



Addition of R&H Hall Silo, Alexandra Road, Dublin 1 (Grain silo built 1915-20 including early 20th century elevated gantry to east) to the Record of Protected Structures in accordance with Section 54 and 55 of the Planning and Development Act, 2000

Recommendation	
Address	Description (to appear on RPS)
R&H Hall, Alexandra Road, Dublin 1	Grain silo designed by Bachelor & Hicks and built 1915-20, including early 20 th century elevated gantry to east.

PHOTO OF STRUCTURE



Procedure Followed

In accordance with the procedures set out in Section 54 and 55 of the Planning and Development Act, 2000, Dublin City Council indicated its intention to add **R&H Hall Silo, Alexandra Road, Dublin 1** to the Record of Protected Structures (RPS).

The proposed addition of the structure was brought to the Central Area Committee on 12th November 2019 where it was agreed to initiate the procedure to add it to the RPS. The addition as proposed to the Central Area Committee and as provided in the statutory notifications was:

Address: R&H Hall Silo, Alexandra Road, Dublin 1.

Description: Grain silo including early 20th century elevated gantries to south and east (but excluding single-storey lean-to extension to the south elevation, terminal structure attached to southern end of the elevated quayside gantry and the associated section of gantry running parallel with Alexandra Wharf).

The proposed addition was advertised in the Irish Independent on Thursday 5th December 2019. The public display period was from Thursday 5th December 2019 to Monday 27th January 2020, inclusive.

Request for Addition

- Minister for Culture, Heritage and the Gaeltacht on the 9th of August 2017.

Summary of Applicants Reasons for Seeking Addition:

- *Minister for Culture, Heritage and the Gaeltacht:* List of recommendations for inclusion on the RPS of structures deemed as being of ‘Regional’ significance or higher identified during Stage 2 of the Dublin Survey carried out by the National Inventory of Architectural Heritage. The R&H Hall Silo, Alexandra Road, Dublin 1 has been assigned a National rating. The Stage 2 recommendations were issued to Dublin City Council on the 9th of August 2017.

Site Location & Zoning Map:

The R&H Hall Silo is located within the Dublin Port Complex, to the immediate east of No.1 Branch Road South and to the north of Alexandra Quay.



Fig.1: Extract from Zoning Map from 2016-2022 Development Plan.

Zoning map: The subject site is zoned Z7: *To provide for the protection and creation of industrial uses, and facilitate opportunities for employment creation.*

Planning History:

Planning Ref	Description	Decision
M0040/08	Installation of Telecommunications Equipment under 31(k)(5) of P&D Regs 2001.	Declaration received and noted 21/10/18
3532/15	The development will consist of removal of existing vehicular gate and fencing fronting Alexandra Road, creating an open vehicular access, erection of new palisade fences measuring 2.7 m high and erection of new tri folding gates at southern end of site.	Grant Permission 23rd October 2015.

Summary Description:

Grain Silo:

Nine-bay multi-storey reinforced concrete grain silo, built 1915-20 having three five-storey single-bay staircore projections to principal/south elevation (recessed bays between projecting stair cores infilled c.mid 20th century). Attached high-level gantry on riveted steel supports to east elevation built c.1920 connecting silo with former flour mill (Odlums) to east. Silo structure extended to north by two-bays c.1932 with addition of attached steel bin silo and further extended to north c.1937 with addition of three-bay reinforced concrete silo (note the NIAH dates the later silo extension to 1938). Attached high level gantry on riveted steel supports built between c.1932-37 having terminal structure to south connecting silo with Alexandra Quay (terminal structure rebuilt late 20th century). Single-storey lean-to extension to south built late 20th century.

Internally only the ground floor, attic distribution floors and the three projecting stairwells to the south elevation, are accessible under normal conditions with the main body of the structure housing the grain storage bins. The ground floor of the three silo phases, comprise double-height spaces stretching across the entire floor plate with ceilings comprising the exposed hopper soffits of the grain bins (each identified with a painted numeral). Internal detailing is reduced to a minimum, though subtle stop chamfers enliven concrete elements to both the 1915 and c.1937 phases.

The lower distribution floor at attic level spans the entire floor plan of the 1915 silo and subsequent extensions of c.1932 and c.1937. This floor is accessed via a passenger lift located in the c.1932 silo. Late 20th century stainless steel chutes/drops run vertically and diagonally within the space distributing grain to the storage bins below. The upper distribution floor houses the principal augers/conveyors. This floor occupies approximately two thirds of the entire floor plan with a setback from the east and western elevations. The head house occupies three bays over the 1915 silo and is accessed via an open tread steel staircase, this space currently houses the principal drive machinery/plant, and dates to the late 20th century.

Safe access was provided to the eastern-most projecting stair core located to the south of the 1915 silo building, there was no access to the remaining stair cores. This space includes a cantilevered open-string concrete staircase having wrought-iron handrails and guarding to landings. A switch room located to second floor within c.mid 20th century infill extension houses an electric switch bank complete with instruments, plant diagram, glazed dials and a voltmeter with makers plate reading 'ELLIOTT BROTHERS (LONDON) Ltd'.

Site Description:

Forecourt to immediate south bounded by principal waterfront quay of Alexandra Basin. Vehicle weigh bridge to immediate south of silo with a section of diorite setts to immediate west.

Branch road and branch railway line bounding west of site, with railway line turning eastward continuing parallel to Alexandra wharf.

Late 20th century industrial warehousing to west with early 20th century dry dock further to the west (NIAH Ref: 50060588).

Detached late 20th century 'floor silo' to immediate north of site having high-level gantry conveying grain to and from the principal R&H Hall Silo. Late 19th century red brick electricity sub-station further to the northeast (NIAH ref: 50011171).

Late 20th century warehousing abutting eastern elevation of silo with early 20th century two-storey gable-fronted workshop building to immediate southeast.

'Odlums Mills' complex comprising early 20th century mill building and two associated grain silos to the east (NIAH Ref: 50060590 & 50060591). Attached high-level gantry on riveted steel supports (c.1920) connects the R&H Hall Silo with the former flour mill (Odlums) to east.

Historical Background:

In the late 19th century flour milling and food processing became substantially more industrial in scale, stimulated by the growing demands of an expanding urban population. It is in this context that the 'silo' emerged c.1900 as a distinct building type to provide increased capacity for the storage and distribution of bulk grain.

The land on which the R&H Hall Silo comprised sand banks at the time of the 1888-1913 O.S map of the city. However by the close of 19th century an ambitious programme of land reclamation, associated with the construction of the Alexandra Basin, had provided prime industrial development sites, close to the newly created deep water berthage (Gilligan, pg.148). A plan of Dublin Harbour produced in 1906 by The Dublin Port and Docks Board shows the subject lands annotated '*lands being reclaimed*' (not reproduced here).

Described as the 'Great Silo' by H.C. Hartnell in the Port of Dublin Official Handbook (Hartnell, pg.13), the structure was originally commissioned for the 'Merchants Warehousing Company Ltd'. The silo first appears on the Ordnance Survey 6 inch Cassini map (Fig.2 below), which records the building to the south of Alexandra Road, connected to the waterside by an elevated gantry built between c.1932-37 (known as a *marine leg*), with terminal structure and further gantry arm running parallel to the quayside. Engineering plans illustrating the Alexandra Quayside prior to the construction of the elevated gantry (not reproduced here), indicate the presence of three 'grain pipes' extending southward from the silo towards the quay, it is suggested that these may represent subterranean grain intakes.

