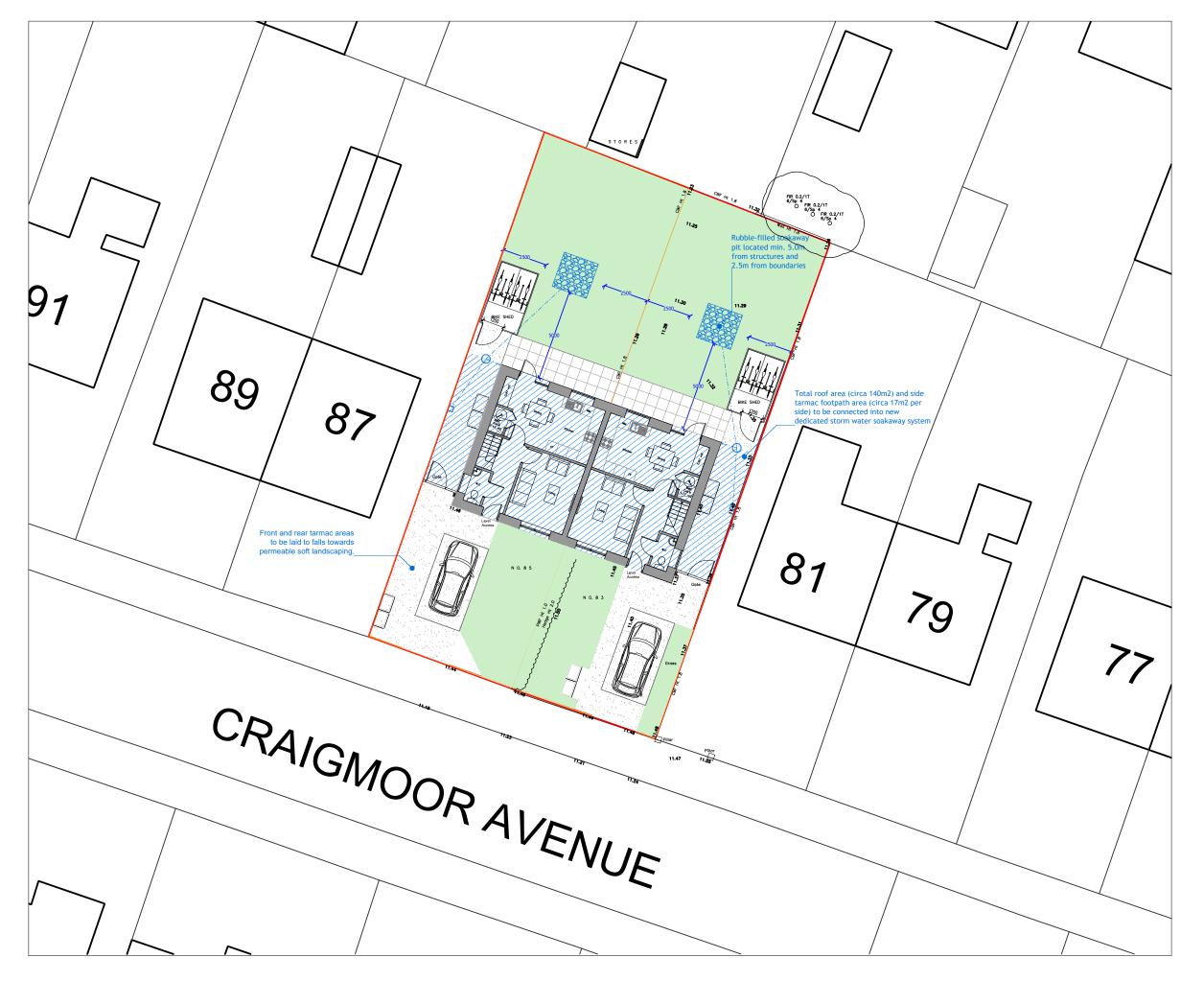
ARCHITECTURE - PLANNING - PROJECT MANAGEMENT - CDM

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Proposed Drainage Strategy Plan 1:200

20m

NOTES:

- The contents of this drawing are copyright.
 - 2. Scaled drawing for Planning purposes only.
- Contractors must verify all dimensions and report any discrepancies before putting work in hand or making any shop drawings.
- 5. Electrical layouts to be agreed with client & added to drawing
- 6. Drawings to be read in conjunction with specification.

