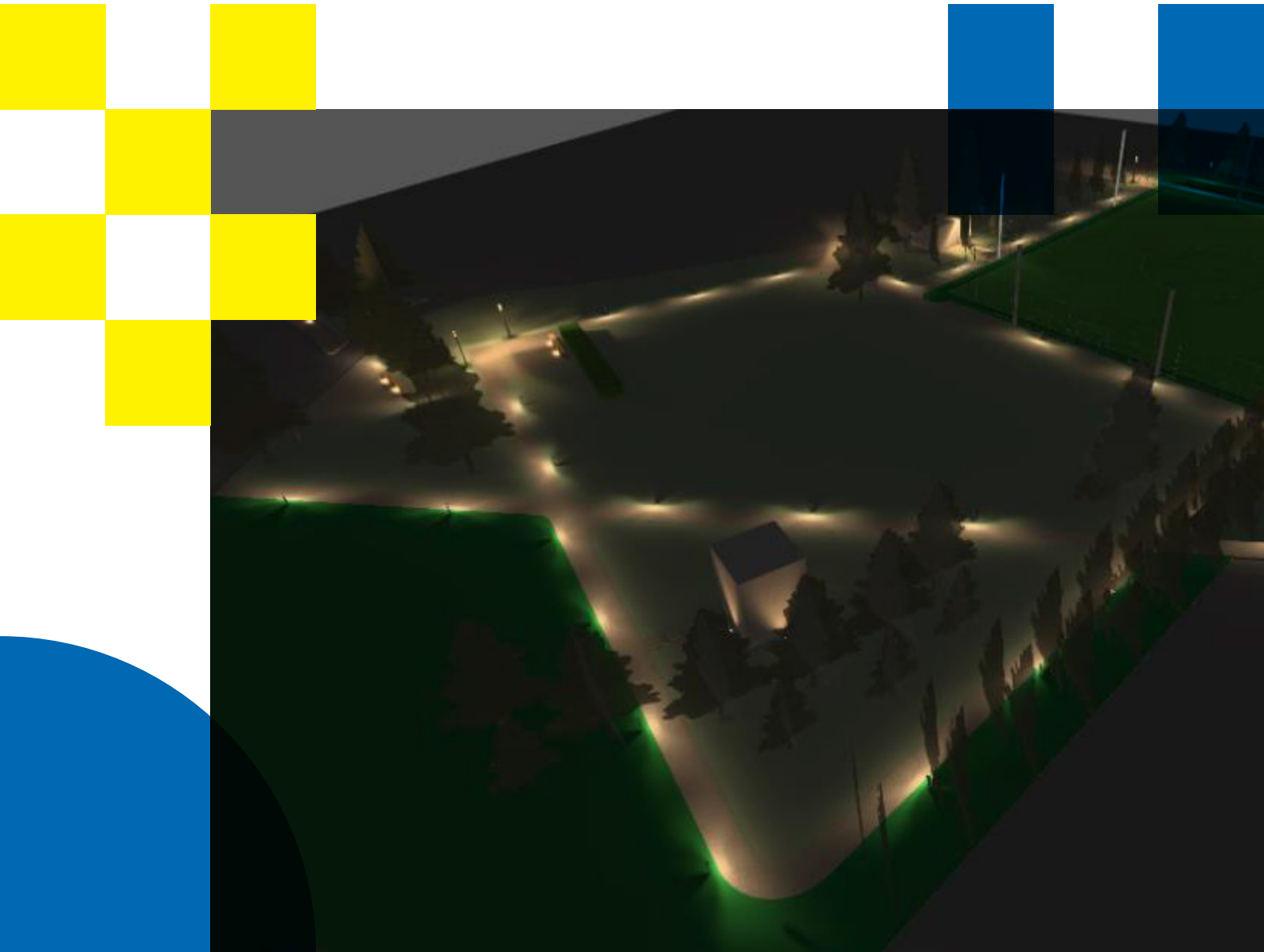


Port Park: Concept Lighting Planning Report



Project title	3FM Project	Job number
Report title	Port Park - Concept Lighting - Planning Report	1036912

Document revision history

Revision ref	Issue date	Purpose of issue / description of revision
PL01	1 July 2024	Planning Issue

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X David Deane _____ Principal author Signed by: Darren Kelly	X Darren Kelly _____ Checked by Signed by: Darren Kelly	X William Dolan _____ Verified by Signed by: Darren Kelly

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2.0 Project Overview

2.1 Introduction

This Design Statement has been prepared in support of an application for the 3FM Project being submitted by Dublin Port Company, focusing in particular on the proposed new Port Park site which forms part of the overall proposed development. The 3FM Project represents the concluding phase of the Masterplan initiatives essential for realizing Dublin Port's full potential by 2040. The project primarily centres on the Dublin Port Company-owned lands situated on the Poolbeg Peninsula, which constitutes one-fifth of the entire Dublin Port estate and is commonly referred to as the southern port area.

The proposed development site for the new Port Park is located on the southern end of the Poolbeg Peninsula in Dublin 2, bounded by South Bank Road to the north, existing Dublin Port industrial yards to the east, Pembroke Cove due south and existing landscaped berm south and eastwards towards Irishtown Nature Reserve. The western Park boundary forms the combined proposal for the Active Travel Route, with the future development of the 'Glass Bottle Site' further west.

The new proposed site will comprise a total area of 5.2 Ha and will constitute an amalgamation of industrial lands currently underutilised for this prominent location on the fringe of Dublin Bay. Connection to the very popular leisure walk towards Irishtown Nature reserve is considered in the site extents, with the subject site boundary extending eastwards to ensure tree planting south of the landscaped berm can be undertaken. This extension is designed to enhance the overall environmental opportunities, result with low visual impact of the 3FM project, while also ensuring that the site remains connected to the surrounding natural environment and leisure opportunities.

Proposed Port Park masterplan includes a large sport pitch with a natural ground surface, pedestrian routes and pathways, Pavilion building with public toilets, public square and urban realm treatment, a children's play tower, and a large wildflower meadow to the east. A 'share with care' corridor has been adopted on the western fringe of the park to allow for a shared cyclist and pedestrian corridor which forms a central portion of the wider 3FM Project Active Travel Route.