The Merchants Warehousing Company's new facility was built to designs by Batchelor & Hicks, who adopted a mildly classical style for the silo. The principal south facing façade, as originally completed, was well composed with a stepped roofline and three symmetrically placed projecting stair cores. Construction on site commenced in 1914 with the Dublin Daily Express reporting on 25th August of that year '*construction of the boundary walls and gates around new silo now in progress*'. Driven by a brief to produce increased storage capacity on a scale not previously seen in Ireland, Batchelor & Hicks abandoned traditional construction materials in favour of modern steel reinforced concrete.

The silo was finally completed in 1920 with the facility providing thirty-two storage bins accommodating over 13,000 tonnes of grain. The silo quickly established the Alexandra Basin as the centre of grain importation into Dublin and in 1921 'The Dublin Port Milling Co. Ltd' commenced works on construction of a new flour mill to designs by Hicks & Ashworth, to the immediate west of the silo (NIAH Ref: 50060590), with the two buildings connected by an elevated gantry¹. Large scale milling could now take place on the quayside, where grain, unloaded into the silo was thereafter processed in the adjacent mill. An advertisement for the project's contractor 'J & W Stewart' depicts both the silo and mill building shortly after completion.

An increase in the importation of bulk grain, reflecting Ireland's growing dependency on wheat and barley from countries such as Australia and America, coupled with stringent requirements for its storage, under the Agricultural Produce (Cereals) Act of 1933², led to

¹ The Dublin Port Milling Co. Ltd' flour mill was later purchased by Odlums and the site is now referred to as the 'Odlums Site'.

² The so called 'economic war' between Britain and Ireland saw the Fianna Fáil government introduce the Agricultural Produce (Cereals) Act of 1933, which specified that milling licence owners had to both

expansion of the silo in two separate phases during the 1930s (Rowley, pg141). The first expansion took place in c.1932 with the addition of a two-bay steel extension, comprising externally expressed circular silos sited to the immediate north of the original structure, housing an additional twelve storage bins (Fig.4 captures the silo shortly after completion of the c.1932 steel bin extension). The second extension was constructed c.1937 by the London based engineering practice of L.G. Mouchel & Partners Ltd. Mouchel's extension was executed in reinforced concrete using the continuous 'slip-form' method of construction and housed an additional fifty-four bins, of both square and circular design (Rowley, pg.134). In stark contrast to the classical aspirations of Batchelor & Hicks' initial phase, both programmes of extension reflected a strictly utilitarian design with the functional form and massing of the storage bins clearly expressed to the external elevation. Images of Alexandra Dock dated 1947 capture the silo after completion of the second extension phase (fig.5).

The silo saw steam power give way to electricity, with the buildings plant equipment powered from the outset by electric motor. The port had advertised in 1927 that 'The Dublin Corporation Electric Lighting Plant Ltd. operated within the precincts of the harbour and afforded ample serves for lighting and power for industrial purposes at favourable rates' (Hartnell, pg.13). It is noted that an electricity substation, built c.1900 is located to the northeast of the silo for distribution of power to the immediate area (NIAH Ref: 50011171).

In 1987 the silo was sold to R&H Hall Company Ltd. after the Merchant Warehouse Company reported losses to its operations at Alexandra Basin (Irish Independent 5th August 1987). The silo remains in active use and continues to function as a bulk dry grain storage facility, though 4 no. of the steel bins, dating to the c.1932 extension phase, have been decommissioned due structural failures in the steel plating. Aside from the 2 no. principal extensions which date to the 1930s, further alterations and additions were carried out c.mid 20th century to include the infilling of Batchelor & Hicks stepped roofline and the asymmetrical infilling of recessed bays between the 3 no. original projecting stair cores of the principal southern elevation. A further single-storey office extension of concrete block construction, abutting the southern elevation of the building, dates to the late 20th century; the terminal structure and section of elevated gantry running parallel to Alexandra Wharf were also rebuilt during this period. A significant number of telecommunications antennae have been added to the roofline in recent years.

provide storage facility and buy the bulk of the wheat soon after harvest so that it could be dried, (Rowley, pg.138).

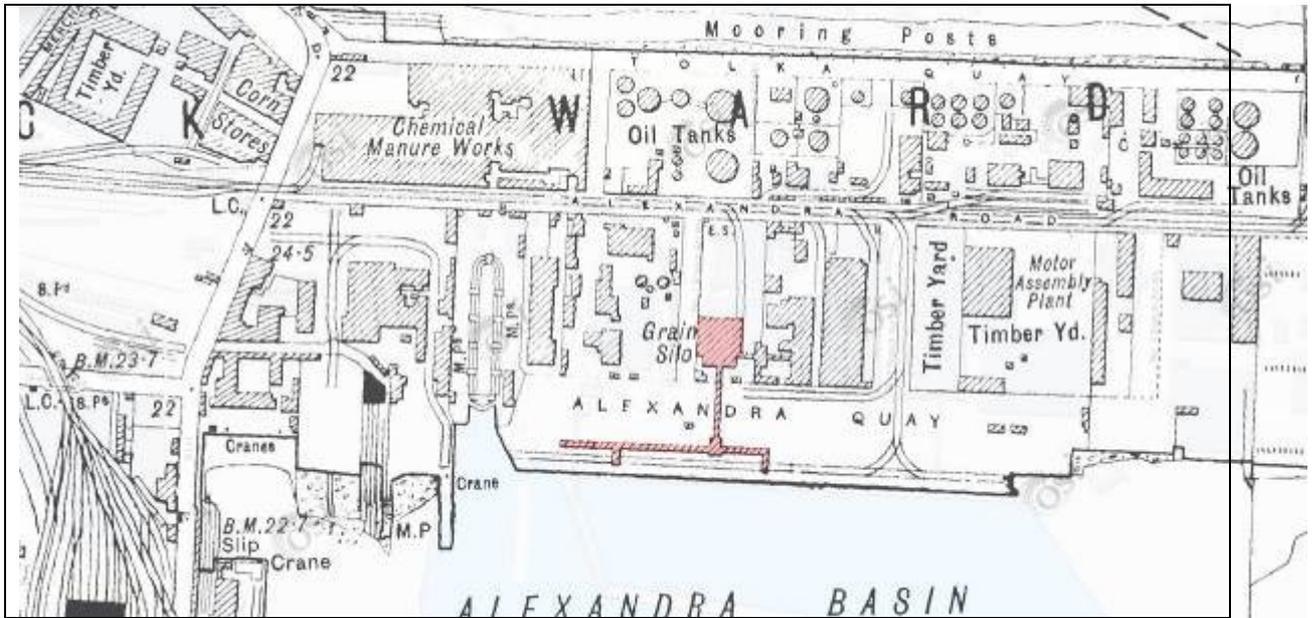


Fig.2: Early 20th century Cassini Map of Dublin Port showing the R&H Hall Silo (hatched red), (Map courtesy of GeoHive Mapviewer).

