

Station Elements



- B1 Station
- B2 Underpass
- B3 Platform
- B4 Overpass

Introduction



It is clear that railway stations must be functional, but they also should be more than a mere instrument for satisfying a basic need. They also have to demand aesthetic and emotional demands. Rail Baltica and their Regional Stations must use its chance of meeting such demands. Additionally, the importance of offering the customer an aesthetic experience has either been underestimated, or simply disregarded so far, although it is a fundamental requirement if customers are to gain confidence in the system to be built in the three Baltic states. The overall design, the interior appointment and, of course, the architecture of station buildings as aesthetic space to be experienced is essential for the exit of Rail Baltica system.

In the long term, the Rail Baltica shall be associated with an improvement in the living of Baltic citizens and Regional Stations shall be the visible identity of a new system crossing Estonia, Latvia and Lithuania, and connecting the main European cities with the Baltic capitals through their regions. Rail Baltica shall work as a sophisticated customer system that shall lead to a new culture of railway travel with its own identity.

The identity of the Regional Stations shall be clear and must become a recognizable brand item. Arriving in a station shall be a pleasant stage of a pleasant trip. The station shall ensure, for arriving and departure passengers, a clear sequence of spaces and elements.

For the usability and public acceptance of the station, functionality is important. If the railway station's aesthetic characteristics and atmosphere are to be attraction points, then normal transportation operations must be discreet. The railway station needs also to be an important architectural element, but this seems to have been forgotten. When the rail was developed in several countries around the world in the beginning of the 19th century, the Regional Stations was not only the identity of the rail line, but also the main connection between the far population and the main centres and capitals. The station was not only a vital link for each town and village to its wider locality, region, and state, it was also the meeting place. The regional railway station as a permanent architectural manifestation has not just been important for customers entering it but it has also been the centre of urban life. The regional stations were developed with a country identity but mainly with the regional or local identity. The regional station was the first welcome building when passengers arriving and it was clear that was designed to identify one region, sometimes with local architecture,

regional elements, identifiable materials as hand painted tiles, local stone, local wood, pitched roofs, colours etc.

The long tradition of the railways shall be emphasized with modern contemporary architecture for the regional stations and to add a landmark as a lantern that guides passengers through Baltic landscape, peaceful and calm.

Customer habits shall be integrated in the design of the stations and the work done with the stakeholders can help the passengers to identify with the design of the stations. The aim of the Regional Station is a combination of functional efficiency and meaning. On one side, there is the building engineering, how to build, how to protect, how to organize, how it is working, how it operates but on the other side, there is the soul of the final object that need to give meaning and identify to the subject; and the idea is to use the history of the three countries and to express them in terms of a single identity and to have the passenger to participate in its function, feeling the building and the chosen approach.

The station as a house was the design approach during the history of regional stations in several countries and also in the Baltic states as references images in First Interim Report Traditional domestic Baltic architecture and the station as a home for commuters is the design approach to develop three options of design. The design is based on the principles of overall unity and diversity of individual elements.

The new railway station is designed as a consistently unified space to be experienced, satisfying every customer's demand of it. The new concept of regional stations, expressed in the presented three options, is essentially determined by four factors: quality, economy, customer and identity. This will be achieved by a unified brand architectural image with permanent features and structures through the three states and about them keeping the identity of each. An architecture worthy of preservation, as well as local colour, gives a distinct personality to each railway station.

Station

B1

- B1.1 Station Classification
- B1.2 International Station
- B1.3 Regional Station
- B1.4 Modular Strategy
- B1.5 Growth Strategy
- B1.6 Layout
- B1.7 Design
- B1.8 Structure
- B1.9 Facade
- B1.10 Floor
- B1.11 Walls
- B1.12 Ceiling
- B1.13 Roof
- B1.14 Signage and wayfinding
- B1.15 Furniture
- B1.16 Equipment

During peak hours the volume of the passengers rises. Based on the volume of passengers for days have been defined four types of station, each one with specific characteristics.