PROJECT STAGE: PLANNING

PROJECT & DRAWING TITLE:

83 & 85 Craigmoor Avenue, Bournemouth BH89LR Proposed Drainage Strategy Plan

Scale @ A3:1:200 Date: ○ 10.03.23

DRAWING No: ASP.22.055.P301



ARCHITECTURE - PLANNING - PROJECT MANAGEMENT - CDM





Equality Impact Assessment: Report and EIA Action Plan

Purpose

Policy/Service under development/review:	Development of the site at 83 & 85 Craigmoor Avenue, Bournemouth, BH8 9LR
Service Lead and Service Unit:	Nigel Ingram, Head of Housing Delivery; Housing Delivery Team.
People involved in EIA process:	Jonathan Thornton, Housing Development Manager. Lindsay Shearer, Development Project Manager
Date EIA conversation started:	5 th April 2023

Background

To provide additional sustainable affordable housing in the BCP area. The project includes the development of 2 residential units. The completed project will provide much needed additional affordable housing (within the affordable rented tenure) within the BCP conurbation.

There is need for additional homes across all tenures, with the demand for affordable housing at sub-market levels being particularly high. There are circa 2,000 households on the BCP Housing Register, all waiting for affordable housing in the form of either Council or Housing Association (RP's) Homes.

The BCP owned site currently consists of 2 x 3-bedroom houses. The Council's Asset management plan provides a commitment to modernise housing stock where required and where possible, look at existing stock for redevelopment, to reduce future maintenance costs. The existing properties present ongoing significant maintenance issues for BCP Council which are not sustainable and require demolition.

It is considered that this site represents an opportunity to create new high-quality purpose-built residential dwellings for affordable housing.

The benefits of the proposal include:

- Providing 2 new residential dwellings houses. These dwellings will be provided within the affordable housing tenure.
- These homes will help towards imminent new Local Plan housing targets and will also contribute significantly to unmet housing need.
- The new homes provided will be designed and built to a better standard than currently.
- All homes will be built to the highest sustainability standards delivered through the excellent fabric first and airtightness approach (designed in this case to accommodate the principles of Passivhaus).
- Decreasing the number of households on the Council's Housing Waiting List.
- Benefiting couples and families which are either homeless or who may live in unsuitable or under/ over occupied housing.
- Increasing job opportunities within the construction sector during the construction phase.
- Generating a long-term surplus to the Housing Revenue Account (continual income from affordable rent).

The units, type and mix will be informed from the adopted and emerging Local Plans, the Strategic Housing Market Assessment (SHMA) and the housing register statistics. The final tenure mix will be developed after consideration of numerous factors including the need for the scheme to be financially viable and a providing a positive return, housing demands, site specifics and the need to ensure a sustainable community. The Council's Neighbourhood Management team and the Housing Options and Partnerships team will be closely involved in the development of this scheme to help ensure that it adequately meets housing needs and is designed in such a way to be sustainable and to enable good quality housing management. The completed affordable housing dwellings will be let and managed on the same basis as our existing housing stock and all the EIA's and other policies which apply to our existing stock to apply to these new units.

The Housing Delivery Team will engage with the Housing Portfolio Holder on the strategic approach to new council owned affordable housing. As part of this engagement process, the team will also speak with the Ward Councillors and Portfolio Holder and relevant Council staff. Local residents will be consulted by letter prior to the planning application and also will have the opportunity during the planning process to comment.

The team will engage BCP's Communication Team to widely publicize this scheme via social mediate such as LinkedIn, BCP's own website, the Bournemouth Daily Echo and other media platforms, as appropriate. Comments about the proposals will be accepted by the Housing Delivery team throughout the duration of the project. Where relevant, advice or other information will be provided to interested parties.

Findings

How does your decision affect those of:

- Different Ages: Admission for new residents to the scheme will be by objective eligibility
 criteria, which will be operated by the Housing Solutions team, who undertake property
 allocations for the Council to ensure that the properties are let to those in housing need.
 These properties are designed for families. There will be no loss of existing provision for
 other client groups as a result of this project.
- **Disability:** Properties will be constructed to Building Control Approved Document Part M (Access to and use of buildings).
- Sex/ Gender Reassignment/ Pregnancy and Maternity/ Marriage and Civil/ Race/ Religion or Belief/ Sexual Orientation/ Armed Forces Community and any other factors/ groups: Properties will be eligible for all eligible applicants on the housing register. No issues regarding these characteristics have been identified but this factor will be considered along with any service user identified needs.
- Human Rights: Will facilitate Article 11 of the International Covenant on Economic, Social
 and Cultural Rights the right of everyone to adequate standard of living for themselves
 and their family, including adequate food, clothing and housing. No human rights have
 been identified but these factors will be considered/ monitored along with any service users
 identified needs.