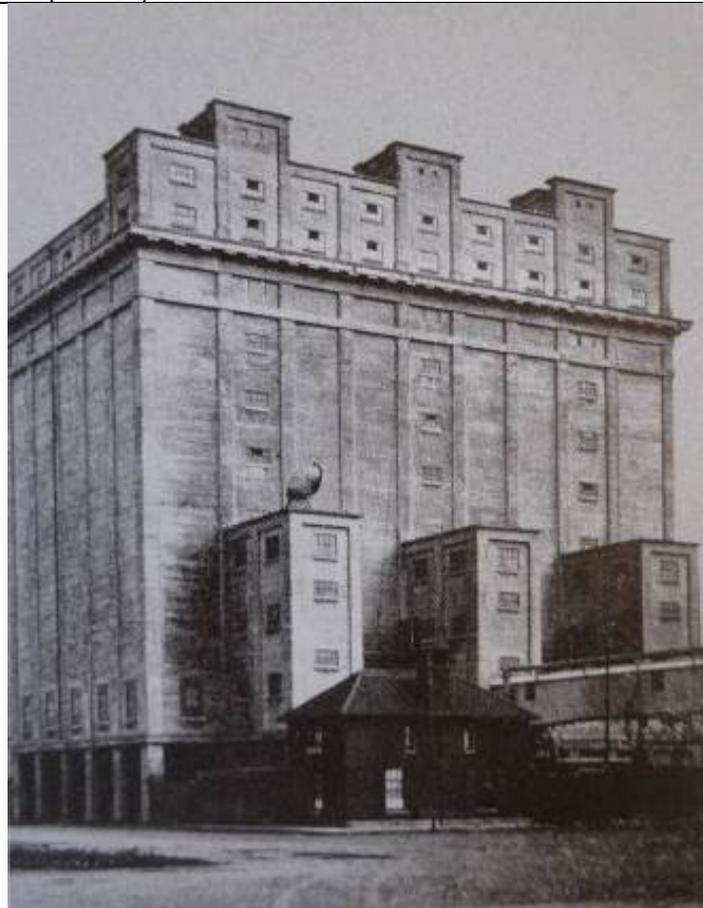


Fig.3: Image of the silo taken c.1935. Note the stepped roofline at attic storey and the projecting bays to the quay side elevation (south), (Larmour, pg.8).

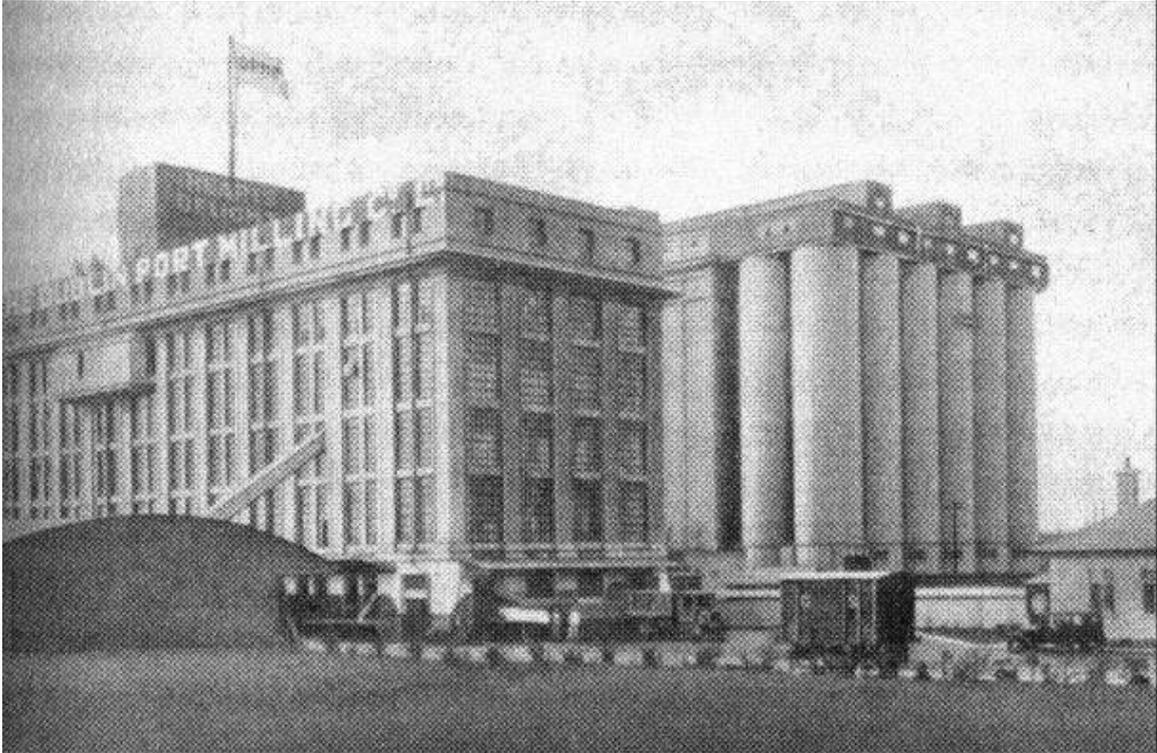


Fig.4: Image of the Dublin Port & Milling Company c.1937 with Merchants Warehouse Silo to right showing completion of the first extension phase c.1932 (Image courtesy of Fred Hammond).

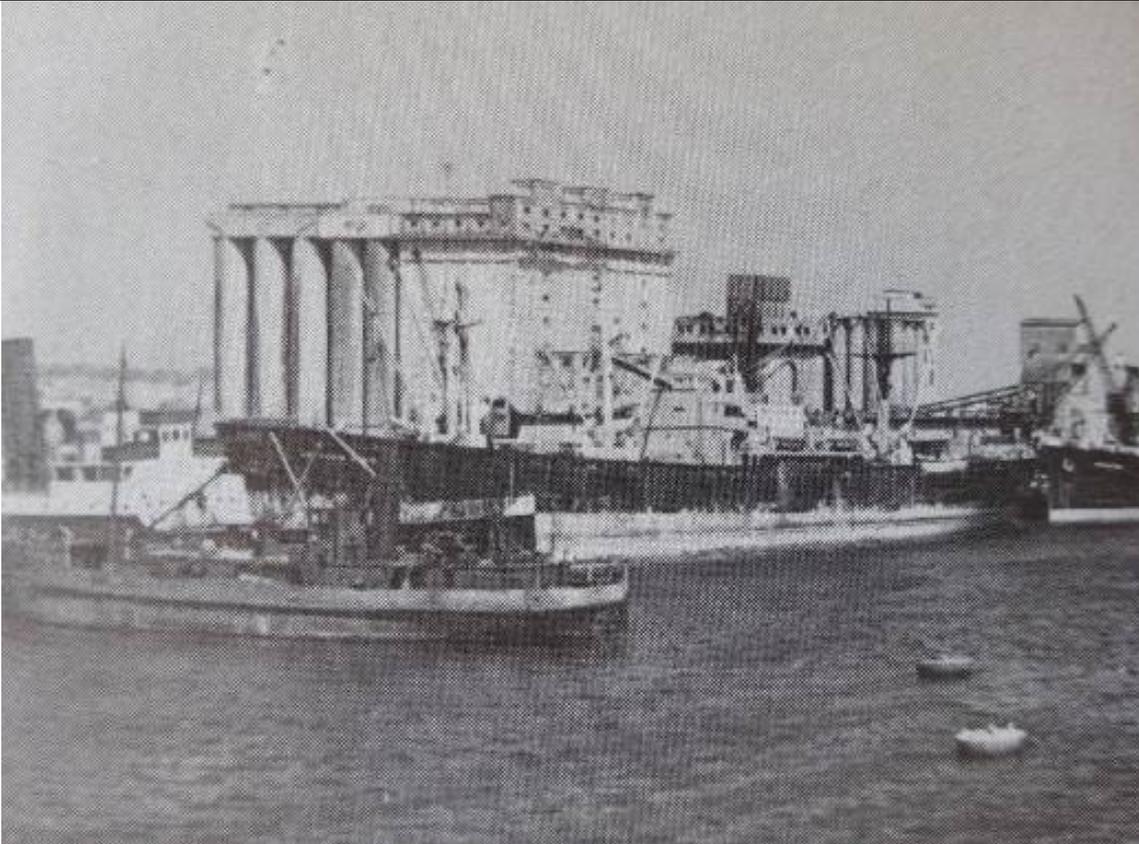


Fig.5: A view of Alexandra Basin dated 1947, showing the R&H Hall Silo to the background. Note that both phases of extensions have been completed by this date though the infilling of the stepped roofline has not yet been carried out, (Gilligan, pg.191).

