

Architectural Design Statement

Limerick City and County Council

Opera Site Architectural Design Statement

Quality information

Prepared by	Che	cked by	Verified by Sara Pearson Principal Architect		Approved by Alan Currie Director
Sara Pearson Principal Archited		an Wheeler cipal Architect			
Revision His	tory				
Revision	Revision date	Details	Authorized	Name	Position
TO VIOLOTI	Troviolon date	Dotano	Admonizou	Hamo	T OSKION
Distribution I	_ist				
# Hard Copies	PDF Required	l Association	/ Company Name		

Opera Site Architectural Design Statement

Prepared for:

Limerick City and County Council

Prepared by:

Sara Pearson Principal Architect

AECOM Infrastructure & Environment UK Limited 10th Floor, The Clarence West Building 2 Clarence Street West Belfast BT2 7GP United Kingdom

T: +44 28 9060 7200 aecom.com

© 2019 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1.	Design Proposal	5
2.	Masterplan	7
3.	A Conservation Led Approach	16
4.	Historic Shop Front Approach	23
5.	Where New Meets Old	28
6.	Scale and form	35
7.	Façade Design and Materiality	36
	Access	
	Ancillary Facilities	

1. Design Proposal

The Limerick 2030 An Economic and Spatial Plan for Limerick (2014) identifies the Opera Site as "a critically important site" with an urgent need to bring it back into full and productive use, making a major contribution to strengthening the city centre, and it also recognises the site as one of the main city centre transformational projects.

The plan set out in this Planning Application proposes a sensitive regeneration of Opera Site to provide a business led mixed use development, combining appropriate refurbishment and reuse of existing important buildings and sensitive integration of new modern buildings, to provide contemporary functional facilities to support the rejuvenation of this area of the city.

In accordance with the Limerick 2030 An Economic and Spatial Plan for Limerick (2014) and the Opera Site, Limerick City Development Framework (2014), the proposals main aims are to:

- Contribute to a vibrant city centre economy with a new mix of economic uses, and ensuring the
 city centre is at the heart of the region's future, acting as both a "shop window" for Limerick and a
 positive enabler of 'quality of life' factors so important to investors.
- Restore the existing Georgian streetscapes at Rutland Street, Patrick Street, Michael Street, Ellen Street, and promote the Spatial Plan's desire to 'capture the rich heritage, protecting and enhancing it where appropriate and complementing it with a world class design for any new development";
- Provide a positive architectural addition to Limerick City with appropriate treatment of this sensitive and important location, which is fitting in terms of materiality and quality of detailing and finish.
- Create a world class office campus for the city with supporting facilities, which will become a
 major economic force in the Irish and European economy, and a leading centre for commercial
 investment.
- Provide a new high quality public realm, linking the city to Abbey River. As identified in the
 Spatial Plan, 'the site is a critical part of the public realm strategy with the proposed public square
 forming part of a new formal integrated network of such areas providing accessibility, connectivity
 and legibility across the city'.

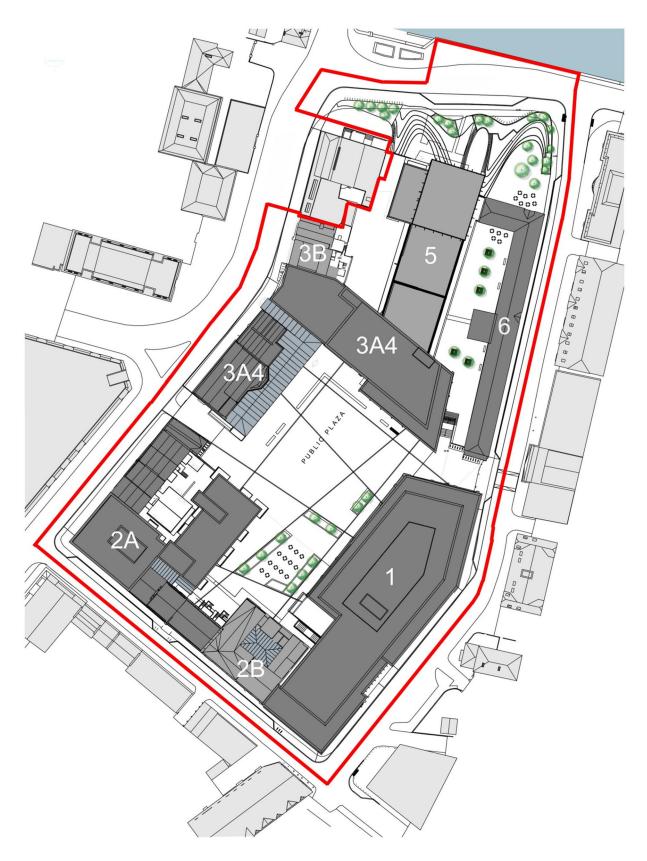


Figure 1.01 Project Opera Site Plan

2. Masterplan

Policy Framework and Design Brief

In 2018 a comprehensive review of the development of the Opera Site was undertaken to consider the rejuvenation of the site within the city and develop a masterplan for its appropriate redevelopment. The Limerick City Development Plan 2010-2016 is the statutory development plan currently in place for the development of Limerick City. Limerick 2030: An Economic and Spatial Plan for Limerick (Nov 2014) was formally adopted as Variation No. 4 of the Limerick City Development Plan 2010-2016 in January 2015. This identifies the Opera Site as having a major opportunity for a new business and innovation centred mixed use redevelopment, and mandates 'the preparation of a detailed masterplan for the development of the Opera Site'.

A Design Brief for the Opera Site was developed in response to the Limerick 2030 Plan to further define development parameters for the site. This was submitted in April 2018 to Limerick City + County Council following a public consultation period.

The Design Brief provides for the following, in summary:

- 1. Redevelopment of the Opera Site to the requirements of the Limerick 2030 Plan.
- 2. Restoration and repair of buildings of conservation value and maximisation of significant new build opportunity.
- 3. Encourage a variety of uses and active street frontages in association with the business led mixed-use development.
- 4. Provide an appropriate quantum of development of the site, which achieves 45,200 sq m floorspace envisaged in the Limerick 2030 Plan.
- 5. Provide an appropriate quantum of open space, envisaged in the Limerick 2030 Plan, including inter alia, a 3,700 sq m internal square, a stronger gateway at Bank Place (1,100 sq m) and high quality surrounding streets to provide a safe, animated and inviting public realm.
- 6. Provide a new landmark development at Bank Place in the range of 12-16 storeys, demarcating the important nodal river crossing point to the City core from Kings Island, with other new build structures in the indicative range of 5-6 storeys.
- 7. Indicative site coverage of 50% 60% and a Plot Ratio range of 2.5 3.0.
- 8. Promote high quality architectural design for all new developments in the Opera Site while respecting the receiving environment as per best practice guidance.
- 9. Promote viable development in accordance with the principle of proper planning and sustainable development of the Opera Site.

A masterplan was developed and completed in December 2018 to guide the development of the Opera Site in response to the Design Brief. The masterplan provides a comprehensive response to the objectives for the development of the Opera Site established in the Limerick 2030 Plan and the Design Brief including:

- Site characteristics and urban context
- Conservation and built heritage
- Site constraints and opportunities
- Development strategy
- · Urban design, open space and land use
- Building height and massing
- Public realm and landscape
- Transport, access and parking
- Phasing implementation and delivery

This design statement describes the design of each part of the development in greater detail based on the principles established in the masterplan. The masterplan is included in this planning submission, with a summary of its findings included here.

Site characteristics and urban context

The site is located at the northern end of Limerick's Georgian quarter, its perimeter composed largely of 4 storey Georgian terraces to Ellen St., Patrick St. and Rutland St. There are a number of existing buildings on the site with varying levels of heritage value.