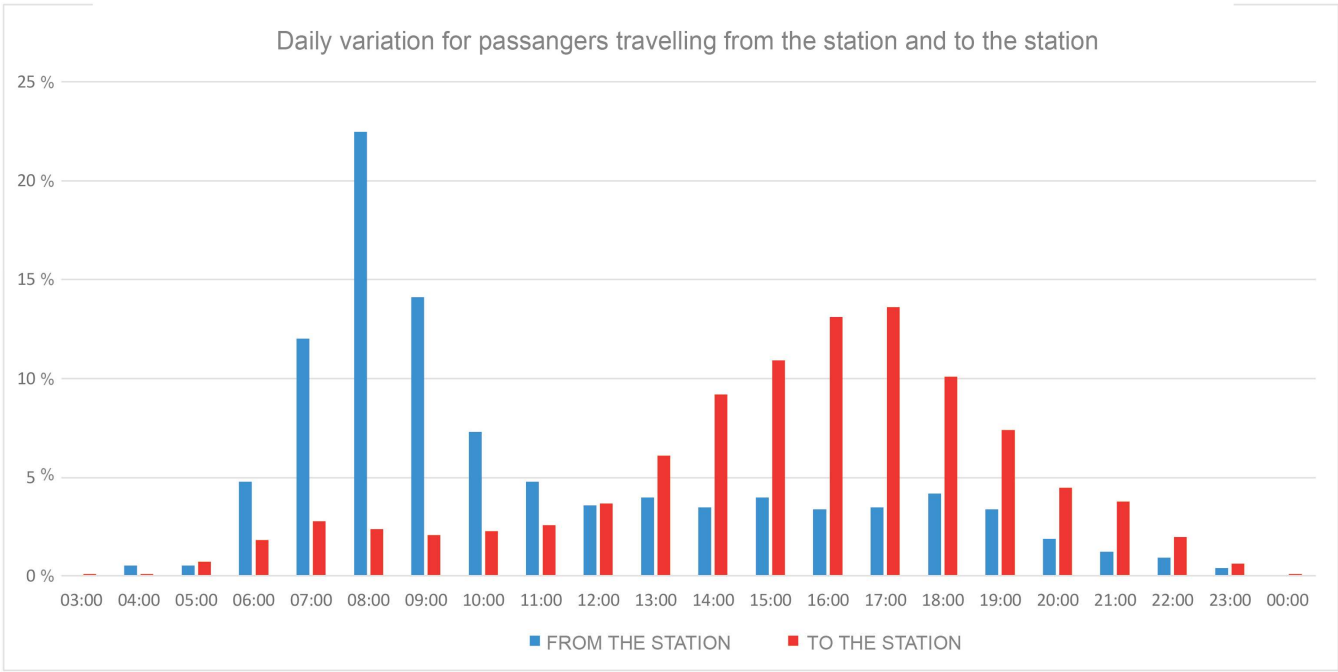
Note:
The indicated station classification is general approach. The Client shall make the final decision case-by-case considering the site-specific aspects.

Station classification

Volume of the passengers (person medium day)

	Type	Station Type	Volume of Travelers
RAIL BALTICA STATIONS	TYPE 1 - International	Main Station	International Station
	TYPE 2 - Landmark	Medium Station	< 600 PMD
	TYPE 3 - Basic	Small Station	< 300 PMD
	TYPE 4 - Platform	Essential Station	< 150 PMD

Peak hours



Note:
The indicated minimum requirements are general approach. The Client shall make the final decision case-by-case considering the site-specific aspects.

Station classification



Minimum Requirements

	FUNCTION	TYPE 1	TYPE 2	TYPE 3	TYPE 4	MINIMUM DIMENSIONS	COMMENT
INTERIOR	Accessibility	●	●	●	●	-	All stations according to PRM TSI requirements
	Advertisement	●	●			-	As a revenue, advertisement shall be considered only in Type I and Type II. Other stations Type to be analysed if required.
	Art	●	●	●	●	-	Please refer to Art chapter
	ATM's	●	●	●		-	Minimum one per station in Station box near TVM
	Benches	●	●	●	●	-	For Type I,II and III
	Branding	●	●	●	●	-	Please refer to Branding chapter for all elements mandatory to have branding
	Canopy	●	●			-	Minimum 100m
	Cleaner's Room	●	●	●	●	5,0x4,0m2	In station type I shall be according to size station.
	Clock	●	●	●	●	-	Minimum one per platform
	Controller's Staff Room	●	●			5,0x4,0m	Furniture shall be provided for staff. Equipped with a safe
	Elevators	●	●	●		Shall wheel chair dimension	In type IV only if is impossible to provide a ramp according to PRM TSI regulation
	Escalator	●				-	Only for station Type I
	Debris Room	●	●			2,5x2,5m	Near Cleaning Room
	First Aid Room	●	●			4,0x3,0m	In station Type II this room can be part of the Police / Security room

Commented [TA1]: Proposal to remove the column defining minimum dimensions. This shall be evaluated case-by-case by the Consultant

Note:
The indicated minimum requirements are general approach. The Client shall make the final decision case-by-case considering the site-specific aspects.

