Marian Place Gas Works and the Oval

(Site Allocation 1.3 in LB Tower Hamlets Local Plan 2031)

Concerns over the soundness of the Council's viability testing for Scheme 14- Marian Place Gasworks Site

January 2019, *Revision F*

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CONTENTS

The Bethnal Green Holder Station has been the subject of representations by East End Waterway Group (EEWG) as part of the Examination in Public of Tower Hamlets Local Plan 2031 following submission to the secretary of state on 28th February 2018. This follows an active public campaign and petition with 3,917 signatures to locally list historic gasholders at Poplar and Bethnal Green and ensure their retention within the emerging Local Plan.

The Regeneration Practice (TRP), accredited conservation architects, have been appointed by EEWG to demonstrate a viable strategy for the in situ retention of No.2 and No.5 gasholder guide frames on their in-ground tanks maintaining their structural integrity for long term viable uses. This is in line with NPPF para 185 which calls for a conservation strategy for heritage assets which takes account of *"the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation"*.

This Study has been prepared by Paul Latham, Director of TRP, a chartered architect accredited in historic building conservation with over 35 years experience in large scale housing development, planning policy, viability assessments and historic building conservation. The Study is supported by Edward Morton a leading consultant conservation engineer with an estimate of costs for in situ repair of No.2 and No.5 gasholder guide frames on their in-ground tanks prepared by Russell Turner of Eura Conservation. Curriculum Vitae's are included at Appendix F.

The background to this brief are serious concerns by EEWG over the soundness of the Council's viability testing of the St William Gasholder Site - 'Scheme 14 Marian Place Gas Works' which have been raised already in evidence to the Local Plan Public Hearing. However, this study includes important new evidence which brings the viability testing of the St William Gasholder Site - 'Scheme 14 Marian Place Gas Works' into question.

This Study will demonstrate that the in situ retention of the No.2 and No.5 gasholder guide frames on their in-ground tanks is viable in a broadly satisfactory scheme incorporating at least 35% affordable housing achieving Urban Location density approaching 260u/Ha and that their positive contribution to the character or appearance of the Regent's Canal Conservation Area can and should be preserved.

Bethnal Green Gasholders No.5 constructed 1889; and No.2 constructed 1866 (rear)

Bethnal Green Gasholder No.5 constructed 1889

2.0 Concerns over the soundness of the Council's viability testing of Scheme 14 Marian Place Gas Works

2.1 Apparent conflict of interest as the Council's viability assessor, BNP Paribas Real Estate has a current contract with National Grid Property Holdings (NGPH)

BNP Paribas Real Estate has been appointed over last five years under a number of contracts by Tower Hamlets Council to undertake Viability Appraisals which test policies proposed in the Draft Local Plan -2031. They have produced the Council's Local Plan Viability Assessment-December 2017 which underpins the viability of a broad spectrum of policies and selected strategic sites included in the Draft Local Plan -2031. The NPPF (July'18) stresses the primary importance of the viability assessment at the plan making stage. The clear aim is for local authorities to adopt plans that are realistic and deliverable and do not compromise sustainable development. Viability assessments therefore constitute significant body of evidence that Local Plan policies are deliverable.

According to the NPPF-Viability PPGuidance the role of viability assessor requires; "clarity and accountability and, it is an expection that any viability assessment is prepared with professional integrity by a suitably qualified practitioner." In the light of this, I was surprised to see that BNP Paribas Real Estate had accepted a contract to act for National Grid Property Holdings (NGPH) across its UK land holdings of over 2,500 acres spread over some 350 seperate sites to "reduce risk ...whilst maximising value and driving efficiency" Appendix A.

Three of these sites included in the Draft Local Plan -2031, Bow Common Gas Works, Leven Road Gas Works and Marian Place Gasholder Site are owned by NGPH and/or St William - a joint venture company established between NGPH and Berkeley Homes in November 2014.

It is unclear how BNP Paribas Real Estate can fullfill both its remit to Tower Hamlets Council to justify the financial viability of Local Plan planning policies, and at the same time meet its commitment to NGPH to "*maximise value and drive efficiency*".

According to RICS guidance "*Conflicts of Interest 1st Edition 2017*":

"*it will not be possible to overcome the existence of a Conflict of Interest or a significant risk of one by getting Informed Consent where the potential appointment is subject to a specific statutory or regulatory regime.*"

In order to clarify whether a conflict of interest exists or has been drawn to the Council's attention I have put in a Freedom of Information Request (FOI) to Tower Hamlets Council. The replies are included at Appendix B.

2.2 'Scheme 14 - Marian Place Gas Works' viability assessment and subsequent viability testing is unclear, misleading, based upon inaccurate baseline data and is unsound

2.2.1 The cost allowance for "*decontamination at preconstruction*" is over-estimated by some £3.0m:

There is a marked distinction in terms of land contamination costs between gasworks where coal gas and chemical by-products were produced such as coal tar, sulphate of ammonia, sulphuric acid and benzole and the gasholder stations (usually located on part of a gasworks site) where the purified gas was simply stored in holders at the end of the production line. Most surviving detached gasholder stations are remnants of former gasworks and have been retained to store North Sea Gas. Bethnal Green Holder Station however, was built as a detached gas storage facility supplied from Shoreditch Gasworks at the outset, figure 1.

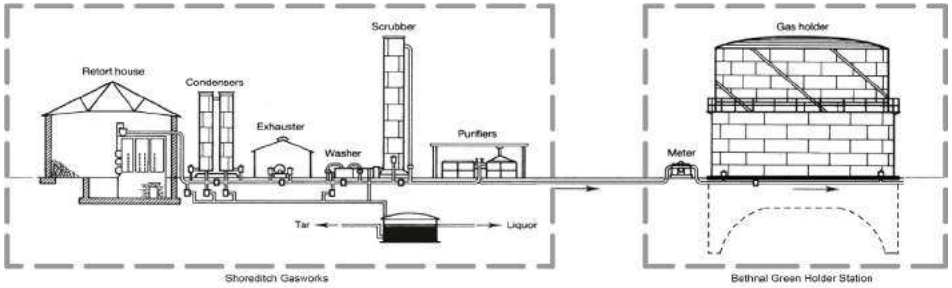

figure 1: Diagramatic relationship between Shoreditch Gasworks with Bethnal Green Holder Station

The principle contamination of a gasholder station site (unless the tanks have leaked or the site was previously in a contaminating use) is the toxic water and sludge within the waterproof in-ground tanks which must be pumped out and treated by a specialist. The detached Bethnal Green Holder Station was constructed by the Imperial Gas Light and Coke Company in the 1850's to store town gas manufactured remotely at the former Shoreditch Gasworks (now Haggerston Park in the L.B. Hackney). The history of the gasworks site is briefly described in Appendix C.

The 3.2m/ha estimated "decontamination works bill" included within the Tower Hamlets Local Plan Viability Assessment- Dec17 are stated by BNP Paribas Real Estate as being based upon; *"our experience of the costs associated with decontamination of similar gasworks sites in London"* (my underlining) are clearly referring to remediation costs of gasworks not gasholder stations[1]

1 Tower Hamlets Local Plan Viability Assessment- Dec17, Para 7.17, p.84

Figure 2 Remediation costs

POTENTIAL

SENSITIVITY

Proposed end use	Description	Previous use: Low potential – Site category A: Small scale and general industrial sites, colliery or mine spoil heaps, miscellaneous factories and 'works' (not heavy industry), sites with very small to small fuel tanks	Previous use: Moderate potential – Site category B: Garages, workshops, pithead sites, railway lines, textiles, small scale timber treatment, sewage works, smaller chemical works, sites with small to mid-sized fuel tanks	Previous use: Moderate potential – Site category C: Metal workings, scrap yards and shipyards. Paints and solvents, small gasworks/gas holder sites, smaller ~~power stations~~, rail depots (maintenance and refuelling), sites with large fuel tanks	Previous use: High potential – Site category D: Major gasworks, iron and steel works, large chemical works, refineries and major fuel depots, ship breaking and building, larger power stations, sites with large tank farms
		£ 000's	£ 000's	£ 000's	£ 000's
Negligible to low water risk					
Low sensitivity	Employment or commercial with limited soft landscaping, business parks and data centres	50 to 130	180 to 360	255 to 590	305 to 655
Moderate sensitivity	Public open space. Residential without private gardens (flats and apartments), universities and colleges	50 to 130	205 to 435	255 to 640	305 to 740
High sensitivity	Residential with private gardens. Schools for younger children with pitches and play areas. Allotments and growing areas in developments.	75 to 205	255 to 640	~~095 to 740~~ *375 to 910*	~~305 to 845~~ *412 to 1039*
Moderate to high water risk					
Low sensitivity	Employment or commercial with limited soft landscaping, business parks and data centres	125 to 250	255 to 640	510 to 1,230	540 to 1,230
Moderate sensitivity	Public open space. Residential without private gardens (flats and apartments), universities and colleges	130 to 255	360 to 920	485 to 1,305	540 to 1,230
High sensitivity	Residential with private gardens. Schools for younger children with pitches and play areas. Allotments and growing areas in developments.	180 to 410	410 to 1,050	~~540 to 1,408~~ *664 to 1796*	~~715 to 1,705~~ *879 to 2171*

Figure 2: Table of projected contamination costs against previous and future use adjusted for current day prices in red

It is unclear what experience BNP Paribas Real Estate have to offer any such opinion as they clearly state in reply to our FOI request "*our role was limited..* [within Tower Hamlets- my brackets] *..to site security and short term lettings, not development advice*". Notwithstanding that, £3.2m/ha is a substantial over-estimate. Authorative guidance on remediation costs was produced by Ove Arup and Partners in a Report for the Homes and Communities Agency in March 2015, Appendix D. In the absence of site specific cost estimates this Report offers independent and unbiased guidance to planning authorities on a realistic guide range of the costs of remediation and demolition. The table of remediation costs per hectare at figure 2 is taken from the Report. I have updated the cost ranges for current day rates[2] and highlighted relevant pre-existing and proposed uses.

A high level estimate of remediation costs of the Bethnal Green Holder Station from figure 2 should cost between £375,000 and £910,000 per hectare (or, £37.5 - £91 per square meter) or between £693,750 and £1,683,500 for the Bethnal Green Holder Station site (1.85Ha) plus demolition costs. Although four years old, the Report provides a unique source of impartial data on land remediation costs.

However, explicit cost advice for remedeation of Bethnal Green Holder Station was provided by NGPH itself in 2012 and this was reviewed by LBTH and BNP Paribas Real Estate in a Position Statement dated 11th September 2012. The gasholders were decommissioned in May 2012 and so the extent of contamination will not have significantly altered[3] **It is unclear why this data has been set aside in favour of an un-substantiated over-estimate of costs.**

As part of representations to Tower Hamlets Managing Development Document: Development Plan Document adopted April 2013, NGPH produced a Position Statement which set out the costs to demolish the gasholders at Bethnal Green Holder Station and undertake Statutory Remediation (ie: remediation for current industrial use) in the sum £3.747m and £134,000 respectively, (September 2012 prices), Appendix E [4]. It is assumed the 2012 figures include an adequate contingency. We have updated the NGPH figures for current rates by adding 43% for inflation up to 2019[5] as follows:

(£3.747m + £134,000 = £3,881,000) x 1.43 =£5,549,830.

2 Construction price inflation 2015-2019 of 23% taken from BICS database

3 Cadent letter dated 2nd June 2017:
https://www.whatdotheyknow.com/request/amount_of_gas_stored_at_the_mari

4 https://www.towerhamlets.gov.uk/Documents/Planning-and-building-control/Strategic-Planning/Local-Plan/REP-635651-National-Grid-Property-Holdings-Position-Statement-SA2.pdf

5 Construction price inflation 2012-2019 of 43% taken from BICS database

The purpose of BNP Paribas Real Estate Viability Testing is to ascertain if Council Policies are sound. As this cost includes full remediation (including demolishing/infilling the gasholders), it needs to be reduced to account for retention of gasholder guide frames No.2 and No.5 on their in-ground tanks, and to omit the cost of infilling gasholder tank No.5[6] (which can be retained in situ as an underground car park). Here is my adjustment:

a) Cost reduction for dismantling and disposal of gasholder guide frames No.2 and No.5: Demolition of a gasholder involves; de-water and de-sludge the in-ground tank, remove the top 1.5 to 2metres of the tank walls, cut away the iron bell and dismantle the guide frame. I have taken a high level estimate for cutting down the tank walls and dismantling each guide frame to be about 50% of the overall cost.

A high level estimate of removal costs of a gasholder has been recently estimated by BNP Paribas Real Estate to be £1m each [7] as follows:

(£1,000,000 x 50%) x 2 guide frames = **£1,000,000**

b) Cost reduction for infilling gasholder tank No.5 (retained for underground car parking)
Volume of gasholder tank No.5 = 24,500 m3 x £65[8] (MOT Type 1 fill or topsoil) per cubic metre

= £1,592,500, say **£1,600,000**

The adjusted and updated NGPH 2012 estimate for site remediation and demolition of the Bethnal Green Gasholder Station site retaining gasholder guide frames No.2 and No.5 on their in-ground tanks, and omitting the cost of infilling gasholder tank No.5 is therefore:

£5,549,830 - (£1,000,000 + £1,600,00) = £2,949,830, say **£3,000,000**

The cost allowance within the Council's published viability assessment 'Scheme 14 - Marian Place Gas Works' in the sum £6.08m therefore over-estimates the costs of "decontamination at preconstruction" by some £3.0m. The viability assessment is unsound.

6 *Local Plan Policy S.DH3 Para 6,*

7 Tower Hamlets Draft Community Infrastructure Levy Review August 2018, para7.15, p.50

8 *Rates taken from BICS database*

2.2.2 The Benchmark Land Value omits the costs of decontamination which are incorrectly included within the main construction costs reducing the viability by £12.16m

NPPF Guidance on Viability makes it clear Benchmark Land Value must "*reflect the implications of abnormal costs; site-specific infrastructure costs;*" [9] Including these costs within the main construction costs and not within the Benchmark Land Value has the effect of decreasing development viability by £2 for each £1 of abnormal cost as follows:

a) In the strategic site viability assessment for 'Scheme 14 - Marian Place Gas Works' BNP Paribas Real Estate have included £6.08m total abnormal costs within the construction costs contrary to NPPF Guidance. The effect is to reduce the development viability (and ability of the scheme to support public goods such as affordable housing, historic assets, CIL charges etc) by £6.08m.

b) Had the £6.08m been correctly deducted from the Benchmark Value in line with NPPF Guidance rather than incorrectly added to construction costs, this would not only make the scheme more profitable by £6.08m "above the line", but, as the Benchmark Land Value would reduce by the same figure, it would further increase scheme profitability by another £6.08m[10]

It is unclear why BNP Paribas Real Estate would reduce development viability of Scheme 14 - Marian Place Gas Works contrary to NPPF Guidance as this significantly reduces the ability of the viability model to support public goods - especially historic assets and affordable housing.

It is unclear why, in the Tower Hamlets Local Plan Viability Assessment- Dec17, Para 7.17, p.84, BNP Paribas Real Estate state: "*We have assumed a worst case scenario in our testing in that we have allowed for the full EUV plus a 20% premium of the site as well as the decontamination bill being paid by the developer.*" as the effect of "*the decontamination bill being paid by the developer*" is to distort the viability and significantly undermine the evidence base intended to inform the emerging Draft Local Plan.

Future decisions taken in connection with development of the St William Gasholder Site (Scheme 14- Marian Place Gasworks) will be misinformed and the Local Plan is therefore unsound.

9 NPPF-Viability July'18 What factors ... to establish benchmark land value?

10 A notional landowner would need to remediate the land to realise an "existing land use" value.

2.2.3 The Benchmark Land Value adopts a presumption in favour of demolition of the Gasholder Guide Frames against Local Plan 2031, Policy S.DH3, Pr 6:

NPPF Guidance on Viability makes it clear Benchmark Land Value must account for the costs of compliance with planning policies. As presented BNP Paribas Real Estate have not taken account of the planning policy presumption in favour of retaining, and therefore including the costs of repairing the No.2 and No.5 gasholder guide frames.[11] This was fully demonstrated at "6" in the EEWG Hearing Statement. The significance of each gasholder guide frame is set out, and their positive contribution to the conservation area is demonstrated at Appendix C.

Both National and Local Policies require that planning policies should be taken into account in establishing Benchmark Land Value (BLV) in viability assessments:

Government Planning Policy Guidance on Viability: (updated 24 July 2018) states:
"a benchmark land value should be established on the basis of the existing use value (EUV) of the land, plus a premium for the landowner. ...The premium should provide a reasonable incentive, in comparison with other options available, for the landowner to sell land for development while allowing a sufficient contribution to comply with policy requirements [My underlining]. *This approach is often called 'existing use value plus' (EUV+)."*
Tower Hamlets Viability Supplementary Planning Document: (02 Oct 2017)
Key Requirement 18 in the *"Key Requirements Overview"* Planning Document states;
"Benchmark Land Values (BLVs) should always reflect policy requirements, planning obligations and CIL charges".

It is unclear why this approach has been taken by BNP Paribas Real Estate as it will create a primary policy position in the Local Plan of a presumption against retention of the gasholders

2.2.4 The Benchmark Land Value includes an inflated premium for the land owner reducing the viability by £1.753m:

BNP Paribas Real Estate have added a 20% premium for the land owner to the BLV to provide an incentive to sell to a developer. In this case, Berkley Homes and NGPH are joint 50-50 shareholders in a development company, St William[12] NGPH does not require any premium as they benefit from equity resulting "*from those building their own homes*".

11 Tower Hamlets Local Plan 2031 Policy S.DH3, Para 6

12 Financial Times 7-11-14 https://www.ft.com/content/20add222-665f-11e4-8bf6-00144feabdc0

BNP Paribas Real Estate explain this decision saying they have assumed "*a worst case scenario in our testing in that we have allowed for the full EUV plus a 20% premium of the site...*". [13]

As St William are both developer and landowner it is unclear why BNP Paribas Real Estate would use this argument which reduces viability by £1.753m:

£10,518,000 less 20% = £8,765,000 = **£1,753,000**

2.2.5 The allowance for Strategic Open Space and Housing Density creates a Local Plan presumption in favour of over-development at a density 700 u/ha:

a) In the Council's strategic site assessment for Marian Place Gas Works and the Oval (3.75ha) a strategic open space requirement of 1 hectare is identified. It has been agreed in a Position Statement between St William and the Council that this will be provided by each land owner in proportion to site size[14]. In the strategic site viability assessment for 'Scheme 14 - Marian Place Gas Works' (1.85ha), the viability of the open space policy should therefore be tested by including 0.49ha (1.85/3.75) of strategic open space, not the 1 hectare included.