A number of the existing buildings are currently vacant. The late 18th century stone Granary Building occupies much of the perimeter to Michael St., and the early 19th century former Town Hall is situated on Rutland St. Frontage to Bank Place comprises the northern end of the Granary Building, a 1960s building formerly occupied by Cahill May Roberts, and a terrace of three Georgian buildings at 7-9 Bank Place, which are in private ownership.

The Opera Site does not fall within any of the four designated Architectural Conservation Areas (ACA) in Limerick City, but the architectural significance of a number of structures on site is recognised, including four structures listed on the Record of Protected Structures, and eight which are included on the National Inventory of Architectural Heritage (NIAH), along with other structures of potential conservation merit. The site is also located within the Zone of Archaeological Potential forming the medieval core of the City, but there are no known archaeological features within the site boundary recorded on the Sites and Monuments Register.

Limerick City Library is located in a 3 storey extension to the rear of the Granary Building. There are some existing and unused warehouse buildings at Bogue's Yard and Watch House Lane, along with a surface car park at the south east corner of the site, which are not appropriate uses for this prominent city centre location.

A restaurant and bar/ nightclub currently occupy the lower ground floor level of the Granary Building. There are several access points to the interior of the site by means of laneways from each of the surrounding streets, though these do not currently provide routes through the site.

The general surrounding environment is characterised by mixed-use development including retail, offices, leisure, institutional and community facilities, and residential uses. A variety of building heights compose the surrounding environment: the predominantly 4 storey Georgian terraced streetscape of the perimeter streets, 4-6 storey office buildings on Michael St and Charlottes Quay, 3-4 storey residential buildings to Michael St., the 7 storey Sarsfield House to the west, the 7 storey 'Euro Carpark' multistorey carpark with residential above to the east of the site, and the 2-3 storey standalone historic structure of the Hunt Museum.

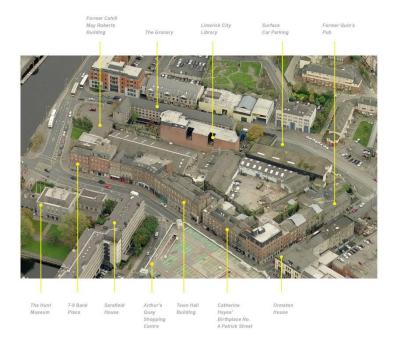


Figure 2.01 Aerial View of Opera Site

Conservation and built heritage

The location of the Opera Site is an area of particular importance in the historic development of Limerick city centre. After Limerick was declared in 1760 to be no longer a fortress, it underwent a period of rapid expansion southwards of the city centre. George's Quay was constructed and lined with fine townhouses, and a new bridge on the site of the present Matthew Bridge was commenced. From the mid 18th century the Georgian quarter of Newtown Pery was developed, and during the 1760s the Custom House (now the Hunt Museum), Lock Quay and Charlotte's Quay were completed. Rutland Street played an important role in this period of rapid development, linking the new bridge from King's Island and the Quays to either side of the Abbey River to Patrick Street. It was lined with an impressive sweep of redbrick terraces with the fine civic buildings of the Custom House and the Town Hall at either end.

The streets of Georgian Limerick represent a unique example of 18th and 19th century town planning in Ireland that remains to a large extent intact. The hierarchy of streets and buildings with fixed proportions and ordered symmetry forms a notable townscape heritage that gives Georgian Limerick a special sense of place.

Bank Place formed part of a once grand development of Georgian terraces along Charlotte's Quay facing the Abbey River of which the terrace of three buildings at Nos. 7-9 Bank Place survive. The urban space is larger today than recorded in the 1888-1913 25 inch OS Map.

The Hunt Museum, originally the Custom House, is described by the NIAH as probably the most important mid eighteenth century classical building in Limerick city. Whilst its principal frontispiece with arcaded wings faces the River Shannon to the west, the setting of the Hunt Museum also relates to Bank Place visually on approach from west along the river and from across the bridge to the north.

The block form of the Opera Site remains largely intact to its west and south perimeter and to the original extent of Michael St. along the length of the Granary Building. A narrow alleyway punctuates the terrace between the former Town Hall and No. 1 Patrick St., and the carriage arch at No. 7 Ellen St. also gives access to the rear of the terraces at a mid-block location off the street.. To the east of Rutland St. beyond Michael St., much of the medieval pattern of Irishtown remained in place as the Georgian city developed, and today retains a more informal arrangement of narrow streets and smaller buildings. The current alignment of the southern end of Michael St. dates from the second half of the 20th century.

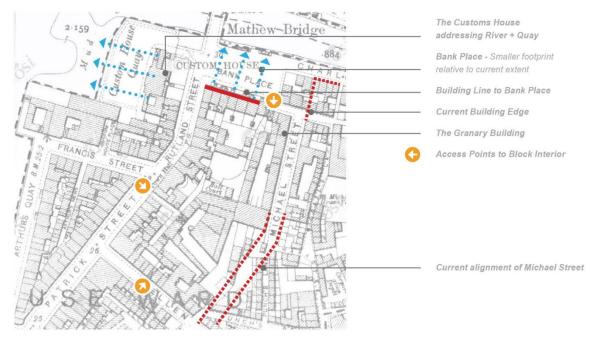


Figure. 2.02: 1888-1913 25 inch Ordnance Survey Map - Historic Block Form, Access Points and Aspect of Key Buildings

Detailed inspections and evaluations of all existing buildings have been carried out. The resultant conservation design approach is summarised below.

- The Opera Site was developed in the mid to late 18th Century and is the entrance to the Georgian city from the north
- Each building has been inspected and assessed in terms of its condition and the extent of remaining significant fabric.
- Buildings have been categorised (4 categories) in terms of their significance to guide the
 architectural design approach for the development and to ensure the protection of the special
 character of each building
- The site includes a number of protected structures and buildings listed on the National Inventory of Architectural Heritage, including: the Town Hall Building, the Granary Building, the birthplace of Catherine Hayes at No. 4 Patrick St, an original doorway at No. 6 Rutland St. and a number of other Georgian buildings of high significance. In addition Nos. 7-9 Bank Place just beyond the site boundary.
- Other buildings are in poor condition or do not retain original or important interiors. These buildings have scope for higher levels of intervention
- The appropriate approach is to retain the Georgian character of the streetscape
- Significant interiors will be retained while other buildings will be fully refurbished internally
- Strong conservation approach with suitable new uses proposed for the historic buildings
- Provide a focus on the Town Hall, one of the most significant historic structures on the site.
- A suitable relocation for the doorway and surround currently located at No. 6 Rutland St. should be found and incorporated into publically accessible building on the site
- Various public uses at ground floor levels ensuring the viability of the street
- Continuation of the original use of residential to the upper floors of Georgian houses follows
 best conservation practice and ensures round the clock occupation on the site, and should
 aspire to serve as an exemplar project for the treatment of other Georgian structures in the
 city.

A summary of the conservation categories is included in Figure 2.03. A full evaluation and a heritage impact assessment have been completed and it is included separately with this planning submission.

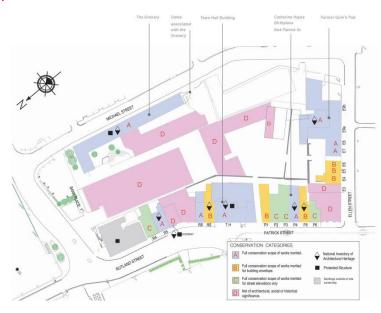


Figure. 2.03: Conservation evaluation

Site constraints and opportunities

The Design Brief identified constraints and opportunities for the development of the site, which informed the master planning strategy, illustrated in **figure 2.04.**

The most significant constraint is the retention of the heritage buildings and the varied condition of the building fabric and remaining features, their height and varying floor levels. It is also noted that 7-9 Bank Place is not in the control of Limerick City and County Council, nevertheless the masterplan included consideration of these structures within the overall city block.