Conclusion

- 1. This proposal does not introduce new changes to policy or services and the properties will be designed for couples/ families.
- 2. These homes will help towards meeting imminent new Local Plan housing targets and will also contribute significantly to unmet housing need.
- 3. The new homes provided will be designed and built to a high standard. Please see point 3 and 4 below.
- 4. All homes will be built to the highest sustainability standards delivered through the excellent fabric first and airtightness approach (designed in this case to accommodate the principles of Passivhaus).
- 5. Properties will be constructed to Build Control Approved Document Part M.
- 6. Decreasing the numbers of households on BCP Council's Housing Register.
- 7. Benefiting families which are either homeless or they may live in unsuitable or under/ over occupied housing.
- 8. Increasing job opportunities within the construction sector during the construction phase of the development.
- 9. Generating a short time and long-term surplus income to the Housing Revenue Account.

Equality Impact Assessment: Report and EIA Action Plan

Equality Impact Assessment Action Plan

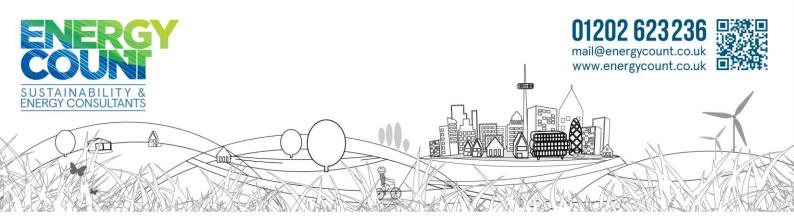
Issue identified	Action required to reduce impact	Timescale	Responsible officer
The properties are designed for families –3 bed houses.	As a consequence of no 1, 2 or 4 bed housing provision on this site, impact can be offset by delivery of homes elsewhere within the BCP area. Three bed houses can be more suitable for those over occupying smaller properties than they need. This will free up smaller family houses. The identification of housing need for specific client groups within the neighbourhood will be monitored as part of the ongoing Housing Strategy process.	Ongoing	Affordable Housing and Resettlement Manager.

83 and 85 Craigmoor Avenue



RAG rating G

							2022									2023								20	24				2025							
<u>Task</u>	Lead Officer	No Months	Jan	Mar	Apr	Мау	un/	Aug	Sep	oct Z	Dec	Jan	Feb	Apr	May	un/	Aug	Sep	No No	Dec	Jan Feb	Mar	Apr	Jun	Jul	Sep	Oct	Nov Dec	Jan	Feb	Apr	May	In C	Aug	Oct	Nov
Architect Appointment	Lindsay Shearer	1																																		
Design period	Lindsay Shearer	8																																		
Valuations - land and property OMR and OMVs	Lindsay Shearer	1															Ш																			
Ground Investigation tender, works and report	Lindsay Shearer	0										Ш					Ш															\perp	\coprod	\perp		
Ecological/tree Surveys tender, works and report	Lindsay Shearer	1			Ш							Ш			Ш		Ш					Ш							Ш			\perp	\coprod	\perp		
Pre planning application.	Lindsay Shearer	3		\perp													$\perp \downarrow$						_									\perp	\coprod	\perp		
Legal report request and searches ROT etc	Lindsay Shearer	0		\perp													\coprod													1		\perp	\coprod	\perp		
Ward Councillor notification	Lindsay Shearer	1											\downarrow				$\perp \downarrow$					Ш								_		\perp	\coprod	\downarrow		
Employers Agent appointment	Lindsay Shearer	1							Ш													Ш										\perp	\coprod	\perp		
Planning application period	Lindsay Shearer	4			$\perp \mid$							Ш										\coprod						\perp	Ш			\bot	\coprod	\bot		
Seek BCP approvals (CMB, Cabinet, Council) for spend	Lindsay Shearer	3		\perp				_			_												-						Ш	1		\bot	\coprod	\bot		
Main Contractor Procurement Tender exercise	Lindsay Shearer	2						_			-						\coprod													_		\perp	\coprod	\bot		
Mobilisation	Main Contractor	1						_			_		_			_	$\perp \downarrow$													_		_	\coprod	\perp		
Construction Phase	Main Contractor	11						_			_		_			_	$\perp \downarrow$													_		_	\coprod	_		
Snagging	Main Contractor	1		_	$\perp \mid$							\square	\perp				$\downarrow \downarrow$	_	\perp	\sqcup			_							\perp		\bot	\coprod	\bot	igsqcup	
Handover & letting of completed units	Housing Team	1		\downarrow	$\perp \mid$								\perp	\perp			$\downarrow \downarrow$		$\parallel \parallel$				\perp													
Rectification Period	Main Contractor	12			$\perp \mid$			_	\square		_	\coprod	\downarrow	\perp			\prod			\sqcup		\prod	\perp		\perp											
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CARBON REDUCTION STATEMENT