It is unclear why BNP Paribas Real Estate would include the full 1 hectare as they have reduced the development footprint by nearly half to 0.9ha (taking their incorrect site size, 1.9ha) which reduces the viability considerably, while contributing to creation of a primary policy argument in the Local Plan for over-development

b) BNP Paribas Real Estate have used a housing density figure of 700 (near the top of the spreadsheet) without clarifying what the unit of density is. As the figure is an exact 700, a reasonable person would assume this refers to the maximum Urban habitable room density from the London Plan Density Matrix, 200-700 hr/ha[15]. They would assume BNP Paribas Real Estate had used that maximum to arrive at numbers of units, working backwards, in this case arriving at 630 units. The Council appears to have interpreted the 700 in this way, ie; 700 hr/ha. This is demonstrated by their response to the Inspector's question 3.2 under Matter 3: *"Site capacity: Site capacity is formed with reference to the London Plan density matrix* (my underlining). *In addition, engagement with relevant officers in the development management service with site specific knowledge has taken place to refine and sense check site capacities applied."*

The actual density used by BNP Paribas Real Estate is 700 units per hectare (630/0.9Ha), or 1974 hr/ha by my calculation) Assessing viability at such a high density sets up a primary policy argument for densities of at least London Plan Central density 650-1100 hr/ha. Such a density exceeds London Plan density guidelines and would have an unnacceptable impact on the scale of existing buildings, views, daylighting, over-shadowing, canal ecology and road network within the scheme and in the adjoining Regents Canal and Hackney Road Conservation Areas.

The purpose of BNP Paribas Real Estate viability assessment is to test aspects of policy such as presumption in favour of gasholder retention, strategic open space, affordable housing and CIL charges. It is unclear how they intend to do this when they have not used a reasonable density assumption as a starting point. The NPPF Viability PPG states under "Accountability".... "Practitioners should ensure that the findings of a viability assessment are presented clearly." The way BNP Paribas Real Estate have presented density is unclear, misleading and unfit for purpose.

Retaining the viability assessment in the current form undermines the evidence base intended to inform the emerging Draft Local Plan. Future decisions taken in connection with development of the St William Gasholder Site (Scheme 14- Marian Place Gasworks) will be misinformed and the Local Plan is therefore unsound.

2.2.6 The allowance for off-site repair of Guide Frames No.2 and No.5 advised by St William over-estimates in situ repair costs by some £15m

The assertion by St William that comparative replacement costs between each guide frame will be "*in the region of £10m per gasholder*" [16] is firstly counter-intuitive. No.2 gasholder guide frame stands 22m in height with a diameter of 40 metres whereas No.5 gasholder guide frame is twice the height at 45 metres and half as much again in diameter at 61metres. These costs appear to be crude estimates at best based upon dismantling, with reinforcement of the guide frame, cleaning, repair and decoration and re-erection on new foundations.

This expensive approach is damaging to the the guide frames. For example, the cast iron columns of No.2 guide frame were originally bolted together mid-column, through now inaccessible internal flanges. In dismantling the guide frame, new mildsteel bands would be required, drilled and tapped to the outside of each column in both stages to reinforce each of these joints. These additions would cause serious and unnecessary harm to the classical appearance of the world's second oldest guide frame.

13 NPPF-Viability July'18 What factors ... to establish benchmark land value?

14 BNP Paribas Real Estate have incorrectly included a site size of 1.9ha when the correct size is 1.85ha.

15 London Plan Policy 3.4 Optimising Housing Potential- Urban Density

16 LBTH Response to Main Matter 10- 10.4.1

Another example is the need for expensive temporary pivoting 'steel crates' to swing each cast iron column in the No.2 guide frame from the vertical to horizontal position due to the fragility of cast iron in tension.[17] A further avoidable harm to the original appearance is the necessity of seperating into (probably) four sections, each of the twenty two, 45 metre high, No.5 guide frame standards. These would need additional wrought iron plates to reinforce the re-assembly. Given the unnecessary expense and harm to the fabric there are clearly no grounds to support off-site repair of No.2 and No.5 guide frames at the Bethnal Green Holder Station.

There are only three UK examples of this expensive approach:

1. The Grade II listed No.8 gasholder at St Pancras erected 1883 for the Gas Light and Coke Company was dismantled and relocated alongside the 'Siamese triplet' of gasholders as part of Argent's Kings Cross Central masterplan. The re-erected gasholder guide frame forms the centrepiece of a new canal-side park maintaining its group value with the canal and the 'Siamese triplet' of gasholders.
2. The Grade II Listed No's 10,11 and 12 gasholders at St Pancras erected 1880 for the Gas Light and coke Company (known as the Siamese triplet' of gasholders) were dismantled and relocated around three well-designed circuular blocks of flats as part of the Kings Cross Central masterplan. .
3. The Grade II listed No. 1 gasholder at Kennington adjoining the Oval Cricket ground was the world's largest gasholder when it was built in 1877-9. Listed Building consent has been granted for St William to dismantle and re-erect it on its original site but at a 2.5m reduced level, with a ten storey residential development within, stepping down to four storeys towards the Cricket Ground.

Consultants acting for Argent and St William successfully argued for dismantling the guide frames in all three cases on grounds that they must be either relocated or rebuilt at a lower level to accord with masterplan proposals. No such arguments apply to Bethnal Green Gasholders which do not form part of a major infrastructure project and are ideally sited on their in-ground tanks beside the Regents Canal with which their origins are intrinsically linked.

Maintaining in situ the guide frames on their existing in-ground tanks respects their original structural integrity for long-term viable use, sustaining and enhancing the significance of the heritage asset as required by NPPF para. 185(a).

Figure 3: The Alliance Gasholder, Dublin Docks

This conservative approach avoids the costs of dismantling, transport and the re-erection on new foundations, with necessary reinforcement of the guide frame. Furthermore, each conserved guide frame (with guide rails and basally mounted carriages) can contain and enhance a circular public space or circuilar block of flats, and continue to make a positive contribution to the character and appearance of the Regent's Canal Conservation Area.

A successful example of in situ repair and conservation of a guide frame on its in-ground tank is the Alliance Gasholder, Dublin Docks. Full repairs were completed before construction of a nine storey apartment block of 240 flats and an underground car park in the in-ground tank, Figure 3.

Both Argent and St William have withheld the costs of dismantling and re-erection of the guide frames on grounds of commercial sensitivity. We cannot therefore interrogate St William's £10m cost estimate for the retention of the historic guide frames at Bethnal Green.

17 Reinforcement bands and temporary frames were required in dismantling No.8 guide frame, St Pancras

To obtain a high level estimate based upon in situ guide frame repair we have looked around for completed examples. There are no executed examples in the UK. An estimate was made however of the in situ repair costs of a very similar Guide Frame to No.2 at Bethnal Green. Guide Frame No.8 at St Pancras is also constructed from 16 cast iron decorative columns rising to two stages. The height, diameter and tank depth are almost identical, as was its intended use as a parkland feature.

In April 2004 Ove Arup and Partners completed a detailed condition survey in connection with dismantling but they did produce a comparative estimate for in situ repairs forming part of a Planning Statement.[18]

The cost estimate was £1.9m in April 2004 which on current rates is £2.8m[19]. This includes the costs of de-watering and de-sludgng, infilling the in-ground tank and removal of the bell which I have taken as before, as a high level estimate, to be about 50% of this figure, or £1.4m.

However, to obtain a more realistic estimate of the actual cost of in situ repair of the No.2 and No.5 gasholder guide frames on their in ground tanks, the EEWG have asked The Morton Partnership (TMP), accredited conservation engineers to make a technical assessment and supply projected costs.

TMP have based their costs upon an estimate from Russel Turner of Eura Conservation, a well known iron work specialist contractor who TMP have worked with on projects such as the Albert Memorial, Gravesend Town Pier and the Iron Bridge in Ironbridge Shropshire. TMP have increased the 15% contingency allowed for in Eura's estimate by a further 20% as access for detailed site inspection has not been possible.

The result is an estimated cost for in situ repair of £1.4m for No.2 and £3.6m for No.5 Guide Frame in round figures, totalling £5m. An estimate of redecoration of both Guide Frames has also been included, which in round figures is the sum of £0.5m, Appendix E.

This confirms that the further viability testing by BNP Paribas Real Estate referred to at 10.4.1 in their response to Main Matter 10 over-estimates both Guide Frame repair costs by some £15m.

As the purpose of BNP Paribas Real Estate viability Asessment Scheme 14 - Marian Place Gas Works' is to test the soundness of Local Plan Policy, it is unclear why they have not commissioned a specialist report on the extent and costs of in situ repair of No.2 and No.5 gasholder guide frames on their in ground tanks, as proposed by the EEWG.

The effect of accepting St William's crude estimates for off site repair in further viability testing as been to support a presumption in favour of removal of the Guide Frames contrary to Tower Hamlets Policy S.DH3 Para 6 and to grossly distort the conclusions presented on the reduced extent of affordable housing in the Council's response at 10.4.1 of Main Matter 10, figure 4.

Retaining the viability assessment in the current form (Scheme 14- Marian Place Gasworks Site and the additional viability testing, Figure 4) undermines the evidence base intended to inform the emerging Draft Local Plan. Future decisions taken in connection with development of the St William Gasholder Site will be misinformed and the Local Plan is therefore unsound.

Appraisal	Extent of surplus/deficit against benchmark land value	Affordable housing position
Current appraisal (no account for cost of gas structures)	£748,669	Marginally viable at 35% affordable housing.
Appraisal accounting for retaining one gas structure	-£7,617,291 25	30% affordable housing viable
Appraisal accounting for retaining two gas structures	-£16,778,459 20	25% affordable housing viable

Figure 4: presentation of additional viability testing in the Council's response at 10.4.1 of Main Matter 10

18 Kings Cross Central Supporting Statement, para 8.16, p.35: https://www.kingscross.co.uk/media/20-21-Sup-State-GH8WGS.pdf

19 *Construction price inflation 2004-2019 of 48% taken from BICS database*

2.2.7 The presentation of additional viability testing by BNP Paribas Real Estate lacks the clarity required in the NPPF Viability PPG

As presented, additional viability testing by BNP Paribas Real Estate referred to at 10.4.1 in their response to Main Matter 10 (figure 4) appears to be designed to justify a pre-determined outcome without the possibility of interrogation or challenge to the figures. It does not meet the standard of clarity required in the NPPF Viability PPG under Accountability which states;

"The inputs and findings of any viability assessment should be set out in a way that aids clear interpretation and interrogation by decision makers.".

A reasonable person might conclude from figure 4 that the scheme can only support 25% affordable housing while making a loss in the sum £16,778,459 20 if both Guide Frames No.2 and No.5 are retained; that with one Guide Frame retained the scheme can only support 30% affordable housing while making a loss in the sum £7,617,291 25; and that with neither Guide Frame retained the scheme is marginally viable making a surplus in the sum £748,669.

This is not the case. In all the options the developers profit in the sum 20% of Gross Development Value (GDV) (market housing) plus 6% of GDV (affordable housing) are included. The extent of surplus/deficit against benchmark land value is not as it seems a measure of scheme viability, but simply a technical adjustment which should have been taken account of in all three cases at the outset in accordance with NPPF-Viability guidance[20].

Scheme viability is assessed by deducting Benchmark Land Value from the Residual Land Value (Gross Development Value less development costs including profit). If that is a positive figure the scheme is viable. If that figure moves into a deficit, the developers profit will be reduced. As that reduction starts to outweigh the developers risk, the scheme becomes unviable unless affordable housing is reduced to compensate.

The Council have not published details as to how the figures have been arrived at. As presented it will be impossible to fullfill the stated requirement of the NPPF-Viability; *"At the decision making stage, any deviation from the figures used in the viability assessment of the plan should be explained and supported by evidence."*

The presentation of this summary table (figure 4) to dismiss retention of the Gasholder Guide Frames is inappropriate, unclear and unsound. It is very far from the clarity and accountability required in the NPPF Viability Guidance

20 NPPF-Viability July'18 What factors ... to establish benchmark land value?

Bethnal Green Gasholders No.'s 2 and 5 from Corbridge Crescent

Bethnal Green Gasholder No.2, constructed 1866

Detail of Bethnal Green Gasholder No.2

In situ retention of No.2 and No.5 historic gasholder guide frames within a redevelopment scheme maintains their historic significance as milestones in the technological development of Victorian gas storage (see Appendix C) and their vital role in placemaking a new development at the heart of the Regents Canal Conservation Area.

Our massing and density study is intended to address a shortfall in understanding the viability of developing the 'Scheme 14 - Marian Place Gas Works' site while respecting a presumption in favour of retention of the gasholders (LP Policy S.DH3 Para 6) which the existing viability study using cash flow software such as Argus Developer cannot capture. For example, reference to "*the opportunity cost of the inability to build on land occupied by the gasholders*" suggests the unlisted historic guide frames represent a potential loss of development footprint.[21]

This aspect is of critical importance to the viability assessment of the St William Site (Scheme 14 Marian Place Gas Works). Our high level assessment of the St William Gasholder Site suggests No.5 gasholder guide frame could contain a development of some 200 flats over eleven storeys with underground car parking in the In-ground tank representing nearly 45% of the St William site's development potential. It is only by producing a high level massing and density study that a viable scheme can be established in which;

- a suitable massing hierarchy across the site can be assessed taking account of the opportunity for gasholder Guide Frame No.2 to form the centrepiece of a new Park; and gasholder Guide Frame No.5 to accommodate a high value canal-side development
- the setting of the Guide Frames within the Regents Canal Conservation Area; key viewing corridors of the historic Guide Frames and existing historic buildings from within and surrounding the development can be established and assessed.
- key pedestrian and cycle corridors and the green grid network can be can be established and assessed in relation to massing
- conservation in situ of No.5 gasholder in-ground tank can establish an opportunity for sustainable re-use as an underground car park.
- an appropriate high level assessment of site density and mix can be made

The following massing study is not an outline design and should not be taken as a development proposal. It is however a necessary step forward in the process of understanding development viability which is currently absent in the Council's cash flow modelling of the viability of 'Scheme 14 – Marian Place Gas Works'.

Our study suggests the following alterations are made:

Changes to Figure 25 in the Draft Local Plan:

- the addition of the No.2 and No.5 gasholder guide frames to the plan
- the addition of three key viewing corridors
- the alteration to pedestrian and cycle routes and green grid, taking account of the retained historic guide frames on their in-ground tanks.

Changes to the The Design Principles:

SECOND BULLET POINT:
Alter the statement to: "retain in situ, reuse and enhance the existing heritage assets, including the No.2 and No.5 gasholder guide frames on their in-ground tanks, together with their attached guide rails and basally mounted carriages, Victorian and Georgian cottages adjacent to Regent's Canal, including the associated pebbled street and railings"

FOURTH BULLET POINT:
Alter to read: "Provide active frontage set back from the canal and, with the exception of development within the retained No.5 gasholder guide frame, positively frame the canal, open space and The Oval to avoid excessive overshadowing"

EIGHTH BULLET POINT:
Omit reference to "1 Ha of consolidated open space which is designed to be usable for sport and recreation;" Substitute 1Ha of open space delivered by each landowner in proportion to their site area, to be usable for active and passive recreation, with the possibility of S106 contributions being made to improve existing nearby open space for sport and recreation use"

21 St William Local Plan Hearing Statement -Design Principles, pages 3-4

Figure 5 sets out the key relationship with the Regent's Canal and historic guide frames in the context of:

- the sunlight path
- adjoining employment area (to the east) and community uses (to the west),
- massing context
- key road frontages
- proposed massing hierachy building up to the height of the dominant No.5 gasholder guide frame
- proposed integration of No.2 gasholder guide frame into part of Gasholder Park adjoining community uses to the west
- proposed pedestrian and cycle routes to the canalside walk, providing access and permeability through site allocation 1.3
- proposed key viewing corridors for the No.5 gasholder guide frame from within and beyond Site Allocation 1.3

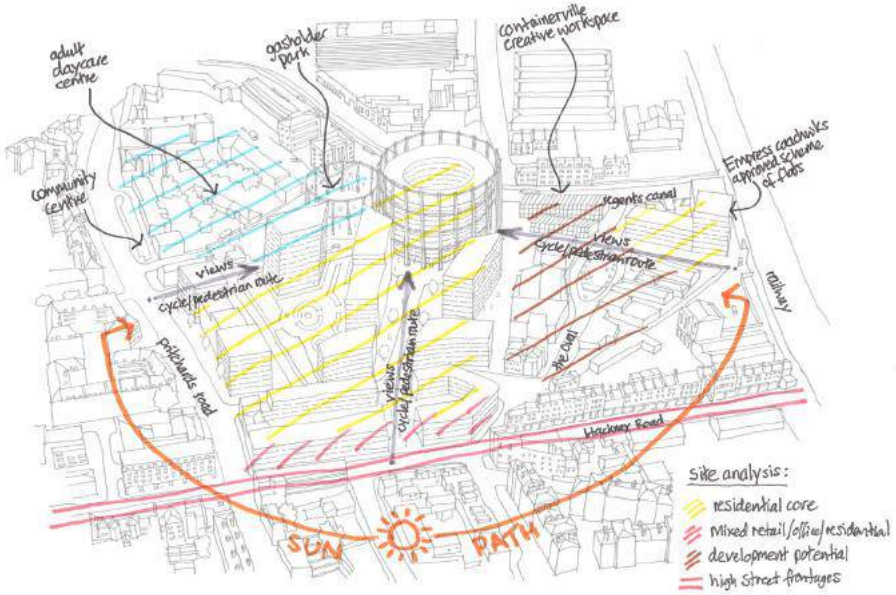

Figure 5: Site appraisal of Marian Place Gas Works and The Oval (Site Allocation 1.3)

Figure 6 shows our proposed heirachy of massing building up to the No.5 gasholder guide frame based upon Urban Density 260 u/ha

Figure 7 shows our proposed heirachy of massing building up to the No.5 gasholder guide frame. For illustrative purposes we have modelled the impact of BNP Paribas Real Estate unnacceptable proposed site density 700 u/ha within Scheme 14- Marian Place Gasworks viability assessment.

