

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



## Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners ([Examencommissie-BK@tudelft.nl](mailto:Examencommissie-BK@tudelft.nl)), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Diletta Wesel
Student number	4685598

Studio		
Name / Theme	Heritage Architecture: Adapting 20 <sup>th</sup> century Heritage Vacant Police Real Estate	
Main mentor	Joana Dos Santos Gonçalves	Architecture, Design
Second mentor	Frank Koopman	Building Technology
Third mentor	Wido Quist	Research
Argumentation of choice of the studio	I have chosen the graduation studio <i>Heritage Architecture: Adapting 20<sup>th</sup> century Heritage</i> due to the fascination I have always had for heritage architecture and ancient architecture. Also, after having followed the course Heritage & Architecture during the Msc2, my predilection and interest for this subject has grown. Regarding the research line, my preference lies in the Touch & Feel research. This is probably the result of my predilection in giving immediately, when looking at a building, particular attention to materials and construction details rather than to the whole building. Also, I find that materiality plays a big role on the impact a building gives to its surroundings and users. However, during my studies I have not had the opportunity to research and examine materials in depth. In conclusion, this research line summarises what I had envisioned when deciding to follow heritage courses.	

Graduation project	
Title of the graduation project	Harbour Police Station in Rotterdam
Goal	
Location:	Harbour Police at Sint-Jobsweg 6, Rotterdam
The posed problem,	Windows have always been implemented in buildings and play a functional role, for example they make air and sunlight passage

	<p>possible, but can also be viewed as a form of ornamentation (Robilant, 2014). These, allow communication between the interior and the exterior, but they are also elements which allow the user to control several aspects such as the light, sound, air, privacy. Although people spend a great time inside, windows do have a strong relationship with the outdoor space. The relation has changed during the years with the introduction of new window opening types, for example display windows, which create a fluid relation between the inside and the public space outdoor (Orvell &amp; Meikle, 2009). Often buildings are designed without taking into consideration the impact window openings can have on the openness or closeness of the building towards the public space. This can lead to anonymous buildings lacking character. There are multiple literature studies on window openings, the openness and closeness of a building, and on the public space but I have not been able to find studies which define the relation and the impact of these. Since windows play an important role in a building and since the openness or closeness of a building either attracts or pushes someone away from a building, it would be interesting to define the impact these elements can have on the openness or closeness of the Rotterdam Harbour Police station towards the surrounding public space. This analysis can help define a suitable function for the Police station and vacant buildings.</p>
research questions and	<p>To address the above mentioned topic, a main research question and subsequential sub-questions<sub>7</sub> have been formulated as follows: <i>To what extent do window openings help define a building's openness or closeness towards the public space?</i></p>

	<ul style="list-style-type: none"> <li>- <i>How did the application of window openings change during the 1930's, 1940's, and 1990's?</i></li> <li>- <i>What typology and style of window openings was used for the original design of the Harbour Police building of 1933, 1934 and for the design of the addition happened in 1994?</i></li> <li>- <i>Specifically referring to the Rotterdam Harbour Police building, what role do window openings play in defining the buildings' openness or closeness? How does this relate to interior spaces?</i></li> <li>- <i>What building functions suite a resulting open or closed building towards the public space?</i></li> <li>- <i>What position can an architect take when being faced with the decision of interfering with the current openness or closeness of a building towards the public space, by having to fit a function that is not pertinent with the state of the facade?</i></li> </ul>
design assignment in which these result.	<p>As previously mentioned, this research aims to address the impact, and the extension of it, that window openings can have in defining a building's openness or closeness towards the public space. Among this, the research aims to discover a set of guidelines that can help architects understand the influence window openings can have on the public space and consequently help them during their design process. Also, it aims to help them, when having decided whether they want a more open or closed relation to the public space, to choose specific windows openings which are the most suitable for their design and the appearance they want to achieve. Referring to the Harbour Police project, the guidelines will be utilized to test the design and help me take decision during the design process.</p>

