



Reading
Borough Council



Reading Borough Council Wensley Road : New Build & Estate Improvements Phase 1

Secured by Design Report

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Contents

Page

1.0

Introduction

5

2.0

Site Strategies

2.1

Layout of Roads & Footpaths

7

2.2

Footway Design

8

2.3

Communal Areas & Play Space

9

2.4

Dwelling Boundaries & Identification

10

2.5

Layout & Orientation of Dwellings

11

2.6

Gable Elevations

11

2.7

Rear Access Footways

11

2.8

Vehicle Parking

12

2.9

Planting

12

2.10

Street Lighting

12

3.0

Building Strategies - Individual Dwellings

3.1

External Walls & Doorsets

14

3.2

Fire Rated Doorsets

14

3.3

Doorset Specification Requirements

15

3.4

Doorset Recesses & Installation

15

3.5

Private Entrance Mail Delivery

15

3.6

Windows

16

3.7

External Lighting & Utility Meters

16

3.8

Individual Cycle Stores

16

4.0

Building Strategies - Apartment Building

4.1

Communal Entrance Doorsets

18

4.2

Access Control Systems

19

4.3

Communal Mail Delivery

20

4.3

Communal Lighting & Utility Meters

21

4.5

Communal Stores

21

5.0

Appendices

Reading Borough Council

Wensley Road : New Build & Estate

Improvements Phase 1

Secured By Design Report

July 2021

1.0 Introduction

This report has been prepared by HTA, in partnership with Glenman Corporation. The aim of the report is to demonstrate how the Wensley Road Phase 1 development, which consists of 46 new homes, new landscaping and parking areas, will meet the Secure by Design standards set out in section 1, 2a and 3 of the 'Secure By Design: Homes 2019' guidance and to seek to discharge planning condition 38:

No development (barring demolition and any preparatory works) shall commence on site prior to written details as to how the development will achieve the Secured by Design Award are submitted to and approved in writing by the local planning authority. The development (and subsequent access control system) shall be carried out in accordance with the approved details and maintained as such thereafter.

Reason: To protect the amenity of future occupiers of the proposed development and in the interests of safeguarding the character and appearance of the buildings and the wider immediate area, in accordance with Policy CC7 and CC8 of the Reading Borough Local Plan 2019.

New Homes

- 1 3 Bedroom Houses
- 2 4 Bedroom Houses
- 3 Apartment Building

New Landscaping

- 4 Bus Stop
- 5 5 -11 year old's play area
- 6 Under 5's play area
- 7 Seating area (inc. existing memorial benches)
- 8 Outdoor gym



Aerial View of Wensley Road Phase 1

2.1 Layout of Roads & Footpaths

New routes through and around the site will be clearly defined, easy to navigate and well overlooked. They have been designed to promote community surveillance and improved wayfinding for vehicles, pedestrians and cyclists.

New homes to the north of site face directly onto the Wensley Road, increasing natural surveillance on to the existing road. Corner houses have been situated at the end of terrace rows to provide frontages onto the new routes leading into the site. The apartment building (block B2) faces onto the central green space, providing overlooking on this areas including key pedestrian and cycle routes.

While new dwellings have been situated to enhance natural surveillance, defensible space and buffer zones are included to simultaneously provide privacy for residents, with front and rear gardens included for all the houses and buffer planting zones to gable and exposed garden wall elevations.

In addition to passive surveillance, additional measures such as wayfinding signage, street lighting and logical crossing points located on desire lines have been carefully integrated into the design to create legible and safe streetscapes throughout the site.

Through Roads & Routes

There are two new through vehicle routes proposed, one of which extends Lesford Road and loops around to meet Wensley Road, the secondary is a north-south mews which will provide vehicle and pedestrian access to both new and existing dwellings located along the west side of the site.

There are three parking courts proposed which can be directly accessed from Wensley Road. These will be well lit, overlooked and with integrated footways that connect them to both the new and existing dwellings.



Example Wayfinding Signage

- Vehicular Routes**
 - Through Routes
 - Parking Courts
- Pedestrian Crossings**
 - Demarcated Crossing points - Flush with roadway
 - Demarcated Crossing points - Flush with footway
- Street Lighting**
 - Existing street light locations
 - Proposed directional street lighting columns
- Wayfinding Locations**
 - 1 Towards Courage Park - Information about distance between proposed park and Courage Park
 - 2 Central Green space and wider route finding - Information about proposed park and wider context
 - 3 Towards Cycle Route R6 - Information about distance between proposed park and Cycle Route R6
 - 4 Towards Holy Brook Trail and Fobney Island - Information about distance between proposed park and Holy Brook Trail and Fobney Island
 - 5 Towards Coley Park - Information about distance

2.2 Footway Design

Materials

A series of new footpaths and crossing points are proposed to allow pedestrians to easily and safely access all areas of the site. The footways will be visually distinct from the roadway and parking bays by the use of contrasting material finishes. Contrasting materials will also be used at crossing points to encourage a reduction in vehicle speeds.

Robust paving materials have been specified to withstand forms of attack/abuse that may be encountered. These include concrete block paving, stone paving and resin bound aggregate.

Planting next to a footway

Street trees are interspersed with street parking to avoid long continuous banks of parked cars. However to ensure that footways are still clearly visible and well overlooked, street trees are situated a minimum of 20m apart.

Where footways run alongside gable elevations of dwellings, a low maintenance, planted perimeter buffer of low-level hedge planting provides separation between the footway and the dwelling.

Tree canopies will be maintained a minimum of 2m high above the ground. Hedges and low growing shrubs/groundcovers species will be no higher than 1.1m and species have been selected to allow for ease of natural surveillance at ground level.

Seating Next to a Footway

No seating is proposed along the footways, instead there are seating areas incorporated within the central green space. Information regarding the street furniture within this area is included in section 1.2

Lighting Next to a Footway

New street lighting is proposed along all new pedestrian footways. Directional lighting columns are to be situated to the side of the footway, ensuring that they do not cause an obstruction to pedestrians. The locations of the lighting columns has been carefully considered to ensure that emitted light levels will not be obscured by tree planting.

Further information is included in section 2.10.

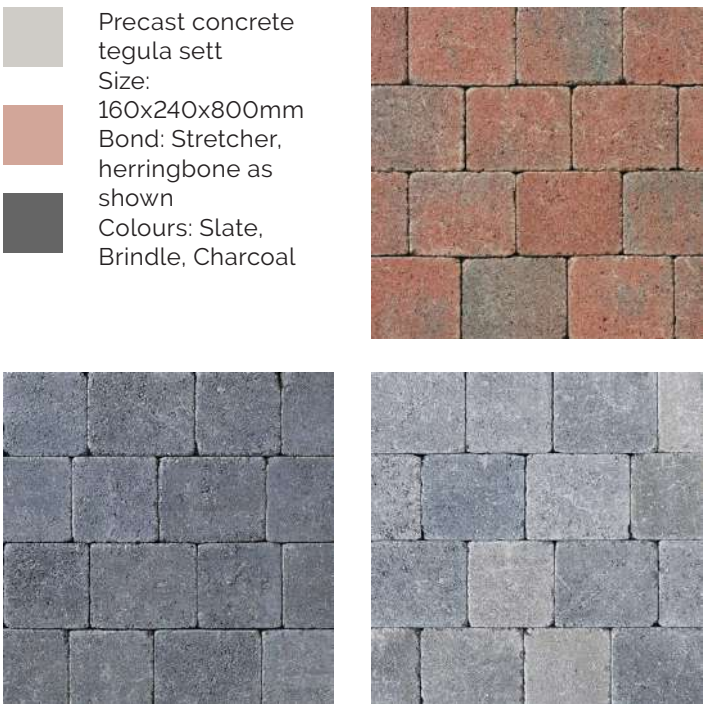
Footways on phased developments

The scheme will be constructed in phases, with the southern parking areas and communal garden planned to be completed first, followed by the construction of the homes.

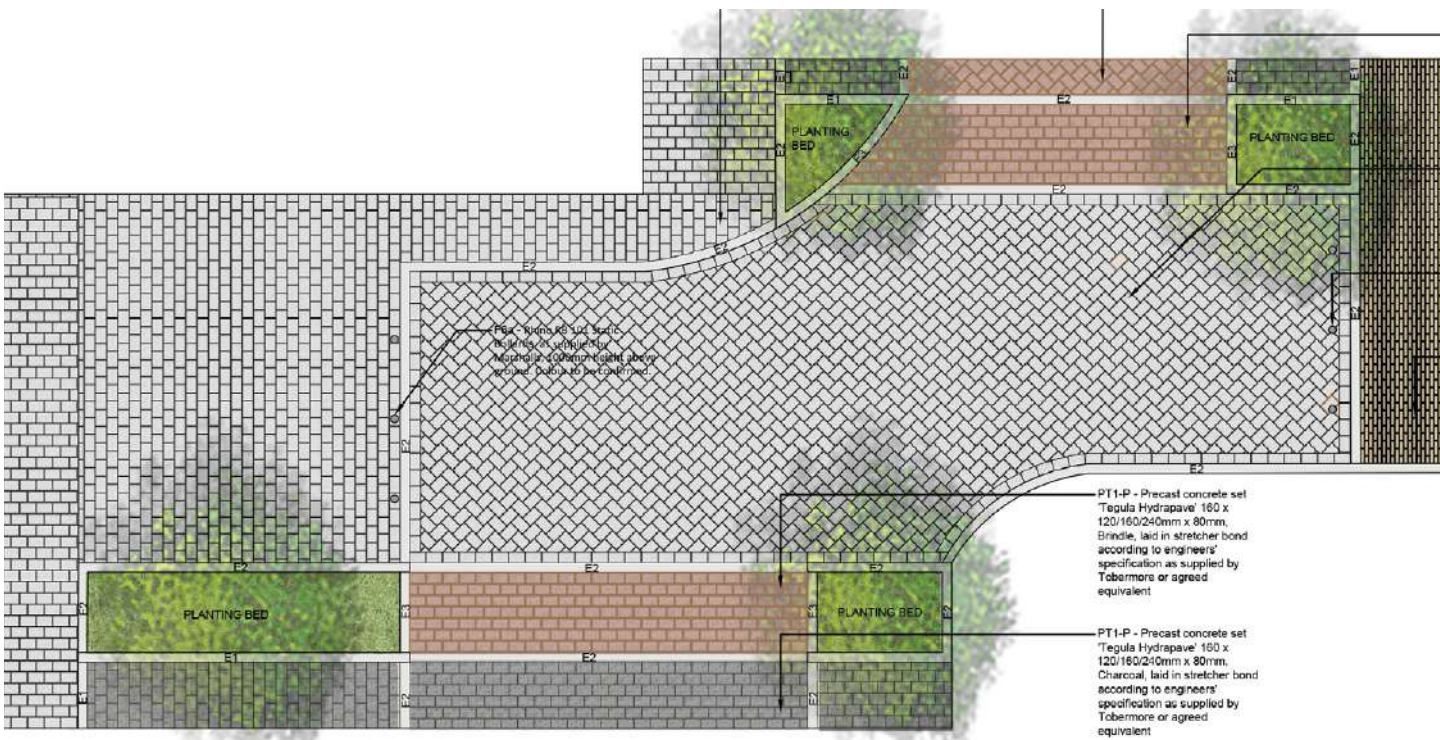
Footways will only be made accessible once they are complete and can provide connections to usable spaces within the site.



Visualisation of Lesford Road extension



Paving Materials



Example Pedestrian Crossing

2.3 Communal Areas & Play Space

Consideration has been given to the definition and hierarchy of landscaped spaces within Wensley Road development to ensure that these spaces and their intended ownership are clear.

The central green space which is for public use contains distinct zones for the under 5's play area, 5-11 year old's play area and outdoor gym..

