

Appendix 2

Committee(s):	Date(s):
Street and Walkways Sub Committee	11/Dec/2012
Projects Sub Committee	13/Dec/2012
Subject: Options Appraisal and Authority to Start Work (Gateway 3/4/5) – Heron Plaza S.278 (highway works)	Public
Report of: Director of the Department of the Built Environment	For Decision
<p><u>Summary</u></p> <p><u>Dashboard</u></p> <ul style="list-style-type: none"> • Project Status: Green • The project is approximately 30% of the way through its six year programme • Total Estimated Cost: Up to £810,103 • Spend to Date: £19,800 • Overall Project Risk: Green <p><u>Context</u></p> <p>On 11 January 2011 the Planning and Transportation Committee approved conditional planning permission to redevelop a site bounded by Houndsditch, Bishopsgate, Devonshire Row and Cavendish Court now referred to as Heron Plaza (previously Stone House and Staple Hall). The permitted development is a 43 storey hotel and residential tower. See Appendix 1 for the local area plan. At this meeting, Members instructed officers to complete any necessary agreements under Section 278 of the Highway Act 1980 (S278).</p> <p>On 27 May 2011, the developer and the City signed an agreement under Section 106 of the Town and Country Planning Act 1990 (S.106) stating that changes to the public highway around the site are required to be incorporated into a S278 agreement. This S.278 agreement is required to be signed before construction of Heron Plaza is permitted to start.</p> <p>This report is an Options Appraisal and Authority to Start Work report (Gateways 3/4/5). A project of this nature (i.e. S278 agreement which is fully funded by the developer) would normally proceed to Authority to Start Work (Gateway 5) stage, but the developer has requested non standard materials. Therefore, options have been included in this report.</p> <p>The required changes to the public highway include the enhancement of Houndsditch between Outwich Street and Bishopsgate. These changes would have been delivered as part of the Heron Tower S.278(2) agreement for the adjacent development had it not been for Heron Plaza receiving planning permission. Heron Tower is immediately opposite the proposed Heron Plaza on Houndsditch (see appendix 2 for a flow chart detailing the relationship between the agreements for Heron Tower and Heron Plaza).</p> <p>The developer, through the S.278 agreement, is required to pay the full cost of the project even if it is more than the estimated value of £810,103 (Option 3 estimated cost).</p> <p>In addition, the S.278 agreement has provision for a deferred improvement works payment of £80,000 per year for the delaying of improvement works in Houndsditch. The developer was supposed to have implemented an improved Houndsditch in 2011, as required in the Heron Tower S.278(2), but the approval of the Heron Plaza development is delaying this. Approval from Members for the use of these funds will be progressed separately at a later date.</p>	

Brief description of project

The project is to plan, design and implement a highways layout that accommodates the new building whilst conforming to the City's design standards. This will be funded via a S.278 agreement.

The key desired outcomes of the project are to:

- Ensure there is a sufficient space for vehicles to pass those dropping off and picking up passengers within close proximity to the entrance to the Heron Plaza hotel;
- Ensure pedestrian movement in the area is safe and convenient;
- Deliver the physical changes in time for the occupation of the development; and
- Deliver an improved Houndsditch by introducing trees, seats, lights and improved materials. The design is largely based on that proposed under the Heron Tower S.278(2) agreement and subsequently the Heron Tower 278(2) variation agreement. These designs mitigated the impact of the Heron Tower development. Appendix 3 shows the original (S.278(2)) and interim designs (S.278(2) variation) that were agreed.

Options

The options estimated below are in regards to the choice of material for the carriageway of Houndsditch.

Table 1

Description	Option 1 – Asphalt only (£)	Option 2 – Asphalt / Granite (£)	Option 3 – Granite only (£)
Total Funding Requirement	660,718	720,327	810,103
Funding Strategy			
Developer (S.278)	660,718	720,327	810,103

Further financial details are provided in table 2 (paragraphs 8: resources expended to date), table 3 (paragraph 20: funding strategy) and Appendix 4 (full breakdown of the estimated costs).

The three options presented include the developers preferred option (option 3) which is to use granite as material on the carriageway of Houndsditch.

The developer has agreed to fund the full cost of the scheme including the maintenance costs.

Maintenance costs for the trees have been estimated for a period of 20 years (£20,402).

Maintenance costs for granite used on the pedestrian cross-over of the vehicle access (in both option 2 and option 3) and the carriageway (option 3 only) have been calculated as being equivalent in value to it being replaced once during the life of the development (£24,000 for option 2, £67,500 for option 3).

Recommendations

Option recommended:

Option 3 for the choice of materials is recommended. This option requires the:

- Houndsditch carriageway to be surfaced in granite for aesthetics; and.
- The area entering the new vehicle service entrance to also be surfaced in granite setts to provide a contrasting colour and texture to improve safety.

Option 3 provides the most benefits when assessed against economic, social/cultural and environmental sustainability subject to the inclusion of the maintenance costs being funded by the developer (providing greater economic sustainability for the City) and the granite being locally sourced (providing a better environmental sustainability outcome). The granite carriageway in option 3 provides a higher aesthetic appeal (social/cultural sustainability) and therefore sets this option as the preferred option under this assessment method (the same method as was used in the Review of Materials in December 2010).

This option:

- is strongly preferred by the developer;
- reflects a previously agreed decision by Members (albeit prior to the Review of Materials in December 2010);
- will best reflect the high quality nature of the development; and
- will have negligible impact on traffic during construction and maintenance (see street works implications in paragraph 10).

In addition, it is recommended that the surface of the Houndsditch carriageway, between Outwich Street and Bishopsgate, be constructed at the same level as the footways (Option A in paragraph 10). This will create an environment that allows easy movement for the high number of people that will cross Houndsditch informally.

Appendix 5 shows the general arrangement drawing of the proposed changes including the options.