Station classification



Minimum Requirements

INTERIOR	Furniture	●	●	●	●	-	Minimum requirement shall be benches and litter bins. Furniture and free-standing devices should comply with requirements of ISO 21542.
	Luggage Room	●				5,0x5,0m	Short, mid, long term according to forecast number of passengers
	Baggage trolley racks	●	●			-	-
	Operation Room	●				5,0x4,0m	A room to store equipment and supplies
	Passenger Information Desk	●				4,0x3,0m	In station Type II this service can stand in the Ticket Office
	Passenger's Toilet	●	●	●	●	-	2 toilet & 2 washbasins for female toilets; 2 toilets & 2 urinals & 2 washbasins for male and 1 toilet and 1 washbasin for PMR as minimum. Passenger toilet should comply with applicable requirements of ISO 21542.
	Public Information System	●	●	●	●	-	Minimum 1 per platform
	Recycle Bins	●	●	●	●	-	Minimum 2 per platform
	Refuse Room	●	●			Type I-4,0x3,0m Type II-2,0x2,0m	-
	Retail	●	●			12/25 sqm	One retail as minimum in station Type II. Type I according to forecast passengers.
	Security Room Police Room	●	●			4,0x3,0m	In Station Type II, this room can be together with First Aid Room
	Station Building	●	●	●		-	-
	Signage	●	●	●	●	-	-
	Station Master Room	●				20/25 sqm	At the track level near the platform. To have control's and communications systems.
	Ticket Office	●	●			2,30x2,0m	Minimum 2 per station Dimension for one workstation

Note:
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Station classification



Minimum Requirements

INTERIOR	Ticket Vending Machine	●	●	●	●	-	-
	Tourist information desk/office	●	●	●			One in each station
	Speakers	●	●	●	●	-	-
	Staff Toilet Changing Room	●	●			5,0x3,0m	1 toilet & 1 washbasins for female toilets; 1 toilets & 1 urinals & 1 washbasins for male and according to PMR regulation.
	Shelter			●	●	-	Minimum 3 per platform
	Underpass Overpass	●	●	●	●	-	Mandatory as is prohibit cross the rail lines
	Waiting Area	●	●			5,0x4,0m2	In stations Type I, shall have waiting rooms for Business and 2nd Class
	Check-in barriers	●	●	●	●	-	For train tickets validation - to separate platforms from open access station
	Waste Paper Basket	●	●	●	●	-	Each 20m minimum.
	Train carriage positioning indicators at platforms - potentially including crowding-level information about	●				-	Electronic displays corresponding to loading carriages doors, installed at a height where they can be seen from platforms access areas as well as from the platform itself
	Integrated travel information systems at platforms	●				-	Touch screens equipped with multimodal (air, regional trains, PT) information system, one on each platform/platforms access
	Meeting points indicated by clocks or information/ advertisement towers	●	●	●	●	-	One meeting point for each station
	High quality restroom areas (i.e. including personnel, shower facilities and toiletries selling)	●	●			-	One for each international station

Note:
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Station classification



Minimum Requirements

INTERIOR	Charging positions/ towers	●	●	●	●	-	Distributed nearby benches and sitting areas. Number depending on size of the station.
	Food and beverages courts and retails areas	●	●			-	They should be present in the main station as well as, in smaller dimension, at platforms
	Entertainment/ advertisement systems	●	●	●			Screens for videos, including news, should be provided in correspondence of the main lounge rooms and sitting areas
	Drinkable water fountains	●	●	●		-	In both main stations and close to platforms
EXTERIOR	Bike Parking (covered)	●	●	●	●	-	Minimum 20 units and according to forecast passengers to Type I
	Bus Stop Shelter / Storage	●	●	●	●	-	Minimum 1 unit per station. Mid/long term storage, size depending on the demand forecast and size of the station.
	Bike path	●				-	From entrance to platform
	Bike Car Station	●	●	●	●	-	Numbers of electrical station depending on the demand forecast and size of the station.
	Car Parking	●	●	●	●	-	Minimum to 6 to 20 cars and according to forecast passengers station Type I. Applicable requirements of TSI PRM and ISO 21542 shall be fulfilled.
	Electrical Car Station	●	●	●	●	-	Minimum 3 units and according to forecast passengers station Type I
	Furniture	●	●	●	●	-	To be consider benches and litter bins
	Kiss & Ride	●	●	●	●	-	3 to 5 cars and according to forecast passengers in Type I
	Taxi Stop	●	●	●	●		Minimum 3 cars and according to forecast passengers in Type I