Boundaries & Access

The perimeter treatment to the central green space has been proposed to reduce physical permeability into the area, whilst ensuring that sight lines are maintained. A low perimeter hedge and fencing will run around the full perimeter of the area, with clearly defined access points.

A wide 4m path through the central green space also serves as an emergency access route, however drop bollards are included to prevent non-emergency vehicles from accessing and parking in this key pedestrian movement area.

Surveillance

The central green space is well overlooked from all directions, with the frontages of new and existing dwellings facing onto the space. The new apartment building faces directly onto the central green space to provide passive natural surveillance, however the colonnade balcony along the full length of the south elevation gives privacy for residents at all floors.

The central green space has been designed to provide a range of facilities that are visually and physically connected and overlook one another. The levels and gradients of the pathways through the space will be constructed in order for the space to be accessible to all.

Consideration has been taken to ensure that the play area does not allow for unsocial behaviour or create hiding places (ie no tube slides, no tunnels, no closed structures).

Directional lighting columns are proposed throughout the central green space and CCTV cameras will also be located on a number of the columns.

Materials

The play and gym equipment will be securely installed with concrete footings, in accordance with the manufacturer's specification. All equipment specified is long-lasting, robust and durable.

The selected street furniture will be a mix of powder coated steel pieces, solid timber beams and cubes, all with a high fire retardancy levels to minimise damage from vandalism. Bins are lockable and have a closing lid, to prevent vermin from accessing bins and deter other unsociable behaviour.

The fire retardancy of the play surface, bound rubber, is a problem widely faced across the country. Tigermulch has been specifically specified as the method statement for the installation ensures a reduced airflow in order to prevent fire spreading through the surface. This is done by using innovative tools to organise and flatten the particles which make up the surface, thus minimising damage from fire.



2.4 Dwelling Boundaries & Identification

Front Boundaries

The boundary treatments to the new homes have been carefully considered to provide a defensible space around homes, whilst ensuring that passive surveillance of from the front windows to the public realm beyond are not compromised.

To the front of the terraced houses there will be a 2700mm deep front garden, clearly defined by low brick walls, with railings above and hedge planting behind. Where entrances are on the gable elevation, a 1200mm deep front garden will be provided.

Between the hedge planting zone and the front elevation, the front gardens will be paved making it easy to manoeuvre refuse and recycling bins, as well as minimise the risk of gardens becoming overgrown and ensuring visibility from the ground floor windows is not obscured.



Front Garden - Boundary Treatments

Dwelling Identification

Clear signage and numbering of properties will be provided adjacent to front doors. Lighting will also be incorporated into the private entrance porches and communal entrance porch of the apartment building.

Side and Rear boundaries

Rear garden walls adjacent to the public footways or to semi-private rear garden access routes will be solid brick walls, a minimum height of 1.8m. To the exposed boundaries and gable elevations, a minimum 800mm wide buffer planting zone including predominantly thorn hedge planting, will create a separation between the private boundaries and the public footway.

Timber fencing mounted onto a low brick wall, a minimum of 1.8m high, will provide a solid boundary for the full-length of the gardens between dwellings.

Rear Entrance Gate

Inward opening timber gate with key lock

Secure Store

Brick Shed/Cycle Store including wall mounted cycle racks

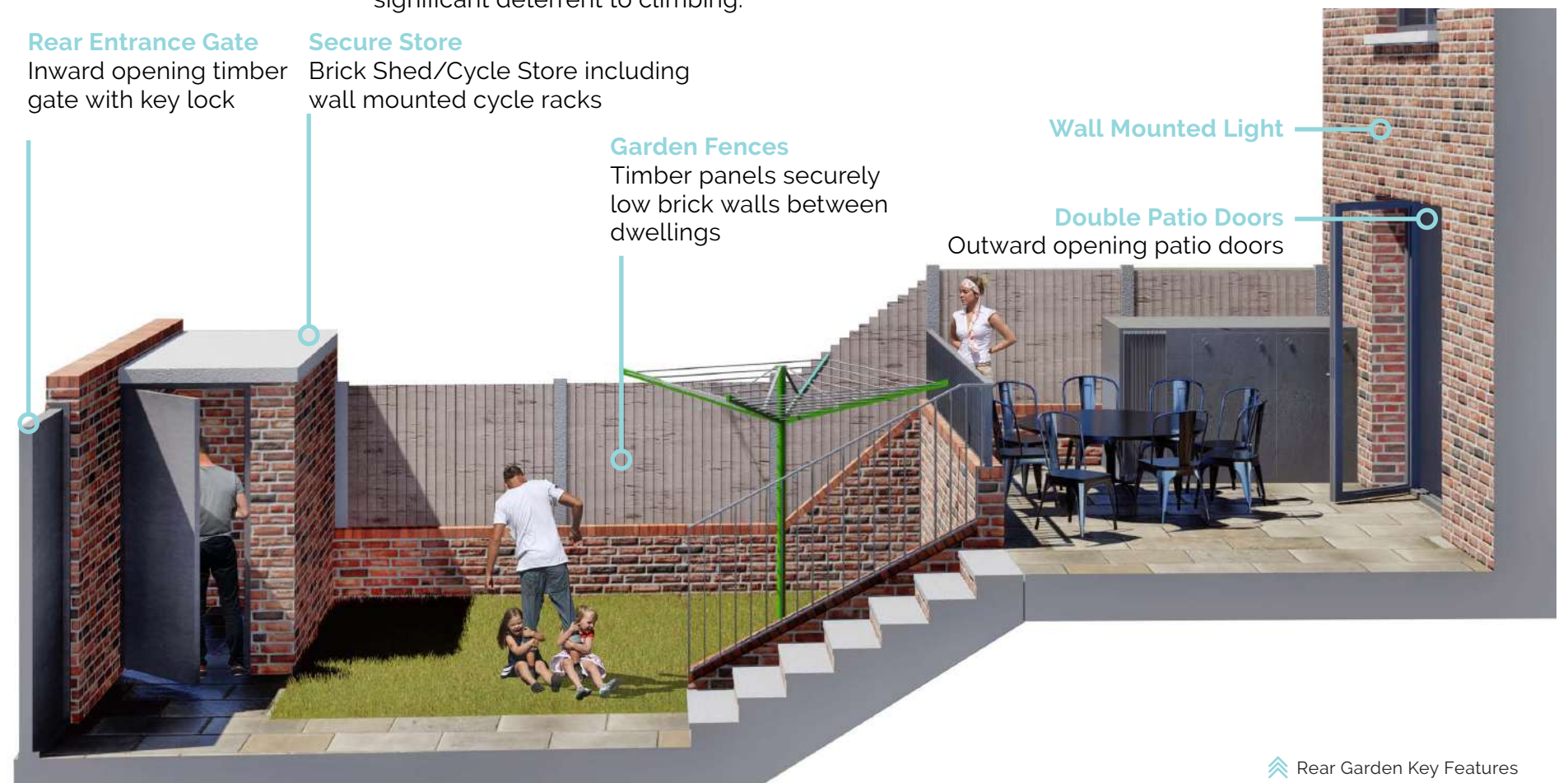
Garden Fences

Timber panels securely low brick walls between dwellings

Wall Mounted Light

Double Patio Doors

Outward opening patio doors



Rear Garden Key Features

Access Gates to rear Gardens

All rear gardens can be accessed through the dwelling and through a rear garden gate accessed via a semi-private gated pedestrian route. All gates will be a minimum of 1.8m high and made of solid timber, with a key lock ensuring that gardens can only be accessed by the residents of the property.

The garden gates will open into the gardens with the hinges on the inside face. All gates will be fixed to a frame, with an external stop bead rather than directly fixed to the garden wall.

Climbing Aids

All rear garden boundary walls adjacent to the public realm are to be constructed with flush brickwork to minimise the potential for climbing and the thorn hedge buffer planting will also act a significant deterrent to climbing.

In addition, none of the cycle storage units within the rear gardens have been located adjacent to boundaries to the public realm, in order to avoid providing a ledge that could serve as access to the gardens.

The canopies to the individual entrances are a minimum of 2.45m above the external floor level and are proposed to be a smooth finish sloping away from the building, making them difficult to reach and grip. All of the entrance porches are facing the street and are clearly visible from houses opposite.

Following a similar approach, the soffit of the balconies in the apartment building are a minimum of 2.45m from the external ground level, and the top of the balcony a minimum of 3.2m above the external ground level, with finishes and detailing carefully considered to minimise the risk of climbing.

2.5 Layout & Orientation of Dwellings

The houses have been positioned and orientated to provide active street frontages, in many instances facing existing dwellings, creating a legible two-sided street.

The apartment building provides an active front to the north side of central green space, which combined with existing dwellings to all other sides, enhances existing levels of natural surveillance to the public realm.

A mix of dwellings are provided, from 3 bed and 4 bed family homes to 1 and 2 bed apartments and wheelchair apartments. This gives a greater potential for homes to be occupied throughout the day resulting in continuous passive surveillance whilst stimulating interaction between residents.



Apartment Building Gable Elevation

2.6 Gable Elevations

To avoid blank elevations, all of the gable elevations throughout the development include windows. Three of the terraces block, A1,B1 and C1 terminate in a gable fronted house, which will also provide an active street frontage to the new routes into the site.

The apartment building has been arranged to encourage community surveillance throughout the day, with living spaces and kitchens addressing the street at all levels. Juliette balconies at the first and second floor on the gable elevations will provide overlooking on the key routes into the sites.

At ground floor windows have a higher cill which, combined with the zone of buffer planting, ensures a balance between natural surveillance and privacy for residents.

2.7 Rear Access Footways

The three proposed blocks of houses have been designed in a back-to-back arrangement to avoid any rear elevations facing onto public spaces or routes, as rear elevations generally provide little natural surveillance and make properties more vulnerable to crime.

Rear access routes provide pedestrian access to gardens, cycle stores and for maintenance access. As discussed with the Crime Prevention officer during the design development, in advance of the planning submission, these routes have been carefully designed to ensure that they are as short as possible and only have a single point of entry.

Only residents and Reading Borough Council staff will be able to access these routes via a self-closing, secure, 1.8m high entry gate with a fob-controlled mag lock. The gates will open into the access route, with hinges on the inside face. Both the access route gates and the gates to the gardens will be illuminated by wall mounted downlighters.

- F Fob Controlled PAC Reader - Residents & Maintenance Only Access
- K Key lock - Residents Only Access
- Solid Wall to terminate route.
- Wall mounted down lights



Rear Garden Access Route Access Strategy (Block C)

2.8 Vehicle Parking

All parking is either on-street or within three parking courts, with a mixture of perpendicular and parallel bays, electric car charging bays and wheelchair accessible parking bays.

Parking has been integrated into active streetscapes and parking courts with good levels of natural surveillance from active areas of existing and proposed dwellings.

Any border planting adjacent to car parking bays will be specified to ensure that good surveillance of parked cars is maintained. All parking areas will be well-lit to comply by BS:5489-21:2013.

2.9 Planting

Houses

Mixed native species hedges within the front gardens and to boundaries of the houses are to be a 70% thorn mixture (Hawthorn, Blackthorn, Dog Rose) with Field Maple, Bird Cherry and Hazel making up the remainder. This will ensure a dense, prickly hedge.

Streetscape

All trees will have a minimum 2m clear stem to the canopy. Ground-covers and ornamental grasses below these trees are low growing in height and form a dense coverage.

Play Area

The perimeter hedge is a dense evergreen species (Shrubby Honeysuckle) with no thorns due to its proximity to the play area. It will be maintained at a height of 1.1m and will have an internal wire and mesh fence designed mainly to prevent access by dogs to play area and allow for establishment of the hedge.