Next Steps

Should Members approve this scheme:

1. A Section 8 agreement (S.8) will be signed with Transport for London (TfL) permitting the City to implement the works on Bishopsgate, part of the Transport for London Road Network.
2. Prior to signing the S.278 agreement the following funds will be required from the developer:
 - The remainder of the evaluation and design payment (£44,704)
 - The deferred improvement works payments (£80,000 per year since summer 2011)
3. The S.278 agreement will be finalised (based on the approved option) and signed. Signing the agreement will remove one of the conditions necessary for the developer to commence construction. The S.278 agreement will include a statement that the City and TfL have a S.8 agreement in place.
4. Proposed changes to traffic orders (Houndsditch) will be advertised for public consultation. If objections are received, this will be reported to Members for

decision through an issues report.

5. The approved option for materials and carriageway surface level will be progressed into detailed design drawings and a new cost estimate will be undertaken prior to the requesting of the implementation funds from the developer.

Plans for consultation

There is a statutory requirement to consult in connection with the proposed change to traffic regulation orders on Houndsditch, and to consider consultation responses and other relevant considerations prior to making any orders.

Procurement strategy

The implementation works will be delivered by the City's highways term contractor.

Tolerances

A 20% cost tolerance has been included. All costs are to be funded by the developer including any in excess of the estimate should they be necessary. Therefore, it is recommended that the scheme should proceed with approval for budget variations above the 20% tolerance (and allowing for inflation) being delegated to the Chief Officer in consultation with the Chamberlain and Town Clerk. This will provide the City the best opportunity to deliver the project efficiently and meet the most important need of the developer, to ensure it is ready in time for occupation of the building.

The timing of the programme is the critical element of the project. The delivery of the scheme should not delay the opening and occupation of the building. The programme is very much aligned to the construction of the building and will need to fit with that programme. It is expected that should the timings of the highways work fall outside the acceptable programme for the occupation of the building then more resources (which add to the cost) will be made available to overcome this issue. Therefore it is proposed that, as long as the impacts of timeframes can be accommodated by the developer agreeing to necessary extra funds, the scheme will not be referred back to Members because of timeframe issues.

The quality and scope of the scheme is the component of the project that may need to be referred back to Members for a decision. This will occur if there are necessary material changes to the design of the scheme such that the scheme no longer provides the benefits to the public that are expected for this area.

Progress Reporting

Progress reporting on the project will reflect the streamlined route that this project is following by reporting to the Chief Officer. This will occur every 12 months prior to construction and then every 6 months.

Overview

1. Evidence of Need	The proposed development of Heron Plaza requires changes to the public highway to accommodate the development.
2. Success Criteria	This project will: <ol style="list-style-type: none">1. Deliver the highway works in time for the occupation of the buildings.2. Deliver a highway that is designed and implemented to a standard that the City is happy to adopt and maintain.3. Deliver the above without financial impact on the City.
3. Project Scope and Exclusions	<p>The works will be entirely on the public highway. This project does not include any works on the private land.</p> <p>The scope of the works is also constrained by the fact that there was previous approval for a scheme on Houndsditch for the Heron Tower development. There is an expectation that the outputs for this project should be broadly consistent with that agreed for the Heron Tower scheme in order to fit in with the improvements on the south side of Houndsditch.</p> <p>The project is considered separate from the Heron Plaza Security scheme which is still to be designed and if combined at this stage would delay the construction of the development. The outcomes of the Heron Plaza Security scheme are not clear yet, but will ideally be implemented at the same time as this scheme.</p>
4. Link to Strategic Aims	<p>It will help provide modern, efficient, and high quality local services and policing within the Square Mile for workers, residents and visitors with a view to delivering sustainable outcomes. This will be achieved by enhancing the area around the new development in such a way as to ensure the development can function as it needs to.</p> <p>This project will help to support the City as the world leader in international finance and business services by facilitating the construction of the new hotel and residences that many businesses will be able to benefit from.</p>
5. Within which category does the project fit	4. Fully reimbursable
6. What is the priority of the project?	A. Essential
7. Governance arrangements	Experience from other projects of this nature is that a senior responsible officer, rather than a project board, is considered the most appropriate form of governance for this project.

<p>8. Resources Expended To Date</p>	<p>The projected spend by the Committee meeting date is expected to be approximately:</p> <p><u>Table 2</u></p> <table border="1" data-bbox="528 324 1453 1025"> <thead> <tr> <th></th> <th>Budget (£)</th> <th>Spend (£)</th> <th>Remaining (£)</th> </tr> </thead> <tbody> <tr> <td>Transportation & Public Realm Staff costs (For project management and design)</td> <td>24,100</td> <td>18,200</td> <td>5,900</td> </tr> <tr> <td>Highways Staff costs (Cost estimates and design)</td> <td>2,000</td> <td>500</td> <td>1,500</td> </tr> <tr> <td>Open Spaces Staff costs (Trees costs and design)</td> <td>400</td> <td>100</td> <td>300</td> </tr> <tr> <td>TfL (for S8 agreement)</td> <td>2,000</td> <td>1,000</td> <td>1,000</td> </tr> <tr> <td>Total</td> <td>28,500</td> <td>19,800</td> <td>8,700</td> </tr> </tbody> </table> <p>The City has received an initial payment for £28,500 as part of evaluation and design payment. It is estimated that the total evaluation and design costs will be £73,204. The remainder of the evaluation and design payment (£44,704) is required to be provided prior to signing the S.278 agreement.</p> <p>If any funds remain from the evaluation and design payment, they will be applied towards the costs required to progress the scheme.</p>		Budget (£)	Spend (£)	Remaining (£)	Transportation & Public Realm Staff costs (For project management and design)	24,100	18,200	5,900	Highways Staff costs (Cost estimates and design)	2,000	500	1,500	Open Spaces Staff costs (Trees costs and design)	400	100	300	TfL (for S8 agreement)	2,000	1,000	1,000	Total	28,500	19,800	8,700
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<p>9. Results of stakeholder consultation to date</p>	<p>The access team have provided initial feedback stating that the ability for taxis to set down and pick up where there is a kerb makes it easier for wheelchair users to exit the vehicle. Therefore, to achieve this it would require a kerb either immediately outside the hotel entrance and/or the length of Houndsditch where such infrequent occurrences could still occur in close proximity to the Hotel entrance.</p> <p>The developer has expressed a clear preference to have the carriageway paved with granite (options 3).</p> <p>The developer has expressed a slight preference for a kerbed carriageway on Houndsditch.</p> <p>TfL have given in-principle approval for the relocation of the pedestrian crossing on Outwich Street.</p>																								
<p>10. Commentary on the options considered</p>	<p>The main design options are:</p> <ul style="list-style-type: none"> • Carriageway materials; and • Carriageway level. <p>With regards to the carriageway materials, the three options are:</p>																								

Option 1: Entirely asphalt.