<b>Process</b>
<b>Method description</b>
<p>In order to carry out this research I will use different research methodologies. In fact, the first step in the research will be to extract information about typologies and styles of window openings of the 1930's, 1940's, and 1990's from literature sources. This information will be critically used to assess the typology and style of the window openings present in the Harbour Police station. Information about the openness and closeness of multiple façades will also be gained from comparing literature sources, as well as literature about the impacts these can have on the public space.</p> <p>Simultaneously, research on the Harbour police buildings and their windows openings will be conducted making use of original façade drawings and photos retrieved from the archives situated in Rotterdam. From this research I will retrieve information about the original materials, sizes, styles of window openings and how these might have changed during time in relation with the Touch &amp; Feel line of research. Making use of the information gained it will be possible to value the window openings, and their elements in a value assessment.</p> <p>At this point, it will be clear, comparing the openings to the conducted literature research, whether the Harbour Police station facades are open or closed towards the public space. Once all this information has been acquired, it will be possible to critically outline to what extent the window openings of the Harbour Police station help define its openness or closeness towards the surrounding public space.</p> <p>When the openness and closeness of buildings is defined, it will be possible to select a number of case studies. These will be renovation projects and will be selected based on their openness and closeness and at least one case study will have an open character towards the public space, and one will have a closed one. The case studies, in particular their functions and possible window openings transformation, will be analysed. With the result of the analysis and the information gained through literature about buildings with different typologies and their use of window openings, it will be possible to determine which building functions suit buildings which are open or closed towards the public space.</p> <p>The obtained information will be utilized to define a set of guidelines which will be the ultimate result of this research. In fact, they will derive from both the research conducted and the design process of the Rotterdam Harbour Police project. As previously said, the guidelines will be utilized to test the ongoing design and help me take decisions during the design process. However, these decisions will not only be based on the set of guidelines, in fact, more factors, such as the information gained regarding the Harbour Police station and the surrounding area, the Strategic Plan the municipality of Rotterdam has for the area will play a role in determining them and help me achieve a final design.</p> <p>Moreover, the guidelines can have a broader use. In fact, these can help architects and students understand the impact window openings can have on the public space and consequently help them during their design process and explore different transformation opportunities. Also, it aims to help them, when having decided whether they want a more open</p>

or closed relation to the public space, to choose specific windows openings which are the most suitable for their design and the appearance they want to achieve.

## Literature and general practical preference

This research introduces several topics such as the application of window openings and typologies, and consequent architectural styles in the Netherlands in the 1930's, 1940's and 1990's, the openness and closeness of a building towards the public space. As a result of preliminary studies, the concept of openness and closeness towards public space has only been addressed in relation to the façade as whole and not in relation to the window openings. Therefore, I am planning on researching the relevant topics apart from each other and draw a conclusion from each of them. Once this will be done, a broader conclusion will be drawn to answer the research question.

The topic of windows and their history in the Netherlands is introduced in the report of WTA-International, *Historische vensters: typologie, duurzaamheid, antiek glas, ramen, kozijnen*, in which the development of window typologies in the Netherlands is clearly explained. From this report, information about the history of window openings, materials and typologies will be extracted. This information will be utilised in the first steps of the research.

The first sub-question is related to the architectural styles and application of window openings in different time periods throughout the 21<sup>st</sup> century. In his book *Dutch architecture after 1900*, Reinard Blijstra illustrates how architecture has changed in the first half of the 21<sup>st</sup> century and the styles which have used along with their characteristics. Costanzo and Hibelings, in their book *Dutch touch: sulla seconda modernità in Olanda*, elaborate on the societal and historical reasons of the change happened in the Dutch architectural style during the 1990's, and elaborate on architectural characteristics used in designs during these years.

The concepts of openness and closeness of a building are illustrated in the article *The Façade – A Reflection on the Change of the Public Sphere* written by Birgit Jürgehake. In this article the relation, which may be physical, spatial and visual, between the façade and its elements, and the public sphere are illustrated. In the article *Close encounters with buildings* by Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad, the openness of the facade towards the public space is elaborated, this happens mostly on the ground level. Further analysis will have to be made in order to define how elements of the façade impact the public space and to what extent do window opening impact it.