A grid of 2m clear stem Silver Birch trees to the perimeter planting beds creates a woodland aesthetic, but still allows clear surveillance throughout. The understorey to these trees is a dense coverage of Snowy Woodrush. Feature/ sensory planting to the mounds in the play area will be maintained at maximum 1m height.

2.10 Street Lighting

All of the roads, parking bays and footways are to be adopted and the proposed street lighting throughout these areas will be directional lighting columns in accordance with the RBC Specification for Street lighting Installations.

Within the central green space, directional lighting columns will also be installed, however a slightly different specification is proposed to distinguish between the spaces and to tie in within woodland aesthetic of central green space.

The lighting columns are spaced appropriately throughout the streetscape and landscaped areas to provide sufficient lux levels and to allow for additional fixing of CCTV units at height, erasing the need for additional pole mounts.

The general arrangement of the lighting columns will be as shown on the External Lighting plan submitted and approved as part of the planning submission (ref:200122). However the exact locations of the lighting have been refined to ensure that they do not impede the usage of footways through positioning the columns in suitable locations within the softscape, whilst ensuring that the lighting will not be obscured tree canopies.

Further information is included within the external lighting proposal included within the appendices.

3.1 External Walls & Doorsets

Walls

All external wall to both the houses and the apartment building will be constructed from brick and block, with full fill insulation. Compartment walls between dwellings will also be construction from double leaf blockwork and walls to external, non- habitable spaces will be built of double skin brickwork.

Doorsets

All doors will be specified, manufactured, and supplied as complete doorsets, including the frame, glazing, ironmongery and security features, where possible.

The doors specified will be from a Secured by Design approved supplier, registered with Secure by Design Licensing Scheme. Doors will be installed in accordance with the manufacturer's instructions.

The following external doorsets types will be included in the development: -

Houses

- Private front entrance doorsets
- Rear double patio doorsets to private gardens

Apartment Building

- Communal Entrance Door
- Private front entrance doors to ground floor flats
- Balcony doors from upper floor flats
- Balcony doors to Juliette balconies

All of the proposed external doorsets, accessible from ground floor level or a balcony level will be certified to meet PAS24 and Building Regulations part Q.

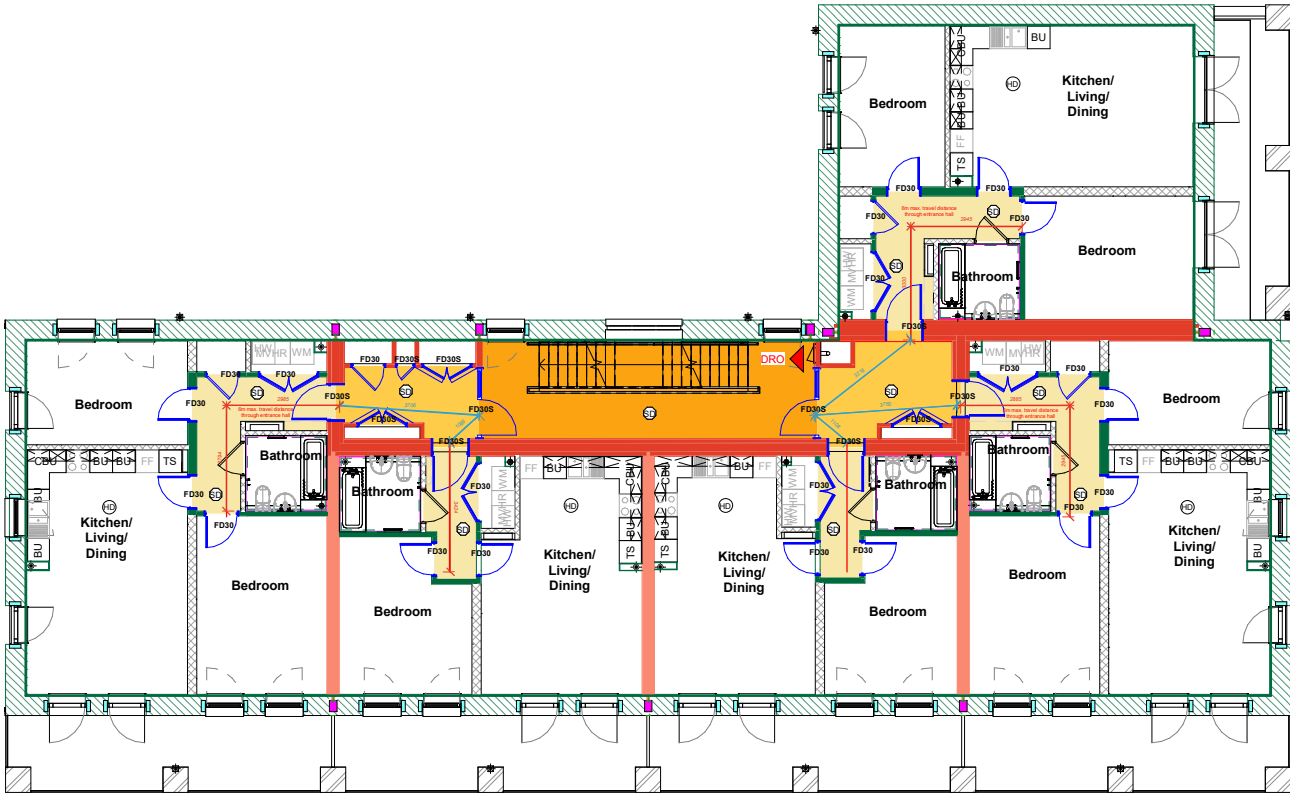
The Juliette balcony doors located at the first and second floor of the apartment building are a minimum of 3m vertically above the ground level, therefore will not be required to achieve this certification.

3.2 Fire Rated Doorsets

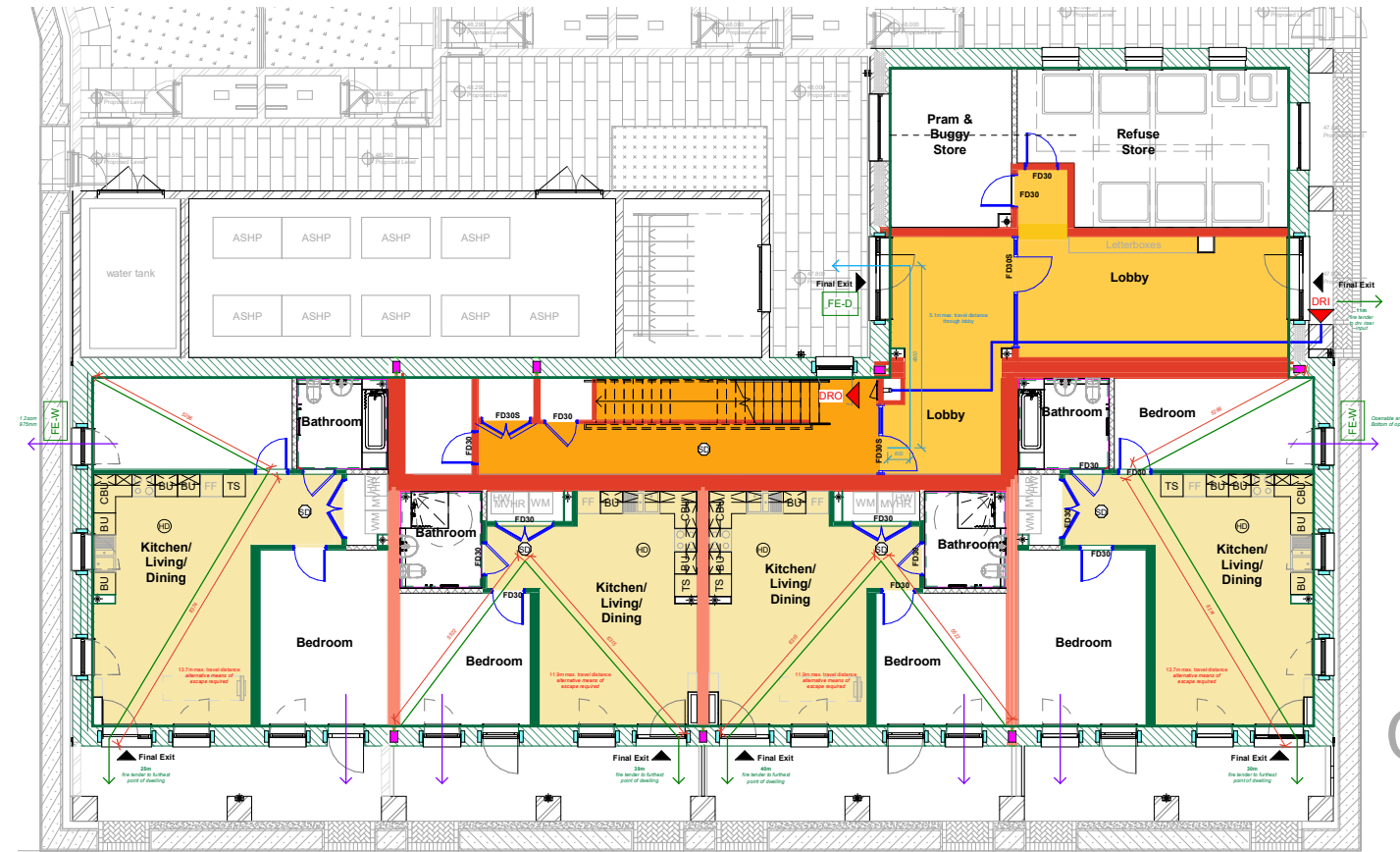
The internal entrance doors to the apartments will be required to be both fire and security rated, as will the communal entrance doors to the apartment building. These are shown adjacent ground and first floor fire strategy plans of the of the apartment building. Manufacturers of these doorsets will be made aware of the dual requirements.

Internal entrance doors to the flats do not include any glazing, however external and internal communal doorsets include glazed areas within the door itself and also sidelights and fanlights are included. Therefore, it will be ensured that the glazing within theses doorsets, as well as the frame meet both the fire and security requirements.

There are no garages proposed within the development, nor any auxiliary storage connecting directly into any of the dwellings therefore no interconnected doorsets are required.



Apartment Building (Block B2) - First Floor Fire Strategy



Apartment Building (Block B2) - Ground Floor Fire Strategy

3.3 Doorset Specification Requirements

Materials

All of the proposed entrance doors will be certified to the relevant material specific standard or equivalent. The private front entrance doors to the houses and the ground floor flats are to be either timber or composite doorsets, certified to either BS 644:2012 (Timber) or BS 8529:2017 (Composite), or equivalent. Requirements in terms of thermal performance and long-term maintenance are also key factors in determining the doorset type.

The glazed patio and balcony doors will be timber with an alu-clad finish, therefore will be certified to BS 644:2012 (Timber) or equivalent. The communal entrance doors are to be a thermally broken steel or aluminium doors, and again will achieve relevant certification, as well as meet requirements in terms of thermal performance, long term maintenance and accessibility.

Locking Systems

All front entrances doorsets to the houses, as well as the external and internal private entrance doorsets to the flats will be fitted with a multipoint lock (composite) or 5-lever mortice lock (timber), thumb turn, entry guard chain and door viewer. Balcony and patio doors will also be fitted with an appropriate key lock.

Gates to the rear garden access routes serving multiple properties will be secured with mag locks, and a proximity access control (PAC) reader restricting access to residents and maintenance staff only. Rear timber garden gates will be fitted with a key lock.

The communal entrance doors to the apartment block will operate using a PAC door entry system, along with a visitor door entry system. Further information on the door entry system and access for the apartment building is provided within section 4.0.

Robust, high quality and easy to operate locking mechanisms will be specified in all instances and clear instructions will be provided to all new residents by the RBC Housing Management team.