Reasons: Asphalt is quicker to lay and maintain than granite.

Option 2: Asphalt for the Houndsditch carriageway. Granite for the entry to the vehicle servicing area.

Reasons: improved pedestrian safety at the entry to the vehicle servicing area due to colour and texture contrast.

Option 3: Entirely granite.

Reasons: requested by the developer to reflect high quality nature of the building and the clientele they are likely to attract, such as domestic and foreign dignitaries.

Granite was approved as part of the previously approved Heron Tower scheme, albeit prior to the Review of Materials in December 2010.

Appendix 6 assesses options 1-3 for economic, environmental and social/cultural sustainability which were the basis for the Review of Materials.

With regards to the carriageway level on Houndsditch, the two options are:

Option A:

Houndsditch carriageway and footways at the same level (i.e. level surface) between Outwich Street and Bishopsgate. There will be a kerb level difference immediately outside the hotel entrance to allow easy deployment and use of a wheelchair ramp from black cabs.

Reason: it will create an environment that allows easy movement across Houndsditch where many people will cross informally.

Option B:

The footway immediately outside the hotel to be level with the carriageway, with the rest of the carriageway and footway having a kerb level difference (i.e. kerbed).

Reason: it will allow the footway immediately outside the hotel to be level with the carriageway, thus being more convenient for hotel patrons.

The necessity to relocate the pedestrian crossing on Outwich Street means that many more people will cross Houndsditch informally when travelling between the pedestrian crossing and Liverpool Street Station. The low number of vehicles that will use Houndsditch will mean that the environment is conducive to pedestrians crossing informally.

It is recommended that the carriageway be level with the footway (Option A). This will benefit significantly more people, who will cross Houndsditch, compared to the small number of people that will access the hotel by motor vehicle. This recommended option is not the preference of the developer, who quite understandably would prefer an arrangement that prioritises the hotel patrons (Option B).

	<p>The decision on this element of the design is considered very straight forward and therefore no further analysis of these are necessary.</p> <p>All options include the following:</p> <ol style="list-style-type: none"> 1. Vehicle access into the service entrance. 2. A wider section of carriageway outside the hotel entrance that will allow vehicles to move past any that are dropping off and picking up. CCTV will be in place to ensure that vehicles are not parking in this area. 3. Relocate the pedestrian crossing on Outwich Street. 4. Change the traffic order on Houndsditch to be one way with contraflow cycling permitted. Members had previously approved it to be a no motor vehicle zone (7am-7pm) with contraflow cycling permitted. The change will allow motor vehicles to use Houndsditch anytime, which is needed when dropping off and picking up passengers from the hotel. 5. Seven additional trees on Houndsditch. 6. Additional on-street cycle parking. 7. York stone footways. This project is within the Bishopsgate conservation area. <p>Appendix 5 shows the general arrangement drawing with the proposed changes, including the options.</p> <p>Street works implications:</p> <p>In order to implement the works Houndsditch will need to be closed. This will impact only a very small number of vehicles because the one way network of streets means that only vehicles accessing Heron Tower and Heron Plaza have any reason to use the affected section of Houndsditch.</p> <p>The existence of a pipe subway containing all the utilities equipment under Houndsditch will significantly reduce any potential of utilities companies needing to work on the highway.</p>
<p>11. Consequences if project not approved</p>	<p>The development cannot start to be constructed without a S.278 agreement in place. The City's reputation will be damaged if we are seen as holding up the development.</p>

Information Common to All Options

<p>12. Key benefits</p>	<p>The options will provide the necessary changes to the highway to accommodate the Heron Plaza development and ensure that pedestrian movement continues to be safe and convenient. Improving Houndsditch to be a high quality area will help mitigate the large scale and nature of the adjacent developments.</p>
<p>13. Programme and key dates</p>	<p>The programme is dependent on the construction of the</p>

	<p>development and has broad milestones of:</p> <ul style="list-style-type: none"> • Construction of the development commences 2013/2014; • Highway works commence in summer 2015; • Highway works and development completed in late 2016; and • Project closure in 2017/18 financial year.
<p>14. Constraints and assumptions</p>	<p>The programme is based on the developer's intention to start construction of the development in 2013/2014 and for it to take two years to construct. There is a need to implement the works in time for the completion and occupation of the development, which is currently anticipated to be in late 2016.</p> <p>Should the programme for construction and occupation of the development change, the programme for the S.278 works will be adjusted accordingly.</p>
<p>15. Risk implications</p>	<p>The options are rated as low risk.</p> <p>Key risks:</p> <ol style="list-style-type: none"> 1. There are also reputational risks if the implementation of the public highway work delays the occupation of the building. This has been mitigated by the inclusion of some out of hours working costs in the estimate to ensure that a quick delivery of the scheme can be undertaken if necessary. 2. Costs risks to the City are considered low because the developer is paying the full cost of the project. There is also an "excess" clause in the S.278 agreement. 3. There are reputational risks if the project increases in costs. These are being mitigated through good communication with the developer about costs including the assumptions used to get to the estimated costs and what they are made up of. For example, it is already stated in the drafted S.278 agreement that the inflation between now and the delivery of the project (at least two years) has not been included in the cost estimates and that the "excess" clause may be needed for this. 4. There is always a low risk that the developer will change the development in such a way that it requires changes to the agreed design for the public highway. This has been noted and if this was to occur, then a re-evaluation of the reduced benefit to the public should take place, similar to that undertaken for the Heron Tower S.278(2) variation agreement.
<p>16. Stakeholders and consultees</p>	<p>External stakeholders:</p> <ul style="list-style-type: none"> • The developer - Heron