The opportunities of the site redevelopment include: protection, renovation and reuse of existing historic buildings, establishment of active street frontage and an appropriate built edge to the vacant areas of the site, improved public realm and a new urban space, removal of poor quality structures, increased activity on the site with significant new buildings, and an opportunity for a tall building on the site addressing the Abbey River at Bank Place.

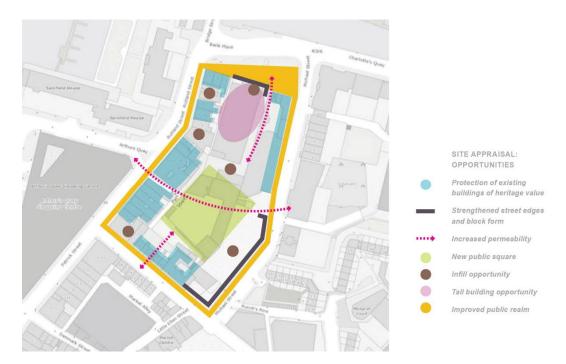


Figure. 2.04: Site opportunities

Development strategy

The existing buildings were examined to assess their importance, condition and potential for reuse, or new uses that would contribute to the redevelopment of the site and achieve the objectives for the project. This study established a conservation led approach to retain buildings of conservation value, ensure appropriate uses for their layout and consider their setting within the redevelopment of the site.

Structures of little or no value, of very poor condition, or of little spatial merit were identified for removal to allow new interventions, appropriate to the retained buildings, and new buildings to connect directly or sit sensitively within the receiving environment. Opportunities to position new public spaces, to provide an appropriate setting for existing civic/important buildings, including the former Town Hall and Granary Building, also informed the development strategy



Figure. 2.05: Buildings of heritage value for retention

The development strategy for the site achieves the development and design objectives set out in the Design Brief as illustrated in the following diagrams.



Figure. 2.06: Development strategy, reinstatement of urban edges, creation of spaces and permeability

Building Form and Urban Spaces

The new public square is the centre piece in this development, providing a suitable setting for the former Town Hall. This provides a prominence to the Town Hall Building appropriate to its history and potential future role in the Opera Site.

The redevelopment of Bank Place provides a wonderful opportunity to give a strong identity to this nodal point in the city and re-establish its importance in providing a setting for the Hunt Museum.

The linking of these two spaces, through an interconnecting space within the site, ensures a relationship and connectivity, which will encourage pedestrian permeability into and through the site. This is complemented by the strong linkage of the new public space to the surrounding streets.

The resultant building forms provide a variety of scale of floor plates, with good perimeter frontage, ensuring attractive and functional building opportunity within the depth and the perimeter of the site.

Service access and basement parking access is best positioned on Michael St. which is easily accessible, lightly trafficked and has sufficient site frontage to best accommodate it.

Urban design and open space

The Opera Site has great potential to connect to the riverside route along the Shannon, from the former docks, to Arthur's Quay, and crossing the Abbey River, to Merchant's Quay and St. John's Castle.

These spaces can provide nodal points connecting pedestrian routes and surrounding city lanes, to enrich the pedestrian experience and attractiveness of the city centre.

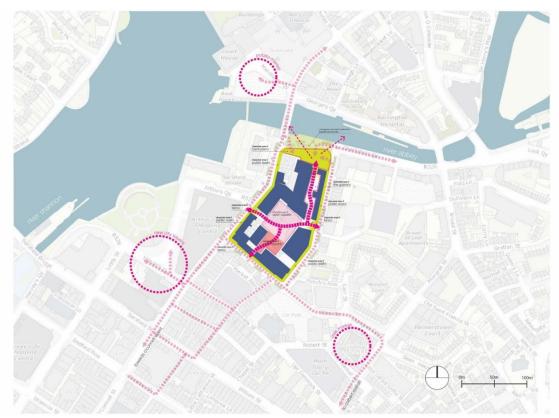


Figure. 2.07: Links to future and existing public spaces

Land use

The Design Brief established a mix of uses for the development of this site, with an emphasis on commercial use to the north, and the possibility of residential uses to the south of the site.

The mix of uses proposed for the site has been further examined and refined to complement surrounding uses. The existing buildings to be retained have been assessed in terms of their size, layout, history, condition, and location, to ensure that the most appropriate use is assigned to each building.

This along with the urban design of the city block and the creation of a new central square with access points in each direction has established four quarters:

- 1. Civic and cultural quarter to the north west
- 2. Commercial quarter to the north east
- 3. Residential quarter to the south west.
- 4. Commercial quarter to the south east

Retail and bar/ restaurant uses are to be dispersed throughout the site at ground floor level to ensure active street frontage and a vibrant public realm.

Building height and massing

The Design Brief established a general height range of 5-6 storeys as appropriate for new buildings on the site and a height range of 12-16 storeys for a landmark tall building to the northern side of the site at Bank Place.

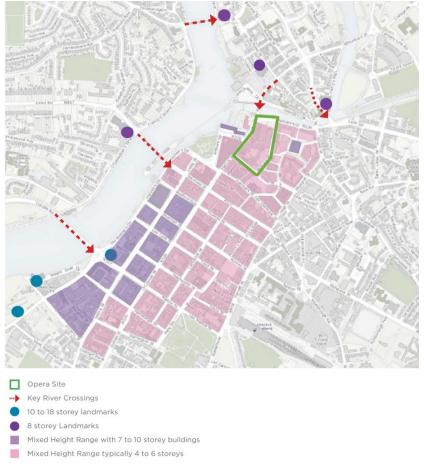


Figure. 2.08: City building heights

The masterplan assessed building heights of each new building, within the parameters set in the Design Brief, to examine the visual impact on the surrounding street scape, within the site in the new public spaces and on the existing building context. The masterplan visual study concluded the specific height for each building, which included allowance for roof top plant space.

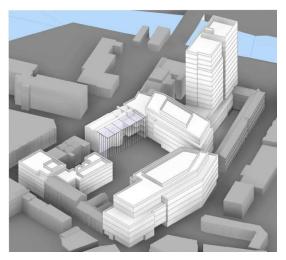
The building forms and heights were also assessed for their overshadowing impact and sunlight penetration into the urban spaces.

In conclusion, the visual assessment of the building heights recommends the following:

- South East Commercial Quarter: Overall recommended height is 6 storeys + plant, with 4 storeys to the corner of Ellen St and Michael St rising to 5 towards Granary with a set back 6 storey element.
- South West Residential Quarter: A 5 storey building to the corner of Ellen St. and Patrick St with a 4 storey (+ plant) rear block within site behind the existing terraced houses on Patrick St
- North West Civic and Cultural Quarter: 4 storey infill is recommended to Rutland St with a set back fifth storey as the building extends to the north side of the internal square.
- North East Commercial Quarter: A height of 14 storey (+ plant) with a 'shoulder' of an 11 storey element is recommended for the tall building to Bank Place, in a simple form with consideration of slenderness in its external expression.