Overall, the Port Park proposals seek to revitalize the industrial lands, by providing a contemporary parkland with public spaces and amenities to cater for a diverse range of activities, functions, and environmental considerations. A combined approach was adopted by the design team in the parkland design and has resulted in a welcoming hub for the local community and visitors from afar. Several consultations and meetings were held with Dublin City Council Parks department to review the design, with feedback being adhered to its the design development. This also included a site walk with the design team to discuss the existing site conditions and development consideration at the beginning of the project.

The purpose of this design report is to provide an overview of the proposed development and includes a review of the proposed character areas within the Port Park proposals.

2.2 Port Park Overview

Section 3.0 and beyond of this report provides details of the lighting design proposed as part of the Port Park element of the 3FM Project. The Port Park consists of a large grass playing pitch suitable for Soccer, Gaelic Games, landscaped walkway, and green spaces.

Section 3.1: This section provides details of the various features of the Port Park, including the playing pitch, walkways and green spaces. It does not cover internal building spaces.

Section 3.2: This section provides details on several lighting standards and guidelines that have been applied, including IS EN 12665:2018, IS EN 12193:2018 & LC:2019, CIBSE SLL Lighting Guide 4 – Sports Lighting 2023, EN 13201-2:2015, BS 5489-1: 2013, HSA Regulations for Electricity, and IS 10101 National Wiring Regulations.

Section 3.3 provides details on the lighting design criteria for different areas of the project.

Section 3.4 provides details on the pitch lighting design which uses a Class II illumination class to efficiently cater to Soccer, Gaelic Football, and Hurling. Provided also is a Class III level of illumination for Hurling.

Section 3.5 considers environmental issues considered as part of the design, such as light pollution, impact of the maritime environment on the installation, disturbance to wildlife, and energy usage.

Section 3.6 provides details on how the pitch flood lighting will be manually controlled from a nearby building and how the lighting for the park, amenity spaces and pathways will be automated.

Section 3.7 showcases how the pitch lighting will use LED flood lights on 12m poles, as well as the lighting for public areas and pathways.

Section 3.8 provides details of the proposed luminaire fittings that are proposed to be installed.

2.3 Appendices

This section includes the appendices, which provide additional information and data that support the main content of the document:

Section 4.0: This section showcases the comprehensive drawing and document register for the 3FM Port Park project, providing a detailed list of all the drawings and documents that have been created and used throughout the project.

Section 5.0: This section displays the planning drawings for the 3FM Port Park project, which have been developed to guide the project's execution and to ensure all aspects of the project are well-planned and organized as well as offering a visual representation of the project's design and layout.

3.0 3FM Port Park

3.1 Port Park Description

The Port Park consists of a large grass playing pitch suitable for Soccer and Gaelic Games. The lighting installation is based on 12-meter columns. The Port Park will also consist of landscaped walkways and green spaces where the lighting installation consist largely of 1.2-meter bollard lights and 4.5-meter feature column lights at entrance points and specific areas.

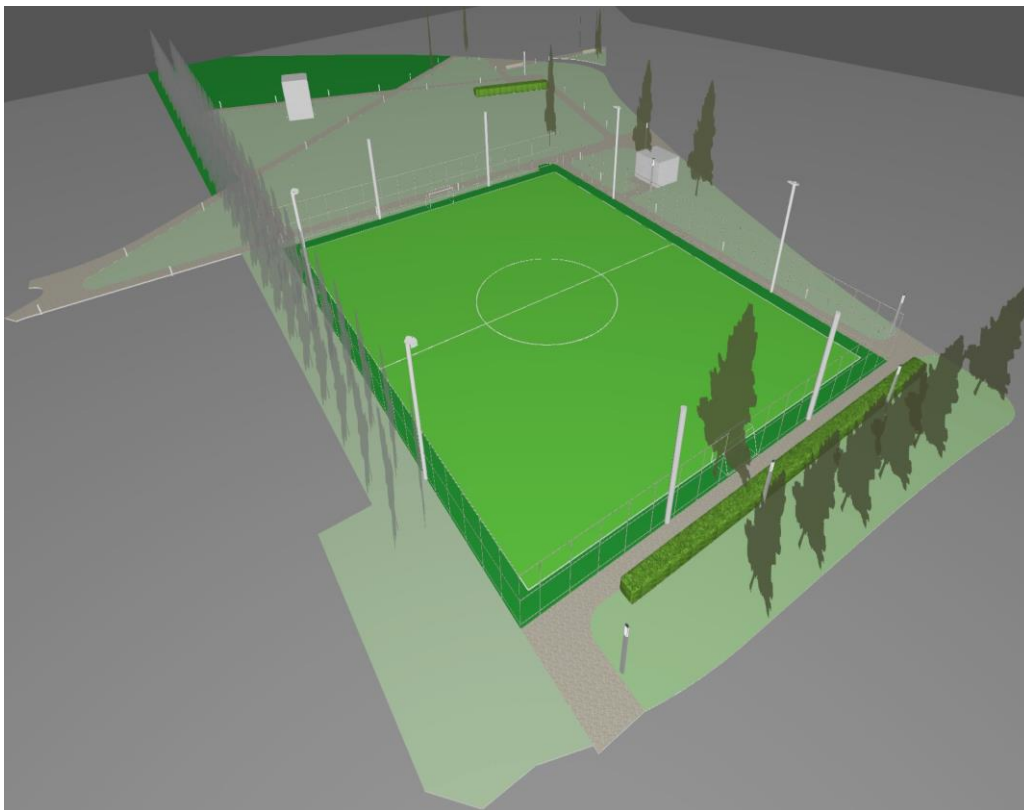


Figure 1 - Port Park Pitch

3.2 Lighting Standards and Guidelines

The lighting design has been developed in line with the following lighting standards and guidelines:

- IS EN 12665:2018 Light and Lighting – Basic Terms and Criteria for Specifying Lighting Requirements
- IS EN 12193:2018 & LC:2019 Light and Lighting – Sports Lighting
- CIBSE SLL Lighting Guide 4 – Sports Lighting 2023
- EN 13201-2:2015 Road Lighting Parts 2 – 4
- BS 5489-1: 2013 – Code of Practice for the Design of Road Lighting Part 1: Lighting of Roads and Public Amenity Areas.
- HSA Regulations for Electricity
- IS 10101 National Wiring Regulations

3.3 Lighting Design Criteria

3.3.1 Pitch Lighting

The design criteria is to provide illumination for Soccer, Gaelic Football and Hurling.