Note:
The indicated suggestion for future development is general approach. The Client shall make the final decision case-by-case considering the site-specific aspects.

Station classification

Suggestion for Future Station Development

	FUNCTION	TYPE 1	TYPE 2	TYPE 3	TYPE 4	MINIMUM DIMENSIONS	COMMENT
INTERIOR	Areas with public functionalities	●	●			-	Provision of areas with public (business oriented) functionalities. e.g. shared offices, meeting rooms, conference areas etc.
	Areas with public functionalities	●	●			-	Provision of areas with public (business oriented) functionalities. e.g. for art exhibitions, music performances, etc.
	Kids' playground area	●	●			-	One for each station in the main area. Size depending on the size of the stations.
	Smoking glass rooms	●				-	One per station

Note:
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Station classification

B1.1

Air to Rail Integration

	FUNCTION	TYPE 1	TYPE 2	TYPE 3	TYPE 4	MINIMUM DIMENSIONS	COMMENT
INTERIOR	Baggage belt	●	-	-	-	-	-
	Check-in desks	●	-	-	-	-	-
	Area for sorting bags, loading into any transfer container, storage area for container	●	-	-	-	-	All areas must be isolated from public access areas
	Transfer route from sorting bags area to platform	●					No public access at either end, or along route

HSR freight services

	FUNCTION	TYPE 1	TYPE 2	TYPE 3	TYPE 4	MINIMUM DIMENSIONS	COMMENT
INTERIOR	Space for parcels deliveries	●	-	-	-	-	-
	Space for parcels storage and handling	●	-	-	-	-	-



Station classification

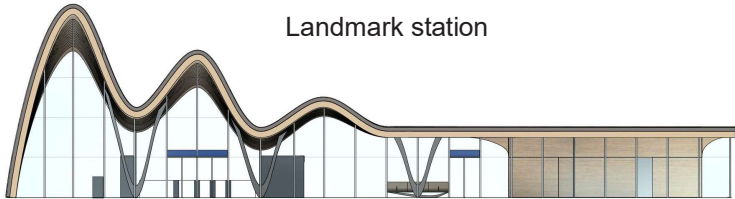
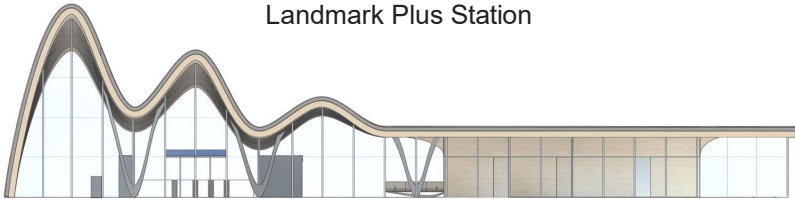



TYPE I - International Station / Terminal Station
An International Station is a large station that shall be fully staffed with multiple facilities and for multiple transit services. Located in the center of the main capitals of the three Baltic states, is an element that changes the city.

TYPE II - Regional Station II
This station is composed of the station building and the platform. Minimum facilities: bigger waiting space, toilets, retail/caffe, additional operation rooms and rooms for the staff. There is a possibility to extend this station by adding more commercial space. 6 shelters on the platform.

TYPE III - Regional Station III
This station is composed of the base station building and the platform. Minimum facilities: smaller waiting space, toilets, operation rooms and rooms for the staff. 4 shelters on the platform.