Figure 8 is our public open space and green grid masterplan proposal

Figure 9 is our development masterplan proposal based on our site viability assessment. Note the St William site boundary (Scheme 14- Marian Place Gasworks) is separately shown for which we have completed a site viability study.

Figures 10 -13 show key massing views surrounding the site based upon Urban Density c.260 u/ha

Figures 14 -17 show key massing views surrounding the site incorporating BNP Paribas Real Estate proposed site density 700 u/ha

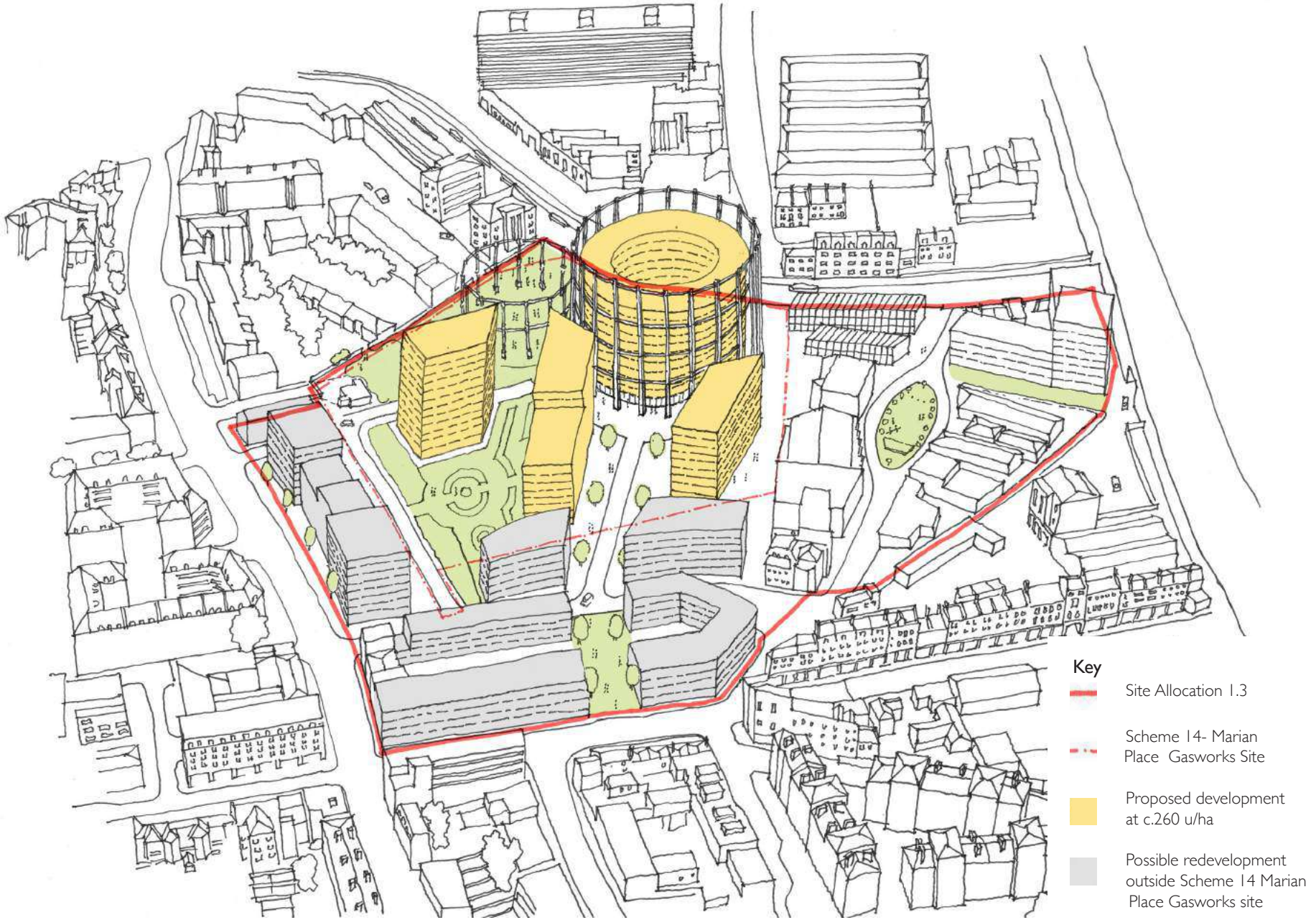

Figure 6: Massing study of main western part of Site Allocation 1.3

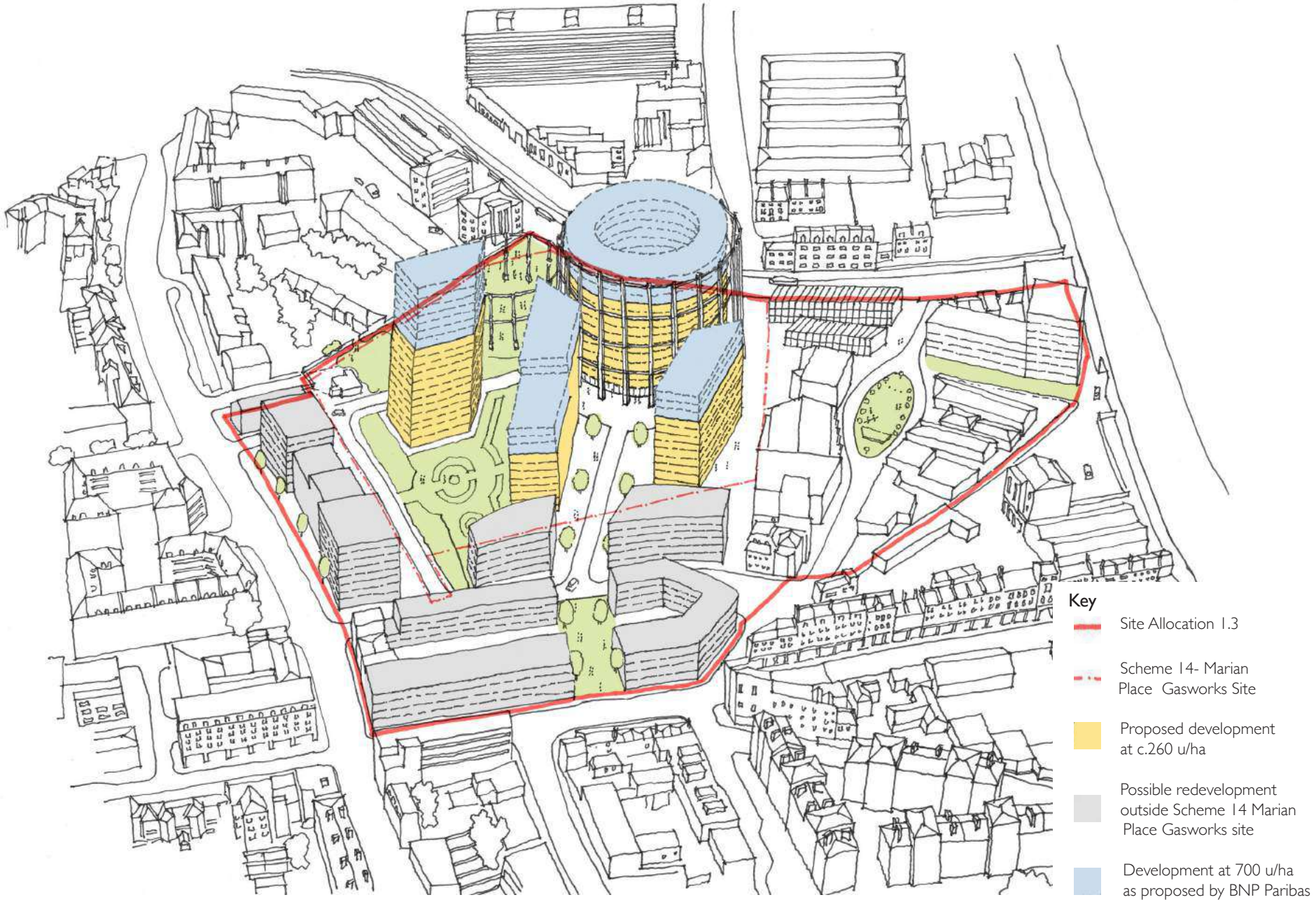

Figure 7: Massing study of main western part of Site Allocation 1.3 modelling BNP Paribas Real Estate proposed site density

Figure 8: Public open space and green grid master plan of Site Allocation 1.3

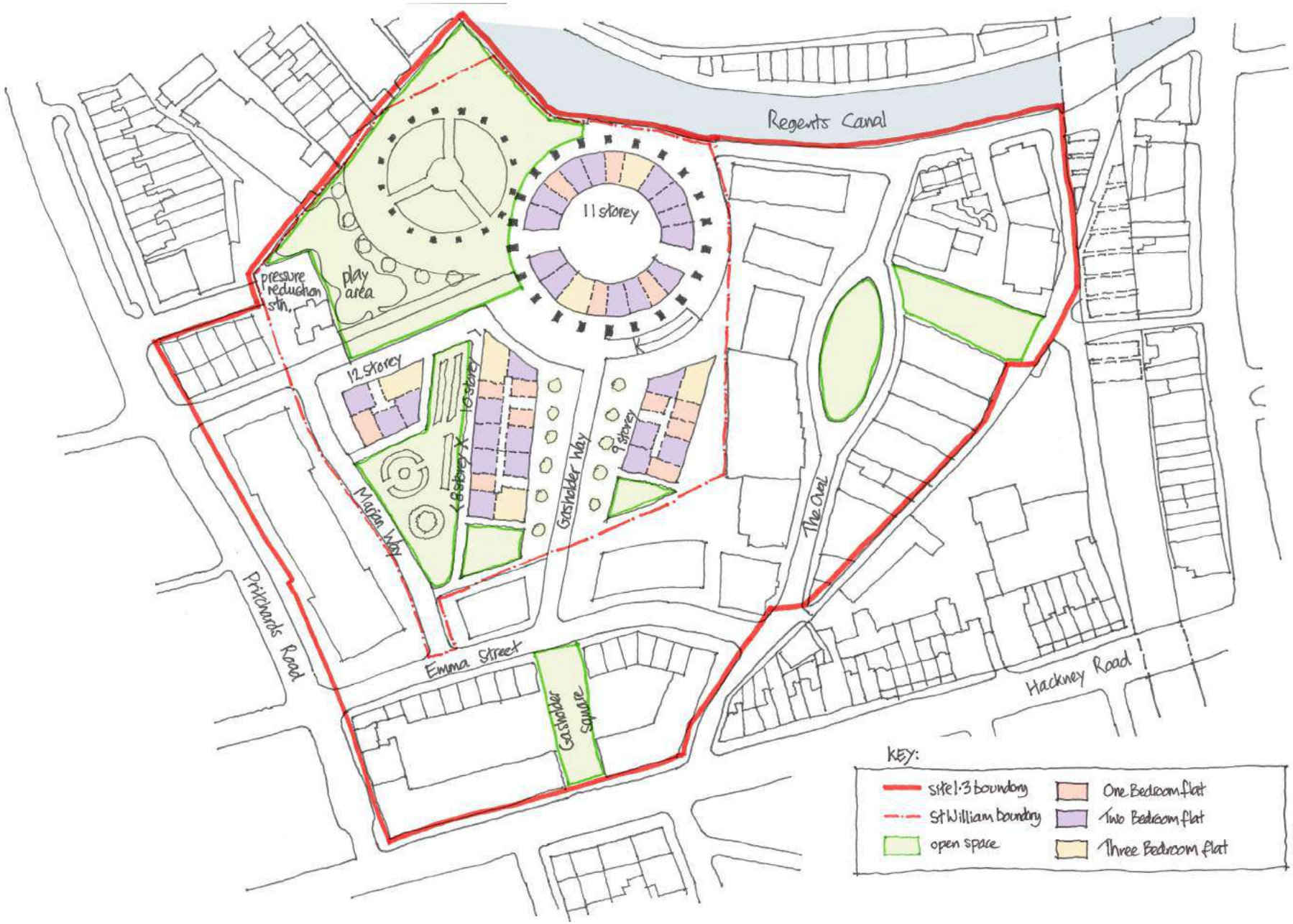

Figure 9: Masterplan model for Scheme 14- Marian Place Gasworks Site forming the basis of based on our viability assessment model

Key

Proposed development at c.260 u/ha

Possible redevelopment outside Scheme 14 Marian Place Gasworks site

Figure 10: High-level view of massing study from south of Hackney Road, with listed terrace in foreground

Figure 11: Key view of massing study from Regent's Canal

Figure 12: Key view of massing study from Pritchard's Road

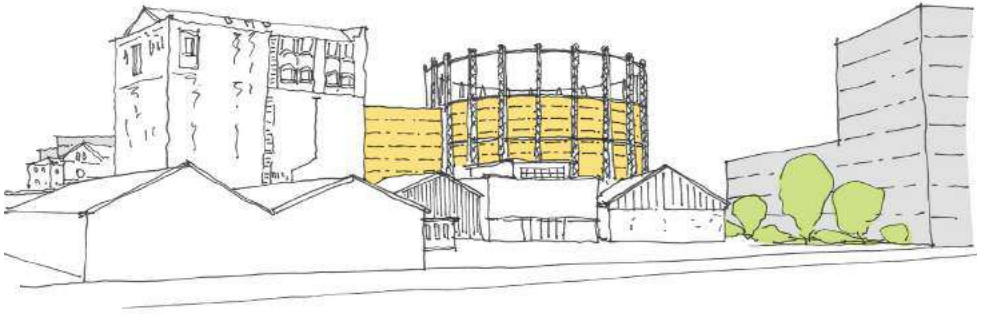

Figure 13: Key view of massing study from the Victorian railway viaduct with former brewery tower on left

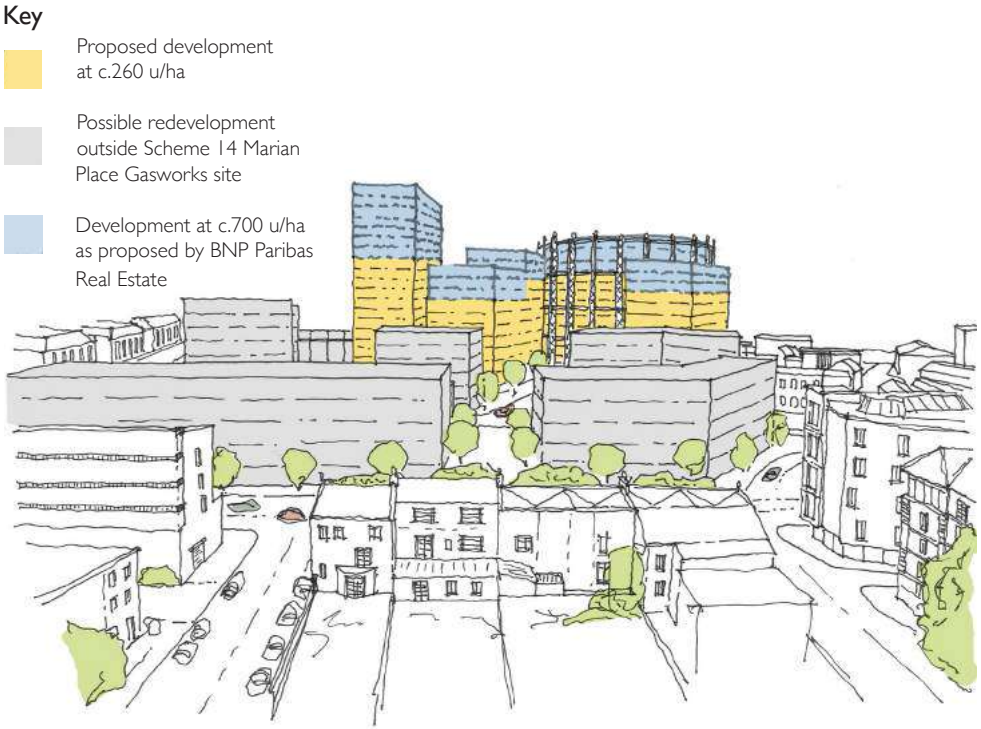

Figure 14: High-level view of massing study from south of Hackney Road, with listed terrace in foreground

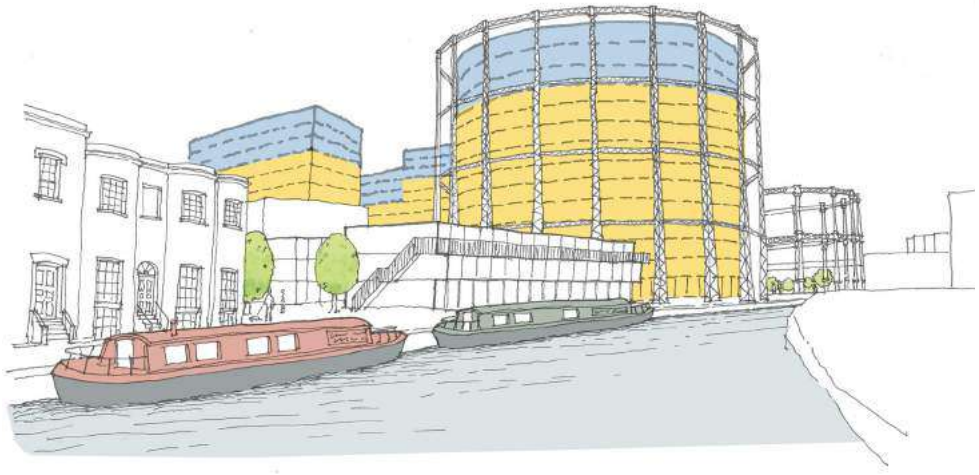

Figure 15: Key view of massing study from Regent's Canal

Figure 16: Key view of massing study from Pritchard's Road

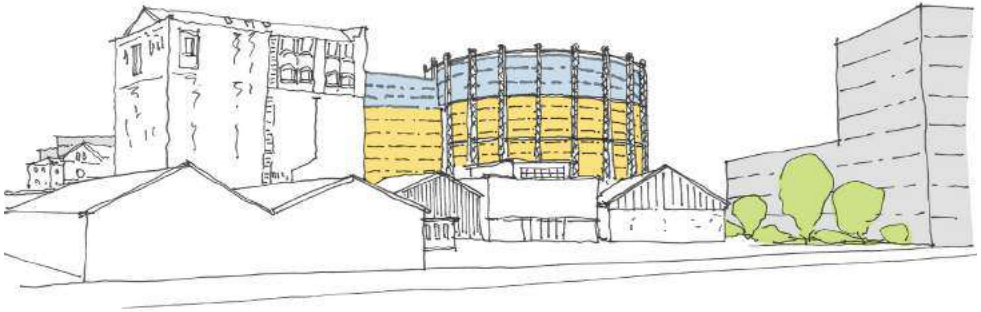

Figure 17: Key view of massing study from the Victorian railway viaduct with former brewery tower on left

4.0 Our alternative viability assessment of the Scheme 14 Marian Place Gas Works

Our viability assessment of 'Scheme 14 - Marian Place Gas Works' site is based upon *Tower Hamlets Development Viability Supplementary Planning Document 2017*. The assessment has taken building densities from the block heights, massing and indicative flat typologies shown in the preceding massing study and masterplan model. This is not a design proposal only a massing study - but far superior than the current cash flow approach included in the Local Plan, see viability assessment (Figures 18 and 19).