The class for Soccer is:

- Class II illumination for Soccer in accordance with EN 12193:2018 & LC:2019

The Hurling illumination level is a higher level of illumination as the ball is smaller and moving at higher speed.

For recommended levels of illumination in the CIBSE SLL Lighting Guide 4 for the 3 no sports are as follows:

- Mid-level Competition Soccer and Gaelic Football: 200 Lux
- Low level Competition or training for Hurling: 200 Lux

3.3.2 Park Paths and Walkways

The design criteria is to provide illumination at the park entrance points and along walkway for pedestrians or slow moving cyclists moving through the park at night time along designated pathways. Based on the Lighting Requirements from IS EN 13201-2:2015 indicated below a P3 Class lighting design is deemed to be appropriate.

Table 2. The six road descriptions used to define lighting classes in the 1995 issue of CIE115.⁵ Note that this document also included a seventh class, P7, defined as "Roads where only visual guidance provided by the direct light from the luminaires is required", but for which there was no specification of illuminance. The P7 class was omitted from the 2010 version.⁶

Lighting class	Horizontal illuminance (lux)		Description of road
	Average	Minimum	
P1	20	7.5	High prestige roads
P2	10	3.0	Heavy night-time use by pedestrians or pedal cyclists
P3	7.5	1.5	Moderate night-time use by pedal cyclists or pedestrians
P4	5	1.0	Minor night-time use by pedal cyclists or pedestrians solely associated with adjacent properties
P5	3	0.6	Minor night-time use by pedal cyclists or pedestrians solely associated with adjacent properties. Important to preserve village or architectural character of environment.
P6	1.5	0.2	Very minor night-time use by pedal cyclists or pedestrians solely associated with adjacent properties. Important to preserve village or architectural character of environment.

Table 3 — P lighting classes

Class	Horizontal illuminance		Additional requirement if facial recognition is necessary	
	E^a [minimum maintained] lx	E_{min} [maintained] lx	$E_{v,min}$ [maintained] lx	$E_{sc,min}$ [maintained] lx
P1	15,0	3,00	5,0	5,0
P2	10,0	2,00	3,0	2,0
P3	7,50	1,50	2,5	1,5
P4	5,00	1,00	1,5	1,0
P5	3,00	0,60	1,0	0,6
P6	2,00	0,40	0,6	0,2
P7	performance not determined	performance not determined		

^a To provide for uniformity, the actual value of the maintained average illuminance shall not exceed 1,5 times the minimum E value indicated for the class.

Figure 2 - EN 13201-2:2015 Road Lighting Parts 2 – 4

3.4 General Lighting Design Values

3.4.1 Pitch Lighting

In order to provide an economical and efficient lighting design to cater for the 3 no main categories, a Class II illumination class will be provided.

The lighting design illumination level for Class II is as follows:

- 200 Lux average
- 0.6 Uniformity
- Glare 55
- CRI 60

The Glare figure refers to amount of discomfort or even vision loss that the lighting installation would cause to players and spectators.

The CRI figure relates to the colour rendering index (Ra), which represents the ability of the light source to accurately reproduce the colour of an object's surface.

The Class II will satisfy the Soccer and Gaelic Football requirements and will provide a Class III level of illumination for Hurling.