Figure. 2.09: Suggested height range in local context



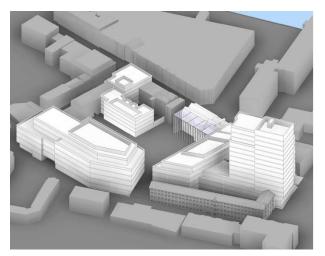


Figure. 2.10: View from south of massing model Figure. 2.11: View from East of massing model

Schedule of Accommodation

The masterplan scheduled the development standards for compliance with the Design brief as follows:

Plot Ratio:

The Design Brief outlines an indicative plot ratio of 2.5 - 3.0 for the overall Opera Site (including Bank Place and no 7-9 Bank Place). The masterplan proposed represents a plot ratio of approximately 2.6.

Site Coverage:

This development proposal, including Bank Place, represents approximately 56% site coverage, which falls within the range of 50 - 60% established in the Design Brief.

Mix of Uses:

The mix of uses envisaged in this masterplan is in compliance with the Design Brief as a business led mixed use development. The masterplan provides 66% office use, 15% residential use, 9% civic/cultural use, and 10% public retail/ food/ beverage use.

The masterplan identified ca. 66% office accommodation in compliance with the Design Brief. The detailed design, as illustrated in the schedule of accommodation report provides a comparable mix of uses.

3. A Conservation Led Approach: Retention and Refurbishment of the Historic Buildings

The Limerick City Development Framework (2014) underlines that "one of the most important aspects in defining the urban form of the Opera Site will be the successful retention and restoration of buildings on Rutland/Patrick Street and Ellen Street".

This proposal recognises the importance of the existing historical building stock, and seeks to retain and refurbish a large number of the original buildings on the site, supplementing them where appropriate with new build intervention.

The seventeen existing Georgian buildings on the site which have been identified as having significant architectural and historical interest form a strong handsome perimeter to the Opera Site, and the scale and materiality of these buildings dictate the response of the new infill arrangements. Subject to a favourable outcome, the proposals contained within this Planning Submission would require further detailed developed with the Fire Engineers and Statutory Authorities. In addition the repair and replacement of any original features will be carefully coordinated with Conservation Architects.

The retained buildings are as follows:

THE GRANARY (PARCEL 6)

The Granary building is a protected structure currently forming the entrance to Limerick City Library. Its uses include office spaces and public library accommodation with a restaurant and nightclub at the lower ground floor. The proposals include the demolition of the existing modern library extension and the introduction of two new elegant circulation cores. The current uses are to be maintained at lower ground with office accommodation provided above.



Figure 3.01 Granary Courtyard Elevation

4 AND 5 RUTLAND STREET (PARCEL 3B)

It is proposed that the original heart of this pair of Georgian terraces will be retained in addition to the older return on No. 5 Rutland Street. The ground floor use is proposed as retail, sufficient to accommodate small scale support to the surrounding office accommodation, and in the upper floors three generous two bedroom residential apartments have been provided. A significant amount of historic fabric remains intact at number 5 Rutland Street including element of the shop front and the design allows for the minimal intervention in this property.

Balconies have been incorporated to provide private open space to each apartment on the rear elebvation.



Figure 3.02 4&5 Rutland Street Ground and First Floor Plan

8 AND 9 RUTLAND STREET AND THE TOWN HALL (PARCEL 3A)

The Town Hall is the second protected structure on the site, and provides an important focal point for the new plaza. The proposal combines 8 and 9 Rutland Street with the original body of the Town Hall and a new build extension into the plaza to create a new city and county library for Limerick which has aspects onto both Rutland Street and the plaza.

The is achieved by removing later returns and additions to the rear of the buildings and adding a highly glazed triple height extension which faces onto the Plaza, producing an animated space whilst showcasing the existing rear façade of the historic buildings.

The accommodation provides a rich blend of historic and contemporary architecture, and a spectacular setting for an important public amenity. In addition it also creates an elegant symmetry to the rear elevation attractively balanced by the large central bow window.



Figure 3.03 Axonometric view of the rear of the Town Hall and Parcel 3A4

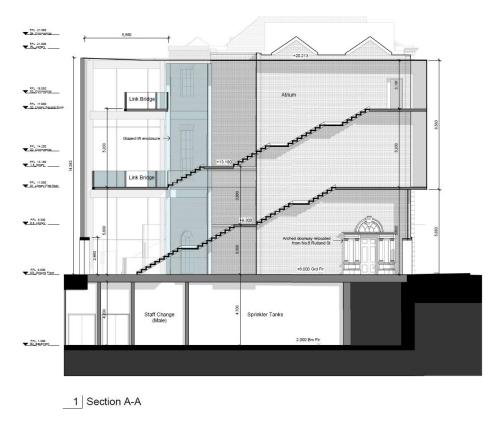


Figure 3.04 Section at Gable of 8 Rutland Street

1-5 PATRICK STREET AND 4 TO 8 ELLEN STREET (PARCEL 2A)

The design proposes that the Georgian terraces which line the corner of 1 to 5 Patrick Street and 4 to 8 Ellen Street will be sensitively refurbished to provide 13 apartments. The apartments are laid out in such a way as to respect the historic proportions of the buildings were possible, creating spacious and airy accommodation in a variety of sizes. The apartments also benefit from private and communal open spaces to the rear, protected from the public areas around the plaza.

In addition a new build aparthotel will be located at the corner of Patrick Street and Ellen Street . This building provides 57 hotel apartments, 6 of which are located in 4 and 5 Ellen Street and directly accessed from a glazed Atrium within the main body of the hotel.

At ground floor the existing buildings provide opportunities for small scale retail offerings which will support the broader development and create an active and interesting street frontage.



Figure 3.05 Ground Floor Plan of Parcel 2A



2 | West Elevation - Patrick Street

Figure 3.06 Parcel 2A Patrick Street Elevation



Figure 3.07 Elevation to rear of Patrick Street

SCALE: 1 - 100

9 ELLEN STREET (PARCEL 2B)

No. 9 Ellen Street, or Quinn's as it is known locally, will be refurbished to provide a bar and restaurant which serves both Ellen Street and the Plaza. The internal courtyard is to be retained and a new glazed circulation link allows the building to meet current building control requirements without impacting on the historical structure of the building.



Figure 3.08 Ground Floor Plan of Parcel 2B

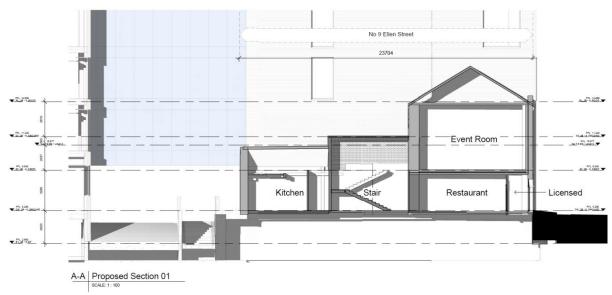


Figure 3.09 Parcel 2B Proposed Section

4. Historic Shop Front Approach

Introduction

The ongoing success of the Opera site will be driven in no small part by the regeneration of the historic retail units which line Patrick Street, Rutland Street and Ellen Street, and the proposal includes for the refurbishment of this historic retail area. Much needed commercial regeneration will attract more investment and stimulate economic growth to the area, and also allow a lively and visually appealing quarter to develop within the city centre.

However it is acknowledged that although attracting small retail offerings into the area is vital to the economic success of Opera it must not be at the expense of the historic nature of the site. Therefore the refurbishment of the existing shop frontages is to be carried out sympathetically to provide good shop front design which will attract shoppers and offer a variety of imaginative and interesting outlets. There are 12 retail units at street level on the Patrick Street, Rutland Street and Ellen Street, however at this time no specific tenants have been identified for these units. Instead, it is Limerick City and County Councils intention to seek permission for significant refurbishment works as part of this larger submission, and at a later date individual retailers will seek specific approval for the their intended works.