	<ul style="list-style-type: none"> • General public (for traffic order changes) <p>Internal stakeholders:</p> <ul style="list-style-type: none"> • Highways in Dept of the Built Environment (DBE) – design and implementation • Environmental Enhancement (DBE) - design • Open Spaces Department - trees • Road Safety Team – road safety audits • Access Team – design
<p>17. Legal implications</p>	<p>Section 278 of the Highways Act 1980 empowers a highway authority, if they are satisfied it will be of benefit to the public, enter into an agreement with a third party for the execution of works to the public highway at the third party's cost including maintenance.</p> <p>The City has general powers to improve the highway under Section 62 of the Highways Act 1980. In carrying out its highway and traffic functions the City must have regard (inter alia) to its duty to assert and protect the rights of the public to use and enjoyment of the highway (S.130 Highways Act 1980); its duty to secure the expeditious, convenient and safe movement of traffic (having regard to the effect on amenities)(S.122 Road Traffic Regulation Act 1984); its duty to secure the efficient use of the road network avoiding congestion and disruption (S.16 Traffic Management Act 2004); and its duty in respect of the co-ordination of street works (S.91 New Roads and Street Works Act 1991).</p>
<p>18. HR implications</p>	<p>none</p>
<p>19. Benchmarks or comparative data</p>	<p>The works will be carried out by our term contractor (Riney) at competitively tendered rates.</p>
<p>20. Funding strategy</p>	<p>The funds will be provided to the City in advance of them being needed. Due to the works not needing to be undertaken for a number of years, the payments will be in at least two phases:</p> <ul style="list-style-type: none"> • Evaluation & Design – Due prior to signing the S.278 • Implementation & Maintenance – due within 21 days from request. <p>The developer has already provided the City with £28,500 towards the evaluation and design of this scheme. Prior to the S.278 agreement being signed the remainder of the evaluation and design payment (£44,704) will be required to be paid to the City to bring it to the £73,204 budget required. These funds will allow the work on the detailed design to take place.</p> <p>The developer has agreed to fund the full cost of the scheme including both the capital costs as well as the projected maintenance costs for the trees and granite.</p>

	Using July 2012 rates, these have been estimated as: Table 3																								
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21. Affordability	The project will be fully funded by the developer.																								
22. Procurement approach	The highways term contractor will be used to deliver the works.																								

Options Appraisal Matrix

See separate document.

Appendices

Appendix 1	Local Area Plan
Appendix 2	Relationship with Heron Tower funds and design
Appendix 3	Original and Interim Houndsditch Designs
Appendix 4	Estimated Costs
Appendix 5	General Arrangement Plan Including Options
Appendix 6	Options assessment against sustainability criteria

Contact

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Heron Plaza S278 Highway Works - Options Appraisal Matrix

	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
23. Brief description	Entirely Asphalt	Asphalt / Granite	Entirely Granite
24. Scope and Exclusions (where different to section 3)	N/A		
25. Benefits and strategy for achievement (where different to section 12)	See Appendix 6 Overall rating of 7	See Appendix 6 Overall rating of 8	See Appendix 6 Overall rating of 9
26. Programme (where different to section 13)	N/A		
27. Constraints and assumptions (where different to section 14)	N/A		
28. Risk implications (where different to section 15)	Very low risk of disruption to carriageway. Asphalt is quicker to lay and repair.	Low risk of disruption to carriageway. The one way network of streets mean that only vehicles accessing the adjacent buildings have any reason to use this street. The existence of a pipe subway containing all the utilities equipment under Houndsditch will significantly reduce any potential of utilities companies needing to work on the highway.	Low risk of disruption to carriageway. The one way network of streets mean that only vehicles accessing the adjacent buildings have any reason to use this street. The existence of a pipe subway containing all the utilities equipment under Houndsditch will significantly reduce any potential of utilities companies needing to work on the highway.
29. Stakeholders and consultees (where different to section 16)	N/A		
30. Legal implications (where different to section 17)	N/A		
31. HR implications (where different to section 18)	N/A		
32. Benchmarks or comparative data (where different to section 19)	N/A		

Financial Implications	Option 1 - asphalt	Option 2 – asphalt / granite	Option 3 - granite
33. Total Estimated Cost (£)	£660,718	£720,327	£810,103
34. Anticipated source(s) of project funding (where different to section 20)	N/A		
35. Anticipated phasing of capital expenditure	2012/13 – £73,204 2013/14 – £8,775 2014/15 - £8,775 2015/16 – £207,312 2016/17 – £332,415 2017/18 – £9,835 Total – £640,316	2012/13 – £73,204 2013/14 – £9,171 2014/15 - £9,171 2015/16 – £220,896 2016/17 – £353,253 2017/18 – £10,230 Total – £675,925	2012/13 – £73,204 2013/14 – £9,685 2014/15 - £9,685 2015/16 – £238,549 2016/17 – £380,333 2017/18 – £10,745 Total – £722,201
36. Estimated capital value/return (£)	N/A		
37. Fund/budget to be credited with capital return	N/A		
38. Estimated ongoing revenue implications (£)	Tree maintenance – £20,402	Tree maintenance – £20,402 Granite maintenance – £24,000 Total – £44,402	Tree maintenance – £20,402 Granite maintenance – £67,500 Total – £87,902
39. Source of ongoing revenue funding	The developer	The developer	The developer
40. Fund/budget to be credited with income/savings	n/a		
41. Anticipated life	20+ years	20+ years	20+ years