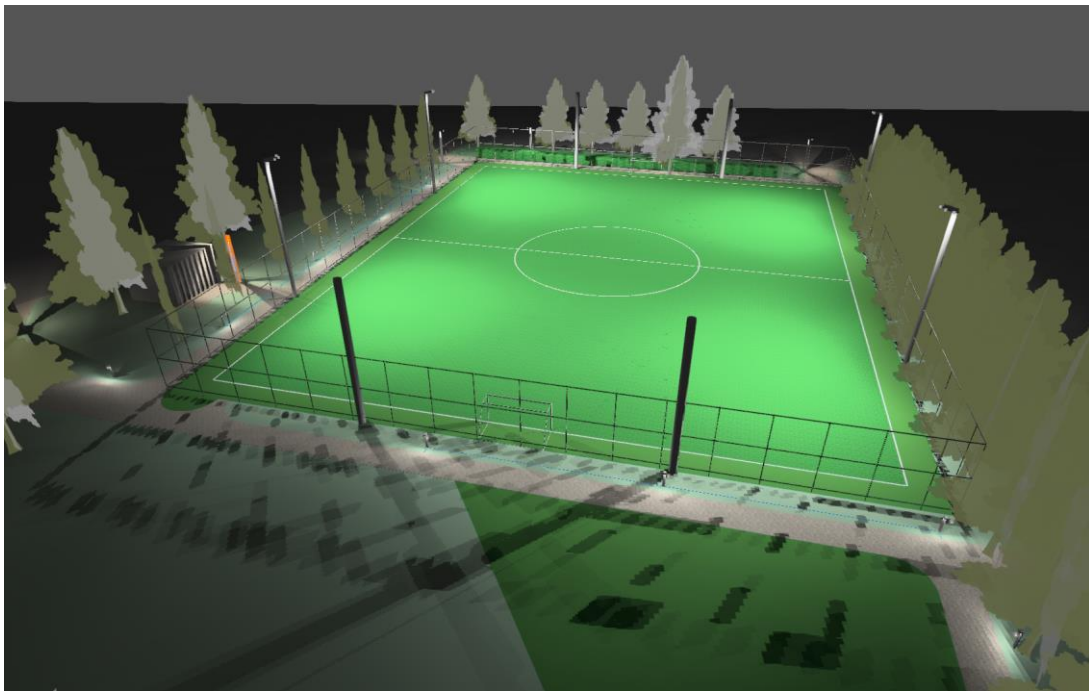


Figure 3 Port Park Pitch Lighting

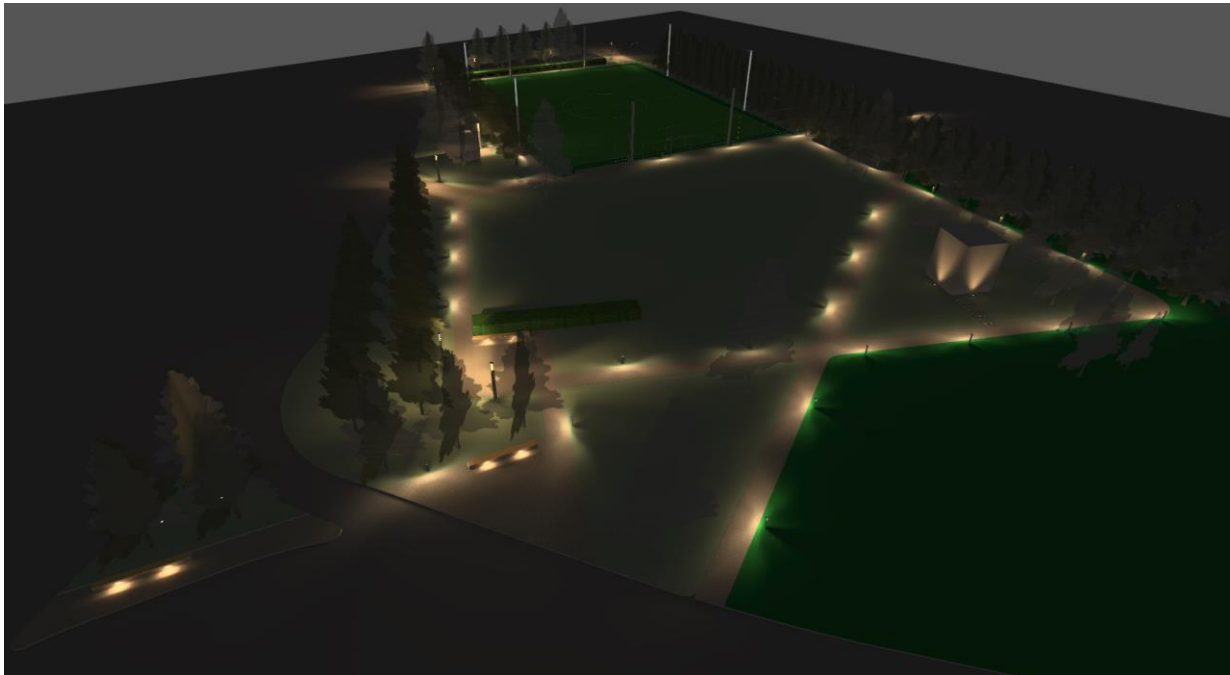


Figure 4 Port Park Lighting

3.5 Environmental Issues

The following issues relating to environmental issues have been considered during the design.

- Light pollution
- Damage to the installation due to a maritime environment
- Disturbance to the wildlife
- Energy usage

The light pollution will be kept to a minimum by using LED floodlights that have a very low upward light output ratio (ULR), to reduce lost light going upward. The pitch floodlights will also be fitted with back reflectors to cut off the low throwback to reduce light pollution to areas adjacent the pitch.

The colour temperature of the pitch LED sources will be 5000⁰ K to reduce the effect of glare and to provide a reasonable colour rendering for playing sports.

The fall off in lighting levels in the areas adjacent to the pitch will assist in reducing the impact of the lighting installation on wildlife such as bats and fowl.

The colour temperature of the pathway and amenity spaces lighting LED sources will be 3000⁰ K to provide comfortable warm lighting and reduce the impact of the lighting on wildlife and reduce light pollution.

The proposed installation will consider the effect of a maritime atmosphere.

Energy efficient LED lighting is proposed throughout to achieve optimum Lumens/Watt.

3.6 Lighting Controls

The pitch flood lighting installation will be controlled manually from a toilet/store building to be provided at the edge of the pitch.

The park and amenity spaces, and pathway lighting shall be controlled via astronomical time clocks so that the lighting will only be operated during hours of darkness. With the astronomical timeclocks there is further flexibility to control the lighting based on time.

3.7 Proposed Lighting Installation

The proposed pitch lighting installation will consist of LED flood lights mounted on 12 meter poles placed around the two pitch side lines.

The proposed public amenity areas and pathways lighting installation will consist of 1.2 meter LED bollards with angled heads to reduce light spillage and upward light pollution. It will also consist of 4.5 meter LED architectural lighting columns at entrance points and public amenity spaces. There will be recess wall lights in public benches and recessed up lights washing the walls of the proposed tower in the centre of the open green area.