To ensure that there is a consistent and historically appropriate approach to all shop front works the following guide lines have been developed which must be adhered to in relation to the development of the historic retail units.



Figure 4.01 Historic Photograph of Rutland Street (Source https://www.memorylanelimerick.com/p841706627/h2C97C913#h2c97c913



Figure 4.02 Historic Photograph of Patrick Street Source (https://www.flickr.com/photos/nlireland/5743898655)

Where the existing shopfront represents a good example of an earlier style appropriate to the character of the area and the host building it should be retained and refurbished rather than replaced. However many historic shopfronts in Limerick have been replaced with unsympathetic, modern ones in recent years and the replacement of these with more appropriate designs has the potential to greatly enhance historic buildings and conservation areas.

Repair, Alteration or Renewal of Shopfronts

Repairing existing shopfronts

There are two traditional shopfronts of significance at 5 Rutland Street and 4 Patrick Street which are early or original to the building. In these two cases, the shop fronts should be retained and repaired appropriately. For repairs, the materials used should match the existing, and be approved by a Conservation Architect.



Figure 4.03 4 Patrick Street: Timber shopfront at ground floor level, c. 1880.

Timber shopfront comprising fluted pilasters to either end supporting cornice fascia board with painted name plate. Two door openings each with overlight, one to shop floor and one accessing upper floors, flanking four-paned display window with metal sheet lining to stallriser. One flat-panelled timber door, contemporary with shopfront, and a plank timber door, c. 1980. Tensile cast-iron grille to pavement illuminates basement cellar. Gablefronted single-bay three-storey rendered coach house possibly enlarged to form a commercial store, with roughcast rendered finish. Pitched slate roof with ridge perpendicular to lane.

Source:http://www.buildingsofireland.ie/niah/search.jsp?type=record&county=Ll®n o=21513005



Figure 4.04 5 Rutland Street: Refurbished Shopfront at ground floor level

Built c. 1785, with original limestone doorcase incorporated within partially surviving nineteenth-century shopfront. Nineteenth-century timber shopfront comprising original fascia board with enriched cornice standing on replacement or relined pilasters to either end. Timber-framed display window with tiled stallriser and metal roller shutter blind, c. 1990. Shopfront incorporates original eighteenth-century painted limestone lugged and kneed architrave doorcase with original multiplepanelled raised and fielded panelled timber door with four-pane overlight.

Source: http://www.buildingsofireland.ie/niah/search.isp?type=record&county=Ll®n o=2151009 isp?type=record&county=Ll®no=21513005

Partial Retention

In some instance historic elements of early shop fronts may remain behind contemporary fixings, such as cornice or pilasters, and these elements should be retained in any scheme for a replacement shopfront.

New Designs

In many instances the original shopfront does not survive and its successor makes no positive contribution to the character or appearance of the area. The approach in these instances will be to use the template of the traditional shopfront as a basis for the design, and inturpreting the elements in a modern way by introducing contemporary detailing and materials to identify these shop fronts separately from the surviving shop front elements.









Figure 4.01 Precedent Images showing contemporary refurbishment of historic shopfronts

Inappropriate Design

The following features should not be incorporated into any individual design as they could be harmful to the overall character or appearance of the site:

Excessively large fascia signs obscuring the original entablature or replacing its separate moulded elements with a simple flat board or box sign.

Facia signs that are not aligned with the console brackets and project beyond the front of the cornice.

Facia signs that continue uninterrupted across more than one shop unit.

The removal of pilasters between shopfronts.

Display windows of large sheets of glass with no visible supporting frame.

Shopfronts without stallrisers.

Security

It is acknowledged that security measures will be required by retail owners and particularly protection of the glass display windows. Shop fronts at Opera should be developed in such a way that the use of crude and intrusive solid shutters are restricted and instead open mesh grilles provided which can be seen through and allow interest on the street front even beyond traditional opening hours. screening should be integrated into the fascia and sit unobtrusively. Security can be further enhanced by discreet measures such as safety film, alarms, cameras or internal grilles which are far less damaging to the appearance of the building.

Signage

Well-designed signage is to be incorporated into each shop front complementing and enhancing the overall appearance. Appropriate solutions include hand painted or signage comprised of individual letters applied to the facia board and a projecting or hanging sign of an appropriate size and appearance. Internal illumination of new signage must be kept to the minimum and all signage and illumination should comply with planning policy.

Access

Shop owners have a statutory duty to provide reasonable access for people with disabilities, however in a number of instances the existing shop entrances may not fully allow level access into the premises.

Where existing shopfronts are of historic interest but do not provide satisfactory access, cases will have to be looked at on an individual basis to see how access can be improved without compromising the original appearance of the shopfront by the statutory authorities and a Conservation Architect. Where existing shopfronts are of no historic interest and do not provide satisfactory access, alterations should be undertaken to enhance the access arrangements in a sympathetic fashion,.

5. Where New Meets Old: Overview of New Build Interventions

In addition to the extensive refurbishment of existing buildings across the site, the proposal also introduces a number of new building elements, providing a modern high quality accommodation in the heart of Limerick City.

These are as follows:

Parcel 1

Parcel 1 occupies a large area to the south east quarter of the site. It is located at the corner of Ellen St. and Michael St., extending to the Granary Building and is currently occupied by a surface car park and some vacant warehouses which are proposed to be demolished.

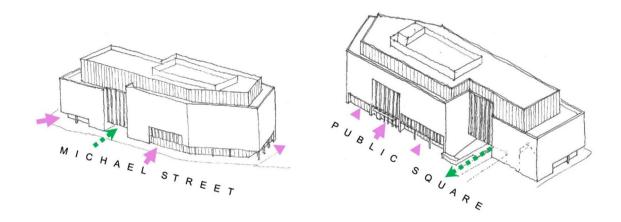


Figure 5.01 Parcel 1 Massing Sketch

Street Frontage, Use, Access, permeability, and Relationship to Public Realm

The building has been designed to maximise lively and accessible street frontage around its perimeter. In response to its massing (as established in the masterplan), plan form, and the plot structure of its immediate environment, the building is expressed as 2 masonry elements: a 4 storey volume to the corner of Ellen St and Michael St and a deeper 5 storey volume following the kinked building line of Michael St. and addressing the public square. These elements are punctuated on both street and square sides by a lighter glazed treatment above an access zone archway.

The form and façade treatment of the building above this archway is articulated where the building steps up in height from the smaller scale urban grain of Ellen St to provide a varied massing, and also signals the location of this entrance from Michael St.

A number of options for ground floor uses and locations of entrances were considered at initial design stage, (refer to Fig 5.02), and the proposal was developed to omit net office use at ground floor level in order to maximise the activation of street frontages and relationship to the public realm. A small retail unit is proposed to the corner of Ellen St. and Michael St. A larger retail unit, potentially local convenience shop, is proposed to face the northern part of the Michael St. façade, extending along its kinked length around to the public square, and with entrances to each of these three facades. This corner location is ideally suited to a retail unit to serve both the development and the wider community to the east.

To the interior of the urban block, a generous entrance lobby serving the office building is located at the proposed new public square. This location was chosen in order to ensure lively daytime activity and sense of presence to this new urban space, and to provide direct amenity for the building users.

The entrance has been positioned on axis with the primary pedestrian access to the square from Rutland St. A restaurant/café is proposed with significant presence to the southwestern part of the public square, where there is an opportunity for outdoor seating and a relationship with other restaurant and bar uses at this part of the site. This restaurant extends through the depth of the block to Michael St. where it has another entrance, and allows for daytime and night-time overlooking of the ramp and pedestrian access archway.