PROJECT: Replacement of 83 & 85 Craigmoor Ave, Bournemouth

CLIENT: BCP Council

PROJECT REF: 0292-0423-01

DATE: 26 April 2023

CONTENTS

6.0 - Conclusions

1.0 - Introduction
2.0 - Energy Requirements
3.0 - Energy Hierarchy
4.0 - Methodology
5.0 – Findings

1.0 - INTRODUCTION



The development at 83 & 85 Craigmoor Ave, Bournemouth consists of the construction of a pair of semi-detached houses to replace the existing dwellings, also a pair of semi-detached houses.

As part of its commitment to reduce CO_2 emissions in the conurbation BCP Council declared a Climate & Ecological Emergency in July 2019. On the back of this the new BCP local plan is being developed to help achieve a reduction in CO_2 emissions in new developments across the conurbation. The existing local plan was adopted in October 2012 and is out-of-date¹ in planning terms.

The current Policy CS2 of the Core Strategy requires that all developments must have at least 10% of their energy demand come from decentralised and renewable or low carbon sources, unless this is demonstrated to be unfeasible or unviable.

The proposed development at 83 & 85 Craigmoor Ave will be built to Passivhaus standards using a fabric-first approach that will exceed Building Regulations by a large margin.

The purpose of this report is to show how the fabric-first Passivhaus approach will provide a significant CO_2 emissions reduction across the development compared to the same buildings if it were built to current Building Regulations requirements.

¹ Refer to Appendix A

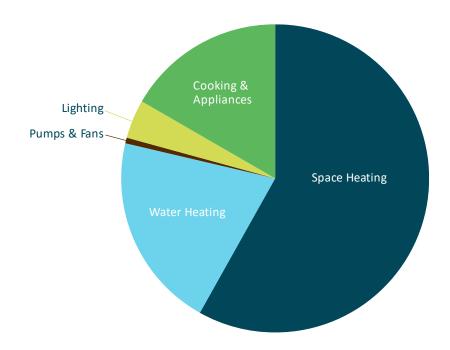
2.0 - ENERGY REQUIREMENTS

Energy efficiency first

The largest proportion of energy demand of a typical dwelling built to current regulations is from space and water heating.

Figure 2.1 below shows the energy split of a typical dwelling built to comply with Building Regulations.

Figure 2.1



It is good practice therefore to reduce the overall energy demand of a dwelling by utilising a low energy design approach.

Using a fabric-first approach, the space heating demand of a dwelling is brought closer to zero due to the high levels of thermal insulation and air tightness.

Low energy design involves the consideration and implementation of measures to reduce the energy requirement of a dwelling. This can be achieved by:

- Improving levels of insulation to reduce heat loss through the fabric of the building.
- Use of low-energy technologies, e.g. low-energy lighting, energy efficient heating systems & appliances.
- Use of passive solar design.

3.0 - ENERGY HIERARCHY

Be Lean, Be Clean, Be Green.

When designing a building it is advisable to follow an Energy Hierarchy. The primary aim is to make the building as energy efficient as possible in order to reduce the demand for energy, and thus CO₂ emissions.

Building Regulations 2021 Part L aims to reduce CO₂ emissions from new buildings by 30% compared to those built to 2013 regulations. This can be achieved by making improvements to the fabric of the building by increasing levels of insulation, increasing air tightness and the use of efficient heating & appliances. CO₂ emissions can be further reduced by using renewable or low-carbon energy sources.