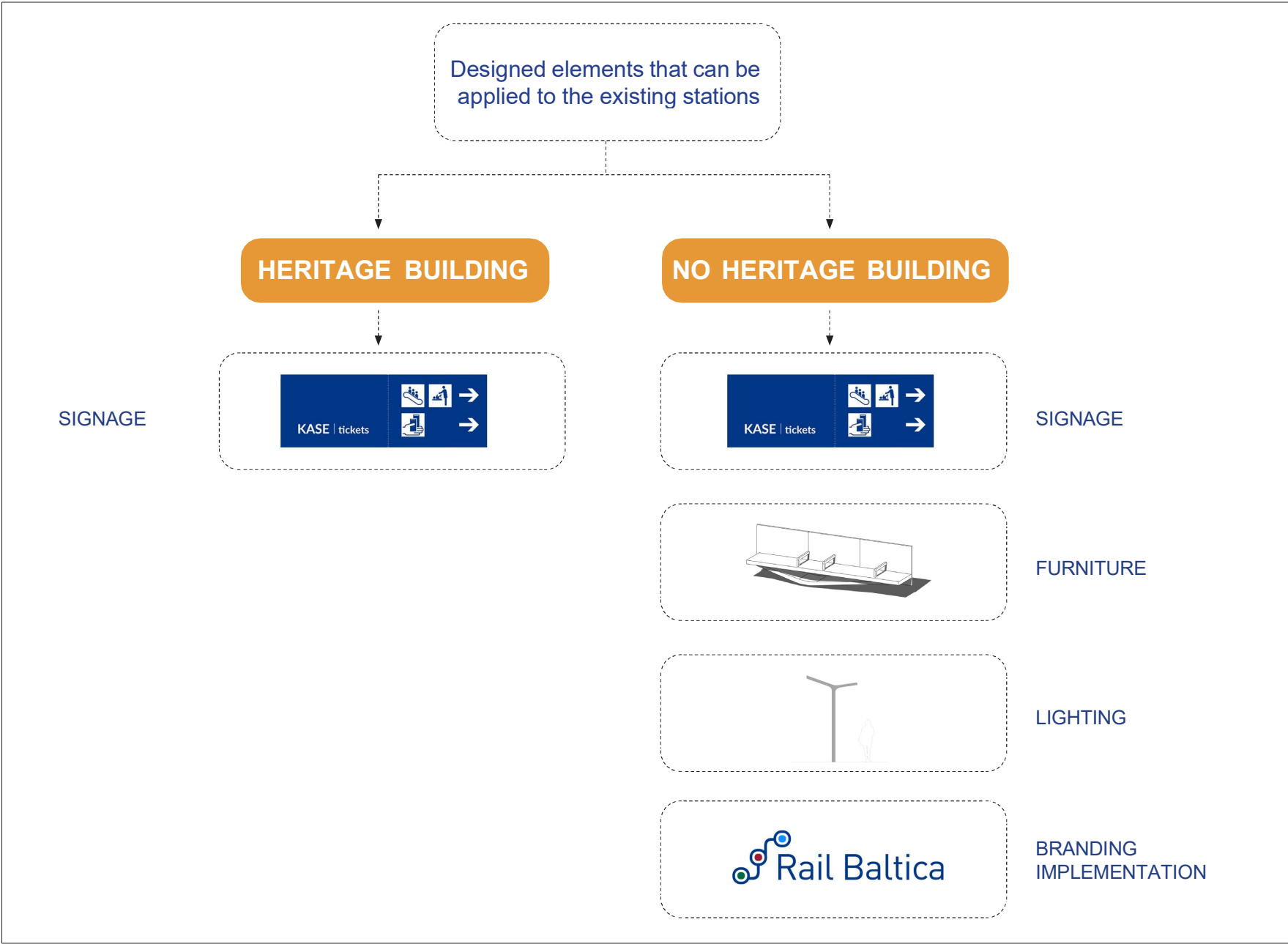
TYPE IV - Regional Station IV
This type of the station is composed of the platform and shelters.

Note:
The indicated station classification is general approach. The Client shall make the final decision case-by-case considering the site-specific aspects.