Furthermore, a detailed list of literature which are intended to be used during the research follows:

- Blijstra, R. (1966). *Dutch architecture after 1900*. P.N. van Kampen & Zoon.
- Costanzo, M., & Hibelings, H. (2004). *Dutch touch: sulla seconda modernità in Olanda* (Ser. Percorsi = paths, 03). Kappa.
- Cremers, J., 2016. *Building Openings Construction Manual: Windows, Vents, Exterior Doors (Detail Manual)*. Munich: Detail Business Information GmbH, The.
- Faroldi, E. (2020). *Public space and the contemporary city. A narrative of places, time, relationships*. TECHNE 19 (2020): The public space. DOI: <https://doi.org/10.13128/techne-8852> Published May 5, 2020
- Gehl, J., Kaefer, J., Reigstad, S. (2006). *Close encounters with buildings*. URBAN DESIGN International (2006) 11, 29–47

- Hopkins, O. (2012). *Reading architecture: a visual lexicon*. Laurence King. Retrieved October 4, 2021, from <https://www.scribd.com/document/480878420/Reading-Architecture-A-Visual-Lexicon-PDFDrive-com>
- Jürgehake, B. (2014). *The Facade – A Reflection on the Change of the Public Sphere. On the example of the mass housing in the Dutch cities of the 20th century*. Cloud-Cuckoo-Land, International Journal of Architectural Theory. Vol. 19, Issue 32, 2014. [cloud-cuckoo.net/fileadmin/hefte\\_de/heft\\_32/article\\_juergenake.pdf](http://cloud-cuckoo.net/fileadmin/hefte_de/heft_32/article_juergenake.pdf) [1.10.2014]. p. 227–249.
- Knaack, U., Klein, T., Bilow, M., Auer, T. (2014). *Facades. Principles of Construction*. 2. rev. ed. Basel: Birkhäuser
- Langmead, D. (1986). *English language sources on Dutch modern architecture, 1900-1940 : journal articles not by Dutch authors* (Ser. Architecture series--bibliography, a 1672). Vance Bibliographies.
- Orvell, M., & Meikle, J. L. (2009). Public space and the ideology of place in American culture (Ser. Architecture, technology, culture, 3). Rodopi. Retrieved October 28, 2021, from <https://tudelft.on.worldcat.org/v2/search/detail/644525117?queryString=public%20space%20architecture&clusterResults=true&groupVariantRecords=false>
- Robilant, M. di, Maak, N., Koolhaas, R., Boom, I., & AMO Harvard Graduate School of Design. (2014). *Window* (Ser. Elements). Marsilio.
- Prina, F. (2008). *Architecture : elements, materials, form* (Ser. Princeton field guides to art). Princeton University Press.
- Prudon, T. H. M. 2008. *Preservation of Modern Architecture*, Hoboken, N.J.: John Wiley & Sons.
- White, M. (2003). *De Stijl and Dutch Modernism*. Manchester University Press. Manchester, UK.
- WTA-International (2012). *Historische vensters: typologie, duurzaamheid, antiek glas, ramen, kozijnen*. Retrived October 21, 2021, from [https://www.wta-international.org/fileadmin/user\\_upload/Nederland-Vlaanderen/syllabi/2012-03-23\\_Historische\\_vensters.pdf](https://www.wta-international.org/fileadmin/user_upload/Nederland-Vlaanderen/syllabi/2012-03-23_Historische_vensters.pdf)



## Reflection

The studio topic has a strong relation with the situation we live in today. In fact, many buildings are remaining vacant and many more will be soon. We live in a world which is undergoing several crises. This has become even more clear during this pandemic in which we have learned that there is a growing shortage of natural sources which are utilised in the building industry as well. This brings us to the understanding that we cannot continue to build new buildings but that we should adapt the existing.

Regarding the graduation studio, the entire project has a relation with the above-mentioned topic since it focuses on buildings which will become vacant soon. It is also related to the Touch & Feel line of research which focusses on the materiality of the buildings and points on to revealing hidden values of material attributes and how these are perceived through senses. The topic I have chosen has a strong relation to the Touch & Feel field since I will be focusing on the openness and closeness of the Rotterdam Harbour Police station. Also, it is strongly related to the perception of space. I will be gaining information about the materials, sizes, styles of window openings and how these have changed during time. The hope is that the project will result in multifunctional buildings which reflect their functions and their consequent openness or closeness in their facades. Another outcome is a set of guidelines which will be available and used by architects and students to define the impact window openings can have on the openness or closeness of a building towards the public space can help define a suitable function for a vacant building and consider different transformation options. Making use of the guidelines, the process will become easier and faster to have more architects engage with heritage and vacant buildings.