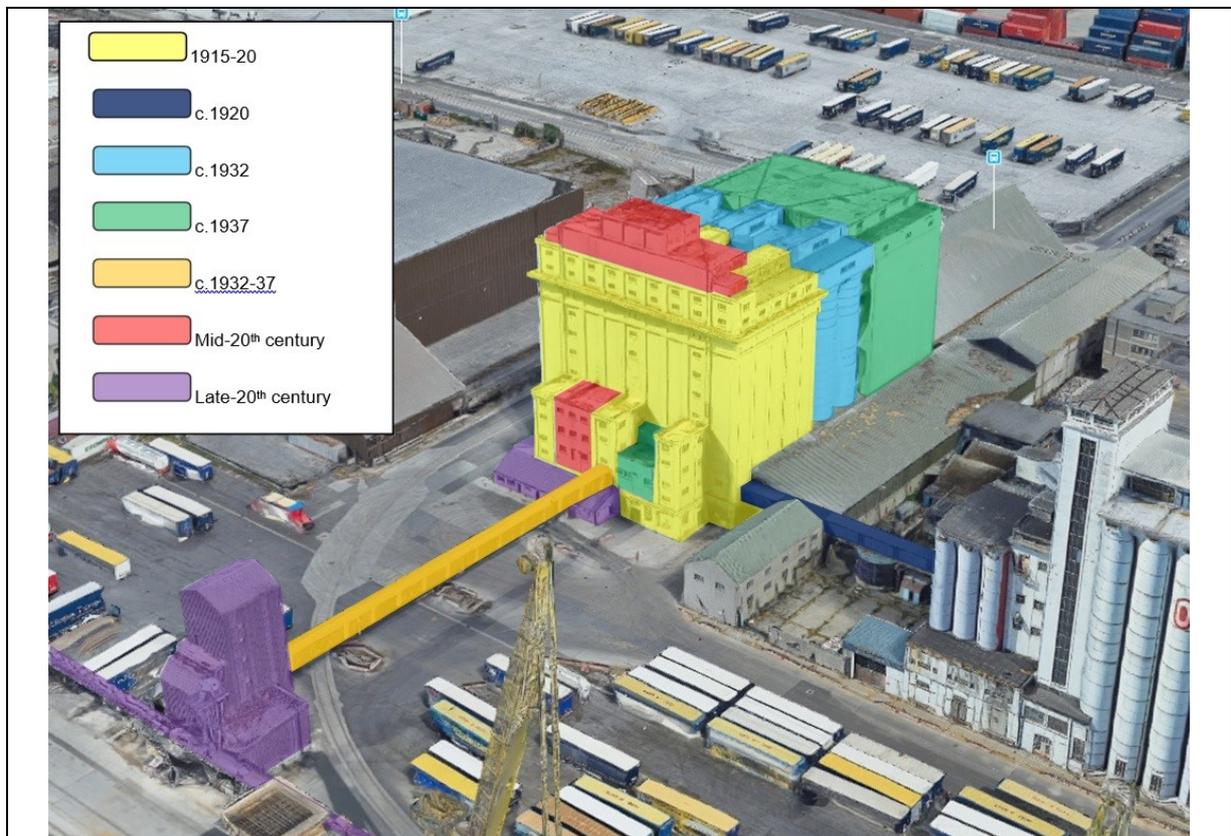


Fig.6: Site layout noting key construction phases of the complex (3-D image courtesy of Google Maps - last accessed 17/09/2019; colour coding by date illustrated by DCC Conservation Section.

References:

- Digital records accessed 17/08/2019
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<https://www.britainfromabove.org.uk/en/search?keywords=dublin&country=global&year=all>
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- Rowley, E. (editor) (2016). *More than concrete blocks –Vol. 1, 1900-1939*. Dublin: Dublin City Council with University of Dublin & Four Courts Press.
- Rynne, C. (2006). *Industrial Ireland 1750-1930*. Cork: Collins Press.

Assessment of Special Interest under the Planning & Development Act 2000:

The National Inventory of Architectural Heritage assigned this building ARCHITECTURAL & TECHNICAL interest.

The Conservation Section, following an inspection of the site on 9th October 2019, has considered the opinion of the NIAH and is in agreement with the two categories of special interest assigned. In addition, the Conservation Section assigns HISTORICAL interest to the site. As a result, the R&H Hall Silo, Alexandra Road, Dublin 1 is considered to be of special interest under the following headings:

- ARCHITECTURAL:

- The Bachelor & Hicks silo at Alexandra Basin represents one of the first vertical silos to have been built in Ireland. Previously, floor silos such as those located at Waterford, built c.1905 (NIAH Ref: 22900908), and Westport, built c.1908 (NIAH Ref: 31308726), conformed to a traditional warehouse layout having large open plan floors on a horizontal arrangement. The silo at Alexandra Basin was one of the first high rise grain stores to utilise multi-storey vertically-aligned drums/bins.
- The early silo and its extension dated c.1937 were designed by known architectural and engineering practices which forged reputations through their use of modern industrial materials and their work on industrial complexes. Batchelor and Hicks designed the original silo building in 1915 and are accredited for their use of the Hennebique reinforced concrete frame system at No.27-30 Dame Street, Dublin in 1906, when it was used 'reputedly for the first time in the city' (Casey, pg.415). L.G. Mouchel & Partners Ltd., consulting engineers for the c.1937 extension had designed a number of early reinforced concrete bridges in Ireland as well as 2 no. of the Battersea power station chimneys in 1931 and the Earls Court exhibition centre in 1935, which at the time was one of the largest reinforced concrete buildings in the world, (Rowley, pg.141).
- The silo (including phased extensions) is of an imposing monumental scale which dominates the industrial landscape (see fig.12). Referred to by Hartnell, in 1926 as the 'Great Silo' it remains one of the most instantly recognisable landmarks of the Dublin port complex (Hartnell, pg.13).
- The silo is an exemplar of early twentieth-century industrial architecture. Paul Lamour refers to it as 'the great towering grain silo', listing it among one of a small number of modern movement buildings to have been built during the early 20th century (Lamour, pg.8). The structure also features as a case study within More than Concrete Blocks Vol. 1, where it is described as 'a totem to Dublin Port's twentieth-century history' (Rowley, pg.132).
- The Bachelor & Hicks silo of 1915 displays an embellishment and architectural elaboration which is unusual in the Irish context in such buildings, having classical detailing rendering the structure reminiscent of a skyscraper (it is noted that the American silos of the central grain belt are colloquially referred to as 'Prairie Skyscrapers'). In contrast, the extensions of c.1932 and c.1937 are utilitarian in nature demonstrating the relationship between architectural form and function. Collectively the composition presents a compelling juxtaposition and interrelationship of differing design approaches within one single structure.
- The interior is characteristically functional with a simple utilitarian design dictated by process. The ground floors comprise vast double-height spaces dominated by the soffits of the silo hoppers and forests of piers which support the cavernous grain bins overhead. Detailing is reduced to a minimum, though subtle stop chamfers enliven concrete elements to both the 1915 and c.1937 phases. High level gantry walkways and the considered placement of observation windows, offering vantage points from which to oversee the loading of vehicles, demonstrate a clear understanding of the process flow from receiving, storing to distribution of the bulk grain. The three principal stair cores include concrete staircases with metal guarding and electric light fixtures in a restrained modernist style. Lime-washed wall and ceiling finishes survive to some process areas with an early 20th century colour scheme retained to the switch room. Though elements of the internal plant have been replaced during the late 20th century, some significant early items remain including the electric switch

bank complete with instruments having a maker's plate reading 'ELLIOTT BROTHERS (LONDON) Ltd'.