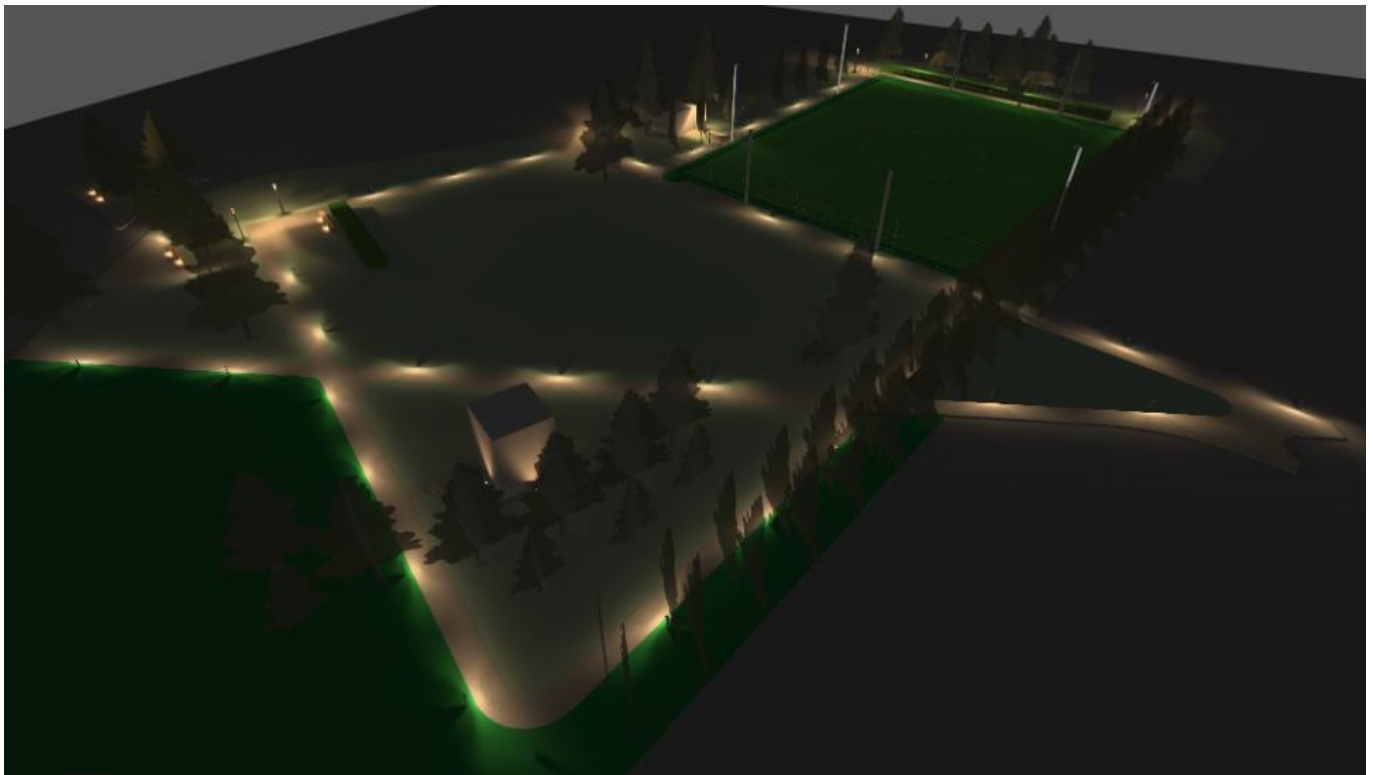


Figure 5 - Port Park & Stop Point C

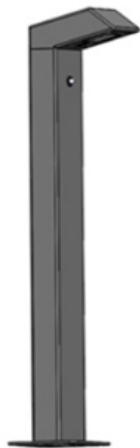
The proposed lighting will tie in with the look and feel of very similar fittings used elsewhere on the Port Greenway project and other proposed 3FM Project public lighting projects.

The proposed lighting installation shall be fed from underground cables laid in ducts and be powered from the toilet/store building at the edge of the pitch.

3.8 Proposed Luminaire Types



Sportslite 12 600W IP66 mounted on 12-meter poles - Location: Port Park

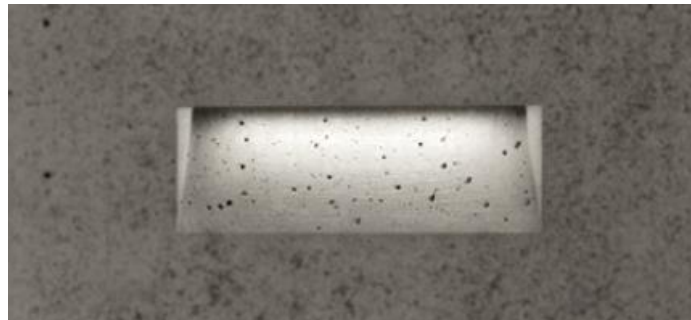
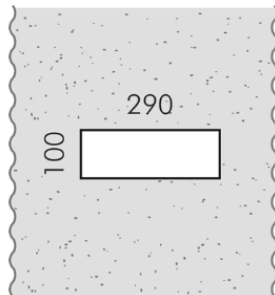


Kassio Bollard - Veelite IP66 IK10 - 1200mm x 150mm x 75mm - Location: Port Park



Einsatz Reno Elements - HESS IP65 IK9 - 4500mm x 320mm x 160mm

Location: Port Park



Ghost Horizontal - SIMES IP65 IK10 - 100mm x 290mm - Location: Stop Points, Port Park & Maratine Villiage



STRA-Luce & Light IP68 IK10 - Location: Port Park

4.0 Appendix 1 – Drawing Register: Port Park Concept Lighting

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		XXXX																	
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		DAY	1																
		MONTH	07																
		YEAR	24																
		FORMAT																	
		PC= PRINTED COPY D=CD E=EMAIL U=UPLOAD TO FTP/PROJECT DATA SITE																	
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Port Park Drawings																			
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Port Park - Concept Lighting Design - Sheet 2 of 5	1036912-CDL-ZZ-00-DR-E-39021	A1	1:200	PL01															
Port Park - Concept Lighting Design - Calculation Surface - Sheet 3 of 5	1036912-CDL-ZZ-00-DR-E-39022	A1	1:200	PL01															
Port Park - Concept Lighting Design - Calculation Surface - Sheet 4 of 5	1036912-CDL-ZZ-00-DR-E-39023	A1	1:200	PL01															
Port Park - Concept Lighting Design - Calculation Surface - Pitch - Sheet 5 of 5	1036912-CDL-ZZ-00-DR-E-39024	A1	1:200	PL01															
Port Park Documents																			
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		CT = CONTRACT A = AS BUILT FC = FOR COMMENT PL = PLANNING																	
ISSUED TO:																			
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5.0 Appendix 2 – Planning Drawings: Port Park Concept Lighting









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PORT PARK LEGEND:

-  KASSIO BOLLARD
-  SIMES S.P.A. GHOST RECESSED WALL LIGHT
-  RENO HESS POLE LIGHT
-  SPORTSLITE 12 LED FLOODLIGHT
-  STRA 2.0 INGROUND UPLIGHT
-  LUX LEVEL ON SURFACE

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PL01	01/07/24	LIGHTING CONCEPT	GP	DK	WD
Issue	Date	Description	By	Chkd	Verfd

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3FM PROJECT

Client
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Drawing Status
PL01

Title
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 CONCEPT LIGHTING DESIGN
 SHEET 1 OF 5**