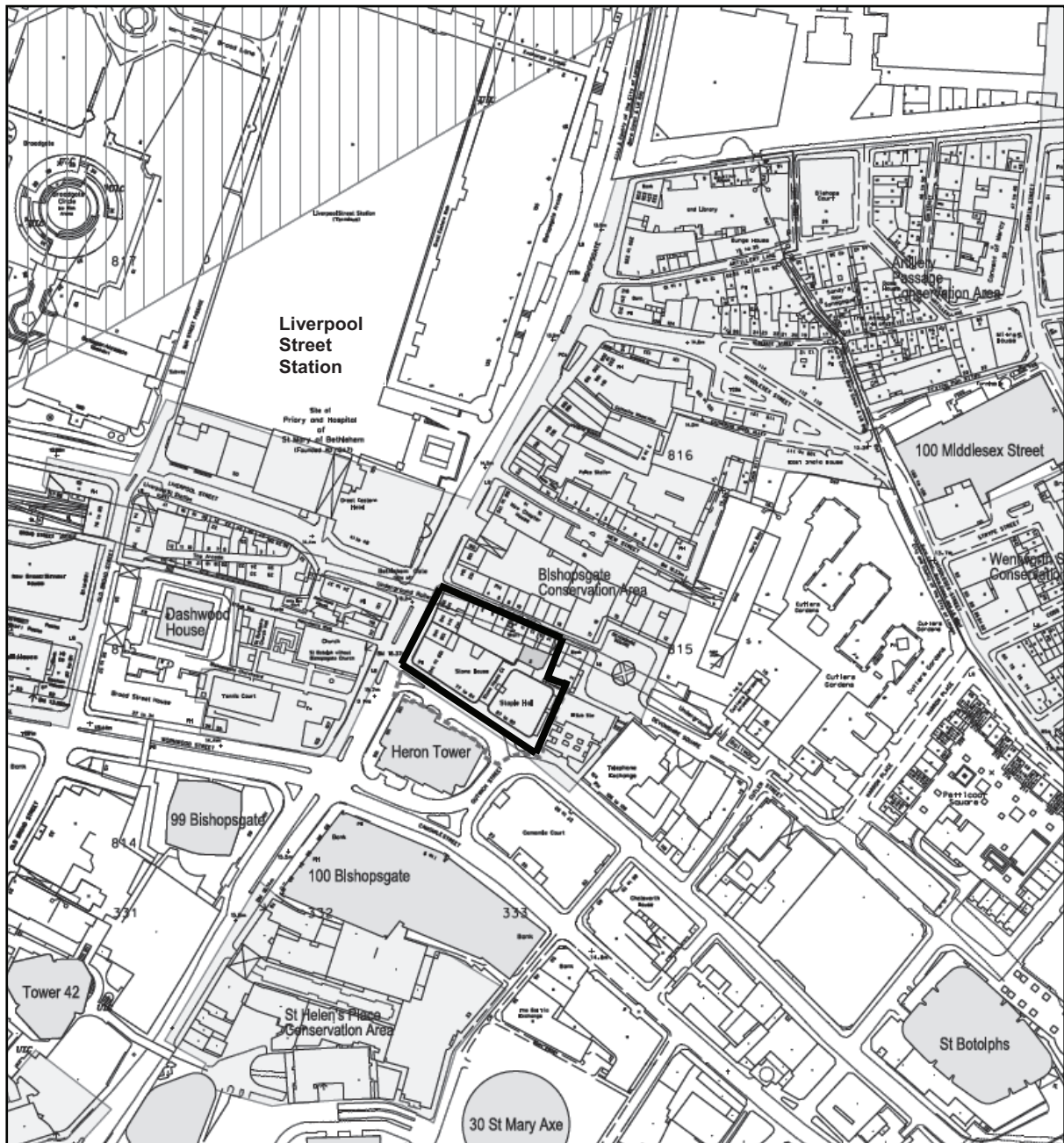
42. Investment Appraisal	N/A		
43. Affordability (where different to section 21)	N/A		
44. Proposed procurement approach (where different to section 22)	N/A		

45. <u>Recommendation</u>	<i>Not recommended</i>	<i>Not recommended</i>	<i>Recommended</i>
46. Reasons	This option will not be as aesthetically pleasing as option 3.	This option will not be as aesthetically pleasing as option 3.	This option is the best overall when assessed against the social/cultural, environmental and financial sustainability criteria. This provides the design that best enhances the City's cultural/social aspect by utilising the aesthetically pleasing granite on the carriageway. The potential environmental impacts are negated by locally sourcing the granite. This option is also preferred by the developer and is as per the previously agreed design for Heron Tower.

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Appendix 1:

Heron Plaza Local Area

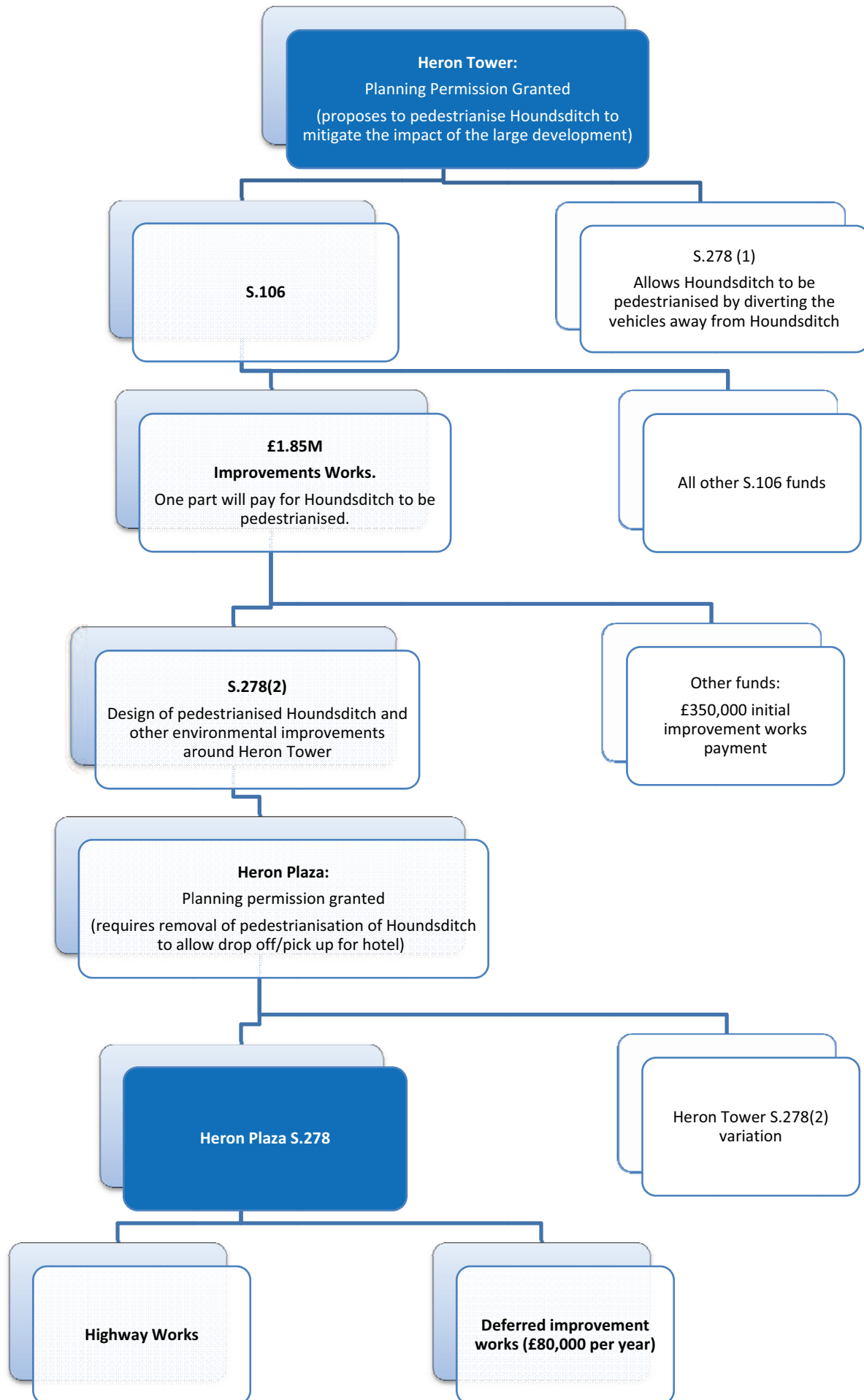


 Development Site

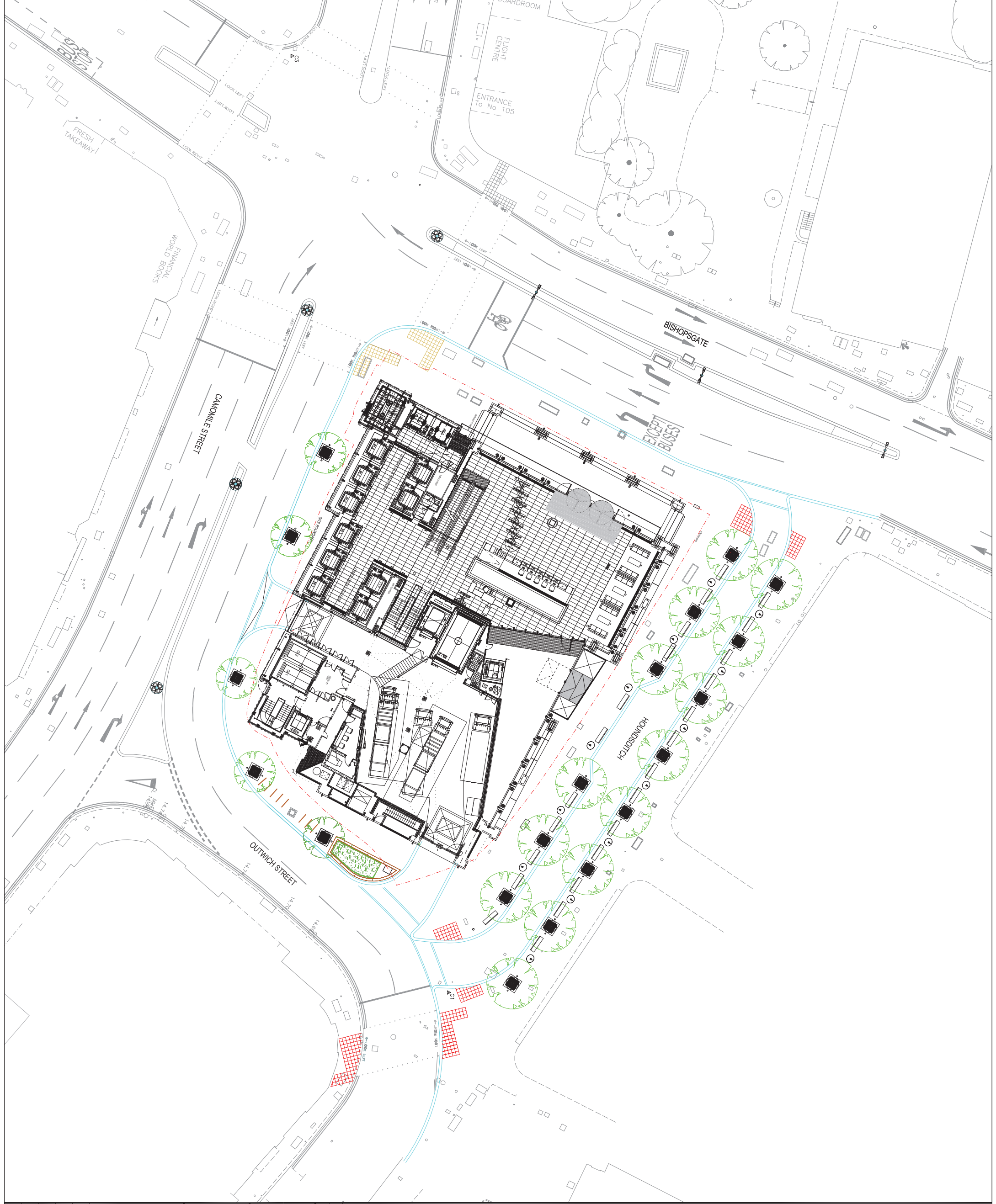
 Conservation area

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Appendix 2 – Heron Tower / Heron Plaza relationship