In order to reduce the regulated CO_2 emissions of the proposed development the principle is to follow the energy hierarchy:

- 1. Use less energy energy efficient measures, air tightness, passive solar, low energy design
- 2. Use renewable & low-carbon energy sources and/or other technologies

Use less energy

Areas of consideration in order to improve the efficiency of the fabric of a dwelling:

- Increased insulation to main thermal elements (roof, walls, floor, glazing)
- Reduce thermal bridging to near-zero
- Improved air tightness

Other areas for improvement:

- Efficient heating & hot water systems
- Improved heating & lighting controls
- Controlled ventilation
- Energy efficient lighting
- Energy efficient appliances (cooker, washing machine, fridges, etc.)

1. Use less energy

The proposed minimum Building Fabric specification for the development will be as follows:

Element	Proposed u-value (Passivhaus spec) (W/m²K)	Maximum allowed by Building Regulations Part L1a 2021 (W/m²K)						
Walls	0.12	0.26						
Floor	0.12	0.18						
Roof	0.11	0.16						
Glazing	0.8	1.6						
Air tightness	1.0 ²	8.0						

2. <u>Use renewable & low carbon energy sources and/or other technologies</u>

It is proposed that MVHR whole-house ventilation systems are used in each dwelling. MVHR extracts heat from expelled air and uses it to pre-warm incoming fresh air.

² Air tightness (or air permeability) is measured differently in Building Regulations and Passivhaus. Passivhaus uses the n50 methodology, which requires an air change/hour (ACH) rate of 0.6. An n50 result of 0.6 ACH is roughly equivalent to a 1.0 using the q50 methodology used by Building Regulations.

4.0 - METHODOLOGY

Project Appraisal

BCP Council impose a condition on all new dwellings that requires a 10% reduction in Energy Demand from renewable or low carbon sources. The 10% energy demand reduction requirement in the out-of-date Bournemouth Local Plan is a noble intention, but too simplistic a tool in practice.

Under the out-of-date local plan there is no requirement for a dwelling to exceed Building Regulations, just that the energy demand is reduced by 10% using renewable or low-carbon sources. This makes it possible to build an inefficient building that fails to meet Building Regulations Part L, which only passes with the addition of renewables.

Using a fabric-first approach can achieve a decent Building Regulations pass without the need for renewables.

The proposed development will be built to Passivhaus standard using a fabric-first approach that will greatly exceed Building Regulations.

The development will be built to Approved Document Part L 2021, which has an extra element to comply with over that of the previous version - DPER (Dwelling Primary Energy Rate)

The latest Design SAP software has been used to determine CO₂ emissions for the development.

5.0 - FINDINGS (Energy Demand)

Table 5.1 Benchmark Calculations (Base spec) & Base spec + PV

	Space	Water	Pumps &	Lighting	Base Spec	Qty of	PV	TOTAL
Plot	Heating	Heating	Fans		Total	Solar PV	Contribution	with PV
PIOL						to pass		
	(kWh/year)	(kWh/year)	(kWh/year)	(kWh/year)	(kWh/year)	(kW)	(kWh/year)	(kWh/year)
83	2479.4	3152.8	86.0	190.6	5908.9	3.2	2763.6	3145.3
85	2479.4	3152.8	86.0	190.6	5908.9	3.2	2763.6	3145.3
					11817.8			6290.6

Table 5.1 shows that the dwellings, if built to the base specification (Building Regulations pass) have a total energy demand of 11,817.8 kWh/year.

With solar PV the total energy demand of the development reduces to 6290.6 kWh/year, which represents a 46.8% reduction.

Table 5.2 Proposed Specification (Passivhaus) with electric panel heating + PV

Plot	Space Heating (kWh/year)	Water Heating (kWh/year)	Pumps & Fans (kWh/year)	Lighting (kWh/year)	TOTAL (kWh/year)	Qty of Solar PV to pass (kW)	PV Contribution (kWh/year)	TOTAL with PV (kWh/year)
83	1622.6	2432.0	0.0	190.6	4245.3	2.1	1813.6	2431.7
85	1622.6	2432.0	0.0	190.6	4245.3	2.1	1813.6	2431.7
					8490.6			4863.4

Table 5.2 shows that the dwellings, if built to the proposed Fabric-First Passivhaus specification have an energy demand of 8490.6 kWh/year.

This represents the following energy demand reductions:

- a 58.8% energy demand reduction over the base specification
- a 22.7% energy demand reduction over the base specification + PV

³ With 2.1kW of PV the energy demand falls to 4863.4 kWh/yr.