An arcaded ground floor is proposed to the northwest face of the building to the public square and to its Michael St. frontage, forming sheltered arcades with an increased sense of generosity at interfaces with the public realm.

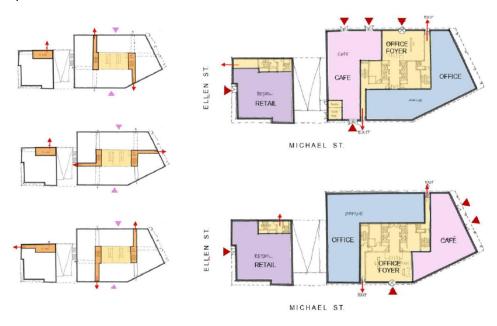


Figure 5.02 Study Options for Entrances, Exits and Distribution of Uses at Ground Floor



Figure 5.03 Parcel 1 Proposed Ground Floor Plan

Grade A Office Accommodation

The building is intended to provide high quality Grade A office accommodation, which can accommodate either a large corporate occupier or a mid range occupier. Both occupier types typically demand flexible and sub-divisible floor plates of 2,000-2,500 sq.m. Prominent reception areas, good external presence in a vibrant location, and energy efficiency are important factors for international and headquarter occupiers.

A variety of typologies suitable for an office building were investigated at initial design stage including a courtyard building, an atrium building and a deep plan office building with a primary central core. The deep plan typology proved the most successful for this site to achieve a compact and efficient form. This typology provides a high quality, flexible and useable office floor plate, whilst limiting the overall depth of the building in NW-SE dimension, in keeping with the existing urban grain and in order to maximise the width of the proposed public square to the interior of the block.

The building has been designed in accordance with the recommendations set out in the British Council for Offices' *(Guide to Specification 2014 – Best practice in the specification for offices*' as a deep plan office building with central core where depth of floor plate from core to façade can range from 6m-12m. A secondary core with fire escape is provided to meet travel distances due to the configuration of the building. This results in flexible, and efficient floor plates, with a gross internal area of 2,500sqm to the typical larger floor levels, and useable depths of floor space at the set back upper levels. From first to fourth floor the typical depth of the floor plate from core to façade is 12m. Where this is exceeded due to the building's form, it is envisaged that these darker zones adjacent to the cores (refer to Fig 5.04) can be used for circulation or ancillary functions such as printing or shelving. In addition, the design floor to ceiling height of at least 2.9m exceeds the 2.75m recommended by the British Council for Offices and the 2.8m typical of Grade A office buildings in the current Irish market, and thus will allow for light to penetrate more deeply into the centre of the plan.

Plant allocation, distribution of service risers, and fire safety strategy have been developed to enable the subdivision of floor plans into 2 similarly sized units, which supports flexibility of tenancy arrangements subject to market demands.

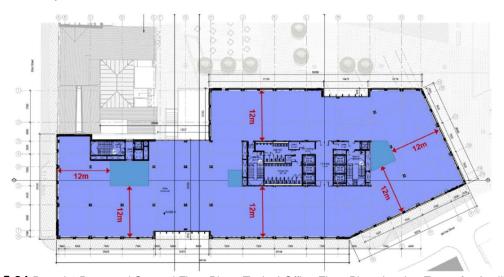


Figure 5.04 Parcel 1 Proposed Second Floor Plan. Typical Office Floor Plan showing Zones for Ancillary Use.

The setting back of the upper two floors provides the opportunity for a generous south west facing roof terrace at fourth floor level and a roof terrace at fifth floor wraps around the perimeter of the fifth floor. Both terraces add greatly to the amenity of the office accommodation.

At roof level a set-back louvered enclosure is proposed to screen rooftop air handling plant. A photovoltaic array is proposed at roof level to the south of the building, and will be screened visually by the parapet which also serves as a guarding for maintenance access.

Parcel 3A/4

The new build infill which projects from between 5 and 8 Rutland Street into the plaza, has been created to provide accommodation for the new library in addition to a separate office building. The building extends into the plaza to create a strong and attractive elevation to the proposed public plaza within the site. The elevational treatment on the new plaza carefully addresses the rear façade of the Town Hall and the new glazed extension. The façade on Rutland Street is uncompromisingly comtemportanty, playing on the angles created by the fold in the street at this location, and the atrium wraps around from the back of the Town Hall, past the gable, punctuating the old and the new forms.



Figure 5.05 Rutland Street Elevation



Figure 5.06 Parcel 2A Ground Floor Plan

The library façade is finished with blue limestone or similar locally sourced stone to give a sense of presence and importance to this public element. As the building steps out, and internally the use changes from library to office accommodation, the elevational treatment also changes to uniformed runs of buff brick piers and infill sections framing areas of curtain walling. The brick colours chosen across the new build elements have been selected to complement the variety of brickwork found within the tapestry of the site, whilst providing a subtle contrast to individual parcels.



Figure 5.07 Parcel 3A4 Plaza Elevation

PARCEL 5

A new 14 storey (+plant) tower is proposed at the north end of the site. The height of the tower reflects the ambitions set out in the Limerick Spatial Plan and creates an important statement at Bank place addressing Abbey River and the Shannon beyond, whilst respecting the scale of the existing historic city.

The front elevation of the tower is flanked to the left by the Granary building and to the right by a striking Georgian terrace. The scale of these buildings, and the Hunt Museum on the opposite side of Rutland Street, demanded a careful exploration of the elevational treatment and massing of the new tower, whilst an assessment of the project's visual impact from further afield demonstrates that the scheme achieves a delicate balance between consideration for the existing buildings and a requirement for an ambitious and modern vision for Limerick City.

The resulting design is simple and elegant, empasishing the slender form of the three key masses which make up this building.



Figure 5.08 Bank Place Elevation



Figure 5.09 Rutland Street and Patrick Street Elevation

PARCEL 5 COURTYARD

A limestone plinth runs along the length of block 5, aligning with the eaves of the Granary building, creating an enclosed and intimate public space.

The elevation of the tower above is highly glazed to reduce the impact of the buildings overall height and mass on the courtyard and the, existing neighbouring buildings.

The floor levels of the upper and lower ground floors have also been managed to ensure that the buildings main entrance fully addresses Bank Place, dropping to the south to meet the existing Granary Courtyard levels.



Figure 5.10 Granary Courtyard Elevation

6. Scale and form

The Opera Site is a 2.35 hectare site within the heart of Limerick city, and gives a fantastic opportunity not only to provide much needed accommodation, but also to challenge and inform the scale of future development in the city centre.

The Limerick City Development Framework (2014) supports the use of increased scale on the site, and states "In order to optimise the potential of the city centre, and to accommodate the range and scope of uses envisaged, it will be necessary to develop a building form that will be larger in scale than its immediate surroundings";

However, it also states that "The relationship between the existing and new will need to be carefully considered in the proposed architectural treatment to ensure that the scale of development does not overwhelm the surroundings, while achieving a contemporary design that reinforces the regeneration objectives for the city", and it is important that he existing buildings read as equal partners within the overall scale and mass of any proposal.

This proposal includes a number of new build interventions to the site whose mass and scale has been developed sympathetically with its surrounding historical context. The overarching approach is to gently step the massing of the new build up from the existing 4 and 5 storey buildings at Ellen Street through 4, 5 and 6 storey buildings around the new public plaza, and ultimately to a 14 storey (+ plant) tower at Bank Place.

At Patrick Street and Ellen Street the new building has been restricted to 5 storeys, creating prominence at this important arrival point to the site without overwhelming the existing Georgian terraces.

At the south eastern corner of the site the 6 storey Parcel 1 building steps up from the corner of Ellen Street and Michael Street at 4 storeys through to a solid form at 5 storeys at the new public plaza with a further glazed penthouse level above.