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Rev No.	Date	Description	By
		Revision	

TITLE
Heron Tower S278 (2)
 Original Design

TITLE
General Arrangement

CLIENT:
HIGHWAY DESIGN AND CONSTRUCTION

DEPARTMENT OF ENVIRONMENTAL SERVICES
 PO BOX 270
 GUILDHALL
 LONDON
 EC2P 2EJ
 TEL: 020 7606 3030

Scale & Drawing Size: 1:200

Scale: SHEET 1 of 1

DATE: August 2012


Designed by: KM

Checked by: BM

Scale & Drawing Size: 1:200

Drawing No: COL/000/1

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CITY OF LONDON

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Area in Abeyance

Rev No.	Date	Description	By
		Revision	

TITLE

Heron Tower S278 (2)
Variation Design

TITLE

General Arrangement

CLIENT

HIGHWAY DESIGN AND CONSTRUCTION

DEPARTMENT OF ENVIRONMENTAL SERVICES
PO BOX 270
GUILDHALL
LONDON
EC2P 2EJ

TEL: 020 7606 3030

CITY OF LONDON

Scale & Drawing Size

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Appendix 4: Estimated Costs (July 2012)

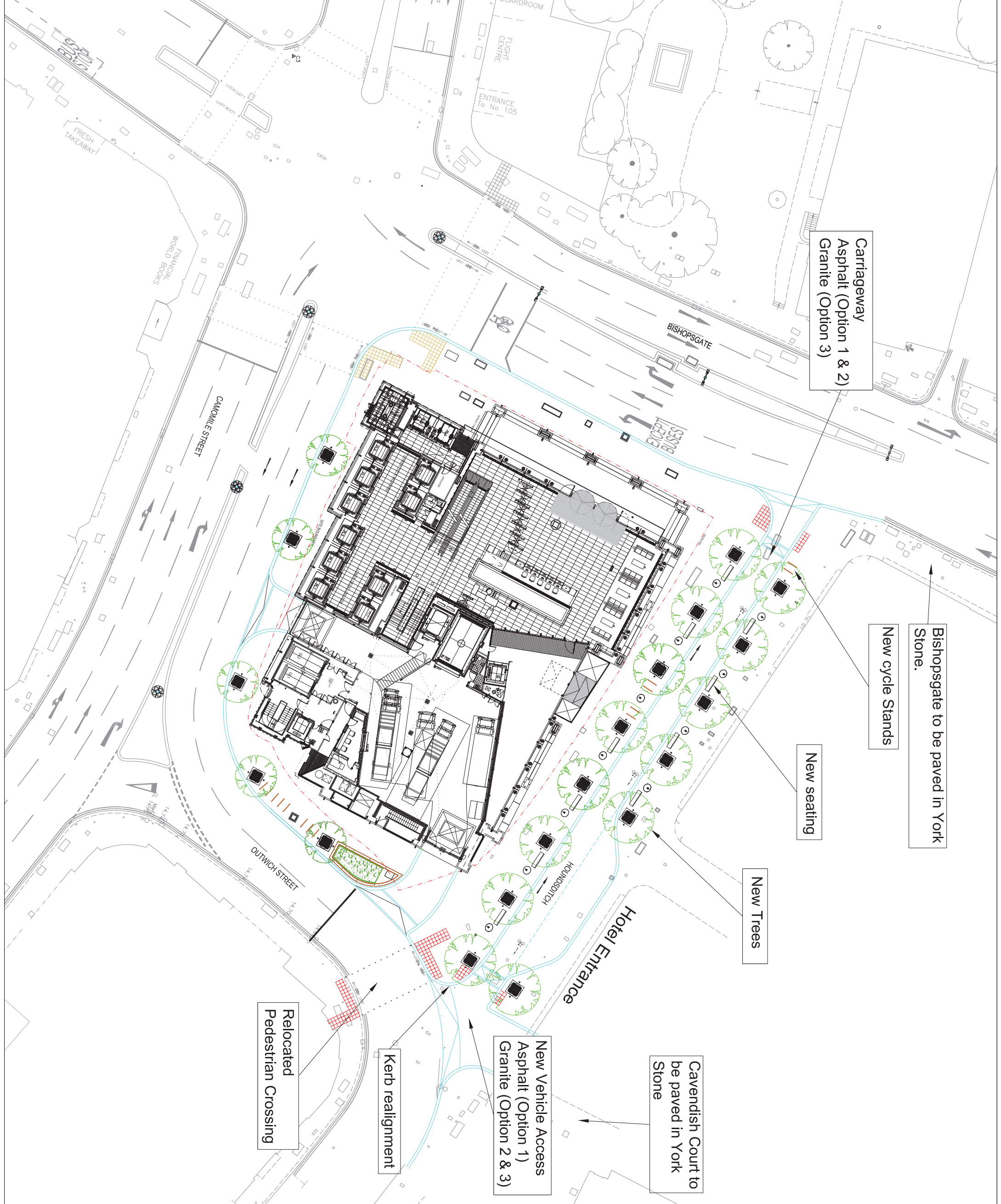
Table 4: Evaluation and Design Estimated Cost - All Options

	Cost (£)
Transportation and Public Realm Staff Costs (project management and design)	28,754
Highways Staff Costs (cost estimates, design and construction package)	29,000
Open Spaces Staff Costs (trees costs and design recommendations)	800
City Surveyor Staff Costs (structural approval of design around the pipe subway)	2,000
Fees (traffic order consultation, surveys, safety audit)	8,650
TfL (S8 agreement and S278 requirements)	4,000
Total	73,204