Glazing in and adjacent to Doorsets

All fanlights and sidelights to entrance doors will be integrated and supplied as part of the complete doorset, and will be specified to meet the security, thermal and long-term maintenance requirements for the scheme.

All of the front entrance doorsets to the houses include a fixed fanlight above the door. The front entrance doors to the ground floor flats also include side glazing. These glazing elements will all include a pane of laminated glass to meet or exceed BS EN 356:2000.

Outward Opening Doorsets

The garden patio doors to the rear of the houses and also the balcony doors will all open outward. These doorsets will also be specified and installed to meet the requirements set out in PAS 24 and part Q of the building regulations.

Door Limitation and Caller Identification

All of the private front entrance doors, including external doors to houses and ground floors flats, as well and the internal private front entrances to flats will all be fitted with a guard chain fixed to the door frame and door leaf to prevent unintended access. These will be either supplied as part of the complete doorset or will agreed with and installed to the door manufacturer's specification.

A door viewer will be integrated within the door and will be located between 1200 -1500mm above the finished floor level. The wheelchair accessible ground floor flats also have a glazed side panel, from 450mm above the finished floor level extending the full height of door, providing increased visibility from a low level.

3.4 Doorset Recesses & Installation

All of the external entrance doors are recessed within the build-up of the external wall only, and therefore the depth of the recess from the face of the external brick is a maximum of 225mm. All doorsets will be securely fixed to the building fabric, and the installation will be confirmed and agreed with the manufacturer.

The front entrance doors to the houses are covered by an external porch area, with solid brickwork to the sides and canopy above. Both the brickwork and the canopy extend beyond the face of the brickwork by a 450mm, in total providing a sheltered area a maximum of 665mm deep and 1360mm wide.

The street side communal entrance door to the apartment building is recessed from the main building façade by 890mm. This will provide a covered area 890mm x 3000mm and 2700mm high on arrival to the apartment building where the visitor door entry system is located.

With the exception of the rear garden patio doors all external doorsets, including the balcony doors are visible from the street.

3.5 Private Entrance Mail Delivery

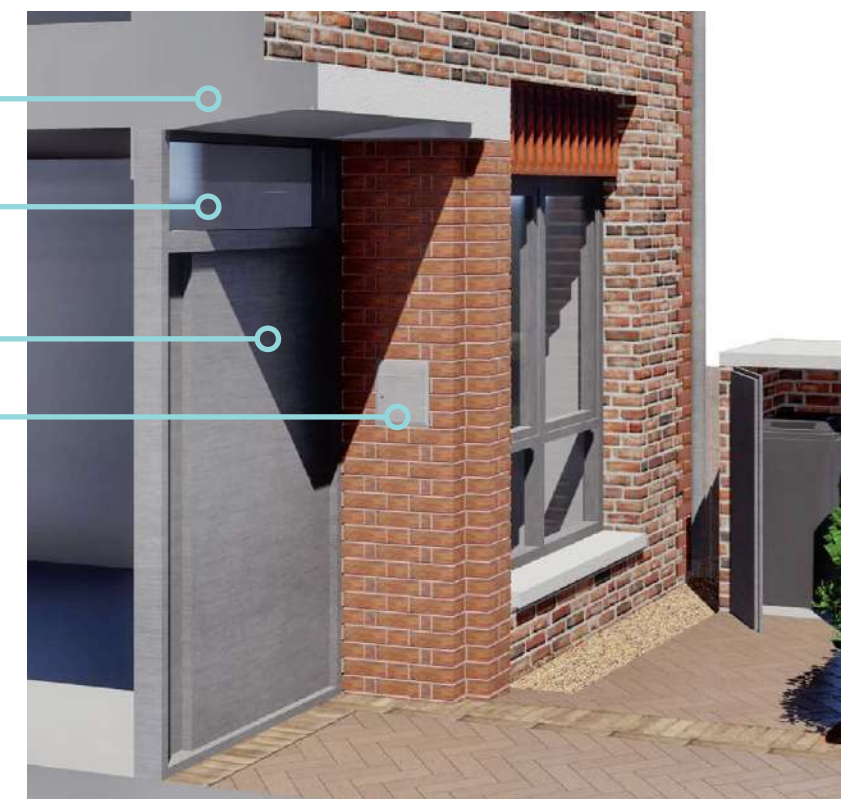
Rather than having a letter plate aperture within the front door, secure, key-locked letter boxes for the houses and the ground floor flats will located externally adjacent to the front entrance door.

The scheme has been designed to achieve net zero carbon in terms of energy performance, and letter plate apertures within the front doors have been avoided as these can cause issues in terms of the thermal performance and air tightness of the building fabric. Externally located letter boxes also have the security benefit of removing the risk of attempted and actual through letter box burglary.

TS009 mailboxes will specified and installed in accordance with the manufacturer's instructions. The mailboxes will be recessed into the external brickwork, which will reduce the risk of vandalism and accidental damage.

- Entrance Canopy
Maximum 665mm deep
- Fanlight
Laminated Glazing
- Door Viewer
Between 1200-1500 above FFL
- Recessed Mailbox
Secure, key locked

Private Entrance Door Features >>>



3.6 Windows

Triple glazed, timber alu-clad windows and roof lights are proposed throughout the development, and therefore will be certified to relevant timber material standard BS 644:2012 (Timber). The windows specified will be from a Secured by Design approved supplier, registered with Secured by Design Licensing Scheme.

All windows will be recessed within the external wall construction by a maximum of 225mm and will be installed in accordance with the manufacturer's instructions.

All windows will include an internal locking mechanism and internal opening restrictor. All ground floor windows and windows adjacent to balconies will include key locks, with the exception of two windows in the ground floor of the apartment building which provide a means of escape.

These windows will include laminated glass to BS EN 356:2000 and the window manufacturer will be made aware of the dual fire and security requirements. All ground floor windows and windows adjacent to balconies will be certified to PAS 24, or equivalent.

There is a single automatic opening window within the development. This is a roof light that acts as the AOV to the communal staircore within the apartment building and will operate via a sensor linked to the fire alarm system. The roof light is above the communal staircore and is inaccessible to residents, a telescopic pole or ladder is required for internal cleaning and maintenance, and externally the window will include self-cleaning glazing.

There are no conservatories or sunrooms within the development.

3.7 External Lighting & Utility Meters

External Lighting

In addition to the street lighting columns described within section 1.11, the location of external lighting to the dwellings will also play a key role in ensuring the safety and security of residents.

External wall mounted LED lighting will be fitted within the front entrance porch of each of the houses and also adjacent to the front entrance doors to the ground floor flats, providing illumination of the entrance doors on arrival.

Wall mounted lighting will also be located adjacent to all the rear garden patio doors, and within the rear garden access routes wall mounted downlighters will be located at regular centres.

Utility Meters

All dwellings will be fitted with smart meters to avoid the requirement for manual meter readings. Electricity meters will be located within the dwellings in a secure electrical cupboard. Water meters to the houses will be located within the pavements to the front of dwellings, therefore access into the dwellings will not be required for external readings.

There is no gas within the development, therefore no gas meters are required.

3.8 Individual Cycle Stores

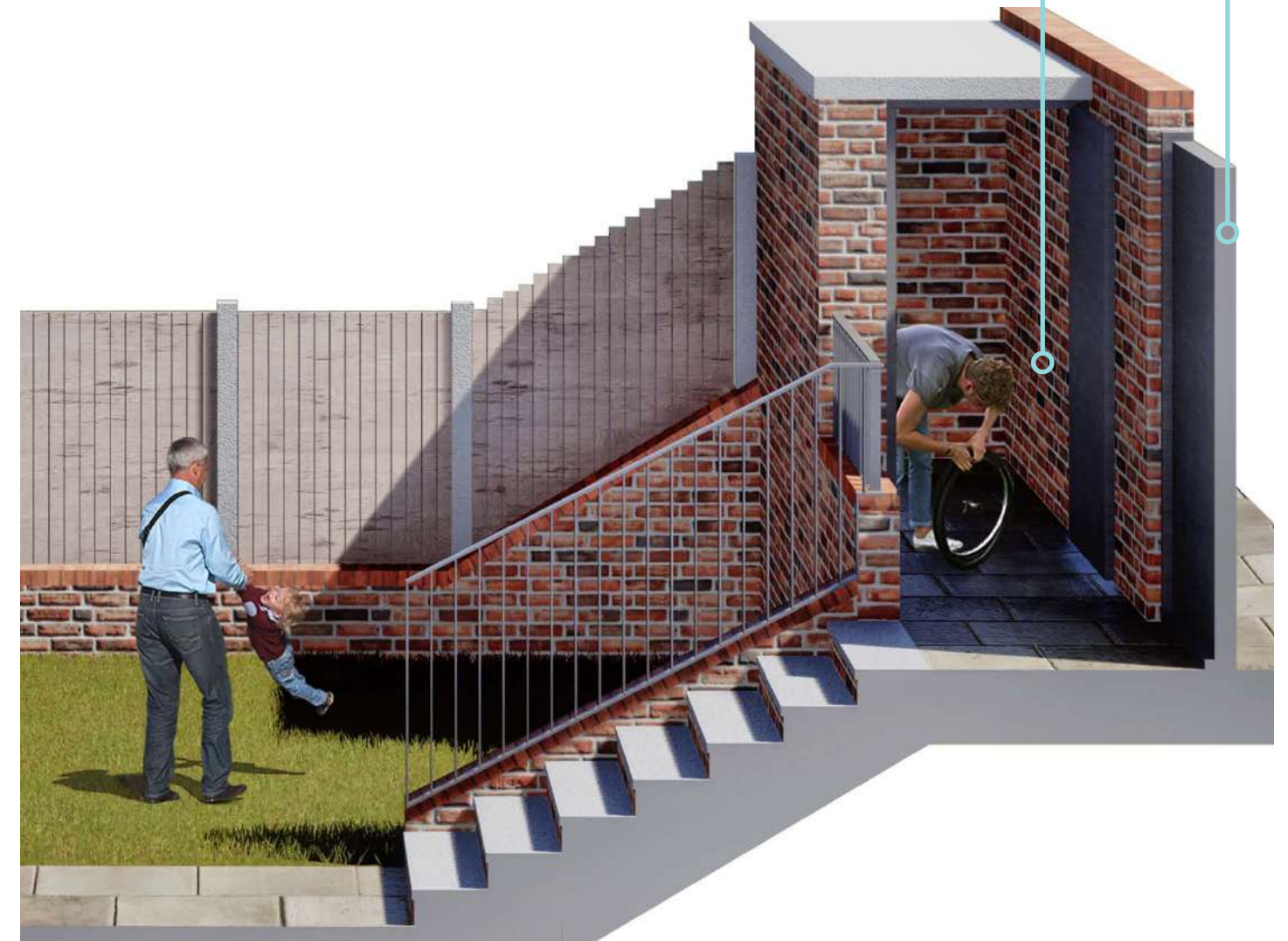
External cycle storage for each of the houses will be within a robust, double skin brick shed located within the rear gardens. The sheds can only be accessed from within the private gardens and will be fitted with a key lock, as will the garden gates.

There are no windows or other openings proposed to sheds. None of the sheds are located to a garden boundary adjacent to the public realm to avoid providing a climbing aid into the rear gardens.

The storage sheds have been sized to allow for two cycles to be stored horizontally, however wall mounted hooks for both horizontal and vertical cycle storage will be provided, giving residents flexibility.

Rear Entrance Gate
Secure rear access to private garden with key lock

Secure Store
Brick Built Shed/Cycle Store, to include wall mounted cycle racks



Individual Private Cycle Store

4.1 Communal Entrance Doorsets

A single apartment building will be constructed as part of the development, containing 18 flats, eight 1-bedroom flats and ten 2-bedroom flats. The four ground floor flats are designed for future adaption to be fully wheelchair accessible (Part M4(3) Complaint) and each have an individual front entrance at street level. The security features for these dwellings have been described within the section 3.