Figure 6.01 Axonometric massing Model viewed from South West

his building has been carefully sculpted to minimise its impact with the use of large openings and setbacks to ensure the overall mass is broken down into two discrete blocks.

These two blocks are further articulated by a strong vertical glazed separation at the main entrance to the basement carpark.

Parcel 3A/4 presents itself as two separate massing elements. At Rutland Street a stone finished entity infills at the existing street elevation. This element is made up of three deep storey's but reads in conjunction with the adjoining historic 4 story terraces. As the building steps away into the core of the site it rises to 5 storeys, the higher level of which is set back and glazed. The elevational treatment on the plaza clearly differentiates the 3 storey civic element with the 5 storey commercial element by use of materials and stepping back of the façade. The full height glazed atrium showcases the existing rear façade of the town hall and 8 and 9 Rutland Street.

The connecting block which sits between Parcel 4 and 5 drops to 3 storeys to allow light to filter to the rear of the apartments in the existing buildings on Rutland Street and to the Granary Courtyard. The main core of the 14 storey (+ plant) tower is then expressed as two individual forms each highly glazed with a 11 storey solid secondary tower to the west.



Figure 6.01 Axonometric massing Model viewed from North West

7. Façade Design and Materiality

The sites existing building stock presents a variety of interesting colours and textures that will be employed across the site, in addition to a complementary palette of new materials will instil a sense of modernity, quality and personality to each of the new buildings.

The dominant material used in the buildings forming the infills to the existing streetscape is traditional brick, which will be selected from a palette of grey, brown, blue and red to reflect the earthy tones of the site. The fenestration of these facades reflect the strong rhythm and proportions of the existing window arrangements, but modern detailing and set backs will allow the architecture to read as entirely contemporary.

Internally this repeating pattern continues, although soften by the introduction of curtain walling, stone detailing and setback penthouse glass boxes. A sense of appropriate scale and civic presence and are further enforced by introducing a stone façade to the Library building and a colonnade around the plaza.



Figure 7.01 Existing Materials Palette

PARCEL 1

The existing streetscape to the Opera site and its surroundings is characterised by brickwork Georgian facades with vertical windows, and a variety of cut stone and coursed rubble stone buildings (Fig 6.1) Facades to Ellen St. are predominantly of brick, with a cut stone façade to Nos. 9 and 9A Ellen St. To the north of the Parcel 1 site, extending along Michael St. to Bank Place, the Granary presents a coursed rubble façade with brickwork window surrounds. As an infill office building that forms a new corner to define the urban block, a predominantly brick façade was considered the correct choice of material to complete and repair the urban grain, complementing the existing streetscape and providing a solidity and presence to its substantial frontage. Alternative and contrasting materials are proposed to some of the other new buildings in the development which house more public and civic functions, or to those which serve as a landmark on the site. The intended brick is of a grey/ buff colour, tonally similar to the directly adjacent stone buildings, and harmonious with the variety of brick colours around the site.

To the brick facades of the proposed building, large floor to ceiling height windows are proposed to provide sufficient daylight to the office floor levels. Pressed metal reveals to these windows are proposed as a contemporary take on the plastered window reveals within brickwork facades typical of the Georgian buildings on and around the site. During design development stage, a variety of fenestration patterns were tested in terms of proportion, relationship to context, and solid to void ratio, as shown in Fig 7.02.



Figure 7.02 Elevational Development of Parcel 1 – Early Study Showing 3 Windows per Structural Bay

An arrangement of 2 wider windows per structural bay was developed to provide high levels of daylighting while establishing a calm simplicity to the elevational treatment, and distinguishing the building as a modern intervention, contrasting with, yet sympathetic to its context (Figs 7.04). The rhythm of the windows is broken at corner junctures where a higher proportion of brick is proposed, and this is further broken down at the transition to the smaller scale and grain of Ellen St with a more playful and irregular arrangement of brick and window façade treatment. Windows have also been introduced to provide overlooking of the pedestrian route and car park ramp from ground floor restaurant and from office levels above.

Brick clad piers meet the ground plane around the perimeter of the building, and a simple glazed façade is proposed to the predominantly recessed shopfronts and to the café/ restaurants at ground floor level. A double height order is presented to these piers at Michael St. on approach to and along the length of the entrance way to the new square adjacent to the Granary Building.

A high quality glazing system with a vertical emphasis and fritted treatment at floor levels is proposed to the set back upper levels of the building, extending to form a parapet and guarding at roof level. This façade treatment extends to the recessed break between the brick volumes from first floor level upwards, above the car park entrance and pedestrian route. To Michael St., a series of vertical metal fins is applied to the glazing at this location, which, along with a canopy at first floor level, clearly signals the entrance to the car park and the pedestrian route from Michael St. The principal entrance to the office building is similarly marked by means of a wide three storey break in the brick façade. Here, recessed glazing with vertical metal fins and a canopy announce the entrance to the office reception foyer from the new square.





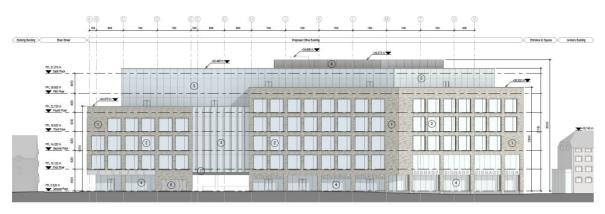




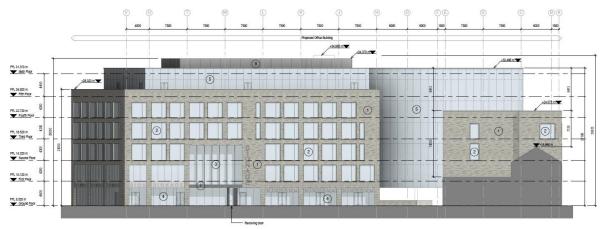




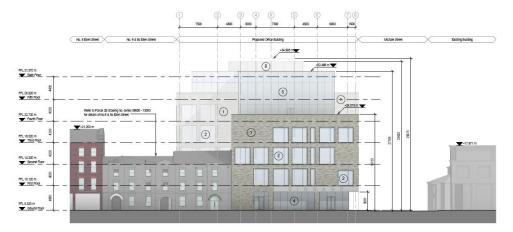
Figure 7.03 Parcel 1 Precedent Images



Parcel 01 - Proposed South East Elevation to Michael Street



Parcel 01 - Proposed North West Elevation to Public Plaza



2 Parcel 01 - Proposed South West Elevation to Ellen Street

Figure 7.04 Parcel 1 Proposed Elevations

Parcel 2A

The Patrick Street and Ellen Street Elevations of Parcel 2a are finished in pale cream stone. At the ground floor a strong colonnade reflects the height and proportions of the existing shop fronts, and the uniform rhythm of the fenestration above reflects the Georgian streetscape.

Within the new public plaza the apartments and hotel apartments are served by balconies which look out onto the public square, and sliding screens give further definition and greater privacy.

The rear Patrick Street elevation of the existing Georgian terrace leads out into private open spaces glimpses of which can be seen from the plaza. This façade will be sympathetically restored using salvage materials from the site and appropriate methods as described by the conservation architects.



Figure 7.04 Parcel 2A Ellen Street Elevation







Figure 7.05 Parcel 2A Palette

PARCEL 2B - 9 ELLEN STREET

The proposal for 9 Ellen Street is to retain the majority of this handsome stone building, but where works are required to remove older returns at the rear, appropriate or salvaged materials from the site will be used in the repair of this building.