We have compiled evidence to establish the costs of de-watering and de-sludging four in-ground tanks and associated decontamination; infilling of three in-ground tanks, demolition of four bells, salvaging the carriages from the bells in the two historic guide frames and site remediation. Our sound estimate is £3.0m. (see section 2.2.1)

We have established an estimate of costs for the in situ repair and conservation of the No.2 and No.5 gasholder guide frames on their in-ground tanks (the former's tank to contain the central circular part of Gasholder Park and the latter's tank to contain an underground car park, like the one at Dublin). Our sound estimate is £5m. (see section 2.2.6)

4.1 We have used the following data from the Council's 'Scheme 14 -Marian Place Gasworks' viability assessment:

- Affordable housing percentages: Social Rent (12.25%); Intermediate LLR (5.25%); Intermediate SO (5.25%); Tower Hamlets Living Rent (12.25%) with a total of 35% affordable.
- Value of Car Parking spaces at £30,000 each
- Value of Private Residential sales values at £885 p.s.f.
- Value of Affordable Housing at Social Rent £127p.s.f, Intermediate LLR £257p.s.f Intermediate SO £478p.s.f, Tower Hamlets Living Rent £225 p.s.f
- Value of residential build costs in the sum £2,500 p.s.m.
- We have included the same values for the following; 5% contingency, 20% profit on market housing GDV, 6% profit on affordable GDV, marketing agency and legal fees 3%, Residential sales legal fees on GDV 0.5%, 12% professional fees, 7% finance costs.

4.2 We have made the following alterations/additions:

- Added in a S106 contribution in the sum £250,000 contribution to pitch upgrade and improved changing facilities on Weavers Fields
- Increased Mayoral CIL from £35 p.s.m. to £60 (as draft revision April 2019)
- Increased LBTH CIL from £65 p.s.m. to £150 p.s.m. (as draft revision April 2019)
- Decreased the Council's assessment for decontamination from £6.08m to £3.0m and deducted it correctly from Benchmark Land Value in accordance with NPPF guidance
- Deducted the missing costs of in situ repair of the two historic guide frames and the cost of salvaging and mounting the bell carriages at the bases of the guide rails in the sum of £5m from the Benchmark Land Value
- Deducted an unnecessary 20% premium for the landowner in the sum £1.753m included in the Benchmark Land Value as NGPH will receive their 'premium' as shareholders with Berkeley Homes in St William, the joint development company
- Increased the cost to build a residential scheme within No.5 gasholder guide frame from £2,500 to £2,875 p.s.m. in view of the increased quality of finishes required
- Added in the missing costs of building the underground car park within the No.5 gasholder's in-ground concrete tank (200 feet in diameter) in the sum of £1,050psm

Our alternative viability study of the Scheme 14 - Marian Place Gas Works has demonstrated that 35% affordable housing and in situ conservation of No.2 and No.5 gasholder guide frames is viable which respects Tower Hamlets Local Plan 2031 Policy S.DH3, breathes new life into the Regent's Canal Conservation Area.

4.3 Maintenance:

Redecorating costs every ten years has been estimated at £500,000 by Eura Conservation (Appendix F). This sum and insurance costs can be raised from annual service charges applied to market sales and should not impact on Council budgets.

DRAFT COST APPRAISAL: 35% AFFORDABLE HOUSING, RETAIN No.2 AND No.5 GASHOLDER GUIDE FRAMES, CONVERT No.5 GASHOLDER IN-GROUND CONCRETE TANK TO AN UNDERGROUND CAR PARK

Indicative Residential Development Scheme	**St William Gasholder Site**

Total Units	470	**Gross Site Area per Ha**	1.85	**Benchmark Land Value (BLV)**	£765,000
Total Floor Area sq ft (GIA)	420,691			*reduced from BNP Paribas Real Estate BLV for:*	
Total Floor Area sq m (GIA)	39,084	**Strategic Open Space included**		*- £5m guide frame repairs*	
Total Floor Area sq ft (NIA)	346,453	*- 1 Ha for Site 1.3 apportioned*	0.49	*- £3m for decontamination four in-ground tanks*	
Gross to net ratio	82%	*for St William site*		*- infilling of three in-ground tanks*	
				- omission 20% premium for landowner	
		Site area in Ha (for density calc)	1.85	*Note 2*	
		Density	725 hr/Ha	**Existing Floorspace (sq m)**	0
		Note 4	254 u/Ha		

Residential Scheme Assumptions

	% Proportion	No units
Market	65.00%	306
Social Rent	12.25%	57
Intermediate - LLR	5.25%	25
Intermediate - SO	5.25%	25
TH Living rent	12.25%	57

	Market	Social Rent	Intermediate (Inc LBTH LR)
1 bed	30.00%	25.00%	15.00%
2 bed	50.00%	30.00%	40.00%
3 bed	10.00%	30.00%	35.00%
4 bed	10.00%	15.00%	10.00%

		Market		Social Rent		Intermediate - LLR		Intermediate - SO		TH Living Rent		Total	
	Average size (sq m)	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*
1 bed	51.46	85	4,348.23	16	819.47	7	351.20	7	351.20	16	819.47	130	6,689.58
2 bed	68.61	181	12,442.63	34	2,344.96	15	1,004.98	15	1,004.98	34	2,344.96	279	19,142.50
3 bed	104.17	40	4,130.21	7	778.39	3	333.59	3	333.59	7	778.39	61	6,354.17
4 bed	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total		306	20,921.06	57	3,942.82	25	1,689.78	25	1,689.78	57	3,942.82	470	32,186.25
Total (sq ft)			225,194.32		42,440.47		18,188.77		18,188.77		42,440.47		346,452.80

Commercial Scheme Assumptions (omitted for simplicity in this feasibility study)

Use	GIA Sq m	GIA Sq ft	NIA sq ft	NIA sq ft
Office	0	-	-	-
Retail	0	-	-	-

REVENUE *Note 3*

Car parking Spaces (1 per 4 flats)

No. spaces	value per space	Total
120	£30,000	£3,600,000

Private Resi Sales Value

Note 1

	per sq ft	*Floor area (Sq ft)*	Total
1 bed	£885	46,804.34	£ 41,421,839.79
2 bed	£885	133,932.42	£ 118,530,187.72
3 bed	£885	44,457.56	£ 39,344,942.81
4 bed	£885	0.00	£ -
			£ 199,296,970.32

Affordable Resi Sales Value

Note 1

	per sq ft	Total
Social Rent	£127	£5,389,939.36
Intermediate - LLR	£257	£4,674,514.34
Intermediate - SO	£478	£8,694,232.89
TH Living rent	£225	£9,549,105.16
		£28,307,791.75

Total Revenue

Car parking Value	£	3,600,000.00
Private Resi Sales Value	£	199,296,970.32
Affordable Resi Sales Value		£28,307,791.75
	£	**231,204,762.07**

COSTS

	per unit	Total	
S106 Assumptions	N/A	£250,000	*Note 7*

Mayoral CIL (proposed from April 2019) *Note 3*

	Base	Indexed BCIS	Liable floorspace (sq m GIA)	Existing floorspace apportionment	Net additional floorspace	CIL liability	Base Crossrail S106	Indexed Crossrail S106 to March 2017	Crossrail liability	Total MCIL and Crossrail contribution
Residential	£60	N/A	39,084	-	39,084	£2,345,010	N/A		0	£2,345,010
No.5 gasholder in-ground tank Car Park 5000m2	N/A	N/A	0	-	0	£0			0	£0
Retail	£35	£43	0	-	0	£0			0	£0
										£2,345,010

LBTH CIL (proposed from April 2019) *Note 3*

	Base	Indexed BCIS	Liable floorspace (sq m GIA)	Existing floorspace apportionment	Net additional floorspace	CIL liability
Residential	£150	N/A	39,084	-	39,084	£5,862,525
Gasholder Nr 5 tank Car Park 5000m2	N/A	N/A	0	-	0	£0
Retail	£0	£0.00	0	-	0	£0
						£5,862,525

Removal of four bells, decontamination of four in-ground tanks, infilling of three in-ground tanks

Total figure	
£3,000,000	*Note 2*

Refurbishment Gasholder Guideframes

Total figure	
No.2 gasholder	£1,500,000
No.5 gasholder	£3,500,000
£5,000,000	*Note 2*

Build Costs *Note 1*

	Base per sq m	Externals (15%) per sq m	SUDS (0.4%) per sq m	Carbon Zero	Total per sq m	Total (GIA) sqm	Total figure
Residential (Except No.5 gasholder)	£2,500	£375.00	£10.00	£62.50	£2,948	21,384.50	£63,030,813.75
Residential (No.5 gasholder)	£2,875	£431.25	£11.50	£62.50	£3,380	17,699.00	£59,827,044.75
No.5 gasholder in-ground tank Car Park 5000m2	£1,050	£0.00	£0.00	£0.00	£1,050	5000	£5,250,000.00
Retail	£0	£0.00	£0.00	£0.00	£0	0	£0.00
							£128,107,859

SUMMARY OF COSTS

Construction			
Demolition		N/A	
Build Cost		£ 128,107,858.50	*Note 5*
Contingency on build costs	5%	£ 6,405,392.93	
Specific S106 Assumptions		£ 250,000.00	*Note 6*
CIL			
Mayoral CIL (April 2019)		£ 2,345,010.00	*Note 3*
LBTH CIL (April 2019)		£ 5,862,525.00	*Note 3*
Profit			
Private Market on GDV	20%	£ 39,859,394.06	
Affordable on GDV	6%	£ 1,698,467.50	
Marketing /agency and legal fees			
Resi sales agent and marketing on GDV	3.00%	£ 5,978,909.11	(on private sales)
Resi sales legal fees on GDV	0.50%	£ 1,156,023.81	(on total GDV)
Professional fees	12.00%	£ 15,372,943.02	
Finance	7.00%	£ 4,483,775.05	*Note 8*
Total costs		**£ 211,520,298.98**	

Indicative Appraisal Outcome;

Gross Development Value (GDV)	**£231,204,762**	*Note 1*
Total costs	**£211,520,299**	
Residual Land Value	**£19,684,463**	*Note 9*
Benchmark land value (BLV)	**£765,000**	*Notes 2*
Surplus/Deficit on BLV	**£18,919,463**	*Note 4*

Notes referred to in Viability Assessment Figures 18 and 19:

Note 1: This indicative appraisal uses baseline sales and cost data from the London Borough of Tower Hamlets Local Plan Viability Assessment, Scheme 14 Marian Place Gas Works Appraisal p.892. The Appraisal matches a 35% Affordable Housing tenure mix taken from BNP Parabas Real Scheme Appraisal for the site.

Note 2: The Benchmark Land Value in the sum £10.518m included in BNP Paribas Real Eastate Viability Assessment - Scheme 14 has been reduced to allow:

- the cost of removal of four bells, decontamination of four in-ground tanks, infilling of three in-ground tanks in the sum £3m based upon estimates (adjusted for inflation) supplied by National Grid Property Holdings and reviewed by LBTH and BNP Paribas in a Position Statement dated 11th September 2012. Accordingly, these costs have been removed from the general construction costs included in BNP Paribas Real Eastate Viability Assessment Scheme 14 to bring it in line with NPPF Viability Guidance.

- the cost of in situ conservation repair and decoration of No.2 and No.5 gasholder guide frames in the sum of £5m, estimated by The Morton Partnership to comply with Local Plan Policy S.DH3, para6

- omission of a 20% premium for the land owner NGPH (who we understand is 50-50 shareholder in a joint development company, St William and so an incentive premium to sell is not required)

Note 3: Updated CIL Charges assumed from April 2019. No account taken of Affordable Housing Relief.

Note 4: Based upon an outline residential massing study by The Regeneration Practice to demonstrate Urban Location density approaching 260u/Ha is achievable while retaining No.2 and No.5 gasholder guide frames on their in-ground tanks in a broadly satisfactory scheme which generates at least 20% developer profit on market sales and 6% on affordable housing. In our appraisal, a surplus in the sum £18,919,463 is generated in addition to these profit margins taking account of the adjustments made.

Note5: Build costs have been taken from BNP Paribas Real Eastate Viability Assessment - Scheme 14 in the sum £2,500/sqm. net. However, in view of the higher cost of developing within the circular No.5 gasholder Guide Frame, we have added 15% allowance increasing costs from £2500/sqm to £2875/sqm

Note 6: £250,000 S106 off-site contribution allowed to improve changing facilities and pitch upgrade at Weavers Field as it is impractical to provide sports fields while maximising urban housing densities (c.700 hr/ha), which support 35% affordable housing and the in situ retention of the No.2 and No.5 gasholder frames.

Note 7: Two construction Phases assumed. As a detailed cash flow has not been supplied by Tower Hamlets/BNP Paribas Real Estate, the finance costs have been taken as 7% of 50% of total build costs. In reality this may be conservative as it would be expected 50% of units will be sold "off-plan" and the remaining sales completed with 18 months of completion of construction Phase 2.

Note 8: GDV is the total value including 20% profit on market sales and 6% profit on affordable sales. Residual Land Value is the surplus after deducting total costs from GDV.

Note9: VAT is zero on new build residential

5.0 Conclusions

This study has found serious shortcomings in the Council's published viability assessment of 'Scheme 14 - Marian Place Gasworks'. These problems arise due to:

1. An apparent conflict of interest: the Council's viability assessor. BNP Paribas Real Estate has a parallel contract acting nationally for National Grid Property Holdings (NGPH) to "*reduce risk...whilst maximising value and driving efficiency*". In response to a FOI request BNP Paribas Real Estate have confirmed they currently in contract with NGPH. Acting for both landowner and in a regulatory capacity for a Local Authority is contrary to RICS guidance "*Conflicts of Interest 1st Edition 2017*"

2. 'Scheme 14 - Marian Place Gas Works' viability assessment and additional viability testing is unclear, misleading, based upon inaccurate baseline data and is unsound because;

    - the cost allowance for "decontamination at preconstruction" is over-estimated by some £3.0m.

    - the Benchmark Land Value omits the costs of decontamination which are incorrectly included within the main construction costs reducing the viability by £12.16m (using BNP Paribas incorrect cost estimate in the sum £3.2m per hectare)

    - the Benchmark Land Value adopts a presumption in favour of demolition of No.2 and No.5 gasholder guuide frames against Local Plan 2031 Policy S.DH3, Para 6.

    - the Benchmark Land Value incorrectly includes a premium for the land owner who is joint developer with Berkeley Homes reducing the viability by £1.753m

    - the allowance for Strategic Open Space and Housing Density creates a Local Plan presumption in favour of over-development at 700 units per hectare

    - the allowance for off-site repair of Guide Frames No.2 and No.5 advised by St William over-estimates in situ repair costs by some £15m

    - the presentation of additional viability testing by BNP Paribas Real Estate appears to be designed to justify a pre-determined outcome without the possibility of interrogation or challenge to the figures contrary to the clarity required in the NPPF Viability PPG

As a result of an incorrect viability assessment for 'Scheme 14 - Marian Place Gas Works' conclusions have been presented in evidence at the Public Hearing into Tower Hamlets Local Plan which distort the financial viability of achieving 35% affordable housing provision and create a presumption against retention of historic No.2 and No.5 gasholder guide frames

We cannot interrogate BNP Paribas Real Estate Viability Assessment cash flow as they have withheld it. Given that our own assessment throws up a surplus in the sum £18,919,463 in addition to development profit margins there must be a very serious questionmark over the integrity of the viability assessment Scheme 14 - Marian Place Gasworks forming part of the evidence base within Tower Hamlets Local Plan 2031.

Our own site massing, density and viability studies of the St William Site - 'Scheme 14 Marian Place Gasworks' indicates that at least 35% affordable housing and on-site conservation of Gasholders No.2 and No.5 on their in-ground holder tanks is viable and should be retained to enrich the sense of place which these iconic structures historically hold within the Regents Canal Conservation Area.

At the very least, this report has established the viability assessment for 'Scheme 14 - Marian Place Gasworks' included in Tower Hamlets Local Plan 2031 prepared by BNP Paribas Real Estate distorts the viability of the St William site, significantly undermining the evidence base intended to inform Tower Hamlets emerging Draft Local Plan and is unsound.

Appendices

Appendix A

BNP PARIBAS REAL ESTATE | Real Estate for a changing world

Press release

Date: 17 August 2015
Pages including this one: 1

NATIONAL GRID AWARDS NEW CONTRACT TO BNP PARIBAS REAL ESTATE

National Grid's property business is pleased to announce that it has awarded a three year contract to BNP Paribas Real Estate, to provide property management, real estate and facilities management for its commercial property portfolio.

Richard Alden, Head of Commercial Property at National Grid said, "BNP Paribas Real Estate demonstrated its ability to reduce risk across a property portfolio, whilst maximising value and driving efficiency.

"BNP Paribas Real Estate will start full delivery of services from 1 April 2016 and will start transition work from the existing provider, in early September."

Paul Abrey, Head of Property Management at BNP PRE says: 'We are delighted to partner with such a prestigious client as National Grid across their portfolio in what is a very significant contract for us. The appointment validates our business model and demonstrates our ability to provide major cross business line services on a national scale, as well as showing confidence in our account management approach - something that we have recently invested significantly in to reinforce our long term commitment to our most important clients.'

BNP PRE has strategically partnered with Mitie to provide some of the direct Facilities Management services of the contract such as security and landscaping.