Table 5: Implementation and Maintenance Estimated Costs

	Option 1 Asphalt (£)	Option 2 Asphalt/Granite (£)	Option 3 Granite (£)
Works:			
Irrigation (Fountainneers)	3,000	3,000	3,000
Trees - including liners (Open Spaces)	45,239	45,239	45,239
Utilities covers and connections	23,000	23,000	23,000
Signals (TfL)	18,089	18,089	18,089
All other works (Rineys)	307,746	334,123	368,402
Works Total	397,074	423,451	457,730
Fees	5,300	5,300	5,300
Staff Costs:			
Highways	56,825	60,781	65,923
Transportation and Public Realm	30,923	30,923	30,923
Staff Costs Total	87,748	91,704	96,846
Contingency (20% tolerance)	76,990	82,266	89,121
Implementation Total	567,112	602,721	648,997
Maintenance:			
Trees	20,402	20,402	20,402
Granites	-	24,000	67,500
Maintenance Total	20,402	44,402	87,902
Total	587,514	647,123	736,899

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Carriageway
Asphalt (Option 1 & 2)
Granite (Option 3)

Bishopsgate to be paved in York
Stone.
New cycle Stands

New seating

New Trees

Cavendish Court to
be paved in York
Stone

New Vehicle Access
Asphalt (Option 1)
Granite (Option 2 & 3)

Kerb realignment

Relocated
Pedestrian Crossing

<p>CLIENT: HIGHWAY DESIGN AND CONSTRUCTION DEPARTMENT OF ENVIRONMENTAL SERVICES PO BOX 270 GUILDHALL LONDON EC2P 2EJ TEL: 020 7606 3030</p>		<p>CITY OF LONDON</p>	
<p>TITLE: Heron Plaza S278 Highway Work General Arrangement</p>			
<p>Options Appraisal Authority to start Works Appendix 5</p>			
Rev No.	Date	Description	By
<p>Scale & Drawing Size: 1:200</p>			
<p>Drawn by: COL/000/1</p>			
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**Appendix 6:
Options assessment against sustainability criteria**

Summary

1. The following table summarises the comparative ratings of options 1-3 against the three elements of sustainability (economic, cultural/social and environmental). The explanation for each rating follows the table in paragraphs 2-16.

	Option 1- asphalt (score)	Option 2 – asphalt / granite (score)	Option 3 – granite (score)
Economic sustainability	High(3)	High(3)*	High(3)*
Cultural / social sustainability (aesthetics)	Low(1)	Medium(2)	High(3)
Environmental sustainability	High(3)	High(3)**	High(3)**
Total score	7	8	9

* the rating is subject to maintenance costs also being funded by the developer. Without it: Option 2 = medium(2), Option 3 = low(1). See paragraph 2-4 below.

**the rating is dependent on locally sourced granite which has a higher cost. Without it: Option 2 = medium(2), Option 3 = low(1). See paragraph 11-16 below.

Economic Sustainability

2. The economic sustainability of the materials options are rated as:
 - Option 1 - asphalt: high
 - Option 2 – asphalt/granite: high (medium if maintenance not funded)
 - Option 3 - granite: high (low if maintenance not funded)

3. The Review of Material (December 2010) stated that the cost to maintain granite reduces the economic sustainability. However, in the context of this project being fully funded by the developer, including the maintenance costs, the economic sustainability of the three options is considered equal. The funding of the project by the developer includes:
 - implementation costs
 - maintenance costs for the trees for a period of 20 years
 - maintenance costs for granite used on the pedestrian cross-over of the vehicle access (option 2 and option 3) and the carriageway (option 3)

4. The cost of maintaining any granite used has been calculated as being equivalent in value to it being replaced once during the life of the development. This is considered less frequent than might otherwise be the case for granite because the street is rated as having the lowest possible rating for risk of excavation for two reasons:
 - Houndsditch, in this location, and the vehicle access will be used by only a small number of vehicles.
 - There is a utilities piped subway underneath Houndsditch in this location which means that there is little likelihood of the carriageway being dug up by utility companies.

Social / cultural sustainability

5. The social / cultural sustainability of the materials options are rated as:
 - Option 1: low
 - Option 2: medium
 - Option 3: high
6. The use of granite on the carriageway (option 3) on Houndsditch is considered an aesthetic improvement and will positively impact on the social / cultural sustainability of the area which falls in the Liverpool Street conservation area.
7. The use of asphalt surfacing on the pedestrian cross over (option 1) is not rated as highly as the granite (option 2) because of the small benefit to safety that the contrasting coloured granite provides.
8. The use of granite in this location is quite possibly the most appropriate location for its use on the carriageway in the City for the following reasons:
 - It is part of a conservation area and therefore adds to the historic and culture of the area.
 - It is located on a street that is considered the lowest risk of excavation, which would otherwise be costly and be disruptive when maintenance is required.
 - Carriageway works will have a negligible impact on vehicle movements. This is due to the one way nature and compulsory turns of the streets in the immediate area. Houndsditch is a street that effectively serves only the immediate two buildings (Heron Tower and Heron Plaza) on each side.
9. The developer has stated their preference for Option 3 (granite) because of the high aesthetic appearance.
10. It is also worth noting that the scheme approved under the Heron Tower project included the use of granite setts on the carriageway in this location.

Environmental Sustainability

11. The environmental sustainability of the materials options are rated as:
 - Option 1: high
 - Option 2: high (medium if not sourcing granite locally)
 - Option 3: high (low if not sourcing granite locally)

12. The review of materials (December 2010) stated that the use of granite on the carriageway had a high environmental impact due to the the transportation of the material from China.

13. The ratings for environmental impact are effectively based on the amount of granite that is used if that material would need to travel significant distances.

14. Option 3 uses the most, while Option 1 uses the least and is rated highest if the granite is to be sourced from the City's historically usual location of China. The significant distance the granite travels from China contributes to the potential lower environmental rating of options 2 and 3.

15. By using granite from places such as Portugal (or Cornwall), the environmental impact from the transportation of it is reduced by about 90% and the rating is considered equal across the three options. There are cost implications of locally sourcing granite.

16. The developer has agreed to provide the extra funds in order for the granite to be sourced locally and therefore significantly reduce the environmental impact of the use of the granite. This has been factored into the costs of the options stated in this report.

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