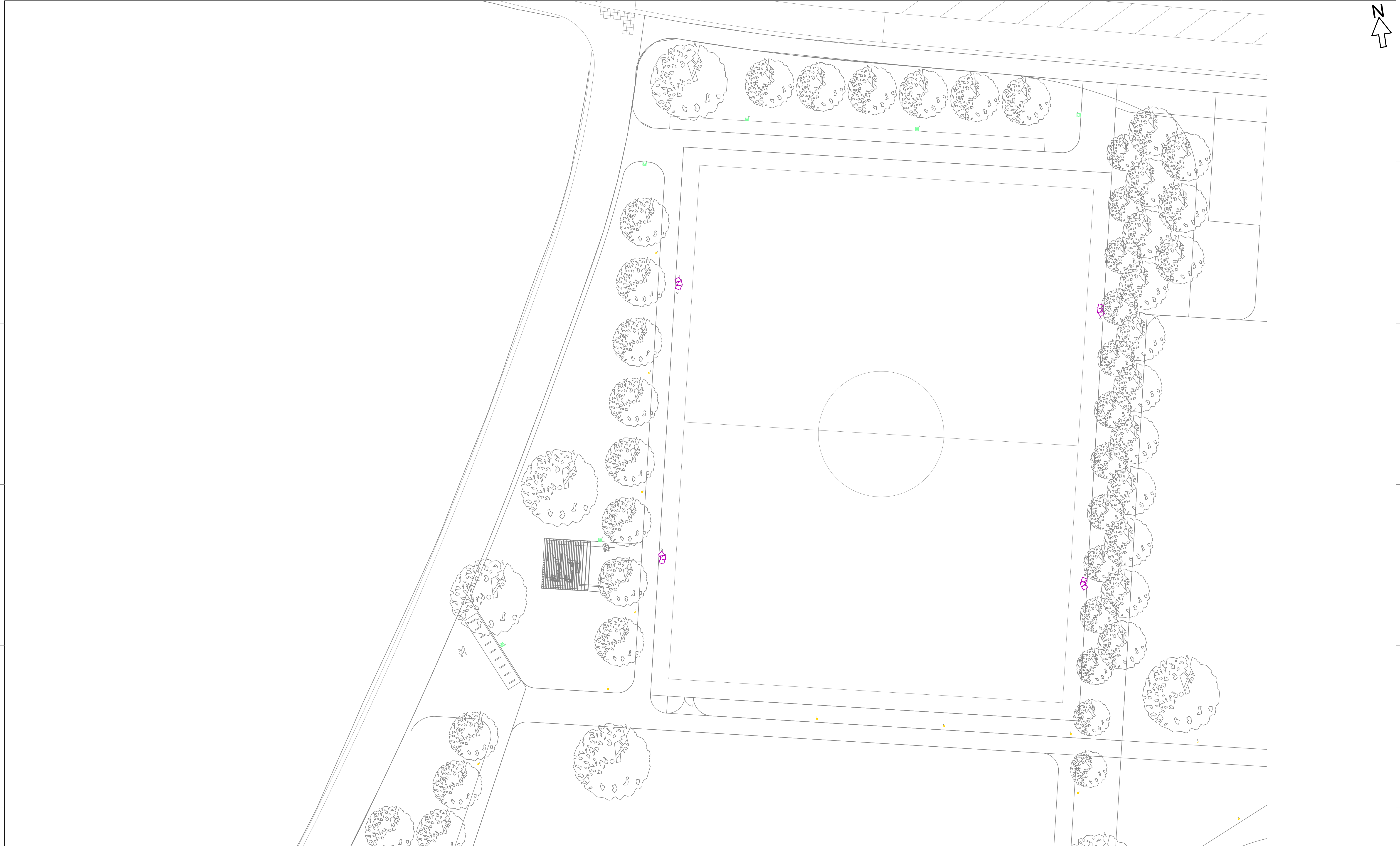
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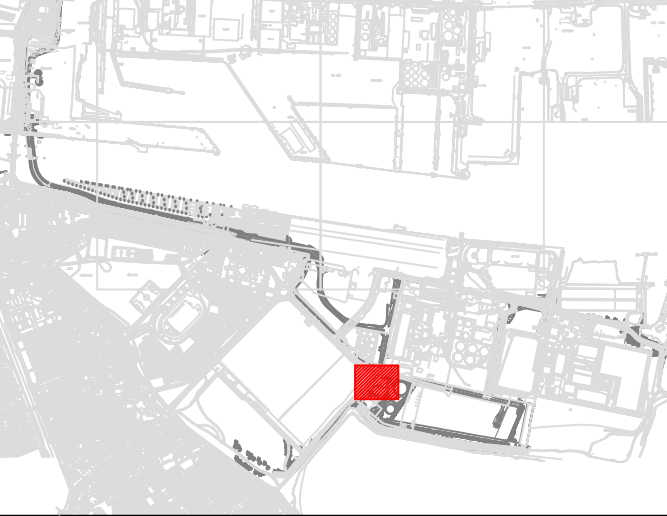
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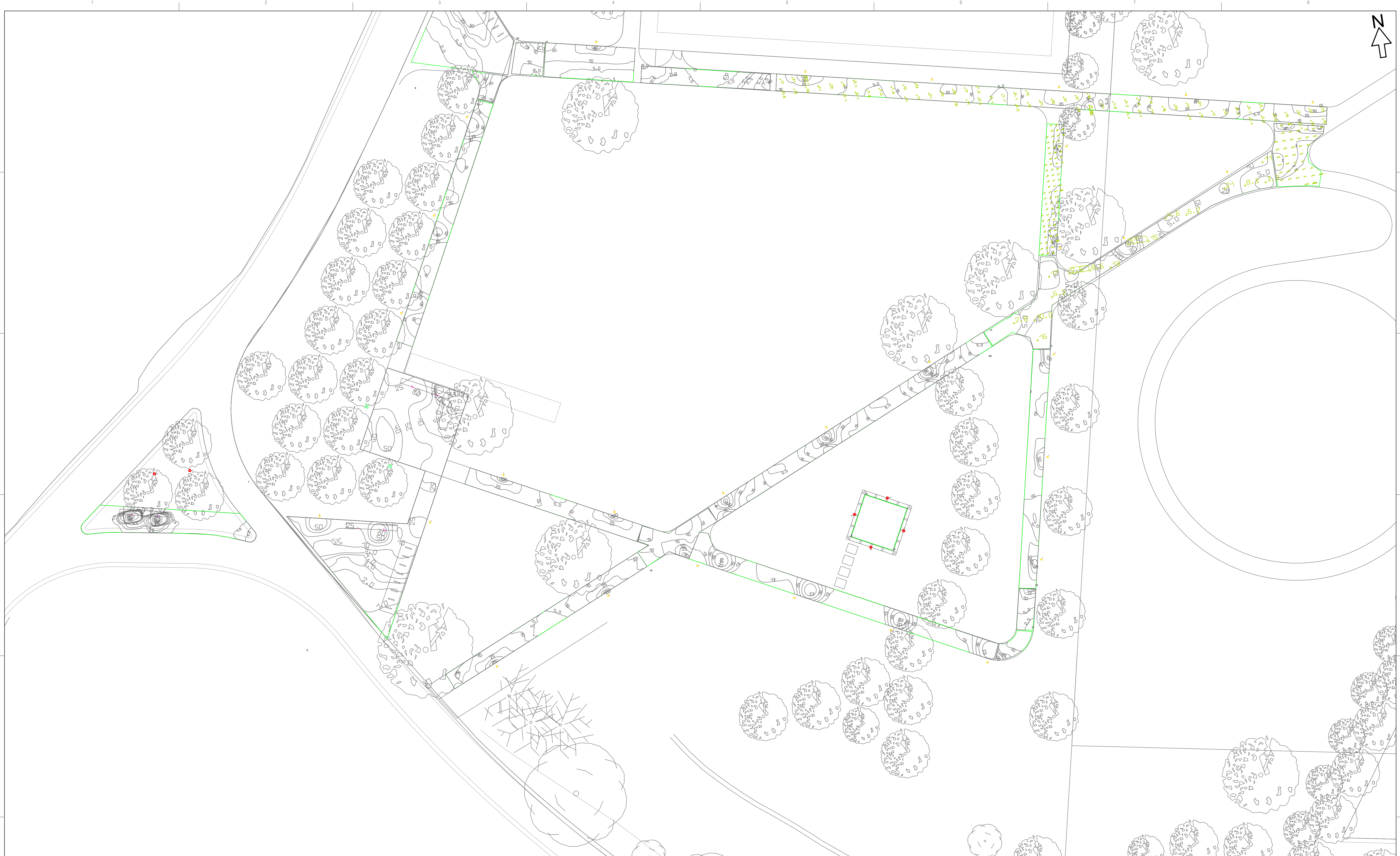
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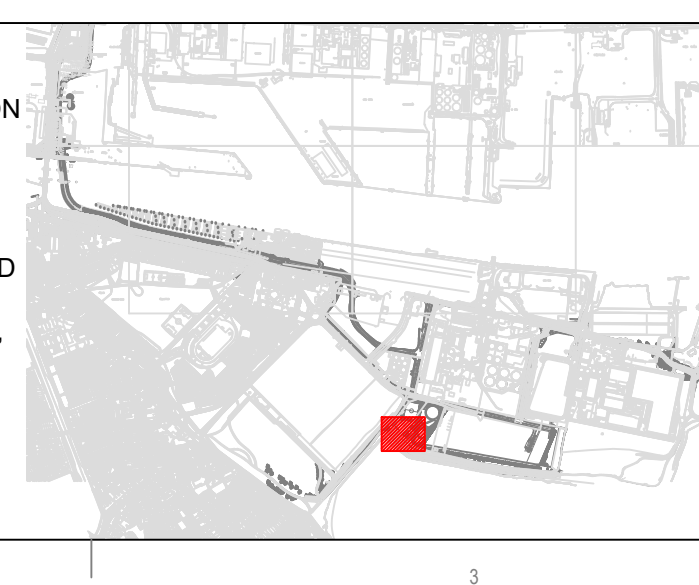