The three year contract starts in April 2016 and also includes an option to extend the contract for a further two years.

-ends-

About BNP Paribas Real Estate

BNP Paribas Real Estate, one of the leading international real estate providers, offers its clients a comprehensive range of services that span the entire real estate lifecycle: property development, transaction, consulting, valuation, property management and investment management.
BNP Paribas Real Estate has local expertise on a global scale through its presence in 37 countries with approximately 180 offices and 3,800 employees (16 wholly owned and 21 by its Alliance network that represents today more than 3,200 people). BNP Paribas Real Estate is a subsidiary of BNP Paribas. For more information: www.realestate.bnpparibas.com

Real Estate for a changing world

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Appendix B

FOI: 14589609

Has BNP Paribas at any time since their appointment to act for National Grid in August 2015 declared to the Council a conflict of interest in its role in assessing viability of sites owned, or jointly owned by National Grid and/or its development partner, StWilliam? These sites include Marion Place GasWorks, Strategic Site 14.

Press Release in 2015:

https://www.realestate.bnpparibas.co.uk/upload/docs/application/pdf/2015-08/bnppre_-_national_grid.pdf

BNP Paribas Real Estate have confirmed that they are not instructed to advise National Grid and/or St William on the development of Marion Place Gas Works or the development of other sites owned by National Grid and St William within the borough of Tower Hamlets. Consequently, there is no interest to declare.

From: **London Borough of Tower Hamlets** icwfoi@towerhamlets.gov.uk
Subject: Information request (ref: 14589609)
Date: 21 January 2019 at 15:33
To: [redacted]

LB

Dear Mr Latham,

Thank you for your email.

The Council has not received formal notification highlighting any conflicts of interest BNP Paribas may potentially have in conducting viability work for the Borough. This has been raised with the consultant who've responded accordingly with: *The National Grid contract commenced on 1 April 2016, which post-dates our appointment by LBTH to advice on Local Plan viability matters. Even if we had been in a live contract with National Grid at the time we were appointed by LBTH, this would not have been a conflict of interest as our role was limited to site security and short term lettings, not development advice. In any event, we have advised the Council on the three National Grid gas works sites on numerous occasions in the past, including 2011 ('Tower Hamlets Sites and Place Making Development Plan Document ' Site Viability Testing', February 2011 and 'Community Infrastructure Levy: Viability Study' August 2013). The approaches adopted are consistent with other sites both at that time and in 2017 when the Local Plan study was undertaken. All this work was in the public domain from 2011 and 2013 and our involvement was clear to all parties prior to entering into an unrelated property management on 1 April 2016.*

I hope that answers your query.

Kind Regards

INFORMATION GOVERNANCE
Complaints and Information
020 7364 4736
foi@towerhamlets.gov.uk

Dear Sirs

Thank you for your response. However I did not request details of appointments by BNP Paribas 'to advise National Grid and/or St William on the development of Marion Place Gas Works or the development of other sites owned by National Grid and St William within the borough of Tower Hamlets.' If BNP Paribas act for National Grid and/or St William in any capacity in connection with their land holdings (e.g. managing short-term lettings or facilities management), decisions they make on behalf of the Council which affect their clients land value could result in a conflict of interest.

Please confirm whether or not the Council has received any notifications of a conflict of interest from BNP Paribas at any time since their appointment by National Grid in August 2015 as requested in my FOI Request dated 24th December 2018?

Thank you

Paul Latham
Director

Appendix C

SIGNIFICANCE OF NO. 2 GASHOLDER AT BETHNAL GREEN

- designed by Joseph Clark the engineer in charge of the Shoreditch Gasworks (Imperial Gas Light and Coke Company) and completed in 1866 at the works' detached Bethnal Green Holder Station on the Regent's Canal, near The Oval

- each of the sixteen superimposed classical cast-iron columns in the gasholder's two-tier columnar guide frame consists of a hollow Doric column on a hollow square pedestal (containing concealed holding-down bolts to maintain the classical appearance of the columns) superimposed by a hollow Corinthian column, with hollow rectangular junction boxes above each column for two connecting rings of classically-inspired decorated cast- and wrought-iron girders (the c. 73-foot-high guide frame stands on a circular in-ground brick tank, 133 feet 4 inches in diameter and 36 feet in depth)

- although each of the sixteen superimposed columns has lost all three applied classical details, the guide frame is still the metropolitan exemplar of the classically-designed columnar guide frame; and is of higher aesthetic value than the similar classical columnar guide frames of the nationally-listed gasholders at Bromley-by-Bow; and even higher aesthetic value than the similar but far less classical relocated columnar guide frames of the nationally-listed gasholders at King's Cross

- Joseph Clark's 1866 gasholder with its superb classical columnar guide frame also predates the seven surviving gasholders with less well-proportioned columnar guide frames at Bromley-by-Bow (c1872-1882) and his son John Clark's four less well-proportioned relocated columnar guide frames at King's Cross (1880 and 1883).

  One of the seven two-tier columnar guide frames at Bromley-by-Bow was raised by the addition of a third tier with plain columns and a ring of plate girders; and each of the superimposed columns in the six original guide frames has lost two of its three applied classical details.

  Each of the superimposed columns in the four relocated columnar guide frames at King's Cross has only lost one of its three applied classical details. However, the superimposed columns in each guide frame are connected by lattice girders rather than classically-inspired decorative girders; and the superimposed columns in the three-tier triplet guide frames (1880) have simple shallow square bases with external holding-down bolts. And the superimposed columns in the two-tier 'gasholder park' guide frame (1883) have hollow octagonal rather than square pedestals, with external holding-down bolts.

The No. 2 gasholder at Bethnal Green (1865-66) is the world's second oldest surviving gasholder and is the earliest and most 'classical' surviving example of its type in the world. Its significance is enhanced by what are probably the world's oldest surviving parts of gasholder guide frame columns: the re-erected lower parts of four cast-iron columns of 1853-54, situated within a residential development at Harford Street in LB Tower Hamlets.

SIGNIFICANCE OF NO. 5 GASHOLDER AT BETHNAL GREEN

- designed by George Trewby, the engineer of the Gas Light and Coke Company (formed in 1876 by the merger of the Imperial and Chartered companies), and built 1888-89 by Samuel Cutler & Sons of Millwall, to the east of the No. 2 gasholder at the Bethnal Green Holder Station

- its 146-foot-high wrought-iron lattice guide frame (twice the height of the No. 2 gasholder's columnar guide frame) consists of twenty-two elegant tapering box-lattice guide standards, connected by a top ring of box-lattice girders and three lower rings of girders with horizontal lattice webs (the guide frame stands on a circular in-ground concrete tank, 200 feet in diameter and 50 feet 6 inches in depth)

- this masterpiece of functional design and the lattice guide frame of the even larger similar gasholder at Kensal Green (1891) are the only remaining examples of their particular type of lattice guide frame in London, but Historic England has decided not to list both gasholders despite their high evidential, historical and aesthetic value

- of the two, the No. 5 at Bethnal Green is of greater significance as its lattice guide frame was designed to achieve stability without diagonal bracing ties; and its lattice guide frame and the No. 2's columnar guide frame, are London's only adjacent representatives of the two main types of 19th century gasholder guide frame; and the box lattice principle was established by the tapering and curved box lattice girders in the guide frame of the No.1 gasholder at Poplar, built 1876-78 by Samuel Cutler & Sons of Millwall.

  Two complete bays of the unique guide frame have been kept by St William Homes LLP for refurbishment and re-erection within their proposed residential development at Leven Road, Poplar in LB Tower Hamlets

- furthermore, Bethnal Green's No. 5 gasholder is as built in 1888-89, whereas the Grade-II listed No.1 gasholder built at Kennington in 1879 with an earlier particular type of lattice guide frame was doubled in height in 1890-91; and as it has tee-section standards rather than the more advanced box-lattice standards cannot be allowed to serve as England's sole representative of the lattice guide frame.

The No. 5 gasholder's guide frame is the last surviving lattice guide frame in the world that was designed without diagonal bracing ties. It is also one of the increasingly small number of surviving 19th century gasholders built by Samuel Cutler & Sons of Millwall (west side of the Isle of Dogs). For nearly 120 years, they were leading contractors for the manufacture and erection of gasholders at home and overseas. The significance and increasing rarity of the No. 5 gasholder's guide frame will be enhanced by the re-erection of part of Cutler's 1876-78 guide frame at Leven Road Poplar in LB Tower Hamlets.

Appendix C

NO. 2 AND NO. 5 GASHOLDERS AND THEIR POSITIVE CONTRIBUTION TO THE CHARACTER OR APPEARANCE OF LB TOWER HAMLETS REGENT'S CANAL CONSERVATION AREA

The two historic gasholders are in the Regent's Canal Conservation Area, and in the character appraisal they are listed among the "*elements which form part of the canals special character and interest*". Under Local Plan Policy S.DH3 para. 6 they are, therefore, "*elements which contribute*" to the "*special character or appearance*" of the Regent's Canal Conservation Area. As such, there is "*a presumption in favour*" of their retention, regardless of the Certificates of Immunity from Listing.

Especially as the No. 2 gasholder is the world's second oldest surviving gasholder and the earliest and most 'classical' surviving example of its type in the world; and the No. 5 gasholder is a superb example of one of Samuel Cutler & Sons' increasingly rare gasholders.

And as the largest and most distinctive of the several industrial features in the conservation area, they make the greatest single contribution to the Regent's Canal Conservation Area in LB Tower Hamlets. Furthermore, their contribution is enhanced by the fact that:

- they are dramatically sited on an outer bend of the canal, so, as well as being seen together from the adjacent parts of the canal, towpath and Andrews Road, they are also seen together from the canal and towpath to the east of the gasholders.

- they are the only surviving adjacent gasholders in London and possibly England with excellent and complementary examples of the two main types of 19th century gasholder guide frame;

- they are the only surviving *in situ* gasholders on the 8 3/4-mile-long Regent's Canal, which had four gasworks supplied by coal barge from Regent's Canal Dock (now Limehouse Basin in LB Tower Hamlets)

- there are other structures and buildings in or alongside the Regent's Canal Conservation Area in LB Tower Hamlets, which are associated with the coal trade:
  - the canal's only surviving remnants of a 19th century coal-handling structure and coal store wall (within a residential development at Harford Street)
  - an 1820 house (next to the original c.1818 Mile End Road bridge over the Regent's Canal) built by John Gardner, who operated a fleet of canal barges carrying coal, timber, bricks and malt
  - London's only surviving two-storey canal barge builder's building (at Twig Folly Wharf, next to the 1967 Roman Road bridge over the Regent's Canal)

At Limehouse Basin in LB Tower Hamlets, the Grade-II-listed 1869 hydraulic accumulator tower and c.1926 Charrington Gardner Locket & Co Ltd time-keeper's office were associated with transhipping coal in Regent's Canal Dock, from North Sea collier to Regent's Canal coal barge. And, just to the west of the Bethnal Green Holder Station, Haggerston Park in LB Hackney partly occupies the site of the Shoreditch Gasworks (opened in 1823), which manufactured the gas stored in the gasholders at the holder station (opened 1850's). Some of the old brick walls survive in the park and it contains a sunken walled feature, which is the partly infilled southern part of the narrow barge dock off the Regent's Canal, used by barges delivering coal to the gasworks.

The No. 5 gasholder guide frame is an important landmark in East London and, together with its smaller neighbour, is an integral part of the 19th century canalscape in this part of LB Tower Hamlets and LB Hackney. This includes the entire width of the canal and the towpath, and three former late-19th century three-bay warehouses between the towpath and the south side of Andrews Road. Also the two adjacent plate-girder railway bridges over the canal and granite-setted Corbridge Crescent; the early- and late -19th century houses in Corbridge Crescent; and the skew bridge arch in the crescent's retaining wall, which marks the blocked entrance to a former small canal dock.

The 19th century canalscape is also an integral part of the 19th century urban landscape, between the north sides of the canalscape and Hackney Road and the eastern sides of Pritchard's Road and the two adjacent railway viaducts. To the south of the canalscape, this urban landscape includes the surviving streets and the early- and late-19th century houses at the south-eastern end of Pritchard's Road. Also the former Wiltshire Brewery (between Grove Passage and Hackney Road) with its rare surviving late-19th century brewery tower and embellished frontage building on the north side of Hackney Road. The unusual street known as The Oval was laid out by 1836, mostly to the west of Grove Passage. This is shown on a map of 1813 and survives along what was part of the north-west boundary of a manorial waste, known latterly as Cambridge Heath. Also included, the western brick railway viaduct of c.1872 and the adjacent eastern brick railway viaduct of c.1894, with their arches and adjacent plate girder bridges over the northern end of Grove Passage.

This fragmented but very distinctive 19th century urban landscape is characterised by vertical industrial features and linear transport features: with the height of the two gasholder guide frames and the brewery tower perfectly balanced by the west-east canal and main road and the south-north railway.

Tom Ridge, East End Waterway Group

Homes & Communities Agency

Guidance on dereliction, demolition and remediation costs

March 2015

Contents

Note:
This report was prepared 4th Quarter 2014, and the pricing data included herein is on a current day firm price basis as of 4th quarter 2014.

1. The Homes and Communities Agency (HCA)

The Homes and Communities Agency is the national housing and regeneration agency for England, with a capital investment budget of around £4bn for the period 2012-15. We contribute to economic growth by helping communities to realise their aspirations for prosperity and to deliver high quality housing that people can afford.

We provide investment for new affordable housing and to improve existing social housing, as well as for regenerating land. Our staff have a range of skills and expertise and can provide support and advice to partners to enable them to tailor their plans to the needs of their different communities.

We are also the regulator for social housing providers in England. The focus of our regulatory activity is on governance, financial viability and financial value for money as the basis for robust economic regulation. We set consumer standards but will only intervene in cases of serious detriment that have caused, or are likely to cause, harm.

We operate throughout England, including as regulator in London. However, responsibility for housing and regeneration activity in London lies with the Greater London Authority.

2. The purpose of the guide

Brownfield land (often interchangeably called Previously Developed Land, PDL) has an important role in delivering housing and supporting economic growth. Given the potential that brownfield land holds it is important that central and local Government (and their agencies), developers and landowners work together to overcome potential obstacles to delivery.

Estimating the cost of preparing a brownfield site for reuse can be a complex exercise and one that often has uncertainties. Current and comprehensive information is essential to reduce the uncertainty and risk of underestimating the costs of remediation. In this respect nothing can compete with a recent and well executed site investigation that has been designed with full regard for the land use history and setting of a site. Appropriate surveys (such as for asbestos and other hazardous substances and structural/building form) can assist to understand demolition techniques and hence reduce costs.

The guide was initially developed in 2005 to assist the Homes and Communities Agency (formerly English Partnerships) project managers and development partners form, at an early stage, an opinion as to the costs of the remediation of the contamination and demolition of buildings, for inclusion in a project appraisal, possibly even prior to the appointment of consultants and the provision of site-specific advice. This revised edition presents an update on cost estimates for the remediation of land affected by contamination based on 2014 prices. Regional weightings for the costs have also been provided for guidance. This 2014 revision provides an update of the 2008 publication which is now superseded. The HCA wishes to offer profound thanks to those involved in supporting the preparation of this guide, as outlined in Annex A.

The revised edition of the guide includes additional guidance on pre-acquisition site investigations, as part of 'due diligence', and expands the remediation costs to include problems associated with demolition. This includes, for instance, having to deal with the above and below ground structures, together with the abandonment and removal of redundant services. Land that has been subjected to works of this nature often requires excavated voids to be backfilled, with site won material and/or the import of clean fill material, consolidation and grading/levelling to form development platforms.

This guide has been prepared by the Homes and Communities Agency and its consultants. The information and opinions contained in this guide are for general information purposes only. The guide is not intended to constitute professional advice. However, it may prove useful for organisations outside the Homes and Communities Agency, for example, consultants, contractors, developers, landowners, local authorities and surveyors.

The information in this guide should not be relied on or treated as a substitute for specific advice relevant to particular circumstances. The ranges of costs identified within the guide are for guidance purposes only and should not be relied upon, on their own, for the purposes of commissioning remediation works. However, costs derived from the guide may be helpful at later stages of a project appraisal, for example to provide a comparison with unit costs estimated by a specialist consultant, or to query unit costs which fall significantly outside the relevant ranges set out in this guide.

6. Remediation costs

This section presents a model that can be used as a basis for an initial assessment of the potential cost of preparing sites affected by contamination.

The guide is not to be used for estimating other site preparation and servicing costs. It does not take account of extensive asbestos removal. For the purpose of this guide, the remediation of land affected by contamination has been defined as activities whose purpose is to prevent, minimise, remedy or mitigate the effects of harm to human health, pollution of controlled waters, ecological receptors (flora and fauna) or building materials and to restore the land or polluted waters to a state appropriate for its intended end purpose taking account of environmental and/or public health requirements.

The benchmark costs can be used to check on estimates provided from other sources (e.g. the project applicant or consulting engineers) they might provide a basis for querying the estimates if they lie outside the appropriate range taken from Figure 2 if the assumptions about the site conditions and the end use are the same. It does not take account of asbestos removal nor does it cover geotechnical activities.

The guide provides benchmark cost ranges for the remediation of contaminated land on Brownfield sites. The costs are based on per hectare costs of remediation and should be applied to the gross area of the site as available from sales documents or site survey. They are not related to actual areas of contamination (as this is unlikely to be known early in appraisal) nor to historic employment floor space.

Figure 2 sets out ranges of benchmark costs per hectare for the remediation of contaminated sites.

The costs are arranged according to previous use, proposed end use and water risk. Costs are rounded to the nearest £25,000 per hectare. A technical note to the table explains the method used for calculating the cost ranges.

How to select appropriate categories

Use of the benchmark unit costs will require a level of knowledge and judgement about the site, its location and history and its future uses. It will be necessary to obtain a minimum level of information about the site based on desktop assessment with respect to the following:

Previous use; different types of historic uses on the site may have generated particular levels and types of contamination which tend to determine the appropriate remediation techniques, the likely areas within the site requiring remediation and the likely unit costs of that remediation. Previous uses can often be determined by studying historic maps and through reports obtained from commercial supply.

For the purposes of this guide sites have been categorised from low potential to high potential for contamination. Category A sites represent the lowest potential for contamination and Category D sites represent a high potential for contamination. Annex D provides an expanded list of classified site types.