Design by others	
<div>Landmark station</div>  <p>*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station</p>	<div>Landmark Plus Station</div>  <p>* Illustrative picture, there are no horizontal slope towards trackside/ entrance of the station</p>
<div>Basic Station</div> 	<div>Basic Plus Station</div> 
<div>Shelters</div> 	



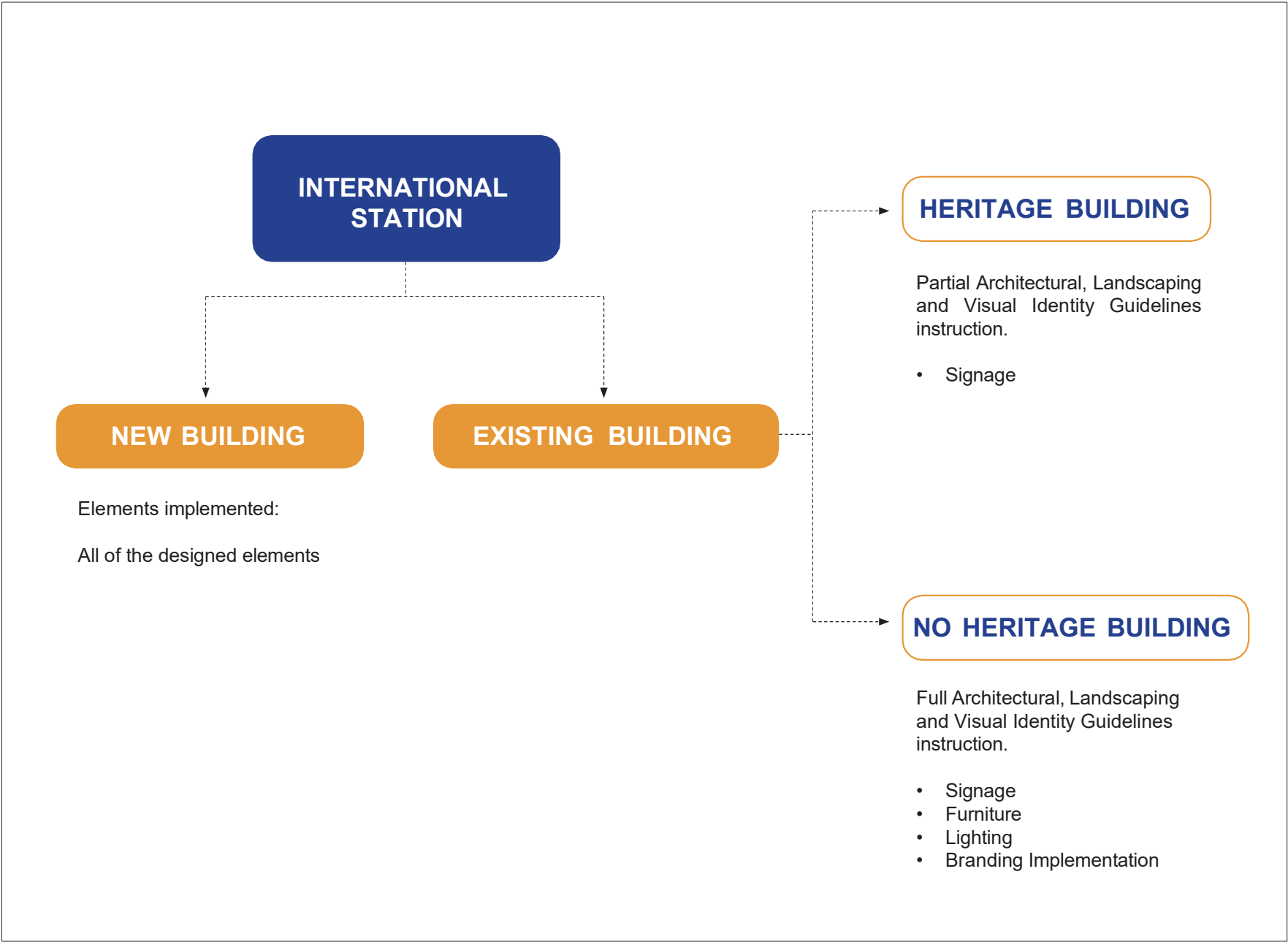
Note:
The indicated station classification is general approach.
The Client shall make the final decision considering the site-specific aspects for applicable architectural elements.



Note:
The indicated station classification is general approach.
The Client shall make the final decision considering the site-specific aspects for applicable architectural elements.
Branding is more detail described in page No. 73.

International Station

B1.2



International Station

B1.2

Heritage Building



Before



After

Signage

Signage

Note:
Images present examples of implementation of designed elements on existing stations.

The Client shall make the final decision regarding branding considering the site-specific aspects for applicable architectural elements.