- HISTORICAL:

- The silo and extensions are a physical legacy of Dublin Port's surviving historic industrial landscape, reflecting the development of the Alexandra Basin and the associated socio-economic achievements of the late 19th and early 20th century port authority. The silo maintains a physical connection to the quayside with an elevated gantry to the south built between c.1932-37, which facilitated the unloading of grain from Alexandra Wharf (Rowley, pg.133).
- The R&H Hall Silo represents one of a small number of early 20th century silo structures still in active use, providing a sense of historical continuity with past industrial activity. The silo also serves as a reminder of the importance of food processing as an industry in early 20th century Dublin.
- The expansion of the silo in c.1932 and again in c.1937 is testimony to the changing socio-economic situation in Ireland during the 1930s, reflecting Ireland's growing dependency on bulk grain importation, coupled with stringent requirements for its storage, under the Agricultural Produce (Cereals) Act of 1933 (Rowley, pg141).

- TECHNICAL:

- The 1915 silo represents an early use of reinforced concrete, a material that distinguished the modern era and which allowed Bachelor and Hicks to break free of traditional structural constraints, pushing the boundaries of height and scale. More than Concrete Blocks Vol.1 notes that the walls of each bin were only 17.8cm thick, due to the strength of the concrete, allowing for the most efficient use of internal space (Rowley, pg.339).
- The steel plated extension of c.1932 reflects an unusual choice of construction at a time when reinforced concrete was generally recognised as the superior material for the design and execution of silo structures. Favoured during the late 19th century due to a rapid construction timeframe, early steel silos were prone to corrosion and often suffered from poor weather-tightness. The steel bin extension to the R&H Hall Silo at Alexandra Road, together with the silo at the adjacent former Odlums site (NIAH Ref: 50060591), represent one of a small number of industrial scale steel silos to have been built during the first half of the 20th century. It is notable that the use of riveted steel plate was abandoned in favour of 'slip-form' concrete construction for the third and final phase of silo expansion.
- The concrete silo extension of c.1937 was constructed using the 'slip-form' method of construction and reflects an early use of the technique in Ireland. Pioneered during the early 20th century in the construction of grain silos and elevators in North America, the 'slip-form' concrete construction technique facilitated the construction of vertical bulk grain storage on an enlarged scale and to an increased efficiency.
- The silo was at the forefront of mechanisation reflecting advancements in new technology through the use of electric powered 'pneumatic suction pumps'. Though elements of the internal plant have been replaced to facilitate advancements in the industrial process, surviving redundant plant equipment together with the survival of the early industrial form of the principal internal spaces allow a sound understanding of the manufacturing process.

NIAH/Ministerial Recommendations for R&H Hall Silo, Alexandra Road, Dublin 1.

	<table> <tr> <td>Reg. No.</td> <td>50060589</td> </tr> <tr> <td>Date</td> <td>1910 - 1930</td> </tr> <tr> <td>Previous Name</td> <td>Merchants Warehousing Company Ltd/Odlum's Mills</td> </tr> <tr> <td>Townland</td> <td></td> </tr> <tr> <td>County</td> <td>Dublin City</td> </tr> <tr> <td>Coordinates</td> <td>318609, 234766</td> </tr> <tr> <td>Categories of Special Interest</td> <td>ARCHITECTURAL TECHNICAL</td> </tr> <tr> <td>Rating</td> <td>National</td> </tr> <tr> <td>Original Use</td> <td>Granary</td> </tr> <tr> <td>In Use As</td> <td>Granary</td> </tr> </table>	Reg. No.	50060589	Date	1910 - 1930	Previous Name	Merchants Warehousing Company Ltd/Odlum's Mills	Townland		County	Dublin City	Coordinates	318609, 234766	Categories of Special Interest	ARCHITECTURAL TECHNICAL	Rating	National	Original Use	Granary	In Use As	Granary
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In Use As	Granary																				
<p>Description: Detached nine-bay fifteen- to twenty-storey reinforced concrete grain silo, built 1915-20, with attached steel bin silo added c.1932 to north, and further reinforced concrete silo attached to north 1938. Three six-storey single-bay projections to front elevation. Flat roof and rainwater goods not visible. Reinforced concrete walls arranged in vertical recessed panels, nine to front elevation with five to side elevation. Heavy cornice to older part, with mutules and heavy plat-band to storey below. Above cornice is three- to four-storey attic section with further central head-house floor. Square-headed window openings with wrought-iron multiple-pane windows and splayed concrete sills. Square-headed carriage-arch openings to west and east elevations to allow for loading, with granite wheel-guards and diorite setts to west opening. Located to west end of Dublin Port, area largely comprising modern industrial and maritime buildings, interspersed with patches of wasteland. Dry dock situated to west. Complemented by associated silos to east, of similar period and style.</p>																					
<p>Appraisal: An enormous and architecturally impressive representative of large-scale early-twentieth-century industrial architecture, this grain silo, designed by Frederick G. Hicks, constitutes the most elaborate in Ireland in terms of both scale and design. The application of a cornice to this symmetrical façade gives the structure a formal aspect not usually found in this building type. When viewed from Ringsend, on the opposite side of the River Liffey, the composition and scale can be well appreciated and stands out as the most monumental structure in the district.</p>																					

The National Inventory of Architectural Heritage (NIAH) has been carried out for this area. The NIAH uses eight categories of special interest (architectural, historical, archaeological, artistic, cultural, scientific, technical & social) and identifies five categories of rating in seeking to rank buildings. The NIAH rating values are International, National, Regional, Local and Record Only (I, N, R, L, O). Structures which are considered of International, National, and Regional significance are deemed worthy of inclusion on the RPS.

The NIAH has assigned the R&H Hall Silo, Alexandra Road, Dublin 1 a 'National' rating. *These are structures and sites that are considered to be of great architectural heritage significance in an Irish context. Examples include Ardnacrusha Power Station, Co. Clare; the Ford Factory, Cork; Carroll's Factory, Dundalk; Lismore Castle, Co. Waterford; Sligo Courthouse, Sligo; and Emo Court, Co. Laois.* As a result, it is included in the list of Ministerial Recommendations for inclusion on the RPS of structures deemed as being of 'Regional' significance or higher identified during Stage 2 of the Dublin Survey.

Submissions/ Objections Received:

The proposed addition was advertised in the Irish Independent on Thursday 5th December 2019. The public display period was from Thursday 5th December 2019 to Monday 27th January 2020, inclusive.

Two submissions/observations were received and considered with a response to their respective submissions and observations provided below.