It should be noted that the selection of the category is not an exact science and a degree of professional judgement is required. There are a large number of potential previous uses and those provided in Figure 2 are simply an example. If the previous use is not in one of the categories then consider what it may be similar too by using information found in the Department of Environment (DOE) Industry Profiles which can be viewed on the www.gov.uk website[8]. For instance there are many types of chemical works listed and the category that a chemical works might be placed in could vary from A to D depending on the scale and type of operation. Similarly there are many types and configurations of rail land from tracks and sidings (likely category A or B) to large depots, maintenance and refuelling areas (possibly category C or D).

Categories A to D do not in any way relate to the categories in the National Land Use Database of Previously Developed Land (NLUD-PDL).

8. Department of Environment (DOE) industry profiles

Figure 2 Remediation costs

POTENTIAL →

SENSITIVITY ↓

		Previous use			
		Low potential	Moderate potential		High potential
		Site category A	Site category B	Site category C	Site category D
		Small scale and general industrial sites, colliery or mine spoil heaps, miscellaneous factories and 'works' (not heavy industry), sites with very small to small fuel tanks	Garages, workshops, pithead sites, railway lines, textiles, small scale timber treatment, sewage works, smaller chemical works, sites with small to mid-sized fuel tanks	Metal workings, scrap yards and shipyards. Paints and solvents, small gasworks/gas holder sites, smaller power stations, rail depots (maintenance and refuelling), sites with large fuel tanks	Major gasworks, iron and steel works, large chemical works, refineries and major fuel depots, ship breaking and building, larger power stations, sites with large tank farms
Proposed end use	**Description**	**£ 000's**	**£ 000's**	**£ 000's**	**£ 000's**
Negligible to low water risk					
Low sensitivity	Employment or commercial with limited soft landscaping, business parks and data centres	50 to 130	180 to 360	255 to 590	305 to 655
Moderate sensitivity	Public open space. Residential without private gardens (flats and apartments), universities and colleges	50 to 130	205 to 435	255 to 640	305 to 740
High sensitivity	Residential with private gardens. Schools for younger children with pitches and play areas. Allotments and growing areas in developments.	75 to 205	255 to 640	305 to 740	335 to 845
Moderate to high water risk					
Low sensitivity	Employment or commercial with limited soft landscaping, business parks and data centres	125 to 250	255 to 640	510 to 1,230	540 to 1,230
Moderate sensitivity	Public open space. Residential without private gardens (flats and apartments), universities and colleges	130 to 255	360 to 920	485 to 1,305	540 to 1,230
High sensitivity	Residential with private gardens. Schools for younger children with pitches and play areas. Allotments and growing areas in developments.	180 to 410	410 to 1,050	540 to 1,460	715 to 1,765

Appendix D

Proposed end use; the sensitivity of the end use will dictate the level of remediation that is necessary, therefore cost may vary according to the nature of the proposed end use. It is therefore necessary to take a view about the likely future uses of the site; this will require the site to be placed within a broader regeneration and planning context.

Water risk; if the potentially contaminated site is in an area where there are sensitive water receptors on, adjacent to, or under the land, then it may be necessary to perform additional remediation of soils or water over and above that required to deliver a development suitable for the proposed end use. In such circumstances, unit costs can increase significantly. Some remediation techniques considered adequate in regulatory terms to break the pathway between contaminant(s) and human health receptor(s), may not be sufficient in scope to render the site suitable for redevelopment. The water sensitivity can be identified by looking at appropriate Environment Agency and other maps and can be summarised as follows in decreasing order:

HIGH

A *Principal aquifer source protection zones and safeguarded zones for public water supply abstraction boreholes and sensitive commercial water abstractions*

B *Principal aquifers (outside a source protection zone), industrial water supplies (non-source protection zone), private water supplies and rivers*

C *Secondary aquifers and water-dependent ecosystems; and*

D *Perched water in made ground and unproductive strata (e.g. associated with low permeability deposits such as clay)*

LOW

Groundwater source protection zones are further divided as follows (with Zone 1 being the most sensitive):

- Inner zone (zone 1) defined as the 50 day travel time (minimum 50m) and Inner Zone (zone 1c) for subsurface activity only.
- Outer zone (zone 2) defined as the 400 day travel time (minimum radius of 250m or 500m depending on size of abstraction) and Outer zone (zone 2c) for subsurface activity only.
- Total catchment (zone 3) defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source and total catchment (zone 3c) for subsurface activity only.
- Special interest (zone 4) defined as the area of special interest defined for some sources.

The NHBC, Chartered Institute of Environmental Health (CIEH) and Environment Agency guidance[9] defines water sensitivity for groundwater, surface water (excluding coastal waters), coastal waters and artificial drainage systems. The guidance provides background for six sensitivity levels (which range from very high [H]) to very low [L2]). These classifications have been simplified in Figure 3 for the purpose of this guide:

How to narrow down the range

There is no such thing as a typical contaminated site. Therefore a range of costs have been provided for use in making an allowance for the remediation costs.

Due to the non-typical nature of sites and multiple variables impacting on remediation costs, the ranges can be wide and there will be instances where the costs are outside of the ranges.

Certain factors may influence where the remediation costs will sit within the range, below is a list of factors that will impact on the costs.

Number of factors; Not all factors have an equal impact on costs and each site context will vary. However it is reasonable to assume that if several of the factors apply to the site and indicate that the higher range should be used, then the higher range might be selected. If the majority of the factors suggest the higher range then it may be that the costs will exceed the proposed ranges. The same approach may be adopted for the low spectrum of the range

Size of the site; Where sites are significantly smaller than five hectares, the upper end of the cost ranges should be considered to allow for the absence of economies of scale. Conversely, the lower end of the ranges should be considered for very large sites. If a site is particularly small it is possible that the ranges will not apply.

Site context; In areas where the surrounding sites are known to have needed remediation, it is likely that costs will be greater than the mid-range cost. Sites in areas historically clear of problems could result in lower costs. However, there are contrary factors. If a site is located

in an area where the surrounding land and water is already heavily affected by contamination, such as background soil contamination or regionally affected groundwater, this may limit the effectiveness of site specific remediation and as such less money might be required. This factor should be applied with caution and some intervention may be required where it is practical.

Duration in use; The longer an area has been used for a particular historical purpose, there is likely to be a higher potential for contamination. Sites that are recent may be less contaminated than those used for similar purposes in earlier years. This is due to increased levels of environmental awareness and more stringent environmental regulations and control.

Geology; The risk to groundwater or surface water may be a primary driver for the remediation and the underlying geology will be relevant. If it is known, or can be easily established, that the site lies on areas where the underlying geology is of cohesive material (clays), then the potential for high remediation cost may reduce and lower cost ranges can be used. Conversely, if the site overlies sandstones, chalk or other permeable strata then the use of higher cost ranges should be considered. It is possible that cohesive materials may overlie an aquifer and offer some form of protection, which may reduce remediation costs.

Depth of contamination; The depth of the contamination will significantly affect the costs. The further below ground level the contaminated material is (i.e. that identified as requiring remediation), the greater the cost might be if it is in a sensitive setting. Notwithstanding it is unlikely that this will be known at an early stage, however, if it is known then the higher range might be selected. It is also possible that deeper contamination in low sensitivity settings may require less remediation if the surface layers sufficiently protected end users and, for instance, the site is located on unproductive strata.

Spread of contamination; The greater area of contamination the greater the cost of remediation will be. This may not be known at an early stage, however if there is a wide covering of previous uses then the higher range might be selected.

For example a small local gasworks on a corner of the site for 20 years will be different to a large producing gasworks over the entire site that has been in operation for over 100 years, often with a range of other supporting industries (tar works etc).

These differences may affect the range of costs selected, or may indeed indicate that a higher or lower category should be selected.

Figure 3 Remediation costs - water risk clarification characteristics

Negligible to low water risk site characteristics	Moderate to high water risk site characteristics
Any aquifer protected by a significant thickness of cohesive strata that won't be breached during construction or where appropriate control can mitigate the breach	Source protection zones 1 and 2 on site associated with a sensitive water abstraction either on or close to the site. The aquifer is not protected by a significant thickness of cohesive soil
Unproductive strata, perched water in made ground, or secondary aquifer in low sensitivity environment.	Shallow principal aquifer (unprotected) that has some form of local abstraction (closer than 250m)
No surface water or no linked surface water within 250m of the site	Sensitive surface water on or close to the site and linked by shallow aquifer. Shallow (unprotected) secondary aquifer on site.
Canalised river or canal or dock not directly linked to groundwater	Preferential pathways which could result in the rapid migration of contamination, either lateral or to depth (for instance to deeper aquifer)

9. NHBC, EIC and EA Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66

Appendix D

Number and scale of previous uses; If the site has had more than one type of previous use it is possible that multiple contaminants maybe present that vary in nature. As a result this may increase the number of remediation options required and thus increase the cost. It would be prudent to select the higher range. The scale of previous use will also be a factor.

Market conditions/remediation strategy/ contractor selection; The adopted remediation strategy will impact on the cost of the remediation. The amount of remediation, and therefore cost, is very sensitive to the level at which remediation targets are set and to a wide range of other variables. It is not unusual on one scheme, for several contractors to propose different remediation strategies and techniques to suit their operational capability, experience and preference. This may result in a range of costs for the site remediation.

The current market conditions should be considered as this may have a impact on the remediation costs due to contractor availability.

Site location; The guide range allows for an outer London location. Should the site be within a restricted city centre, this will have an adverse impact on the costs. Conversely if the site is in an open rural area this may contribute to a lower cost range. See Section 8 for regional weightings.

Procurement strategy and the client's approach to risk; The procurement strategy will have an impact on the cost of the remediation.

A procurement strategy is composed of the;

1. procurement option (traditional, design build management contracting, construction management);
2. contract selection (e.g. NEC 3- Engineering Construction Contract or JCT Standard Building Contract);
3. tendering option (single stage, two stage, negotiated, framework, serial); and
4. pricing options (e.g lump sum, re-measurable, cost plus).

The client's time, cost, quality and risk requirements should dictate the appropriate composition of the procurement strategy.

No matter how much site investigation is completed and how much the contamination is defined, there will always be a level of uncertainty risk in relation to the quantities.

The client's appetite for risk and therefore how the procurement strategy allocates that risk will impact on the cost.

If the client passes this risk to the contractor, and requests onerous contract terms and risk mechanisms e.g. extensive amendments to limit his risk, extensive and complex warranties, high delay damages (Liquidated and Ascertained Damages) and commits the contractor to a lump sum, it can be expected that the contractor will attach a proportionate risk premium to the remediation works, particularly in stable or rising markets.

Conversely if the client offers a lower risk profile to the contractor e.g. client ownership of ground conditions, simple contract terms and conditions and re-measurable quantities, then a smaller risk premium and lower cost can be expected from the market place.

An understanding of the likely procurement strategy can be used as a range indicator with the higher risk profile for the client potentially leading to a lower cost range (assuming the client appropriately manages and mitigates their retained risk) and the lower client risk profile potentially leading to higher cost range.

This is not a procurement guide and is only provided to indicate that the procurement strategy can impact on the cost of remediation.

See Figure 4 for a summary.

Figure 4 Remediation costs range indicators

Range determining factors	Low	Mid	High
Size	If greater than 5ha	If circa 5ha site	If less than 5ha. If less than 1ha range may not apply
Site context	No history of contamination in surrounding area	Some history of contaminated sites in surrounding area	Significant history of contaminated sites in surrounding area. However if there is a regional contamination issue this might reduce the amount of remediation by an individual site.
Number of previous uses and duration	Single use site (unless that use was high potential and over a long time)	Primarily single use	Mixed uses
Geology	Non permeable barrier close to surface or at depth but protecting a sensitive aquifer	Variable or thin layers	Permeable geology in sensitive areas
Depth	Shallow or surface	Top metre or so	Deep and thick layers of contamination requiring excavation or treatment
Spread of concentration	Isolated hot spots	Large areas but not complete site cover	Majority of site covered
Site location	Easy access, rural location	Outer city areas	Inner city areas, restricted access
Market conditions	Not active, stagnant recession like economy	Stable	Active market, buoyant economy for several years
Procurement strategy	High client risk profile	Proportionate and appropriate ownership of risk	Low client risk profile

More information can be found in the Department of Environment (DOE) Industry Profiles which can be viewed on the www.gov.uk.

Appendix D

Potential issues for users of the remediation guide

What if the site has been used for multiple purposes in different category? In selecting the appropriate range the project manager should use their judgement based on the information available. If it is predominantly one use then select that category.

If there are multiple uses without a dominant category it would be prudent to select the category that represents the highest potential e.g. if the previous use is haulage centre (Category B) and oil refinery (Category D) then select Category D. Professional judgement in light of the available information is key. Once the previous use category is selected it may be prudent to select a high range to allow for the possibility for the requirement of multiple remediation options.

What if there are multiple end uses for the site? The project manager should use their judgement based on the information available. If it is predominantly one use then select that category.

If there are multiple uses without a dominant category it would be prudent to select the category that represents the highest sensitivity for the end use. Alternatively, for mixed use, it may be appropriate to proportion the cost range per use to the percentage of area for each use.

Putting the most sensitive end use in clean areas and least sensitive end use in likely more contaminated areas may save money and provide programme benefits.

What if previous use is not in one of the categories? Although an extensive list of sites have been provided in Annex B there may be certain sites that are not listed. The project manager should use their judgment to select the most likely category based on similar type sites. The categorisation of the additional uses present in appendix B are simply suggestions and not meant to be definitive, rather a guide. Each site will have its particular characteristics which should be taken into account.

When does this note not apply? It does not cover gross contamination of asbestos, unexploded ordinance (UXO) and military related sites, radiological or biologically contaminated land and major landfill disposal costs.

Note is for use in England only. The benchmark data used and case studies are based on case studies within England. This note does not consider appropriate ranges for Wales, Scotland, N. Ireland and Ireland, although Section 8 does include regional weightings for these areas.

Update for Inflation BCIS offers all in Tender Price Index that can be used to update the guide ranges for inflation or deflation.

POSITION STATEMENT

National Grid Property Holdings Ltd – LBTH Response

In respect of Session 8
Marian Place Gas Works and The Oval site allocation

London Borough of Tower Hamlets
Managing Development DPD
Local Development Framework
11 September 2012

National Grid Property Holdings Ltd – Position Statement
LBTH Response Statement

This statement provides the Council's response to the issues stated within National Grid Property Holdings Ltd's Position Statement for the Managing Development DPD Examination in Public. This statement does not seek to repeat information relating to the Council's position as stated elsewhere.

1. Site Allocation 2

Site allocation 2 is not deliverable.

Summary

The site allocation for a Local Park and district heating facility do not consider the implications of these in sufficient detail and therefore have a negative impact on the viability of the scheme.

Response

Disagree. The approach, methodology and assumptions used within the Site Viability Testing Report are considered to be of an appropriate detail for the MD DPD and uses high level viability appraisals to determine the development viability of sites allocations within the MD DPD. This method uses a development appraisal package in widespread use in the development industry and by planning authorities.

BNP Paribas respond as follows:

The respondent indicates that the most recent costings of removal of the gas holders on the site amount to £3.747 million. A further £134,000 is assumed to be required for decontamination. The respondent therefore argues that these costs present "viability challenges" for any scheme coming forward on the site. They respondent appears to be suggesting that these challenges could be remedied by removing the requirement of a local park (to be replaced by a requirement for a negotiated amount of open space when a scheme comes forward) and for the district heating to be provided "where possible".

Our appraisals of this site incorporate an allowance of £2.425 million for abnormal costs, which goes some considerable way to addressing the abnormal costs identified by National Grid. Our appraisals also assume 35% affordable housing, with the 70% rented element provided as Social Rent. When an application comes forward, the Council could accept the alternative of 'Affordable Rent' in place of some or all of the 70% rented element, or could adjust the tenure balance (e.g. 50% rent and 50% shared ownership), or indeed could reduce the overall affordable housing percentage. The Council's policies already build in these flexibilities.

Notwithstanding the comments above, we note that our appraisals indicate a residual land value of £20 million, while the benchmark land value for the site is £15.75 million. Given that there appears to be some headroom above the benchmark, there is no reason why the costs identified by National Grid could not be accommodated.

With regards to the requirement for a District Heating system, this is likely to be the most cost effective option for delivering the energy requirements of Code for Sustainable Homes level 4. It is therefore unlikely to have any significant impact on viability of any scheme coming forward.

Appendix F

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www.themortonpartnership.co.uk

Our ref: EJM/CH/18810~01

13th December 2018

Tom Ridge
East End Waterway Group
Tower Hamlets
London E3

by email only: EAST.END.WATERWAY.GROUP@gmail.com

Dear Tom,

RE: BETHNAL GREEN GAS HOLDERS, BETHNAL GREEN, LONDON

As you are aware, we have reviewed in outline an indication of the costs for repair and retention of Gas Holders No 2 and No 5 at Bethnal Green. The costs have been prepared by Russel Turner of Eura Conservation, a well known iron work specialist contractor, who we have worked with on projects such as the Albert Memorial, Gravesend Town Pier and currently Russel is helping us as Clerk of Works on the Iron Bridge in Ironbridge Shropshire. Russel Turner's CV is attached.

I attach a spreadsheet produced by Russel who has visited the site to get a better feel of the scale and complexity, albeit at a distance. He has also based the estimate on the additional information available on the history of construction etc. which has been kindly provided. Clearly some judgements have had to have been made such as the extent of repairs – however please see my considered views below.

As you will see the costs for the Gas Holder No 2 are £1,059.212.00 plus VAT with Gad Holder No 5 being £2,907,445 plus VAT. Thus the total for both is £3,966,657 plus VAT, say £4.0ml. It should be noted that a 15% contingency has been included in these figures, but it does exclude any contamination mitigation, works to the bells, fees etc. These costs are at current rates and do not allow for inflation.

As there has not been the possibility for detailed inspection and investigation I suggest an additional 20% contingency should apply to the works, which would bring the total to approx. £5.0ml + VAT.

I consider this is reasonable based on my own experience of iron structures, including the Palace of Westminster re-roofing (currently in our 12th year), as lead consultant for works to the Iron bridge for English Heritage, the Glass House in Ballyfin Southern Ireland and many others. My own CV is attached.

I hope this is of assistance and that it is possible to retain these important and significant structures as part of proposed development work.