A further five flats are located at first and second floor, and at third floor there are four flats, all of which are accessed via communal circulation. As the building has more than 10 dwellings accessed via the communal entrance doorset, the design and the specification of security features will achieve the standards set out in the corresponding Secure By Design guidance for buildings containing multiple dwellings.

Communal Entrance Doorsets

Two identical communal entrance door sets provide access into the apartment building, one at the street side of the building and the other accessible from the rear garden access route. Both doorsets will be thermally broken steel or aluminium framed, glazed doors, with sidelights and fanlights.

All the glazing within the doorsets will include a pane of a laminated glass. Consideration will also be given to anticipated frequency of use in accordance with BS 6375 Part 2 and exposure to wind and weather conditions, in accordance with BS 6375.

Recessed Entrance Canopy
Maximum 890mm Deep



Communal Entrance Doorset
Including Laminated Glazing
(PAS 24 or equivalent)

Door Entry System
Visitor audio/visual panel
& PAC Reader

Refuse Store Doors
Metal Doors-
Maintenance only
access

Communal Entrance to Street



Apartment Building (Block B2) - East Facing Elevation



Apartment Building (Block B2) - South Facing Elevation

4.2 Access Control Systems

Visitor Door Entry System

A visitor door entry system will be installed at the communal entrance to the street. This will be an audio/video system, which allows visitors to call to residents within the 14 upper floor flats. Video and audio functions will allow residents to clearly see and have live communication with callers in advance of providing access. Within the flats a telephone handset and viewing screen will be located within the hallways.

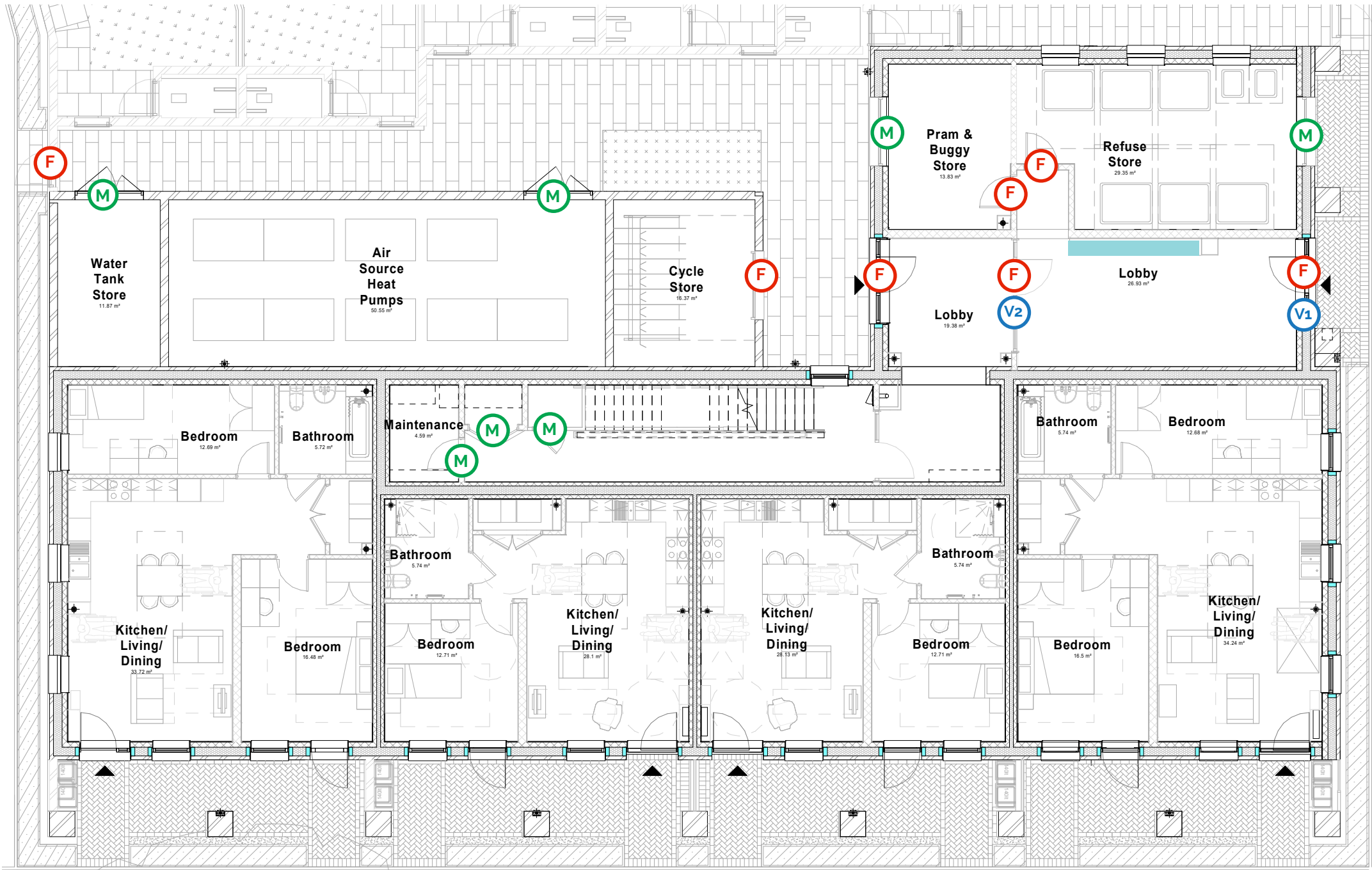
A secondary audio call button will be located at the internal doorset between the communal entrance lobby and circulation to the rest of the building. This will allow residents to then provide access into the circulation to the upper floors.

Externally the door entry system will be a robust, vandal proof plate which is simple and easy to operate and will be located at a level to ensure that it is accessible to all. Internally an electronic release button will allow egress in the event of an emergency or power failure. In addition, a stainless steel self-resetting emergency exit system will be installed.

Access Control System

Proximity access control (PAC) readers will enable residents and maintenance staff to enter through the street and rear communal entrance doors. PAC readers for residents and maintenance access will also be installed to the internal door between the entrance lobby and circulation area; communal refuse store, pram store and communal external cycle store.

The gated access to the rear garden access route will also be controlled by a PAC reader, for residents and maintenance access only. This will provide an additional level of security to the rear communal entrance doors.



- V1 Visitor Entry System - Primary Panel
- V2 Visitor Entry System - Secondary Call Button
- F Fob Controlled PAC Reader - Residents & Maintenance Only
- M Key Lock - Maintenance Access Only
- Post Boxes

Apartment Building (Block B2) - Access Strategy

4.3 Communal Mail Delivery

Postal workers will have access to the internal communal entrance lobby, however the secondary door separating the entrance lobby from the communal circulation and stair core, controlled by PAC fob access will prevent tailgating through into the rest of the building and to the rear garden access area, as agreed with the Crime prevention officer in advance of the planning submission.

TS009 mailboxes will specified and installed in accordance with the manufacturer's instructions. The mailboxes will be fixed directly to a blockwork wall and will sit flush with a false wall to prevent unintended items being stored above or below.

Interior Lighting
24 hour lighting to all communal areas

Entrance matting
Provides a robust and easy to maintain flooring

Secure Access Doors
Secondary call button and PAC reader to control access into the communal circulate to the upper floors

Refuse & Pram Store lobby
Access to communal refuse store and pram with PAC readers to each door

Letter Boxes
Individual secure, lockable TS009 mail boxes.



Interior of Communal Entrance Lobby

4.4 Communal Lighting & Utility Meters

Communal Lighting

The communal entrance and external refuse store doors to the apartment building will be illuminated by wall mounted LED lighting either side of the doorway. These will remain on during non-daylight hours.

Internally within the communal circulation areas of the apartment building, lighting will remain on 24 hours. Lighting to the communal refuse store, pram store and cycle store will operate on a PIR sensors.

Utility Meters

Within the apartment building, all the flats will have smart electricity meters which will be located within each individual flat, within a secure, lockable electricity cupboard.

Water meters will be located within the water riser cupboard at each level and a vision panel within the riser door will make it possible for water meter readings without requiring the riser cupboard to be opened.

All riser cupboards within the communal circulation area will be key locked and will only be openable by RBC Maintenance staff.

There is no gas within the development, therefore no gas meters are required.

4.5 Communal Stores

Communal Cycle Store

A communal external cycle store will provide 18 cycle spaces, one for each of the flats, within a dutch two-tier cycle rack. The cycle store will be enclosed by double skin brickwork walls.

Access to the cycle store is via the rear garden access route, which is accessible to residents and maintenance staff only. In addition, the metal louvred doors to the cycle store will be secured fob access only. The doors to cycle store are directly opposite the rear communal entrance doorset, with 3m distance between them.

Refuse Store

Within the apartment building an internal refuse store is located adjacent to the communal entrance. The external doors to the refuse store are for maintenance and refuse collection only. Residents access to the refuse store is via a secondary lobby from the communal entrance lobby. PAC reader with fob access will ensure that only residents and maintenance staff have access to this area.

Pram Store

A communal pram store is available for residents within the apartment building. This can be accessed by residents and maintenance staff only, either internally via the secondary lobby from the communal entrance, or externally from the secure rear garden access area. Both of these doors will be fitted with Mag locks, controlled by a PAC reader.



PROJECT REF: BS 2131
DATE: - APRIL 2021
REVISION: 01

WENSLEY ROAD, READING
EXTERNAL LIGHTING PROPOSALS

PREPARED BY :-

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PROJECT REVISION SHEET

<u>Revision No.</u>	<u>Date</u>	<u>Details</u>	<u>Changes</u>	<u>Author</u>	<u>Approved</u>
0	April 2021			MR	MR
01	July 2021		Revised to include luminaire location changes	MR	MR

Contents

1.0	INTRODUCTION.....	1
2.0	READING COUNCIL REQUIREMENTS.....	1
2.1	External Lighting Systems.....	1
2.1.1	System Description	1
2.2.1	Planning Requirements.....	2
3.0	PROPOSED LUMINAIRES	2
4.0	CONCLUSION	4
	APPENDIX A – SITE PLAN INDICATING LIGHTING LEVELS	5

1.0 **INTRODUCTION**

The project is a residential development comprising 46 dwellings including 28 individual town houses and a block of apartments containing 18 apartments.

The site includes extensive landscape works including access roads, car parks and community space.

The lighting calculations and this report has been produced by Norman Bromley Partnership Consulting Engineers to detail external lighting proposed for the development and demonstrate compliance with BS 5849-1 : 2013 Lighting of Road and Public Amenity.

2.0 **READING COUNCIL REQUIREMENTS**

2.1 **External Lighting Systems**

2.1.1 System Description

The main site external lighting will be designed in conjunction with the Landscape Architect in line with the performance design drawings which have been submitted for planning approval.

The main site external lighting shall be designed in accordance with the Reading Borough Council standards for adoptable roads including the control requirements and preferred manufacturers. This consists of column mounted energy efficient LED luminaires. All to be to adoptable standards.

In addition to the main site external lighting installation, additional pedestrian access and landscape lighting to central amenity areas/routes and local external lighting down the rear access ways between the rows of townhouses and local building mounted external lighting to the apartment block shall be incorporated with 'landlord' electrical supplies for these to be obtained from the SSEN network where not able to be supplied from the apartment block landlord supply.

Domestic external lighting will be provided to the townhouses adjacent to the front and rear entrance doors at ground floor, and along access routes from the external rear entrances to the rear townhouse entrance doors.