³ Building Regulations Approved Document L 2021 (New Regs) requires a dwelling to pass DER/TER and DPER/TPER requirements. Standard Passivhaus specification passes DER/TER well but requires some renewables to pass DPER/TER.

5.0 - FINDINGS (CO₂ Emissions & Primary Energy Rate)

Tables 5.3 Benchmark Calculations (Base spec)

Block Compliance Report - DER						
Block Reference: 0292-0423-01 Craigmoor Ave	Block Name:					
Property-Assessment Reference	Floor area (m²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER		
0292-0423-01_83&85 - BASE	84.20	14.52	10.33	-40.56 %		
Totals:	84.20	14.52	10.33			
Average DER = 14.52 kgCO ₂ /m ²	% DER/TER	FAIL				
Average TER = 10.33 kgCO ₂ /m ²	-40.56 %		FAIL			

Block Compliance Report - DPER				
Block Reference: 0292-0423-01 Craigmoor Ave	Block Name:			
Property-Assessment Reference	Floor area (m²)	DPER (kWh/m ² /yr)	TPER (kWh/m ² /yr)	% DPER/TPER
0292-0423-01_83&85 - BASE	84.20	80.60	53.82	-49.76 %
Totals:	84.20	80.60	53.82	
Average DPER = 80.60 kgCO ₂ /m ²	% DPER/TPER	FAIL		
Average TPER = 53.82 kgCO ₂ /m ²	-49.76 %			

Tables 5.3 shows CO₂ emissions and Primary Energy Rate of the dwellings if built to a typical specification with gas

The base spec used for the benchmark calculations is as follows:

Walls = $0.20 \text{ W/m}^2\text{K}$	(Building Regulations Part L limit = 0.26 W/m ² K)
Floor = $0.15 \text{ W/m}^2\text{K}$	(Building Regulations Part L limit = 0.18 W/m ² K)
$Roof = 0.11 \text{ W/m}^2\text{K}$	(Building Regulations Part L limit = 0.16 W/m ² K)
Glazing = $1.4 \text{ W/m}^2\text{K}$	(Building Regulations Part L limit = 1.6 W/m ² K)
Air tightness (q50) = $5.0 \text{ m}^3/\text{hr/m}^2$	(Building Regulations Part L limit = 8.0 m ³ /hr/m ²)

Tables 5.4 Benchmark Calculations with renewables (Base spec + PV)

Block Compliance Report - DER						
Block Reference: 0292-0423-01 Craigmoor Ave	Block Name:					
Property-Assessment Reference	Floor area (m²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER		
0292-0423-01_83&85 - BASE+PV	84.20	10.28	10.33	0.48 %		
Totals:	84.20	10.28	10.33			
Average DER = 10.28 kgCO ₂ /m ²	% DER/TER	PASS				
Average TER = 10.33 kgCO ₂ /m ²	0.48 %					

Block Compliance Report - DPER				
Block Reference: 0292-0423-01 Craigmoor Ave Block Name:				
Property-Assessment Reference	Floor area (m ²)	DPER (kWh/m ² /yr)	TPER (kWh/m ² /yr)	% DPER/TPER
0292-0423-01_83&85 - BASE+PV	84.20	53.69	53.82	0.24 %
Totals:	84.20	53.69	53.82	
Average DPER = 53.69 kgCO ₂ /m ²	% DPER/TPER	PASS		
Average TPER = 53.82 kgCO ₂ /m ²	0.24 %			

Tables 5.4 shows CO_2 emissions and Primary Energy Rate of the dwellings if built to the same typical specification with gas boiler, plus 3.2kW of Solar PV per dwelling to achieve a pass.

Tables 5.3 & 5.4 represent dwellings built to a specification that is typical in the industry today. The specification exceeds the limits set in Building Regulations Part L, yet still requires some renewables to pass the CO_2 emissions requirement of Part L.