Submission 1: from R&H Hall, property occupier received 27th January 2020, and

Submission 2: from Stephen Little & Associates, Chartered Town Planners and Development consultants on behalf of Dublin Port Company (DPC), freehold property owner, received 27th January 2020.

1. Submission by R&H Hall, property occupier.

This submission includes the following:

- A written submission from Mathew Kerrigan, Operations Director, R&H Hall dated 24th January 2020.
- Appendix A: Report on Conservation Issues at R&H Hall, Alexandra Road, Dublin 1 by Southgate Associates, Heritage Conservation Specialists dated January 2020.
- Appendix B: Structural Assessment Report on R&H Hall Silos Dublin Port by Punch Consulting Engineers dated January 2020.
- Appendix C: Building Report on Elevated Gantry, R&H Hall Site, Dublin Port by ADCO, Maritime Archaeologists dated 3rd January 2020. It should be noted that this is an earlier version of a document which has also been included as part of submission 2.

2. Submission by Stephen Little & Associates, Chartered Town Planners and Development Consultants on behalf of Dublin Port Company (DPC), property owner.

This submission includes the following:

- A written submission from Stephen Little & Associates (undated).
- Report by Shaffrey Associates, Grade 1 Conservation Architects dated January 2020.
- Building Report on Elevated Gantry, R&H Hall Site, Dublin Port by ADCO, Maritime Archaeologists dated 21st January 2020. It should be noted that this is a later version of a document which was also included as part of submission 1.

Summary of grounds of submission and response:

Extent of Protection

Both submissions recognise the heritage value of the Batchelor & Hicks silo of c.1915. Submission 1 concurs with the National rating, assigned to the structure by the NIAH, acknowledging its 'architectural and technical significance as well as industrial archaeological merit'.

Concern is expressed regarding the intention to protect the entire silo complex, including the later phased extensions. Submission 1 notes that the appraisal contained in the NIAH record for R&H Halls, refers to the original Batchelor and Hicks structure only, and not the c.1932 or c.1937 silo extensions or the elevated gantries. The submission argues that the silo extensions of c.1932 and c.1937 are of lesser merit citing as evidence the abandonment of Batchelor & Hicks's original concept of a symmetrical 'art deco' façade and an absence of detailing such as the stop-chamfering of concrete beams and columns. The submission considers both extensions to be of local industrial archaeological and technical significance only, and recommends that these elements should not be added to the RPS. A sketch plan of the site prepared by Southgate Associates illustrates the extent of the future protection as suggested by Submission 1, to include the front (southern) portion of the Bachelor & Hicks concrete silo as well as its perimeter silo bays to the east and west only.

A dedicated and focused report on the north-south gantry has been provided by ADCO with core material from this report forming part of both submissions. This presents photographic evidence from the Dublin Port Archive which would suggest that the east-west gantry dates to c.1920 while the north-south gantry was built at least a decade later, between c.1932 and c.1937. Engineering plans illustrating the Alexandra Quayside dating to the c.1930s, included as part of the submission, indicate the presence of three 'grain pipes' extending southward from the silo towards the quay. It is suggested that these may represent subterranean grain intakes.

The submissions consider the north-south gantry to be of 'local' industrial archaeological and technical significance. Commentary prepared by Shaffrey Associates, included as part of Submission 2 recommends that, 'at a minimum, the north-south elevated gantry be excluded from the RPS,' largely due to operational considerations related to the Alexandra Basin Redevelopment (ABR) project (ABP Reg. Ref: PL29N.PA0034), (*See Alexandra Basin Redevelopment Considerations below*). Both submissions recommend alternative methods of preservation to include 'preservation by record' and the salvaging of elements for relocation/interpretation elsewhere within the port site.

The east-west gantry connecting the R&H Hall silo with the former Odlum's Mill is also considered, by both submissions, to be of 'local' industrial archaeological and technical significance. Both submissions request exclusion of the east-west gantry from the protection however, Shaffrey Associates (Submission 2) argue that physical retention of the east-west gantry would provide the 'necessary legibility and integrity to the proposed Protected Structure' (R&H Hall), were the north-south gantry to be demolished.

Response

The City Council acknowledges Dublin Port Company's (DPC) commitment to the heritage of the port and it is noted that both submissions recognise the heritage significance of the original Batchelor and Hicks silo of c.1915.

Correspondence received by the Conservation Section of Dublin City Council from the Senior Architectural Adviser, Department of Culture, Heritage and the Gaeltacht on the 17th February 2020 confirms that 'NIAH record and [National] rating for the R&H Hall building at Alexandra Rd, Dublin 1, apply to the entire early twentieth-century structure, i.e. the main 1915-20 part, and the additions of c.1932 and 1938'. It follows that the recommendation from the Minister for Culture, Heritage and the Gaeltacht pertains to the entire silo complex, to include both the c.1915 silo the extensions of c.1932 and c.1937.

In advocating that the silo extensions are of 'local' industrial archaeological and technical significance only, the submissions do not clearly demonstrate that the two silo extensions of the 1930s do not merit the rating assigned to the complex by the NIAH. Nor do the submissions provide an adequate case rebutting the categories of special interest assigned by the City Council's Conservation Section. Although it is accepted by the Conservation Section that the expansion and development of the complex in the 1930's altered the symmetrical composition of the Batchelor and Hicks silo of c.1915, those additions of c. 1932 and 1937 are also considered to be of intrinsic Architectural, Historical and Technical significance. It is noted that the switch room and its significant surviving interior is located within the mid-20th century infill addition to the south elevation, which may be considered to have had the greatest impact on the symmetrical composition Batchelor and Hicks structure.

Furthermore, the extension of c.1937 was built to the designs of LG. Mouchel & Partners, an engineering firm of international renown and contrary to the opinion expressed within Submission 1, exhibits a considered approach to the detailing of concrete elements, to include the 'stop-chamfering' of internal columns. In light of clarification received from the NIAH on 17th February 2020 and having regard for the categories of special interest as

outlined in the DCC initiation report, the silo extensions of c.1932 and c.1937 are considered to form a significant part of the composition of the 'Nationally' rated complex. However, it is noted that the NAIH appraisal of the complex (see NIAH/Ministerial Recommendations above) refers only to the Hicks structure; *"this grain silo, designed by Frederick G. Hicks constitutes the most elaborate in Ireland in terms of both scale and design. The application of a cornice to this symmetrical façade gives the structure a formal aspect not usually found in this building type"*.

Both submissions consider the two elevated gantries to be of 'local' industrial archaeological and technical significance only. Nevertheless, it is noted that the exclusion of the north-south gantry forms the principal focus of Submission 2, where its exclusion is largely argued on the basis of operational considerations related to the Alexandra Basin Redevelopment project (See *Alexandra Basin Redevelopment Considerations below*) rather than in relation to the categories of special interest as set out by the Planning & Development Act 2000 (as amended). The Planning & Property Development Department is of the opinion that both gantry structures form part of the layered history of the site and contribute to its character and significance.

Operational & Maintenance Challenges

The submissions highlight the significance of the fact that the complex is still in use as a working grain silo, however a number of operational challenges have been cited which are claimed to threaten the viability of maintaining the existing silo operations. These include: the inability of large vehicles to access the loading bays of the original silo building necessitating the inefficient conveying of grain within the silo complex; reduced capacity of the silo due to the decommissioning of the 4 no. of the 12 no. steel bins on structural grounds (See *Structural Considerations below*); a variety of bin shapes and sizes which present loading restrictions/maintenance issues; and concerns over a single grain intake point (the north-south gantry) where failure in the process would result in disruption to supply.