Yours sincerely
FOR THE MORTON PARTNERSHIP LIMITED,

EDWARD MORTON B.Eng(Hons), C.Eng, FICE, IHBC
Engineer Accredited on Conservation

cc Paul Latham

Encls – Estimated costs and CV's

Registered Office: Leonardo House, 11 Market Place, Halesworth, Suffolk IP19 8BA Tel: (01986) 875651 Fax: (01986) 875085
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Essex Office: 8 Church Street, Coggeshall, Essex. CO6 1TU Tel: 01376 563883 Fax: 01376 563894

Appendix F

Budget costs for access blast repair and paint to Gas Holders No.2 and No. 5 Dec-18

Notes Gas holders Benthal Green
No 2 16 cast columns 2 tiers of comp girders
columns approx 22m 40.6 m dia

no 5 22 standards 45m high 4 tiers of girders
61m dia

Budgets

GAS HOLDER NO. 2

Desc	Item	No.	Dims	Dims	Height/length	Area	Complexity	Rate	Price	Notes			
columns	Blast to Sa2	16	0.76 Dia + .15 gui	0.9	22	995.29	1.2	£ 65.00	£ 77,632.66				
Girders	Blast to Sa2	32	1.0 + .25	2.5	8.5	2136.36	1.3	£ 65.00	£ 180,522.08				
Bell									£ -	not included			
Paint above	3 coats					3131.65	1	£ 60.00	£ 187,898.79		(Blast paint and repair total)	£ 521,053.54	
repairs to above Prov		50				50.00	1	£ 1,500.00	£ 75,000.00		or 20% blast and paint cost	£ 104,210.71	Alternative contingency
Scaffold									£ 350,000.00	est			
Encapsulation									£ 50,000.00				
Contingency 15%									£ 138,158.03				
Budget total									**£ 1,059,211.57**				

GAS HOLDER NO. 5

columns	22	1.93 x 1.37	6.5	45	6435.00	1.2	£ 65.00	£ 501,930.00				
Girders top ring	22	1.93 x 1.37	6.5	8.5	1215.50	1.3	£ 65.00	£ 102,709.75				
Girders lower 3 tiers	66	1.37 x 0.5	3.74	8.5	2098.14	1.2	£ 65.00	£ 163,654.92				
Bell					0.00			£ -	not included			
Paint above					9748.64	1	£ 60.00	£ 584,918.40				
repairs to above Prov	100				100.00	1	£ 1,500.00	£ 150,000.00				
Scaffold					0.00			£ 950,000.00	est			
Encapsulation					0.00			£ 75,000.00		(Blast paint and repair total)	£ 1,503,213.07	
Contingency 15%					0.00			£ 379,231.96		or 20% blast and paint	£ 300,642.61	Alternative contingency
Budget Total								**£ 2,907,445.03**				

Redecoration Budgets		m2	rate		
Gas Holder No. 2					
Clean local corrosion and lightly abrade		3131.65	£ 8.00	£	25,053.20
Apply undercoat to degraded areas	say	50.00	£ 25.00	£	1,250.00
apply top coat to entire surface		3131.65	£ 15.00	£	46,974.75
Estimate for scaffold tower access				£	60,000.00
Gas Holder No. 5					
Clean remove local corrosion and lightly abrade		9748.64	£ 8.00	£	77,989.12
Apply undercoat to degraded areas	say	100.00	£ 25.00	£	2,500.00
apply top coat to entire surface		9748.64	£ 15.00	£	146,229.60
Estimate for scaffold tower access				£	140,000.00
Redecoration Budget Total				**£**	**499,996.67**

Appendix G

Curriculum Vitae: Paul Latham

The Regeneration Practice -
curriculum vitae, Paul S. Latham AA Dip (cons), Dip Arch RIBA

DIRECTOR, THE REGENERATION PRACTICE

Nationality: British

Professional qualifications:
BA Honours Degree in Architecture from North London University 1976
Diploma in Architecture (Highly Commended) Edinburgh University, 1981
Chartered architect, ARB Registration number 0483381
Member of the Royal Institute of British Architects
Diploma in Historic Building Conservation, Architectural Association, 2003–5
Architect Accredited in Building Conservation (AABC), 2006

Position:
Founding Director of The Regeneration Practice
Chartered Architects, since 1992

Specialist Experience:

- IHBC HESPR Advisor on heritage matters
- Advisor to Local Authorities on complex Planning ad Funding Issues
- Heritage Lottery Funding consultant
- Casework Advisory Committee Member, SAVE Britains Heritage
- Member of Tower Hamlets Conservation and Design Advisory Panel
- Accredited Conservation architect (AABC) specialising in complex Listed Buildings projects and urban settings
- Course lecturer University of Westminster Town Planning School on Development Viability
- Workshop sessions for Historic England staff at the Tottenham War Memorial
- Speaker at the International Conference on Charter of Venice, Toruń, Poland on High House Farm
- Speaker at the RICS Winter School on High House Farm
- Speaker at the ASCHB conference on the conservation of Bromley Hall
- Speaker at the NHIG Conference on historic metalwork conservation at St Pauls Cathedral
- Speaker athe ICON Interiors Conference, University of Cambridge; The Presentation of interiors at Bromley Hall
- Speaker at the Heritage Trust Network event, Cowcross Street London on the Concrete House
- Speaker at Peckham Heritage Regeneration Partnership's event on the Peckham Heritage Townscape Heritage Initiative
- Research project for Heritage Lottery Fund into Housing over shops in historic High Streets
- Member of the Royal Institute of British Architects Brownfields First Committee
- Architect for large scale mixed use regeneration projects involving brownfield sites
- Project Manager

Curriculum Vitae: Paul Latham

Publications:
Case Study: The Surface Treatment of Bronze Statuary, Historic England
Richard Norman Shaw and the Construction ofvAlbert Hall Mansions; Context article
Restoring Drake's concrete house; Context article
Letting Bromley Hall Speak for Itself; Context article
Blending the Old with the New: High House Farm; RICS Journal
Beyond the Brink - 84-98 AShfield Street; Context article
549 Lordship Lane: from ruinous shellbuilding at risk to affordable housing: HE Conservation Bulletin

House of Commons Select Committees:
Written Evidence to HIS_15 Contribution of Historic Buildings to Urban Regeneration;
Written Evidence to HOU_14 Government Funding for Housing
Written Evidence to PGP_05 THe PLanning Green Paper
Written Evidence to ERF_03 Economic, Social & Envoonmental Regeneration
Written Evidence to WTC_10 Walking in Towns and Cities
Written Evidence to GF_16 Cancellation of the UK Gap Funding Programme
Written Evidence to H_04 Draft PPG3 Housing
Written Evidence to H194 Provision of Housing in Urban Areas

Selected Projects:
IDEA STORE Programme Advisor. Client London Borough Tower Hamlets
The Womens Library, Funding consultant: Client: London Metropolitan University
The Reception, Purfleet. New Reception for High House Production Park Client Thurrock Council, CC Skills
High House Farm. Client; Thurrock Thames Gateway Development Corporation
Bromley Hall. affordable office space. Client: Heritage of London Trust Operations Limited
84-98 Ashfield Street, affordable housing. Client: Heritage of London Trust Operations Limited
Valentine's Mansion feasibility Wedding Reception building in historic landscape. Client: Redbridge Borough Council

Awards:
Europa Nostra Award 2006 - Bromley Hall
Evening Standard Best Large Housing Development 2006- 417 Wick Lane
RICS London Region Historic Building Award Winner 2006 - Bromley Hall
RICS National Runner up in regional heats 2006 - Bromley Hall
Country Life Restoration of the Century Award - Turner Street Housing 2010
RICS Eastern Region Historic Building Award Winner 2011 - High House Farm
RICS Eastern Region Regeneration Award Winner 2011 - High House Farm
RICS Eastern Region Project of the Year Award Winner 2011 - High House Farm
Landscape Institute Awards 2011 Winner Eastern Region - High House Farm
RICS London Region Historic Building Award Winner 2014 - The Concrete House
Civic Trust Awards Conservation Commendation 2016 - The Concrete House
RICS London Region Historic Building Award Commendation 2017 - Tottenham War Memorial

Appendix G

IDEA STORE- PROGRAMME ADVISOR - THE FLAGSHIP IDEA STORE, WHITECHAPEL LONDON

PROJECT:
Tower Hamlets "Idea Store" Programme

CLIENT:
Tower Hamlets Council
Tower Hamlets College

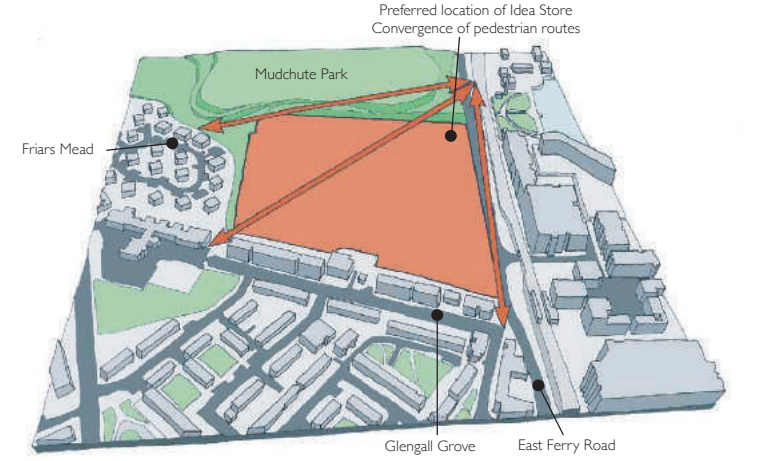
CONSULTANTS:
David Adjaye Associates
Arup

CONTRACT VALUE:
£25million

PROJECT DESCRIPTION
The Regeneration Practice are Scheme Development Advisors to Tower Hamlets Council on their £25m programme of Library closure and reconstruction to create nine "Idea Stores". These combine Lifelong learning with Library Resources in new attractive buildings located on local shopping centres. The first Store at Whitechapel (illustrated) has tripled Library attendance in some of the most deprived areas in the UK. A key aspect of the project is the creation of a high quality "retail" environment to attract people to adult learning, library and skills courses.

Canary Wharf Idea Store, London

STAKEHOLDER BUY-IN
The support of local people is an essential part of the brief in what is a radical programme of Library closure which had initially attracted negative publicity. Centred around a press campaign and extensive consultations, the successful strategy TRP adopted presented the positive impact of good architecture in run-down local shopping precincts and improved one-stop service delivery of Council Services. The successful re-branding of Library and Adult Education services in Tower Hamlets is a measure of the success of this innovative project which is an international exemplar of Adult Learning Service.



IDEA STORE- PROGRAMME ADVISOR
MAJOR FOOD RETAILER AND ISLE OF DOGS IDEA STORE, London

PROJECT:
Tower Hamlets "Idea Store" Programme

CLIENT:
Tower Hamlets Council

CONTRACT VALUE:
£25million

PROJECT DESCRIPTION

TRP advised Tower Hamlets Council on all aspects of delivery of the Idea Store on a major Supermarket site on the Isle of Dogs. A restrictive covenant existed preventing development above a single storey. Initially, the supermarket were unwilling to enter discussions over redevelopment of their single storey Store. There "was nothing in it for them".

We analysed the "wins" from the Supermarket perspective and the Council's points of view. The Supermarket needed a substantial commercial incentive to overcome the restrictive covenant and kick-start redevelopment. Tower Hamlets Council would be prepared to enter discussions for redevelopment of the supermarket site in principle, including entertaining consent for multi-storey mixed-use development to help pay for a new Idea Store as planning gain.

On our advice, supplementary planning guidance was written opening the door for the Supermarket to resolve the restrictive covenant issue and move forwards with a substantial mixed retail/ residential re-development value in "air space" over its Isle of Dogs Store site. The planning brief included a requirement for an Idea Store as gain.

Our strategy succeeded in drawing the Supermarket into discussions which led to them entering into a development agreement with a housebuilder. The site is now redeveloped incorporating an Idea Store as "planning gain".

Appendix G

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STATEMENT OF RELEVANT EXPERIENCE

ED MORTON - THE MORTON PARTNERSHIP

Position: Managing Director **Date of Birth:** 23 March 1965
Qualifications: B.Eng (Hons), CEng, FICE, IHBC, Engineer Accredited In Conservation

Tel: 0044 20 7324 7270
Mobile: 07775 930 777
Email: ed.morton@themortonpartnership.co.uk

Ed is Managing Director of The Morton Partnership Ltd, a company of civil and structural engineers with around 35 employees being almost entirely involved with the conservation, restoration and refurbishment of historic buildings and structures. He is accredited in conservation under the CARE scheme.

Ed has in excess of 25 years' experience and travels countrywide and abroad related to conservation projects acting for National Amenity Societies, Local Authorities, Buildings Preservation Trusts and individual Clients. These including The National Trust and The NT for Jersey, English Heritage, Historic England, SAVE Britain's Heritage and SAVE Europe's Heritage, The European Commission, The European Space Agency, The Palace of Westminster, many cathedrals and churches and others.

Ed is currently Engineer to Canterbury Cathedral, York Minster, Westminster Abbey, Durham, Ely and Southwark Cathedrals. He is also working on projects at St Paul's, Coventry, St Albans, Sheffield and Rochester Cathedrals. He is honorary engineer to the Diocese of Canterbury, London and Chelmsford and sits on the IHBC technical sub-committee, the CARE panel and ICOMOS UK Wood Committee.

Below are a few of the projects that Ed Morton has worked on related to historic buildings in the last 25 years:

GENERAL:

1992 - 2018 **Claydon House, Middle Claydon, Buckinghamshire**
Engineer for large scale repairs of Grade 1 Listed National Trust house. Has since advised on all engineering related matters. Has recently carried out a Quinquennial survey for the Trust on this important building and including both the public and non-public areas.

2013 - 2018 **The National Trust**
Appointed on various commissions properties throughout the country and in the last five years this has included at Dunham Massey and Hardwick Hall related to assessing the impacts of HS2, a new timber bridge at Croome Park, Ickworth Hall and Estate, Wimpole Hall and Estate, Coggeshall Grange Barn, Shermans Hall, Anglesey Abbey, Oxburgh Hall, Paycockes, Knole, Scotney Castle Gardens, Bodiam Castle, Sheffield Park Gardens and many others.

2013 - 2018 **The National Trust for Jersey**
Acted as conservation engineer for the repair and conversion of a number of buildings threatened with demolition at Pitt Street in St Helier, and has recently assessed a 16th Century farmhouse including preparing a detailed structural report and outline schedule of works. Development for full works now in progress to the building.

1999 – 2018 **Stowe House, Stowe, Buckinghamshire**
Engineer appointed to Phase 1, Phase 2 and Phase 3 repairs to Grade 1 listed Stowe House (£4.8ml + £5.3ml + £5.5ml), as well as advising the School over projects and also the National Trust within the landscape gardens. Within the last five years this has included a new timber bridge in the gardens, repairs to a ruinous Temple, survey of The Oxford Bridge (stone) and the repairs in the Main Hall including re-sited a missing statue back internally.

2003 - 2018 **Palace of Westminster, London**
Engineer for long term rolling programme of repairs and re-roofing to Charles Barry's cast iron roofs. Phase 1 complete with Phase 2 currently on site.

2003 - 2018 **Chatham Historic Dockyard, Chatham, Kent**
Structural Engineering appointment to numerous buildings and structures at the internationally important dockyard including assessment of chimneys, HMS's Cavalier's mast, gangways to 2 ship and 1 submarine, Thunderbolt Pier, lead on repairs to Covered Slip No 3, feasibility to Colour and Sail Mast shop and many others. Currently acting as Conservation Structural Engineer for the conversion of the Fitted Rigging House to part office, exhibition areas including new stair cut into the schedule ancient monument.

2004 - 2018 **Battersea Power Station, Battersea, London**
Acting as Conservation Engineer with regards to the works at the Grade II listed Power Station. This involves consultations with the developers design team and then with the statutory bodies, principally English Heritage. Recently completed the commission of acting as independent consulting engineer to the London Borough of Wandsworth to monitor and assess works to the re-building of the chimneys.

2013 – 2017 **Olivers, Stanway, Essex**
Project Manager, Contract Administrator and Structural Engineer for large scale repairs and alterations of Grade II* listed country house for new overseas owners. Included commissioning of relevant surveys, architectural services, coordination of consents and managing of contractors on site through to completion. Repairs included re-roofing, new services, alterations and new build office, workshop, gym and stables.

2013 – 2018 **The Queen Elizabeth Triforium Galleries, Westminster Abbey, London**
As appointed Structural Engineer to the Abbey, appointed for largescale conversion of the triforium to a new gallery and exhibition space for artefacts related to the Abbey. The works involved the detailed assessment of the structure, including the Wren timber elements for new exhibits and public access, as well as advice on fixing mounting exhibits to the roof and walls in a sensitive and where possible reversible manner.

2013 – 2018 **Winstanley Hall, Winstanley**
Following initial survey for SAVE Britain's Heritage, appointed as Lead Consultant and Contract Administrator for urgent repairs to Courtyard buildings with English Heritage grant. In 2018 appointed by owner / developer to prepared initial methodology for limited repairs to the Main House for application to Historic England for grant aid.

2013 - 2018 **Braxted Park, Braxted, Essex – Boundary Walls**
Engineer and Contract Administrator for s106 repairs to 7 mile long Victorian listed boundary wall to the Estate. Working initially with developer in monitoring works by conservation contractor and then direct for the Estate for the remaining lengths. Works to be completed by 2020.

2015 – 2018 **Kings College, Cambridge – Bodley's Court and Wilkins Dining Room**
Appointed as Structural Engineer for re-roofing of stone slated Bodley's Court and new plant platforms within the roof voids. Works has included coordination of scaffold design for tender. Also undertook feasibility study into future re-roofing project for Wilkin's Dining Room including structural repairs, and consideration for scaffold access.

2014 – 2018 **Crichel House, Moor Crichel, Dorset**
Following completion of condition survey of the Grade II Church and the Grade I Main House roof, appointed as Lead Consultant for full external repairs to the Church, including emergency propping, extensive timber repairs to roof, re-covering and external masonry repairs and window re-glazing. In the last two years have acted as Lead Consultant for the development of the tender for re-roofing of the Main House with the works about to start work on site.