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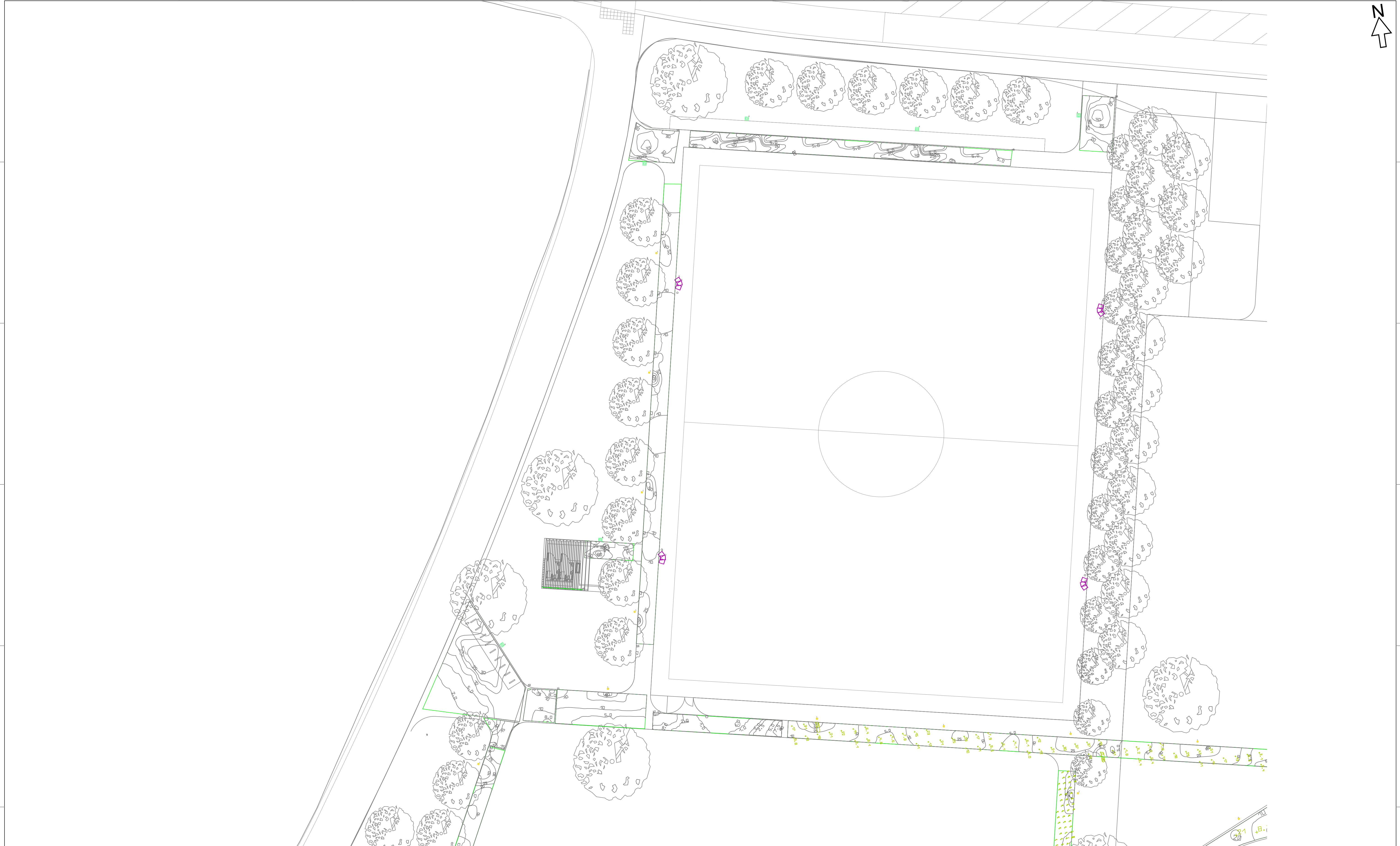
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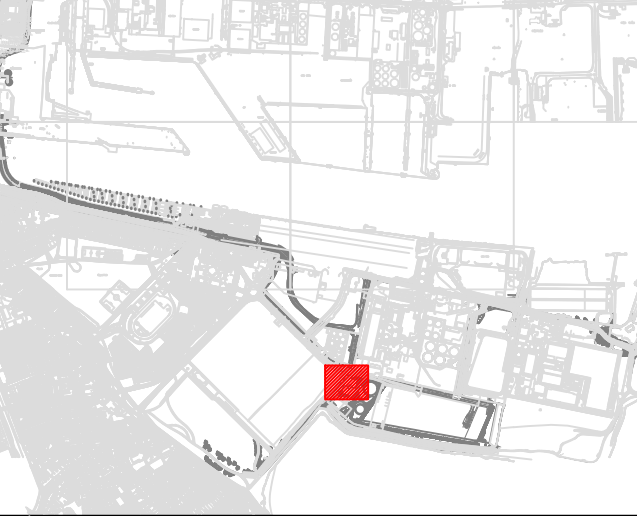
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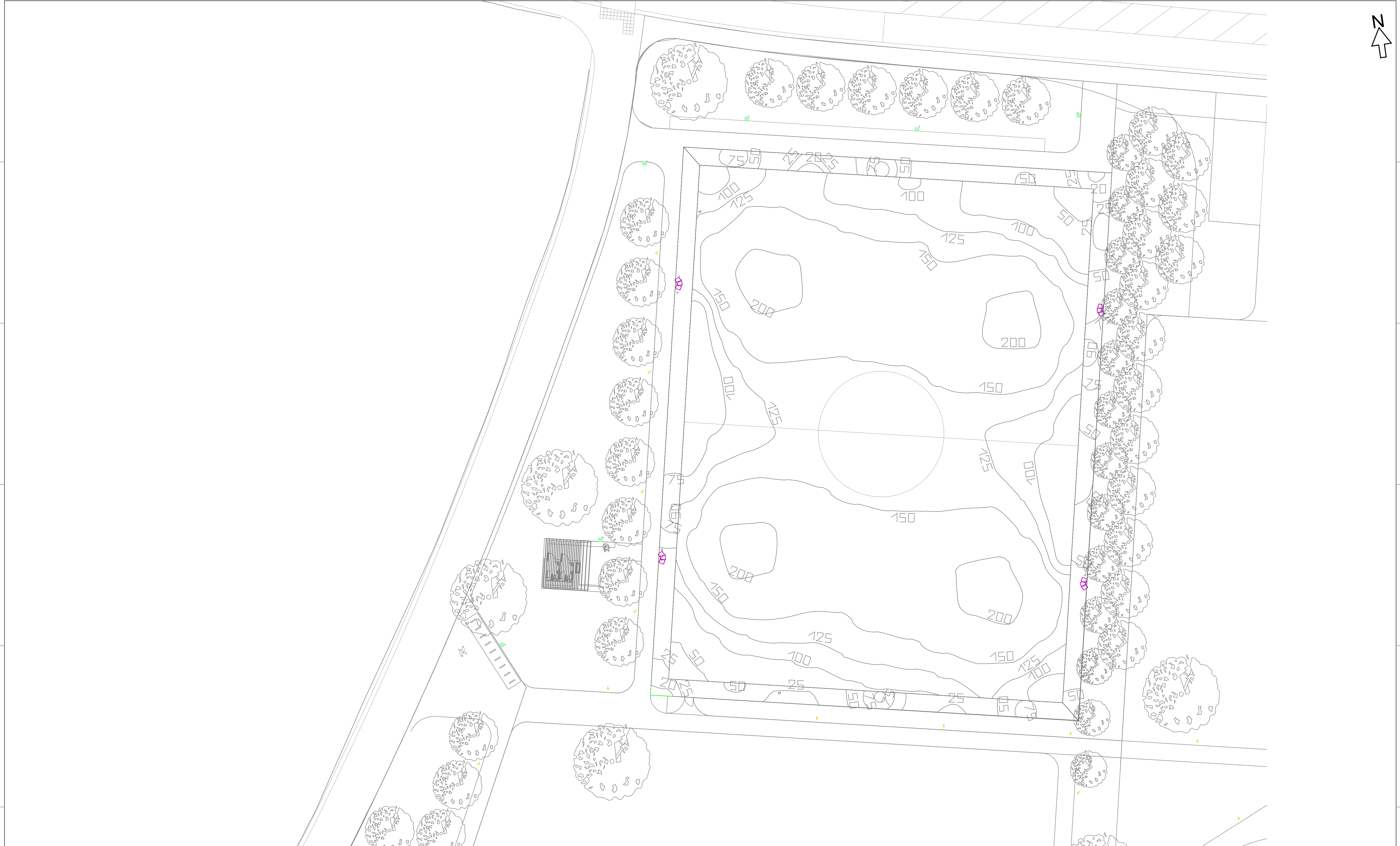
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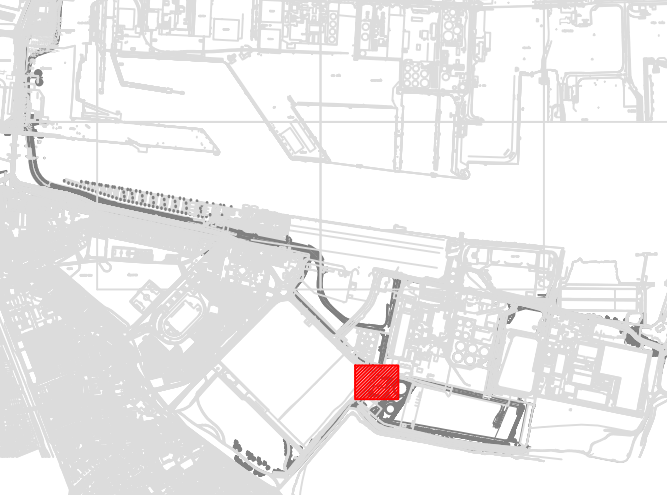
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- ⁴ RENO HESS POLE LIGHT
- ⁵ SPORTSLITE12 LED FLOODLIGHT
- ¹⁰ STRA 2.0 INGROUND UPLIGHT
- ⁵⁰ LUX LEVEL ON SURFACE

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CALCULATION SURFACE - PITCH
SHEET 5 OF 5**

Project No.
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