All adoptable and common area landscape lighting shall have power supplies derived from the local Scottish and Southern Energy Networks LV network, will an application to be made for these connections once the design for them and final quantity of connections has been determined.

2.2.1 Planning Requirements

Energy-efficient light fittings are specified, in accordance with the Reading Borough Council specification for street lighting installations. The lighting will also be controlled for dusk to dawn operation with connection to a Mayflower Smart Control System master controller system.

The external lighting will be designed in compliance with the ILP Guidance notes for the reduction of obtrusive light.

All external lighting will be designed in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas and BS EN 12464-2:2014.

The final external lighting design shall be in compliance with the planning permission requirements.

External luminaires will be specified with an output of at least 60 luminaire lumens per circuit watt.

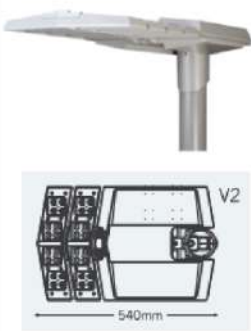
Street lighting shall be designed in accordance with Reading Borough Council specification for street lighting installations.

The installation will achieve the following design lighting levels:

External Area	Design Illuminance Level
Pathways Adjacent to Buildings	10 lux (floor level)
External plant	50-100 lux
Car parking/Roads/Site Wide Pedestrian Routes	5 lux (floor level) average maintained, 1 lux minimum.

3.0 **PROPOSED LUMINAIRES**

The luminaires to be installed are as follows:-

X	<i>Product Name:</i> Holophane VMX 2 <i>Description:</i> V-max Street lighting luminaire, 6m column mounted <i>Mounting:</i> Column <i>Lamp wattage:</i> 15W <i>Lumen Output:</i> 2207 lm <i>Lamp type:</i> LED <i>Colour temperature:</i> 4000K <i>Dimensions:</i> 540mm x 340mm x 80mm <i>Finish:</i> Grey <i>IP rating:</i> IP66 <i>Control gear:</i> Electronic with Mayflower Smart Control integrated	Name: Holophane		Street
---	--	-----------------	---	--------

REF.	DESCRIPTION	MANUFACTURER'S DETAILS	IMAGE	LOCATION
Y	<i>Product Name:</i> NYX 330 <i>Description:</i> Architectural external luminaire. Fortimo FastFlex G4 LED Module SW-X Optic Setting <i>Mounting:</i> 5m Column <i>Lamp wattage:</i> 17W <i>Lumen Output:</i> 2010 lm <i>Lamp type:</i> LED <i>Colour temperature:</i> 4000K <i>Dimensions:</i> 416mm x 330mm x 191mm <i>Finish:</i> TBC by landscape architect <i>IP rating:</i> IP66 <i>Control gear:</i> Electronic with Mayflower Smart Control integrated	Name: DW Windsor		Footpaths in central landscaped areas

The proposed luminaires use good quality LED lighting which is an environmentally friendly light source.

The proposed luminaires are provided with very good lighting control to avoid spill light to adjacent properties and upward light.

4.0 **CONCLUSION**

The results included in Appendix A of this report demonstrate that the design is in accordance with the Reading Council brief and BS 5489-1 : 2013 Lighting of Roads and Public Amenity Areas. The following lighting levels are achieved:-

Pathways Adjacent to Buildings – 10 Lux

Car Parking / Roads / Site Wide Pedestrian Routes – 5 Lux (Floor Level) average
maintained minimum 1 Lux.

The results also indicate that there will be minimum light spill to adjacent properties.

APPENDIX A – SITE PLAN INDICATING LIGHTING LEVELS

FOR CONTINUATION SEE DRAWING No. EBS 2131-NBP-00-GA-E-141

Notes

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL OTHER ENGINEERING AND ARCHITECTURAL DRAWINGS.
- EXACT POSITIONS AND MOUNTING HEIGHTS OF ALL EQUIPMENT TO BE AGREED WITH THE ARCHITECT BEFORE THE INSTALLATION IS COMMENCED.

LEGEND.

- NEW COLUMN MOUNTED LUMINAIRE TO STREET C/W 27W LED LAMP AND INTEGRAL MAY FLOWER SMART CONTROLS AS HOLOPHANE VMX2 MOUNTED ON 6M COLUMN CONNECTED TO PUBLIC NETWORK.
- EXISTING COLUMN LUMINAIRE TO REMAIN.
- EXISTING COLUMN MOUNTED LUMINAIRE TO BE REMOVED.
- NEW COLUMN MOUNTED LUMINAIRE TO FOOTPATHS IN CENTRAL LANDSCAPED AREA C/W 17W LED LAMPS AND INTEGRAL MAYFLOWER SMART CONTROLS AS DW WINDSOR NYX 330 MOUNTED ON 5m COLUMN.
- DUAL ELECTRIC VEHICLE CHARGING POINTS. c/w 2x7kW OUTLETS AND NAL SOCKETS AS SUPPLIED BY JOJU LTD.
- DP1 TO DP2 600x600x800D
- DP3 TO DP6 450x450x600D
- DP CABLE PITS TO BE AS ADVANCED EASY PIT CONNECT COMPLETE WITH MEDIUM DUTY DUCTILE IRON COVER AND FRAME. COVER SPECIFICATION TO BE AGREED WITH LANDSCAPE ARCHITECT.

ISOLINE LEGEND.

- 1 LUX
- 2 LUX
- 5 LUX
- 10 LUX
- 20 LUX

P2	28.05.21	REVISED TO INCLUDE COMMENTS.	DP	MR
P1	28.04.21	PRELIMINARY ISSUE	CH	MR
Rev	Date	Notes	Dwn	Chk

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Client

READING BOROUGH COUNCIL

Project

WENSLEY ROAD, READING

Service

ELECTRICAL ENGINEERING

Title

EXTERNAL ELECTRICAL SITE SERVICES LAYOUT (SHEET 3 OF 3)

Scale	Date	Drawn	Approved
1:200@A1	MAR'21	DP	MR
Drawing No.		Rev.	
2131-NBP-00-GA-E-142		P2	

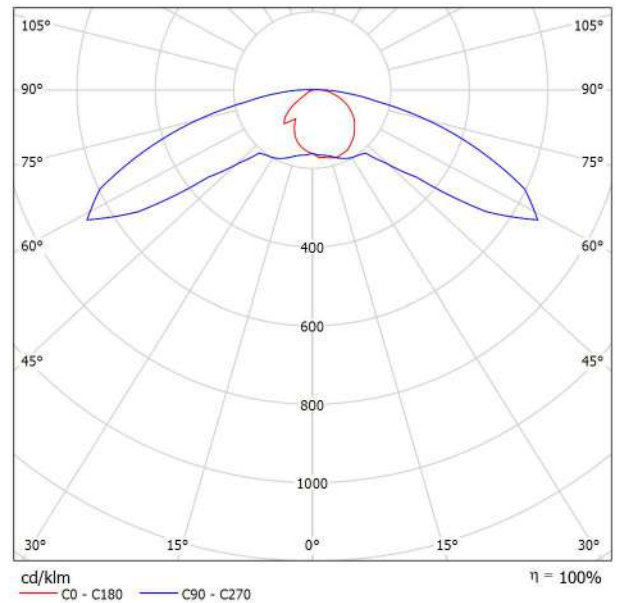
PRELIMINARY



Operator
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e-Mail

THORLUX RL19071 Realta LED Polycarbonate Cover - 8W - Wide Distribution - 4000K / Luminaire Data Sheet

Luminous emittance 1:



Luminaire classification according to CIE: 98
CIE flux code: 27 60 90 98 100

Stylish IP66 wall mounted luminaires. Die-cast aluminium body with a choice of high efficiency glass or polycarbonate refractor. Less than 2% upward light.

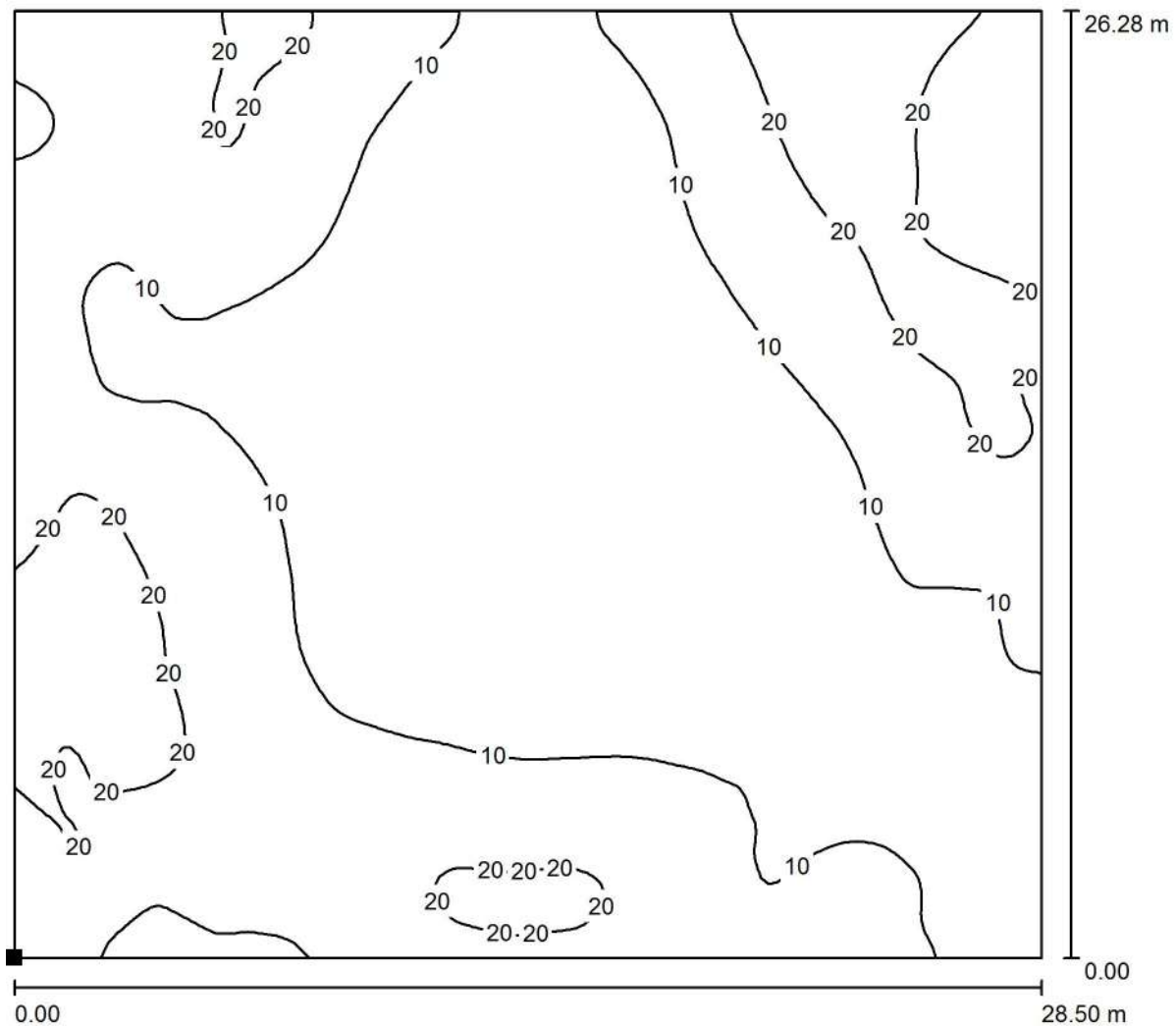
Applications: Wide versions ideal for uniform pathway lighting for schools, hospitals, retail and other commercial environments. Area version ideal for general area lighting requiring a forward throw light distribution.

Due to missing symmetry properties, no UGR table can be displayed for this luminaire.