Submission 1 claims that 'due to their age, condition and structure' the existing silos cannot be retrofitted, adding that their protection would limit modernisation of the operation. Both submissions highlight a concern that protection may present an obstacle and impose delays in relation to ongoing repairs and maintenance, placing excessive constraints on the current tenant and the ongoing use.

Response

DCC recognises that the continued use of the silo for its original intended purpose is unique in the Irish context and acknowledges the importance of maintaining active silo operations within the structures. It is recognised that this may necessitate change and intervention to ensure efficiency of process and compliance with modern standards and regulations.

Section 57 of the Planning and Development Act 2000 (as amended) allows the owner or occupier of a Protected Structure to make a written request to the planning authority for a declaration which would define the acceptable limits of change and identify where interventions may be possible. A declaration would also indicate works which are considered to be routine repair and operational maintenance, which could be undertaken without the need for planning permission.

Structural Considerations

Submission 1 includes an assessment from a structural engineer which provides a summary opinion on the condition of each silo structure.

The steel silo of c.1932 is highlighted as being in poor condition where corrosion of the external steel plating has compromised the suitability of the silo for continued grain storage. Matters are further compounded by a flaw in the original design whereby an absence of stiffener plates has given rise to localised buckling of the silo walls. 4 no. of the existing 12

no. steel bins have been decommissioned due to weakening of the structure. The report raises additional concerns in relation to the existing floor and roof slabs of the overhead distribution level, where corrosion jacking of embedded rebars and subsequent concrete spalling has been recorded. Although the structural assessment recommends replacement of the 4 no. bins as well as remedial repairs to the reinforced concrete, it concludes that these measures would not extend the working lifespan of this section of the silo beyond approximately 10 years.

The structural report also highlights areas of concrete spalling to the LG. Mouchel & Partners silo extension of c.1937, due to the shallow depth of concrete coverage to the embedded ferrous reinforcements. The report suggests that while localised repairs could be carried out to the concrete in the short-term, this will pose issues for the preservation of the structure in the longer term. Spalling of concrete is also recorded to the c.1915 silo, though this is considered in better condition than both later extension phases.

The submission requests that the addition of R&H Hall to the RPS is delayed until the condition survey has been completed.

Response

The structural report which has been submitted has been produced by an experienced structural engineering consultancy, with demonstrable conservation expertise. Although it is noted that the superficial condition of a structure should not rule out its inclusion in the RPS, the opinion presented by the structural engineer indicates that the steel silo extension of c.1932 and the concrete silo extension of c.1937 are in need of 'significant' structural intervention.

It is noted that the steel silo reflects an unusual choice of construction for the c.1932 extension, given that this structure type had historically proven prone to corrosion and poor weather tightness. During the site inspection by the Conservation Section in November 2019, it was noted that 4 of the 12 steel bins within the steel silo extension had been decommissioned due to structural failings. The concrete silo of c.1937 would appear to be less problematic, nevertheless given the submitted evidence, this also presents a number of inherent design shortcomings. It is recognised that the construction techniques used in these extensions' present specific repair challenges and that a predicted working lifespan of 10 years has been assigned by the engineer to some elements of the structure. Preservation of the historic fabric would appear to demonstrate a significant challenge to the long term retention of these structures.

It is also noted that the NAIH appraisal of the complex (see NIAH/Ministerial Recommendations above) refers only to the Hicks structure; *"this grain silo, designed by Frederick G. Hicks constitutes the most elaborate in Ireland in terms of both scale and design. The application of a cornice to this symmetrical façade gives the structure a formal aspect not usually found in this building type"*.

Accordingly, and in light of evidence presented within the structural engineer's summary opinion report, where significant concerns have been highlighted, it is recommended that the silo extensions of c.1932 and c.1937 are not themselves specifically protected, i.e. are not included in the description of the structures to be added to the RPS, but are included in the overall curtilage of the site. This means that the 1932 extension and the 1937 silos would not be protected structures, but major interventions such as partial or complete demolition would be subject to an application for planning permission; to be clarified by a declaration under Section 57 of the Planning and Development Act, 2000 (as amended) as to what works would/would not require planning permission.

Alexandra Basin Redevelopment Considerations

Submission 2 encourages Dublin City Council to carefully consider how any amendment or addition to the RPS concerning R&H Halls, would potentially threaten active and/or permitted port operations at the Alexandra Basin Redevelopment (ABR) project (ABP Reg. Ref: PL29N.PA0034), a Strategic Infrastructure Development (SID).

The submission states that the addition of the north-south gantry to the RPS would have an adverse impact on the capacity and activity that can be achieved at Dublin Port, ultimately hindering the outcomes of the ABR project. The submission includes an engineering perspective by Malachy Walsh & Partners which indicates that the future redevelopment of the Alexandra Quay will necessitate excavation of the ground extending 35-40m behind the existing quay face and would require the removal of the north-south gantry.

Attention is drawn to a history of collisions between port vehicles and the north-south gantry adding that the intensification of quayside activity, following the completion of the ABR project works, is likely to lead to an increase in the frequency of such collisions placing the north-south gantry and R&H Hall operations at risk. The submission suggests that removal of the north-south gantry would be required to facilitate safe turning and manoeuvring of vehicles on the quayside and requests that the gantry be excluded from the RPS.

Response

Submission 1 indicates that excavation works required to upgrade the quayside, as part of the ABR project, would necessitate the complete and permanent removal of the north-south gantry. It is however noted that the north-south gantry largely sits outside the anticipated 35-40m zone of excavation and that the complete removal of this structure would not be deemed justified on this premise alone. Notwithstanding this, it is acknowledged that an increase in port related traffic combined with restricted turning circles (gantry supports are placed at c.20m centres) would provide a significant obstacle to quayside operations.

Dublin City Council recognises that Dublin Port, as a strategic working port, makes a significant contribution to employment and the economy. It acknowledges the importance of supporting port related activity and is aware of the complexity and sensitivity of the proposed ABR project and so understands that a balance must be achieved between the significance of this later structure and the exceptional infrastructural and operational requirements of Alexandra Quay and Basin. Therefore, it is recommended that the north-south gantry shall not form part of the structures to be protected, but shall remain within the overall site curtilage of the 'grain silo built 1915-20' proposed for addition to the Record of Protected Structures.

Conclusion:

The reinforced concrete grain silo built 1915-20 to designs by Bachelor & Hicks, is considered to be of special Architectural, Historical, and Technical interest and is worthy of addition to the City Council's Record of Protected Structures (RPS). This accords with the 'Nationally' rated assessment of this complex by the NIAH (Ref. No. 50060589) as clarified in correspondence dated 17th February 2020, and the Ministerial Recommendation of the 9th of August 2017.

The steel bin silo extension built c.1932 and reinforced concrete silo extension built c.1937 to designs by L.G. Mouchel & Partners are considered to be of special Architectural, Historical, and Technical interest. However the 'summary' structural opinion included as part of Submission 1 indicates that these structures are in poor condition with some elements predicted to have limited working lifespan of approximately 10 years. During the site inspection by the Conservation Section in November 2019, it was noted that four (4) of the steel bins to the c.1932 silo extension had been decommissioned due to structural failings.