Appendix G

2014 – 2018 **Creeksea Place, Creeksea, Essex**
Appointed following recommendations for assisting the owner of C16th manor house with early C20th wing related to applying and been awarded a Historic England grant for developing stage including procuring measured survey, historic building assessment, and carrying out detailed condition survey as well as a management plan for the site.

2017 – 2018 **6 Lygon Place, London**
Appointed as expert for preparing report on unauthorised works to a listed house and assessing the practicalities of re-building the lost stone 'cantilevered' stairs. Recently appointed as Expert Witness on behalf of Westminster City Council for Planning Appeal into the works.

2017 **Hunstanton Town Hall, Hunstanton, Norfolk**
Assessment of significant movement to large stone window to front elevation of late nineteenth century building by Norfolk Architect George Skipper. Subsequent preparation of full tender document, including specification, schedule of works and drawings for re-building of the window and associated repairs to the masonry elevation and internal Council chamber.

TIMBER FRAMES:

2013 **Grange Barn, Coggeshall, Essex**
Appointed to undertake quinquennial survey of the twelfth century barn for The National Trust. Survey undertaken after considerable period of rain which helped identify vulnerable areas in roof coverings.

2016 & 2018 **Cressing Temple Barns, Cressing, Essex**
Appointed to undertake biennial surveys of the twelfth century barns for Essex County Council. Survey includes external fabric survey and internal inspection of timber frame including high level access, setting out repair prioritise foe the barns which are bot Grade 1 listed and Scheduled Ancient Monuments.

2016 – 2018 **Bear House, Ashwell, Hertfordshire**
Structural Engineer for large scale refurbishment of Grade II listed timber framed house for family residence including structural repairs to roofs, external walls and floors and then alterations including removal of later added walls, new stairs and extensions externally.

ECCLESIASTICAL:

2005 - 2018 **Canterbury Cathedral, Canterbury, Kent**
Appointed as Engineer to Canterbury Cathedral in 2005. Investigation into movement of Bell Harry Tower and the re-roofing of the South East Transept. Around the Precincts have advised on a number of the buildings and building elements such as The Archbishop's Palace, the South Infirmary wall, the Archdeacon's house, Dormitory Undercroft and a number of others. The main current project since 2014 has been the 'Canterbury Journey' project where I am acting as the Director for the new Welcome Centre, The Precincts landscaping and the repairs and re-roofing to the Nave, West Towers and aisles. Also assisting on the new organ project which involves advising on the structural impact of the new organ console, and the repairs to the triforium roof where the new pipework will be cited.

2016 – 2018 **Coventry Cathedral, Coventry**
Appointed as Conservation Structural Engineer for the Chapel of Unity project which included the detailed assessment of the butted slate cladding fixings and devising with the Architect's a revised scheme following a trial project. Subsequently involved with site visits during works to assess quality and works completed. Assessment of floor to the bomb damaged ruins of the old Cathedral for potential new uses.

2007 - 2018 **York Minster, York, Yorkshire**
Appointed as Engineers to the Ancillary Projects to the York Minster Revealed project in 2007 which completed in 2015. Appointed as Engineer to the Minster in August 2009 to advise on all engineering aspects and including the role of Conservation Engineer to the East Front and Great East Window as part of the Revealed Project. Current masonry repair project to St Cuthburt's Window.

2015 - 2018 **Durham Cathedral, Durham**
Appointed as Structural Engineer to the Cathedral. Main current project has been the repairs to the crossing tower parapets and external masonry repairs down to the belfry stage. Has included the use of hot lead for the bedding of the parapets which were dismantled due to instability. Other works has included high level survey with the Chapel of Nine Alters, and investigations into the condition of the Cloister roofs.

2017 - 2018 **Rochester Cathedral, Rochester, Kent**
Appointed for the Eastern Transepts Roofing project where a new mezzanine floor was introduced with new roof access, including a re-opening of old passage through triforium. Also appointed to investigate the Cloisters drainage following a flood event.

SCHEDULED ANCIENT MONUMENTS:

2013 - 2015 **Ruined Northern Ranges, St Osyth's Priory, St Osyth's, Essex**
Conservation Engineer for the project development and repairs to this important C16th ruin involving complex repairs on behalf of English Heritage.

2012 - 2018 **Swingbridge, Oxford**
Appointed as Conservation Engineer and Lead Consultant for the repairs to the Scheduled railway swingbridge constructed to the designs of George Stephenson. Currently in discussions on tenders.

2016 – 2018 **The Iron Bridge, Ironbridge, Shropshire**
Appointed as Lead Consultant, Conservation Structural Engineer and Contract Administrator for the large scale repairs to the iconic engineering structure constructed by Abraham Derby III. Working with The English Heritage Trust as Employer, and Historic England officers. Has included preparing presentations to English Heritage project board and to invited delegates.

2013 – 2018 **Coalhouse Fort, East Tilbury, Essex**
Following tender appointed as Lead Consultant for HLF funded circa £1ml project for repairs to the Generator House including introduction of new café, WC's and Rangers office with interpretation as well as new railings within the Fort to allow an Education space to be created and accessible for all. Subsequently appointed as Project Manager for £600k Historic England development phase including tendering and appointment for a Conservation Management Plan, Measured Survey, Condition Survey, Ecology studies and the subsequent commencement of re-roofing to areas.

2017 - 2018 **Ludlow Town Walls, Ludlow**
Appointed as Conservation Engineer for the initial strategic phase of assessing section of collapsed Town wall to the north of the Churchyard setting out investigation works required, liaising with the Inspector and Historic England as well as other interested parties. Production of scoping report for allowing future repairs of walls to be considered for grant funding.

WORLDWIDE WORK:

2001 – 2011 **Ballyfin, Port Laoise, County Laoise, Ireland**
Engineer appointed to conversion of significant and important county house and demesne including main C18th house to hotel, the associated 1920's wing including provision of new swimming pool, services tunnel, lead on repairs to Richard Turner iron conservatory, conservation repairs to grotto, tower and other buildings on the estate. Winner of Project of the Year at the 2012 RICS Awards.

2008 – 2009 **Ballykean, County Wicklow, Ireland**
Structural Engineer for significant repairs and refurbishment to historic house in residential use including new extensions.

2008 – 2012 **House, Dublin, Ireland**
Structural Engineer for large scale repairs to large private house and gardens to the south of Dublin including new basement structure, conservation repairs to main house. Phase 2 completed in 2012.

2013 – 2015 **T'Bistra Catacombs, Malta**
Appointed as conservation engineer to assess the Roman Catacombs related to condition

and concern over the effect of traffic vibration from adjacent major road.

2017 - 2018 **Police Compound Buildings, Hong Kong**
Appointed by the Hong Kong Jockey Club to review proposed enhancement works to these important colonial buildings. The essence of the appointment was to confirm that the recommended enhancement works were structurally appropriate, and provide adequate safety for the design life of the buildings by working with the appointed engineers.

2017 – 2018 **Hessischer Hof, Treffurt, Germany**
Inspection on behalf of SAVE' Europe's Heritage of early 16th Century three storey timber framed Hessian Courthouse condemned by German Engineers and with demolition order. As well as survey presented to the Local Government office in Germany on repair practicalities to help convince them of the practicality of repair.

2017 - 2018 **City Hall, Georgetown, Guyana**
Appointed as Conservation Structural Engineer to prepare a detailed structural condition survey of the colonial 1860's City Hall in Georgetown, Guyana on behalf of The European Commission on behalf of the Co-operative Republic of Guyana, represented by The National Trust for Guyana. The work also included preparing a detailed schedule of structural repairs with associated specification and drawings as well as assessing the local construction market for appropriate skills for the conservation repairs. The final part of the appointment was to prepared and provide presentations to the local professional and education community in Guyana to set out UK conservation best practice.

APPOINTMENTS:

Consultant Engineer to English Heritage Expert
Advisor to The Heritage Lottery Fund Appointed
Monitor to the Heritage Lottery Fund Honorary
Engineer to Diocese of Chelmsford
Honorary Engineer to the Diocese of Canterbury
Honorary Engineer to the Diocese of London
Fellow of The Institution of Civil Engineers
Member Institute of Historic Buildings (formally ACO)
Consultant Conservation Engineer to Essex County Council.
Lecturer at Anglia Polytechnic on Conservation Engineering
Guest Lecturer at Thurrock Council
Guest Lecturer at Essex County Council Guest
Lecturer at Oswestry Borough Council
Guest Lecturer at Cambridge University
Guest Lecturer for ICE History Study Group
ICOMOS UK Wood Committee Member
Guest Lecturer for the Town Planning Institute, East Anglian Region.
Guest Lecture for COA.
Guest Lecturer for SPAB.
Guest Lecturer for RIBA Eastern and London Regions
Guest Lecturer for RICS
Guest Lecturer for IStructE History Study Group
Guest Lecturer for University of York, Institute of Archaeology
Guest Lecturer for University of Birmingham, Ironbridge Institute
Guest Lecturer for The Bedfordshire and Hertfordshire Historic Churches Trust
Guest Lecturer for the AABC Annual Conference
Guest speaker for Historic England for historic iron conference specifically talking on the Iron Bridge
CARE Panel member
Lecturer at West Dean College.

ARTICLES ETC.

Principal Contributor to English Heritage Practical Building Conservation Volume on Timber (2012)
Context – 'Waxham Great Barn Restoration' (1994)
Context – 'Back from the Brink - Ashfield Street' (1998)
Context – 'Trial by Fire answers a loaded question' (2001)
Context – Dinosaurs at Crystal Palace Park (2002)
Context - Consulting the Badgers (2002)
The Structural Engineer – Monitoring Historic Buildings (2017)
The Structural Engineer – Stonework (2017)
Cornerstone – 'Structural Consequences of Attic Conversions' (2005).
Journal of Architectural Conservation – Paper on Scaffolding to Historic Buildings (2008)
Journal of Architectural Conservation – Paper on Wollaton Hall 'Chinese Lattice Floor' (2012)

SOCIETIES ETC.

Member of the Society for the Protection of Ancient Buildings
Member of the Association of the Study of Historic buildings
Member of the Victorian Society
Member of the Georgian Group
Member of the Essex Historic Buildings Group
Supporter of the Churches Conservation Trust
Member of The Historic Houses Association

EURA
CONSERVATION LTD.

RUSSEL TURNER **EURA CONSERVATION**
MANAGER AND CONSERVATION SPECIALIST

Special Expertise
Russel is an accredited conservator specialising in metals but with an interest in architectural ornament, glass and the historic built environment. He has been responsible for projects and development of the Company over the last thirty years and is active within the conservation community.

Career Details
Russel Turner has been responsible for all aspects of conservation work from estimating to procurement to project management and company development. In recent years he has concentrated on projects management and securing ongoing contracts for the organisation.

Projects include:-

Site manager and director for specialist Metalwork's at the Temperate House Range, Kew Botanic Gardens, The worlds largest extant Victorian metal glasshouse

Project Director for Metalwork's at Swiss Gardens Shuttleworth, Glass house, gates and railings, 5 bridges, metal architectural and Garden Ornament

Project manager for trials and treatment of Oxford University's Natural History Museum's roof,

Project Manager for the Conservation of 1500 Bronze Windows to Manchester Library and Council House Extension

Site manager and Project Director for Conservation works to Gravesend Town Pier, the world's oldest extant cast iron pier.

Eura's Project Manager for dismantling conservation and re-erections of the scheduled ancient Monument Fort Brockhurst Bridge for English Heritage.

PM for the Bodlean gates and railings in central Oxford.

Site Manager and project Director for Eura's works to a Richard Turner Glass house in Ballyfin Ireland.

Management of conservation works to 200 iron and wood windows to the listed post office sorting office in Manchester.

Trials and treatment development at Rewley Road Swing Bridge Oxford

HALESFIELD 19
TELFORD, SHROPSHIRE, TF7 4QT
PHONE (01952) 680218 - FAX (01952) 585044
Reg. No. 2188149 - VAT Reg. No. 478 8919 65
www.eura.co.uk

Management of specialist metalwork's at St Georges Hall Liverpool.

Project Manager for Metal works at Lincoln Arboretum, Bandstand, 2 bridges, Gates and Railings Cast Iron shelter.

Project Director for the restoration of 6 No. listed cast iron Promenade Shelters Blackpool.

Project Director Hubert Fountain Project

Project Director for conservation works to Clarence Bridge Regents Park

Site manager for metal and glass works at The Albert Memorial

Project. manager for the conservation and restoration of Europe's largest gates, Canada and Australia gate (opposite Buckingham Palace).

Other Projects include.

Conservation of Stanley Park Glasshouse
Conservation works to Brunel's ship ssGB
Conservation works Eros Piccadilly Circus
Collabrotive research European Community 6th and 7th Frameworks
Lead Sculpture Conservation Dublin Castle
Window treatment and Trials Castle Droggo
Conservation works to Miss Britian III, National Maritime Museum
Conservation works at Sir John Soames Museum

He was the founder of Eura Conservation 1983 and it's development into Eura Conservation Ltd in 1987 and has been closely involved in all major projects since then. He is an accredited conservator, and has been a board member of ICON (The institute of conservation) He has been Chair of ICON metals section and is a member of IIC, the Historical Metallurgy Society. He started his working life in heavy industry working in several national power stations. He moved on to study engineering technology before working at Ironbridge Gorge museum in their ceramics department prior to his 30 year career within Eura.

Appendix H

Scheme	14	Marian Place Gas Works

Total Units	630	Gross Site Area per Ha	1.9	Benchmark Land Value	£ 10,518,000
Total Floor Area sq ft (GIA)	663,413.14				
Total Floor Area sq m (GIA)	61,632.59	less land for infrastructure	1		
Total Floor Area sq ft (NIA)	497,559.86	- *Strategic Open Space*			
Gross to net ratio	75%			Existing Floorspace (sq m)	-
		Net site area	0.9		
Average Unit Size sq ft (GIA)	1053				
Average Unit Size sq ft (NIA)	73				
		Density	700		
No Phases	2				

Residential Scheme assumptions

	% Proportion	No units
Market	65%	410
Social Rent	12.25%	77
Intermediate - LLR	5.25%	33
Intermediate - SO	5.25%	33
TH Living rent	12.25%	77

	Market	Social Rent	Intermediate (Inc LBTH LR)
Studio	0%	0%	0%
1	30%	25%	15%
2	50%	30%	40%
3	10%	30%	35%
4	10%	15%	10%

		Market		Social Rent		Intermediate - LLR		Intermediate - SO		TH Living Rent		Total	
	size (sq m)	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor area (Sq m)*	*No Units*	*Floor Area (Sq m)*
1b	50	123	6,142.50	19	965	5	248	5	248	12	579	164	8182
2b	70	205	14,332.50	23	1621	13	926	13	926	31	2161	285	19966
3b	95	41	3,890.25	23	2199	12	1100	12	1100	27	2566	114	10855
4b	108	41	4,422.60	12	1250	3	357	3	357	8	833	67	7221
Total		**410**	**28,787.85**	**77.18**	**6,035.09**	**33.08**	**2,631.12**	**33.08**	**2,631.12**	**77.18**	**6,139.27**	**630.00**	**46,224.44**
Total (sq ft)			**309,872.42**		**64,961.65**		**28,321.34**		**28,321.34**		**66,083.12**		**497,559.86**

Commercial Scheme assumptions

Use	GIA Sq m	GIA Sq ft	NIA sq m	NIA sq ft
Office	0	-	-	-
Retail	0	-	-	-

Timescales

	Phase 1			Phase 2		
No Market Resi units	205	**Sold on completion**	**Sales period (months)**	205	**Sold on completion**	**Sales period (months)**
Off-plan sales	50%	102.38		50%	102.38	
Sale of units per month thereafter	10		10	10		10
Purchase	9 months					
Pre-construction	9 months			9 months		
Construction	36 months			36 months		
Sales	10 months	at end of construction		10 months	at end of construction	

REVENUE

	No spaces	value per space	Total revenue
Car parking Spaces	158	£30,000	**4,740,000**

	Rent Per Unit PA	Yield
Ground Rent on Market units	£400	5%

	per sq ft
Private Resi Sales Value	£885

		per sq ft
Affordable Resi Sales Value	**Social Rent**	£127
	Intermediate - LLR	£257
	Intermediate - SO	£478
	TH Living rent	£225

	Rent per sq ft	Yield	Rent Free & Void (months)
Commercial values			
Office	£0	0%	0
Retail	£0	0%	0

Appendix H

COSTS

	per unit	Total
S.106 Assumptions	£1,220	£768,600

Mayoral CIL

	Base	Indexed	Liable floorspace (sq m GIA)	Existing floorspace apportionment	Net additional floorspace	CIL liability	Base Crossrail S106	Indexed Crossrail S106 to March 2017	Crossrail liability	Total MCIL and Crossrail contribution
Resi	£35	£43.00	38,383.80	-	38,383.80	£1,650,675.52	N/A		0	**£1,650,675.52**
Office	£35	£43.00	-	-	-	£0.00	£0	£ -	0	**0**
Retail	£35	£43.00	-	-	-	£0.00	£0	£ -	0	**0**
										£1,650,675.52

LBTH CIL

	Base	Indexed	Liable floorspace (sq m GIA)	Existing floorspace apportionment	Net additional floorspace	CIL liability
Resi	£65	£68.76	38,383.80	-	38,383.80	£2,639,442.00
Office	£0	£0.00	-	-	-	£0.00
Retail	£0	£0.00	-	-	-	£0.00
						£2,639,442.00

Demolition £80 per sq m

Decontamination at preconstruction

Per Ha	Total figure
£3,200,000	£6,080,000

Build Costs

	Base per sq m	Externals (15%) per sq m	SUDS (0.4%) per sq m	Carbon Zero	Total
Resi	£2,500	£375.00	£10.0	£62.50	**£2,948**
Office		£0.00	£0.0	£0.0	**£0**
Retail		£0.00	£0.0	£0.0	**£0**

Contingency on build costs 5%

Profit
Private/Market on GDV 20%
Affordable on GDV 6%

Marketing /agency and legal fees
Resi Sales agent and marketing on GDV 3.00%
Resi Sales legal fees on GDV 0.50%

Commercial Letting fee on rent pa 10.00%
Commercial Letting Legal fee on rent pa 5.00%
Commercial Sales fee on GDV 1.00%
Commercial Legal fee on GDV 0.50%

Professional fees 12%

Finance 7.00%

Appraisal outcome

RLV £11,266,669

Benchmark land value £10,518,000

Scheme viable Yes