Operator
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Exterior Scene 1 / Calculation Area 6 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 206

Position of surface in external scene:
Marked point:
(237.797 m, 141.822 m, 0.750 m)



Grid: 128 x 128 Points

E_{av} [lx]
12

E_{min} [lx]
3.40

E_{max} [lx]
29

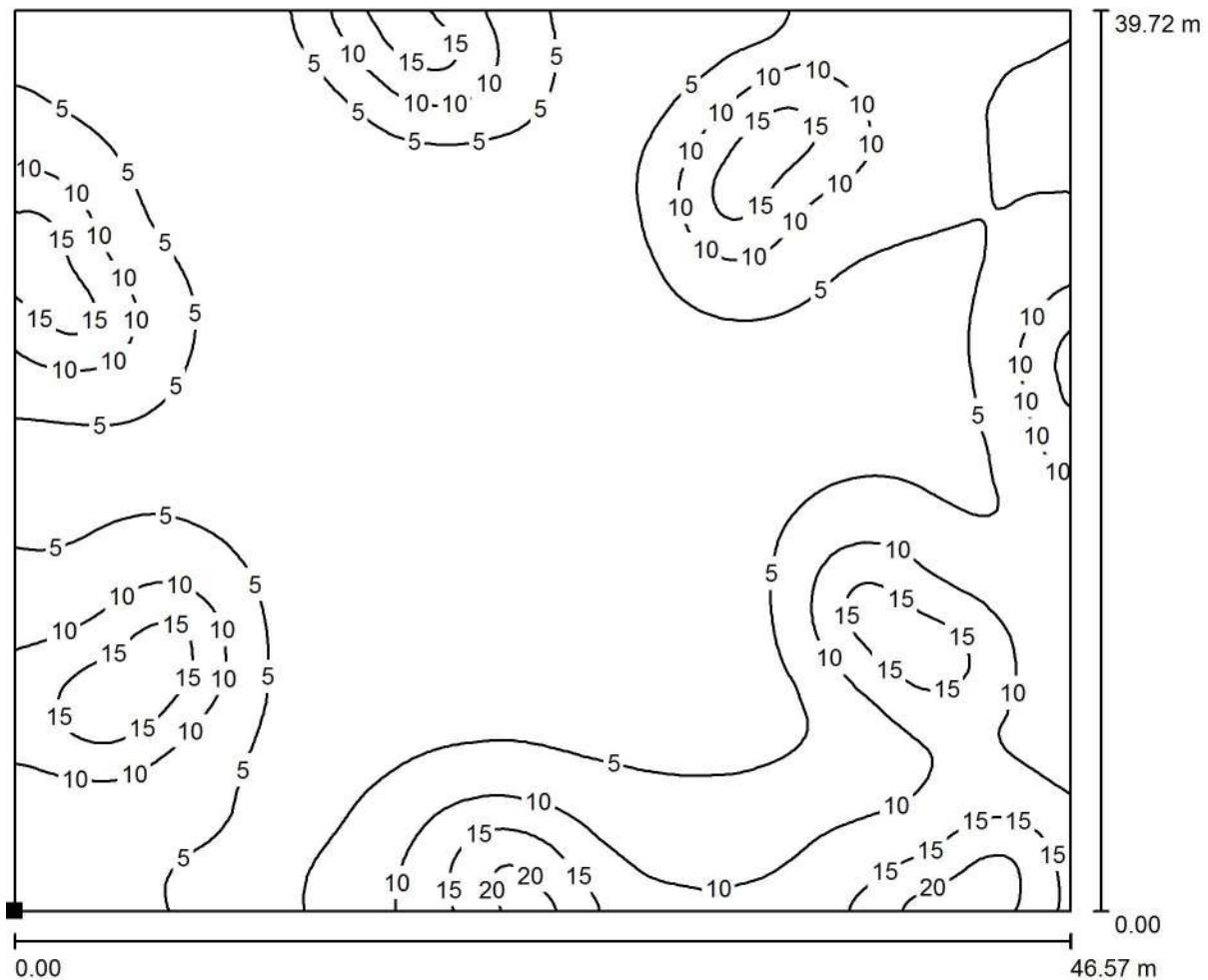
u_0
0.288

E_{min} / E_{max}
0.117



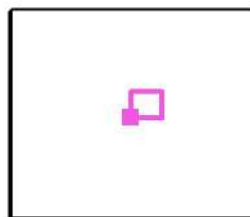
Operator
Telephone
Fax
e-Mail

Exterior Scene 1 / Calculation Area 4 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 333

Position of surface in external scene:
Marked point:
(202.432 m, 172.852 m, 0.750 m)



Grid: 128 x 128 Points

E_{av} [lx]
6.06

E_{min} [lx]
0.70

E_{max} [lx]
23

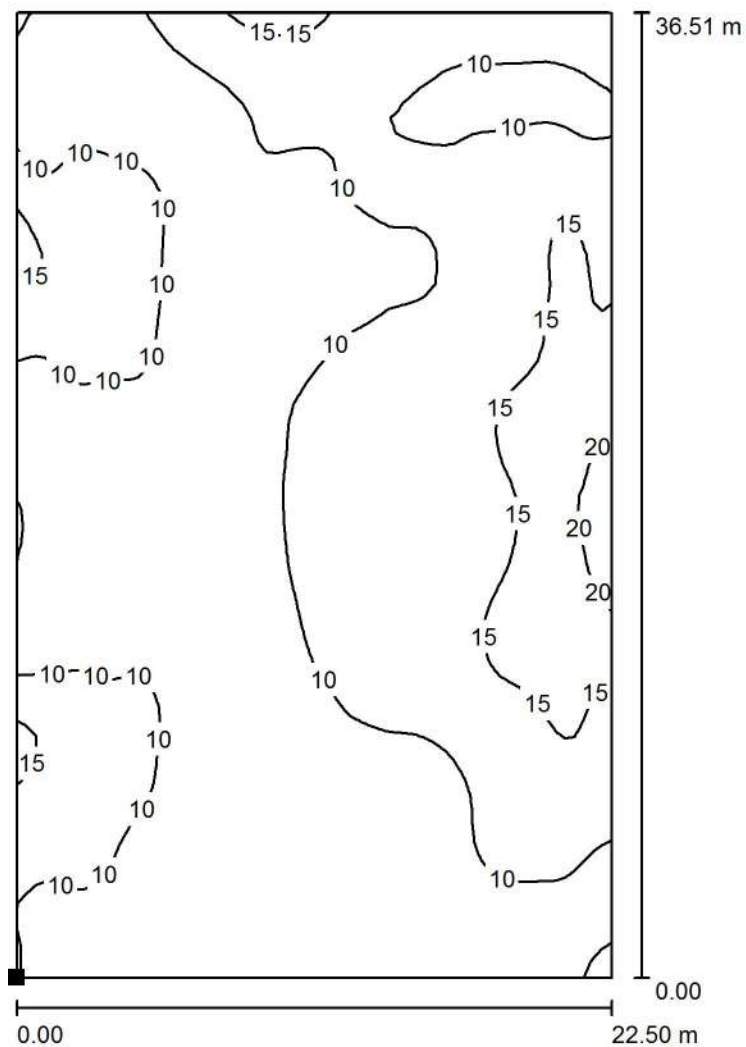
u_0
0.115

E_{min} / E_{max}
0.031



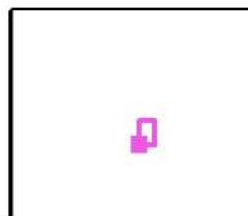
Operator
Telephone
Fax
e-Mail

Exterior Scene 1 / Calculation Area 8 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 286

Position of surface in external scene:
Marked point:
(215.949 m, 132.263 m, 0.750 m)



Grid: 64 x 64 Points

E_{av} [lx]
10

E_{min} [lx]
4.51

E_{max} [lx]
23

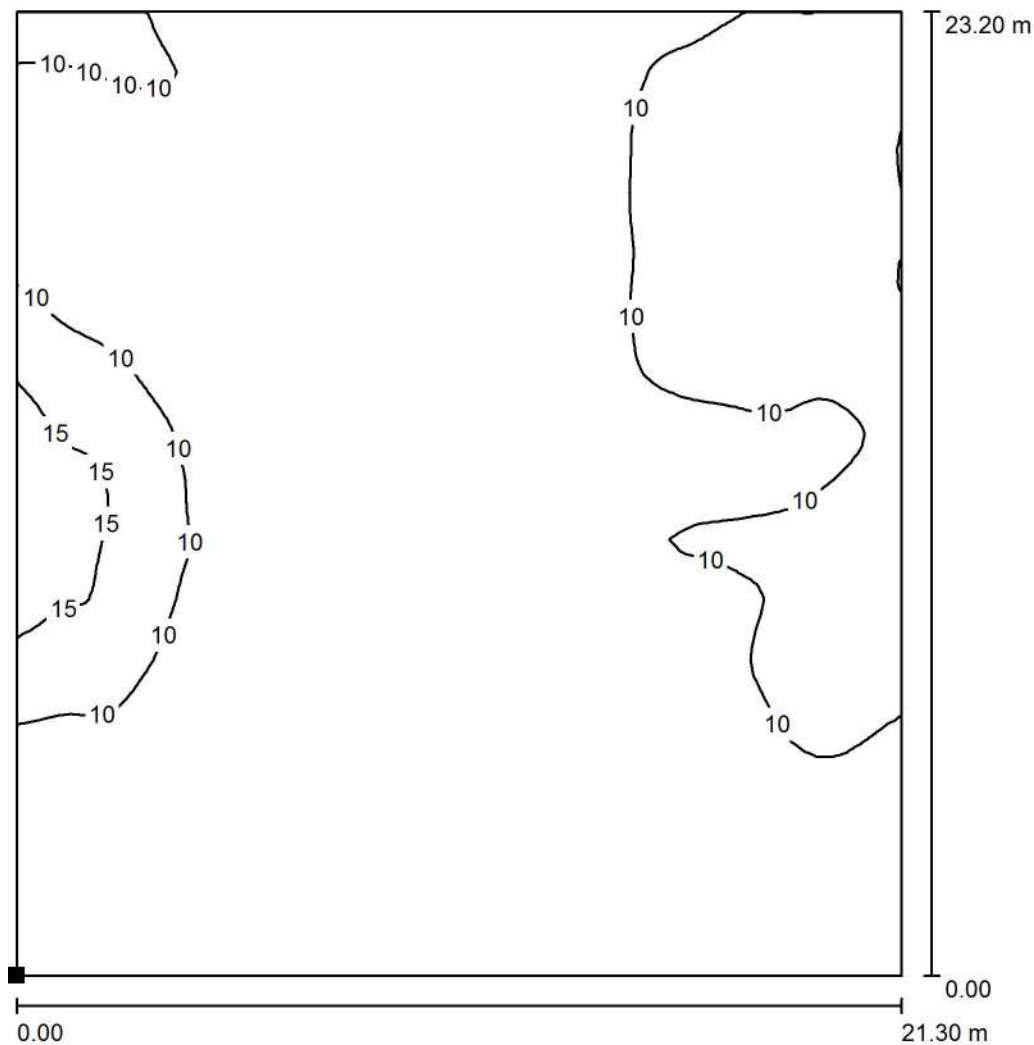
u_0
0.430

E_{min} / E_{max}
0.193



Operator
Telephone
Fax
e-Mail

Exterior Scene 1 / Calculation Area 9 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 182

Position of surface in external scene:
Marked point:
(267.400 m, 145.165 m, 0.750 m)