Framless glazing will be used in the original ground floor door openings and a fully glazed stair core is proposed at the rear of building.



Figure 7.06 Proposed Ellen Street Elevation



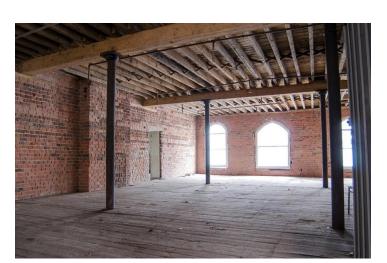


Figure 7.07 Internal Precedent Images

PARCEL 3A4 - TOWN HALL AND 8 & 9 RUTLAND STREET

The external brick faces of the Town Hall and 4 and 5 Rutland Street will be refurbished with appropriate materials as described in the Conservation Architects report. In addition a triple height glazed extension is proposed which will face onto the new plaza. The extension will be constructed in a contemporary frameless glazing system which allows passers-by to appreciate the façade of the original building. Carefully detailed lightweight bridges from the plaza to the main building will add to the high quality feel of this space, and ensure minimum intervention is required at the rear elevation.

The Rutland Street infill elevation will be finished in local limestone, with deep feature windows which accentuate the change of angle across the façade. To the rear limestone is used to clearly identify the library element of this building and give civic presence to the plaza.

The adjoining commercal offices façade is constructed from a regular array of buff brick piers infilled with an arrangement of brick and curtain walls offering a modern interpretation of the uniformity of the surrounding context.







Figure 7.08 Parcel 3A4 Precedent Images



Figure 7.09 Rutland Street Elevation



Figure 7.10 Parcel 3A4 Precedent Images



Figure 7.11 Parcel 3A4 Plaza Elevation

Parcel 3B - 4 & 5 Rutland Street

No. 4 and 5 Rutland Street are existing Georgian terraces which will be substantially retained.

Within this proposal, No. 4 Rutland Street will be retained in its entirety and any necessary repairs or external refurbishment carried out using salvage from the site where possible. The works will also include provision for bat boxes and bat tiles to house existing bat populations on the site. This mitigation measure is further described in chapter 16 of the EIAR, 'Biodiversity'.



Figure 7.12 Parcel 3B Rutland Street Elevation



2 East Elevation - Proposed

Figure 7.13 Existing and Proposed Rear Elevation

1 West Elevation - Proposed

Parcel 5

The main elevation of Parcel 5 faces directly onto Bank Place and the Abbey River.

The building mass has been developed to ensure that the building forms are simple and elegant, and the materials chosen reflect this concept. The main tower is glazed with full length vertical fins accentuating the height and slenderness of the form. To the rear the second main form is also glazed, but shading is provided by aluminium brise soleil which help differentiate it from the adjoining tower. A third smaller stone clad tower sits to the right hand side as viewed from bank place, and the fenestration here reflects the proportions of the adjacent existing Georgian terraces,

At the lower levels of Bank Place a frameless glazing 'shop front' identifies the public access and waiting areas within the building and at the granary courtyard a three story limestone plinth forms the base of the building tying the mass to the Granary building. The window openings at higher level are further expressed through the use of a contrasting bronze infill panel.

Wind Mitigation measures have been included within the design in a sympathetic fashion, and include glass screening to the eastern edge of the landscape terrace, a 7m decorative gate to Bank place specified to allow for a 70% solid, 30% void, and a skirt to the western and eastern facades to deflect high level wind from the courtyards below. The skirt to the eastern façade is created by a set bank in the building and to the west by a transparent canopy.



Figure 7.14 Parcel 5 Palette and Precedent Images











Parcel 6 - The Granary

Following the removal of the existing library extension the rear façade of the granary will be reinstated using appropriate materials as recommended by the Conservation Architects.

The main vertical circulation lost with the removal of the existing extension will be replaced with a simple glazed box, with minimum interference to the original face of the building. A second 2 storey glazed stairwell is also required on the southern gable of the building to provide fire escape from the upper ground floor.



Figure 7.15 Granary Gable Elevations

8. Access

The main entrances of all of the existing buildings are retained on Ellen Street, Patrick Street, Rutland Street, Michael Street and Bank Place.

The Town Hall on Rutland Street is also accessed directly through the new glazed atrium on the main plaza.

In addition the public access to the new buildings is as follows

BASEMENT

Access to and from the basement car park serving the entire development is from the secondary street of Michael St. at the location identified in the Masterplan. This also provided an added opportunity for pedestrian permeability to the new square and the rear of the proposed restaurant and bar at No 9-9A Ellen St., ensuring that these otherwise service zones are enhanced with increased activity and connectivity. The car park area is naturally ventilated by means of grilles set into the ground floor slab, located at the recessed ground floor facades, as part of a site wide basement ventilation strategy.

PARCEL 1

Access to the office building and the restaurant/ café is from the south east side of the public plaza. The smaller of the 2 retail units is accessed at the corner of Ellen St and Michael St. from both streets. The larger retail unit has access from Michael St. and from the public plaza, and the restaurant/ café also has an entrance to Michael St.

PARCEL 2A

A main access is located on the corner of Patrick Street and Ellen Street, with access to the bar and restaurant available directly from the new public plaza. Access to the existing buildings will be retained on Patrick Street and Ellen Street, and rear access to these buildings will be through a gated laneway to the rear. All retail units also have access directly to the existing basements.

PARCEL 3A/4

The Library building has two main entrances. The first is from Rutland Street via the glazed infill, and the second is on the new Public Plaza directly into the full height atrium. A further access has also been developed on the gable end of the atrium which allows direct access into the lower ground café/restaurant. The office building is accessed from the public plaza.

PARCEL 5

The main public access to Parcel 5 is from Bank Place.

VEHICLE AND BIKE ACCESS

The single entrance to the basement for the whole of the Opera site development is located two thirds of the way along the façade of Parcel 1 to Michael Street. This has been advised as the optimum location by AECOM traffic engineers and separates vehicular traffic from the eastern entrance to the public square. A barrier will be provided at the base of the entrance ramp to manage access and allow cars to queue along the length of the ramp itself. Both vehicular and pedestrian entrances will be secured at night by a roller shutter or gates along the building line to Michael Street.

Bike Parking is provided both at basement level and within the public realm at street level, An internal bicycle store for public use has also been provided at the ground floor of Parcel 1. This is proposed within the building envelope, and accessed off the pedestrian route from Michael Street to the Plaza. In addition office buildings will offer changing, showers and drying space for staff.



Figure 8.01 Proposed Site basement Plan

9. Ancillary Facilities

SERVICE ACCESS

The existing buildings will be predominately serviced from the street, with the provision of set down in Michael Street, Ellen Street Rutland Street and Patrick Street, however some additional service yard area has been provided within the scheme. This includes:

PARCEL 2B (9 ELLEN STREET)

Access is available to the rear of the building adjacent to the basement access ramp for serving and deliveries.

PARCEL 5

A service access is provided to the east of the building allowing deliveries and maintenance to take place away from the main public areas. This is accessed from Bank Place.

BUILDINGS SERVICES

The majority of plant for the new office buildings is housed in the basement, with some additional capacity for chillers and similar mechanical requirements at roof level. This will be located in screened areas set back from the roof edges to minimise impact. In addition each of the new buildings proposes a PV array at roof level and these are shown on the drawings.

Four new ESB substations are also required to facilitate the project, and these have been placed discreetly around the site.

The site has also been registered as a LEED Master site with a view to developing the new build speculative office buildings to LEED Gold, and buildings will be designed to NZEB standard.

For more information on the Mechanical and Electrical strategy and the Civil Engineering please see the reports contained within the accompanying EIAR.