The fabric-first Passivhaus specification

The proposed dwellings will be built to Passivhaus standards, with the following specification:

 $Walls = 0.12 \ W/m^2 K \qquad \qquad (Building Regulations Part \ L \ limit = 0.26 \ W/m^2 K)$ $Floor = 0.12 \ W/m^2 K \qquad \qquad (Building Regulations Part \ L \ limit = 0.18 \ W/m^2 K)$ $Roof = 0.11 W/m^2 K \qquad \qquad (Building Regulations Part \ L \ limit = 0.16 \ W/m^2 K)$ $Glazing = 0.8 \ W/m^2 K \qquad \qquad (Building Regulations Part \ L \ limit = 1.6 \ W/m^2 K)$ $Air tightness \ (q50) = 1.0 \ m^3/hr/m^2 \qquad (Building Regulations Part \ L \ limit = 8.0 \ m^3/hr/m^2)$

Part of the Passivhaus specification requires that thermal bridges are largely designed out, making for an extremely well insulated and airtight thermal envelope.

Tables 5.5 Calculations (Passivhaus spec)

Block Compliance Report - DER				
Block Reference: 0292-0423-01 Craigmoor Ave	Block Name:			
Property-Assessment Reference	Floor area (m²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
0292-0423-01_83&85 - Passivhaus (Elec panel heaters	84.20	7.43	9.92	25.10 %
Totals:	84.20	7.43	9.92	
Average DER = 7.43 kgCO ₂ /m ²	% DER/TER		PASS	
Average TER = 9.92 kgCO ₂ /m ²	25.10 %	PASS		

Block Compliance Report - DPER				
Block Reference: 0292-0423-01 Craigmoor Ave	Block Name:			
Property-Assessment Reference	Floor area (m²)	DPER (kWh/m²/yr)	TPER (kWh/m²/yr)	% DPER/TPER
0292-0423-01_83&85 - Passivhaus (Elec heaters + PV)	84.20	51.56	51.60	0.08 %
Totals:	84.20	51.56	51.60	
Average DPER = 51.56 kgCO ₂ /m ²	% DPER/TPER	PASS		
Average TPER = 51.60 kgCO ₂ /m ²	0.08 %			

Tables 5.5 shows CO_2 emissions and Primary Energy Rate of the dwellings if built to the Fabric-First Passivhaus specification with electric heating.

CO₂ EMISSIONS (TONNES/YEAR)

The following table shows CO₂ emissions reductions achieved:

Total Floor Area per dwelling = 84.2m²

CO₂ emissions = Average DER x Total Floor Area (then divided by 1,000 to convert kg to tonnes)

Table 5.6 Calculated CO₂ emissions (tonnes/year) per dwelling

Base Spec + PV	Proposed (Passivhaus spec + PV)	Difference (Base spec+PV vs Passivhaus spec+PV)
0.87	0.35	0.51

Table 5.6 shows that by building to the Fabric-First Passivhaus spec would reduce CO_2 emissions by 0.51 tonnes/year per dwelling.

BUILD COSTS vs CO₂ EMISSIONS.

Estimated Build Costs

Table 5.7 Estimated build cost (building costs excluding external works) per dwelling

Proposed Passivhaus Build spec	'Normal' spec (7% less, assumed)	Difference
(£)	(£)	(£)
270,000	251,100	18,900

CO₂ emissions over 75 years per dwelling

Table 5.8 CO₂ emissions over 75 years per dwelling

Specification	CO ₂ emissions	CO ₂ emissions over 75 years	Difference in CO ₂ emissions over base spec over 75 years	CO ₂ emissions reduction
	(tonnes)	(tonnes)	(tonnes)	(%)
Base spec + PV	0.87	64.9		
Proposed (Passivhaus + 2.1 kW PV) spec	0.35	26.5	38.5	59.2

Calculation of Cost vs CO₂ Emissions saving

Table 5.9 Cost per tonne of CO₂

	Extra cost to build to proposed specification (£)	Difference in CO ₂ emissions over base spec + PV over 75 years (tonnes)	Cost per extra tonne of CO ₂ saved over 75 years (£)
Per Dwelling	18,900	38.5	491.44

Table 5.9 shows the monetary cost per tonne of CO_2 emissions saved by using the proposed specification over the base 'Building Regulations' specification as follows:

38.5 tonnes of CO_2 emissions are saved by each dwelling (77 tonnes for the whole development) over 75 years when built to the Passivhaus specification. This equates to a monetary cost of £491.44 per tonne of CO_2 saved.

6.0 - CONCLUSIONS

Although it is possible to achieve a Building Regulations Part L pass with a significant quantity of renewables (i.e. around 3.2 kW of solar PV per dwelling), the CO_2 emissions of the development would exceed that of the same building if it were built to Passivhaus standard.