Grid: 64 x 64 Points

E_{av} [lx]
8.78

E_{min} [lx]
5.12

E_{max} [lx]
20

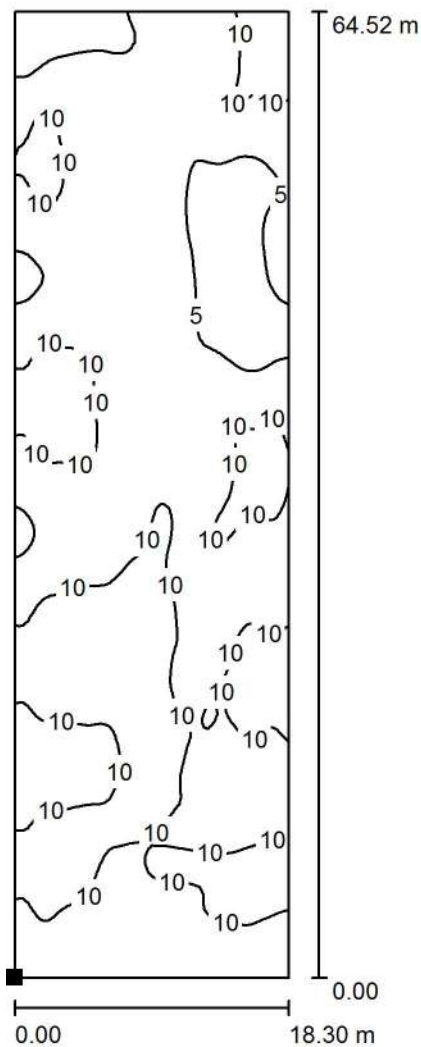
u_0
0.584

E_{min} / E_{max}
0.259



Operator
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Exterior Scene 1 / Calculation Area 7 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 505

Position of surface in external scene:
Marked point:
(180.000 m, 102.600 m, 0.750 m)



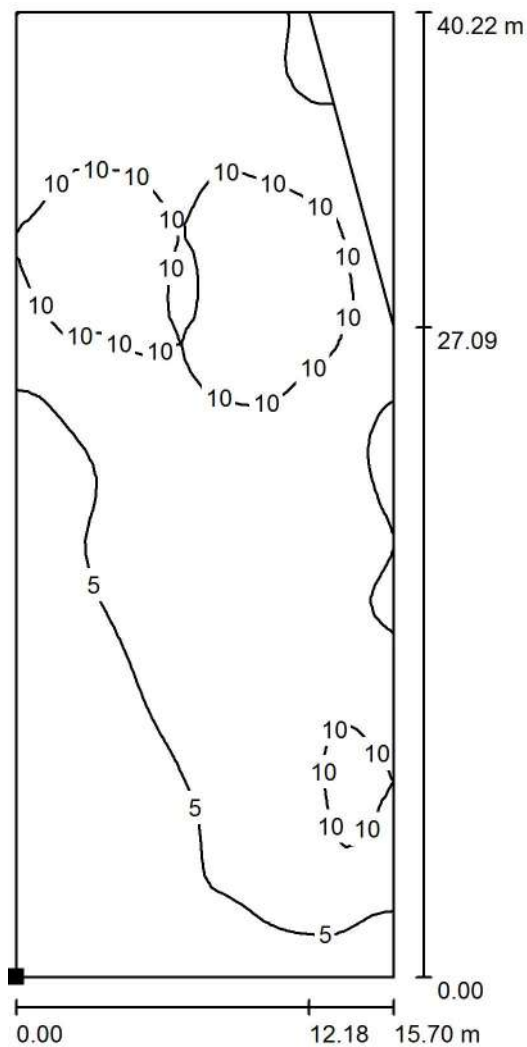
Grid: 64 x 128 Points

E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0	E_{min} / E_{max}
8.45	2.71	14	0.321	0.195



Operator
Telephone
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e-Mail

Exterior Scene 1 / Calculation Area 1 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 315

Position of surface in external scene:
Marked point:
(147.200 m, 204.296 m, 0.750 m)



Grid: 32 x 64 Points

E_{av} [lx]
6.75

E_{min} [lx]
0.58

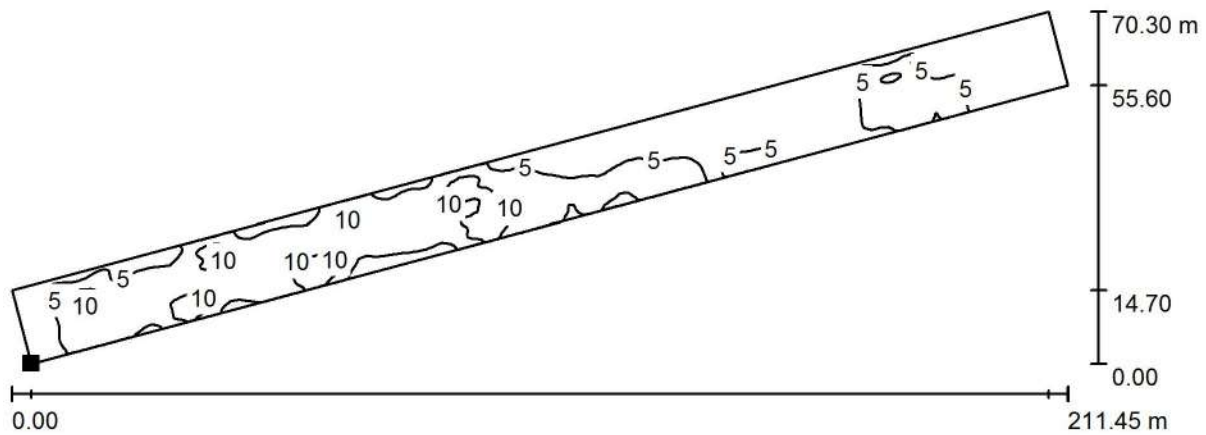
E_{max} [lx]
13

u_0
0.086

E_{min} / E_{max}
0.044

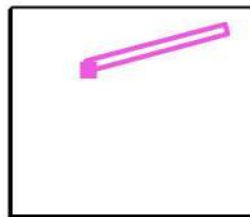


Operator
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Exterior Scene 1 / Calculation Area 3 / Isolines (E, Perpendicular)

Values in Lux, Scale 1 : 1512

Position of surface in external scene:
Marked point:
(139.841 m, 240.392 m, 0.750 m)



Grid: 128 x 64 Points

E_{av} [lx]
5.52

E_{min} [lx]
0.07

E_{max} [lx]
14

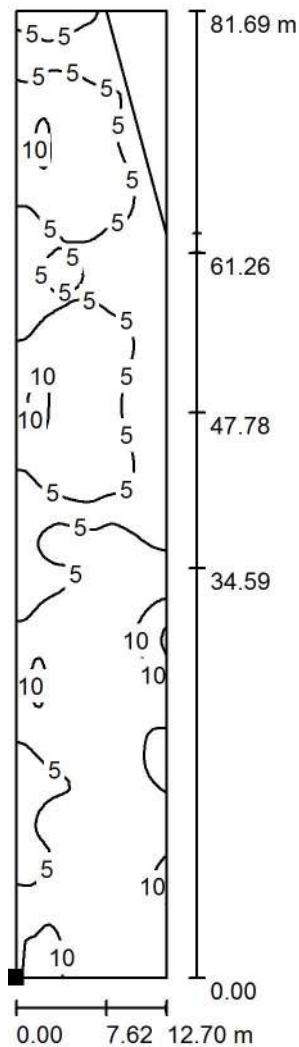
u_0
0.012

E_{min} / E_{max}
0.005



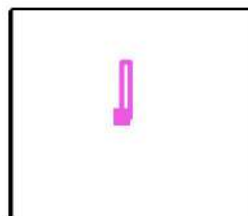
Operator
Telephone
Fax
e-Mail

Exterior Scene 1 / Calculation Area 2 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 639

Position of surface in external scene:
Marked point:
(189.600 m, 173.545 m, 0.750 m)



Grid: 32 x 128 Points

E_{av} [lx]
6.26

E_{min} [lx]
2.52

E_{max} [lx]
16

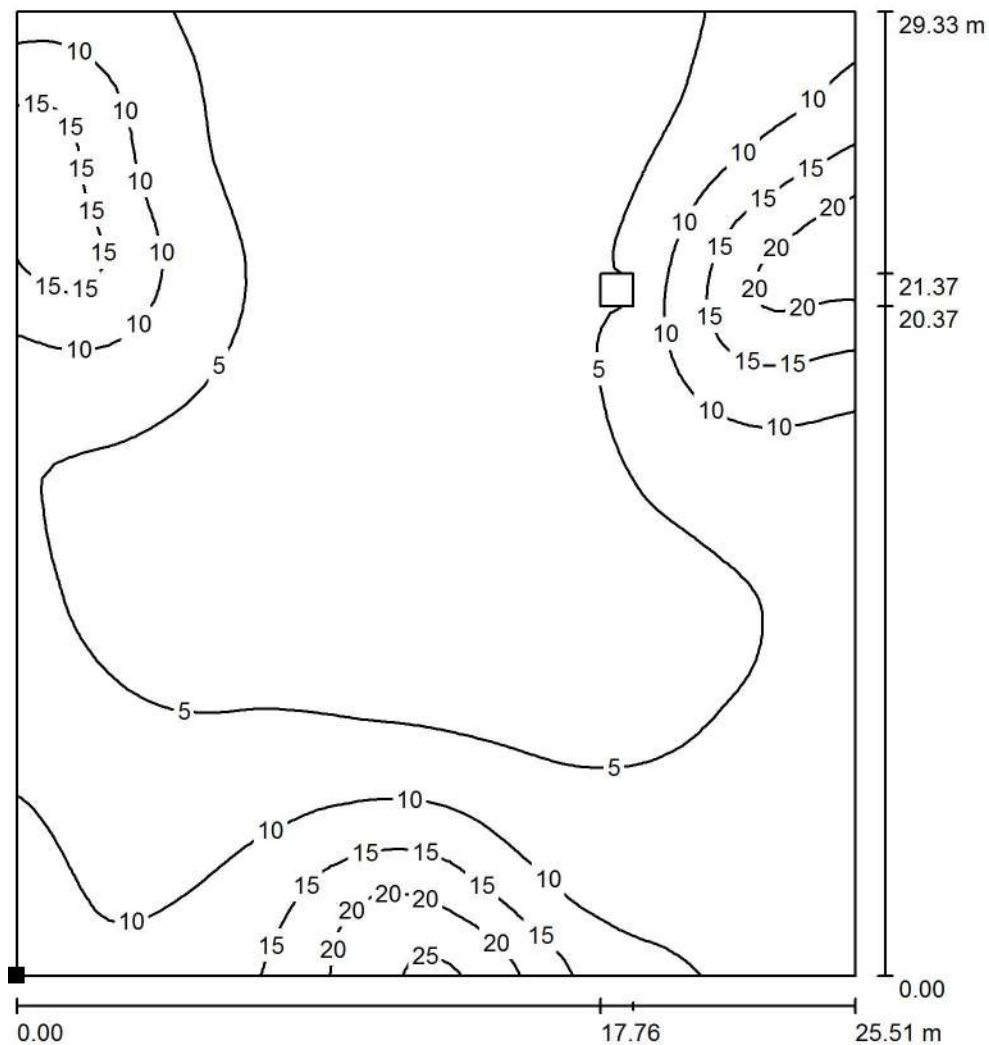
u_0
0.402

E_{min} / E_{max}
0.158



Operator
Telephone
Fax
e-Mail

Exterior Scene 1 / Calculation Area 5 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 230

Position of surface in external scene:
Marked point:
(248.985 m, 172.167 m, 0.750 m)



Grid: 64 x 64 Points

E_{av} [lx]
6.72

E_{min} [lx]
1.24

E_{max} [lx]
26

u_0
0.185

E_{min} / E_{max}
0.048

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