Furthermore, a number of concrete repairs were noted to the external elevations of the c.1937 silo extension. Given the initial evidence presented within the structural engineer's summary opinion report and on review of observations made during the inspection, and given that the NIAH appraisal refers specifically to the Hicks structure only, it is recommended that the silo extensions of c.1932 and c.1937 not be added to the Record of Protected Structures, but are included within the overall curtilage of the site. This means that the 1932 extension and the 1937 silos would not be protected structures, but major interventions such as partial or complete demolition would be subject to an application for planning permission; which may be clarified by a request from the owner for declaration under Section 57 of the Planning and Development Act, 2000 (as amended) as to what works would/would not require planning permission. .

The east-west elevated gantry built c.1920, connecting the silo with the former flour mill (Odlumns), forms part of the layered history of the site and as a component part of the silo complex and it is recommended that this structure be protected and included as part of the description of the Protected Structure.

The north-south elevated gantry built between c.1932-37, connecting the silo with Alexandra Quay, forms part of the layered history of the site and although it remains a component part of the silo complex, it is acknowledged that the gantry would be significant obstacle to quayside operations; particularly where an increase in port related traffic is anticipated as a result of the permitted Alexandra Basin Redevelopment (ABR) project. Therefore, in light of the exceptional infrastructural circumstances involved, it is recommended that this structure not be included as a protected structure. Accordingly, it is recommended that it be omitted from written description of the proposed Protected Structure but remain within the defined curtilage of the site.

A single-storey lean-to extension to the south elevation of the principal silo structure together with the terminal structure attached to the southern end of the elevated quayside gantry and the associated section of gantry running parallel with Alexandra Wharf, date to the late 20th century and are of limited significance. It is recommended that these elements of the structure are excluded from both from the written description of the proposed Protected Structure and from the defined curtilage of the site.

The NIAH and Ministerial Recommendations rated the 'R&H Hall Silo' as being of 'National' significance (see above). The clarification received from the Department on 17th February 2020 confirms that NIAH record and [National] rating for the R&H Hall building at Alexandra Rd, Dublin 1, apply to the entire early twentieth-century complex, i.e. the principal 1915-20 part, as well as the c. 1932 and 1937 additions.

The Planning & Property Development Department has considered these recommendations and is in agreement with the NIAH/Ministerial Recommendation in relation to the grain silo designed by Bachelor & Hicks and built between 1915 and 1920.

However, the Planning and Property Development Department does not agree with the Ministerial Recommendation regarding the steel bin silo extension built c.1932 and the reinforced concrete silo extension built c.1937 to designs by L.G. Mouchel & Partners, for the reasons as outlined above in the responses to the submissions and as summarised in the second paragraph (above) of this conclusion.

In this regard, it is noted that the NAIH appraisal of the complex (see NIAH/Ministerial Recommendations above) refers only to the Hicks structure; *"this grain silo, designed by Frederick G. Hicks constitutes the most elaborate in Ireland in terms of both scale and design. The application of a cornice to this symmetrical façade gives the structure a formal aspect not usually found in this building type"*.

Ministerial Observations

The Planning and Development Act, 2000 (as amended) provides that submissions and observations received by the planning authority in relation to a structure recommended for addition to the RPS by the Minister of Culture, Heritage and the Gaeltacht, shall be sent to the Minister for her observations. This was duly done by post and email.

No observations were received from the Minister in relation to the written submissions/observations within the statutory period. This is noted with regard to the considerations above in not proposing the addition to the RPS of the silo extensions built in 1932 and 1937.

Recommendation to the City Council:

It is recommended that the description as originally provided in the public notices be amended as follows (new insertions in **Green** and deletions in **red**):

Recommendation	
Address	Description (to appear on RPS)
R&H Hall Silo , Alexandra Road, Dublin 1	Grain silo designed by Bachelor & Hicks and built 1915-20 , including early 20 th century elevated gantries gantry to south and east (but excluding single-storey lean-to extension to the south elevation, terminal structure attached to southern end of the elevated quayside gantry and the associated section of gantry running parallel with Alexandra Wharf).

In accordance with section 55 of the Planning and Development Act 2000, it is recommended that **R&H Hall Silo, Alexandra Road, Dublin 1 (Grain silo built 1915-20 including early 20th century elevated gantry to east)** be added to the Record of Protected Structures in the Dublin City Development Plan 2016-2022. An illustration of the defined curtilage has been presented overleaf.

Recommendation	
Address	Description (to appear on RPS)
R&H Hall, Alexandra Road, Dublin 1	Grain silo designed by Bachelor & Hicks and built 1915-20, including early 20 th century elevated gantry to east.

The making of any addition to the Record of Protected Structures is a reserved function of the City Council.

Resolution:

"That Dublin City Council notes the contents of Report No. 155/2020 and approves the addition of R&H Hall Silo, Alexandra Road, Dublin 1 (Grain silo built 1915-20 including early 20th century elevated gantry to east) to the Record of Protected Structures in the Dublin City Development Plan 2016-2022, in accordance with Section 54 and 55 of the Planning and Development Act, 2000 (as amended)."

Richard Shakespeare
Assistant Chief Executive.

Dated: 18th March 2020

Extent of Protected Structure Status & Curtilage

The proposed protected structure and its curtilage is outlined below.



Fig.7: Map of site showing extent of Protected Structure in solid red (grain silo built 1915-20 including early 20th century gantry to east) with defined curtilage outlined in a dashed red line.

Photographic Record



Fig.8: Principal/south elevation of 1915-20 silo.



Fig.9: West elevation of silo complex taken from the northwest showing 1915-20 silo to right, c.1932 silo extension to centre and c.1937 silo extension to left.



Fig.10: Rear/north elevation of c.1937 silo taken from the northwest.

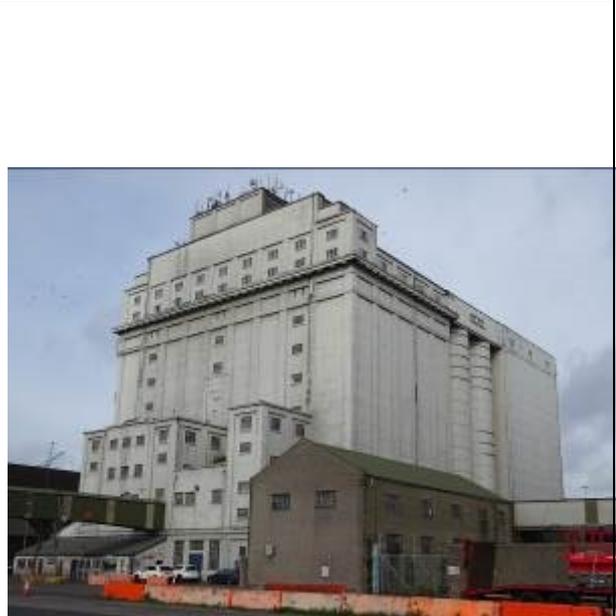


Fig.11: East elevation taken from the southeast showing 1915-20 silo to left, c.1932 silo extension to centre and c.1937 silo extension to right.



Fig.12: Aspect of silo (left) and former Odlums site (right) taken from Ringsend (south). Note the R&H Hall Silo together with the adjacent Odlums site dominate the skyline of the Dublin Port complex.



Fig.13: Ground floor loading bay to 1915 silo, taken from the east.



Fig.14: Electric switch bank by 'Elliot Brothers (London) Ltd., to switch room located in within mid-20th century infill addition to the south elevation.



Fig.15: Detail of steel trusswork pier to east-west elevated gantry (c.1920) connecting silo with the former Odlum's site.



Fig.16: Detail of steel trusswork pier to north-south elevated gantry (c.1932-37) connecting silo with Alexandra Quay.