The metric of energy demand reduction from renewables in the out-of-date Bournemouth Local Plan, whilst worthy, does not provide as significant a CO_2 emissions reduction as if the same building were built to the Fabric-First Passivhaus standard.

If built to Passivhaus standard the development at Craigmoor Ave would produce around 59% less CO₂ emissions and have a 23% lower energy demand than the same development if it were built to comply with Building Regulations Part L1a.

Findings show that building to the Fabric-First Passivhaus specification reduces CO₂ emissions of the development by 0.52 tonnes/year over the Building Regulations-compliant Base Spec with solar PV.

ADDENDUM - Trees

Over 75 years the Fabric-First Passivhaus specification would reduce CO₂ emissions over a Building Regulations compliant specification by 77 tonnes.

By comparison, a typical tree will absorb up to 1 tonne of CO_2 over 100 years, which equates to around 0.75 tonnes over 75 years.

A simple calculation shows that the CO_2 emissions reduction provided by the proposed specification is equivalent to planting 102 trees (i.e. 77/0.75).

APPENDIX A

Paragraph 11 of the National Planning Policy Framework (2019) [NPPF] states that:

"Plans and decisions should apply a presumption in favour of sustainable development". For decision-taking this means (..) where there are no relevant development plan policies, or the policies which are most important for determining the planning application are out-of-date, granting permission unless:

- (i) The application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed. **or**
- (ii) Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this framework taken as a whole.

'Out-of-date means "that when a local authority cannot demonstrate a five year supply of deliverable sites (with the appropriate buffer); or where the Housing Delivery Test indicates that the delivery of housing was substantially below (less than 75%) of the housing requirement over the three years". In terms of the term 'particular importance' this includes "heritage assets which includes a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest".

The Housing Delivery Test (HDT) was introduced into national policy through the NPPF. The purpose of the HDT is to monitor local authority housing delivery against local requirements and to ensure that measures are taken to improve delivery where required. Where housing delivery falls below 95% of the local requirement (over the proceeding 3

financial years), an action plan must be prepared to identify measures to improve delivery and a buffer of 20% must be added to the 5-year housing land supply.

The first HDT measurement was published in February 2019 and was measured against the housing requirements set out in the adopted Local Plan for each former local authority area. *Table 1: HDT of the Housing Delivery Action Plan* shows that all former local authority areas failed to meet the housing delivery levels of 95%. For the Bournemouth area, the housing target was for 2,353 dwellings to be development from 2015/16 to 2017/18, with only 1,970 dwellings actually delivered thus equating to 84%. This means that outside of publishing an action plan, a 20% buffer was applied to the 5-year housing land supply.

Of particular interest, from 2019/20 onwards the housing requirement in Bournemouth steps up hugely from 730 to 1,422 dwellings per annum with the transition to the government's standard methodology. This step change in housing requirement presents a significant challenge in relation to housing delivery and housing land supply. The results for HDT for 2019 was recently published by the Government (February 2020) and Bournemouth HDT measurement is 66% (total number of homes required is 3,064 dwellings a year, and the number of homes delivered is 2,010 dwellings). Although the 2020 results will be published in February 2021, it is likely that the HDT will be significantly below 75% due to COVID. Thus, it could be argued that the average HDT for Bournemouth is substantially less than 75% for the proceeding three years, thus the policies which are most important for determining the planning application are out-of-date.

Five Year Housing Land Supply:

The Bournemouth Area Strategic Land Availability Assessment (2019) [SHLAA] provides information on the land available in the local authority area. The SHLAA is part of the Local Plan's evidence base and is required by the NPPF. The SHLAA should plan for a supply of specific, deliverable sites for years one to five of the plan period and specific.

deliverable sites or broad locations for growth for years six to ten and where possible years 11-15 of the plan. *Table 1: Sites Identified by types for year 1-5 (April 2019 to March 2024)* of the SHLAA shows that Bournemouth can only demonstrate a land supply of 2.9 years.

As stated in paragraph 9.8 of the SHLAA, due to the government's change in approach to calculating housing need and supply, BCP Council for the Bournemouth area cannot demonstrate a 5-year supply against the local housing need figure derived from the 2014 Household Projections plus the 20% buffer required by the results of the 2018 Housing Delivery Test. "As a consequence, the presumption in favour of sustainable development as laid out in paragraph 11 of the NPPF now applies in the area of BCP Council covered by the Bournemouth Local Plan – Core Strategy".