International Station

B1.2

New Building

Before



After



Signage

Lighting

Furniture

Signage

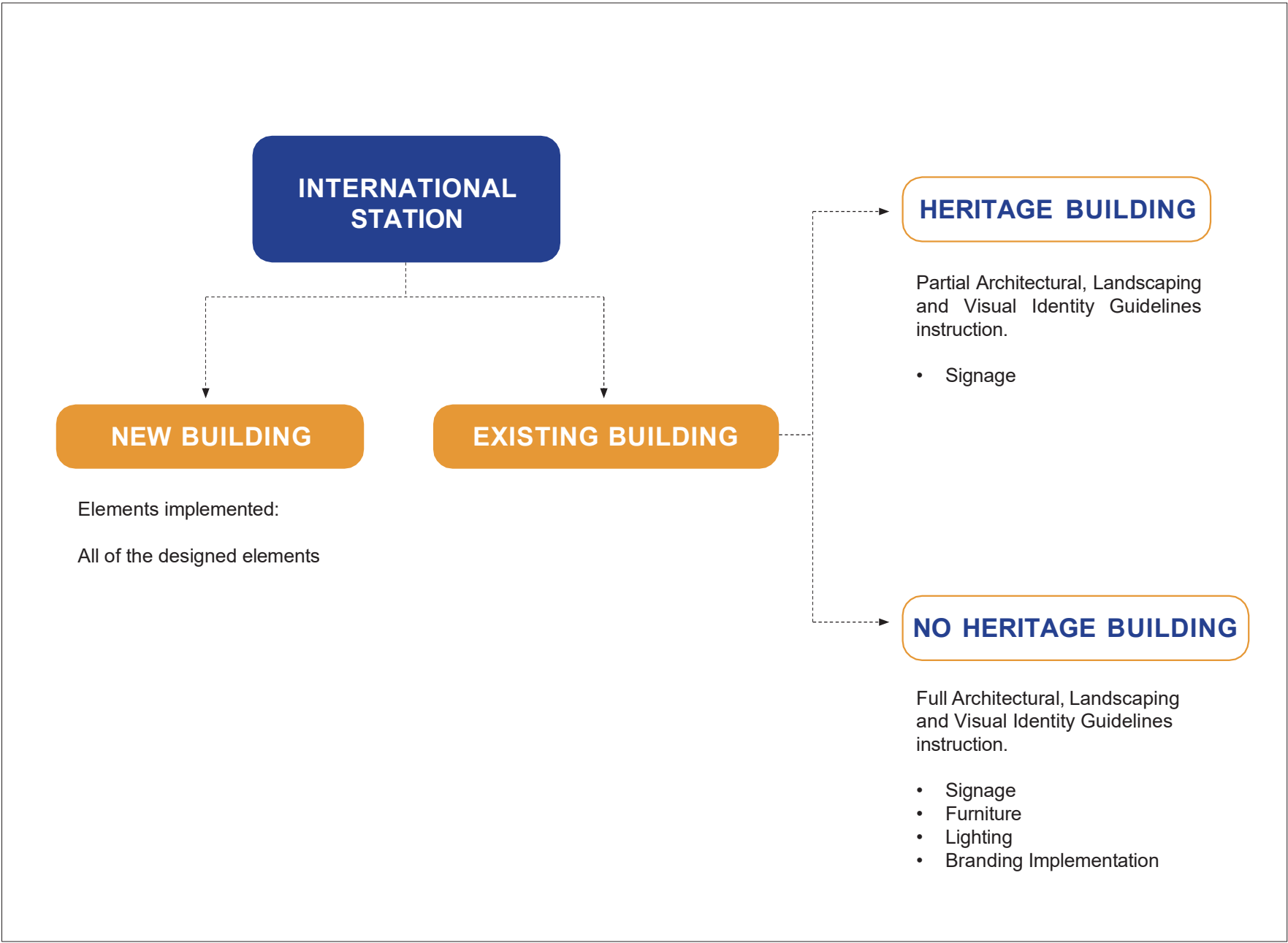
Note:
Images present examples of implementation of designed elements on new international stations.

The Client shall make the final decision regarding branding considering the site-specific aspects for applicable architecture elements.

Regional Station

B1.3

Note:
The indicated station classification is general approach.
The Client shall make the final decision considering the site-specific aspects for applicable architectural elements.
Branding is more detail described in page No. 73.



Modular strategy

B1.4

Rail Baltica modular design approach was to divide stations into types depending on an amount of daily passengers.

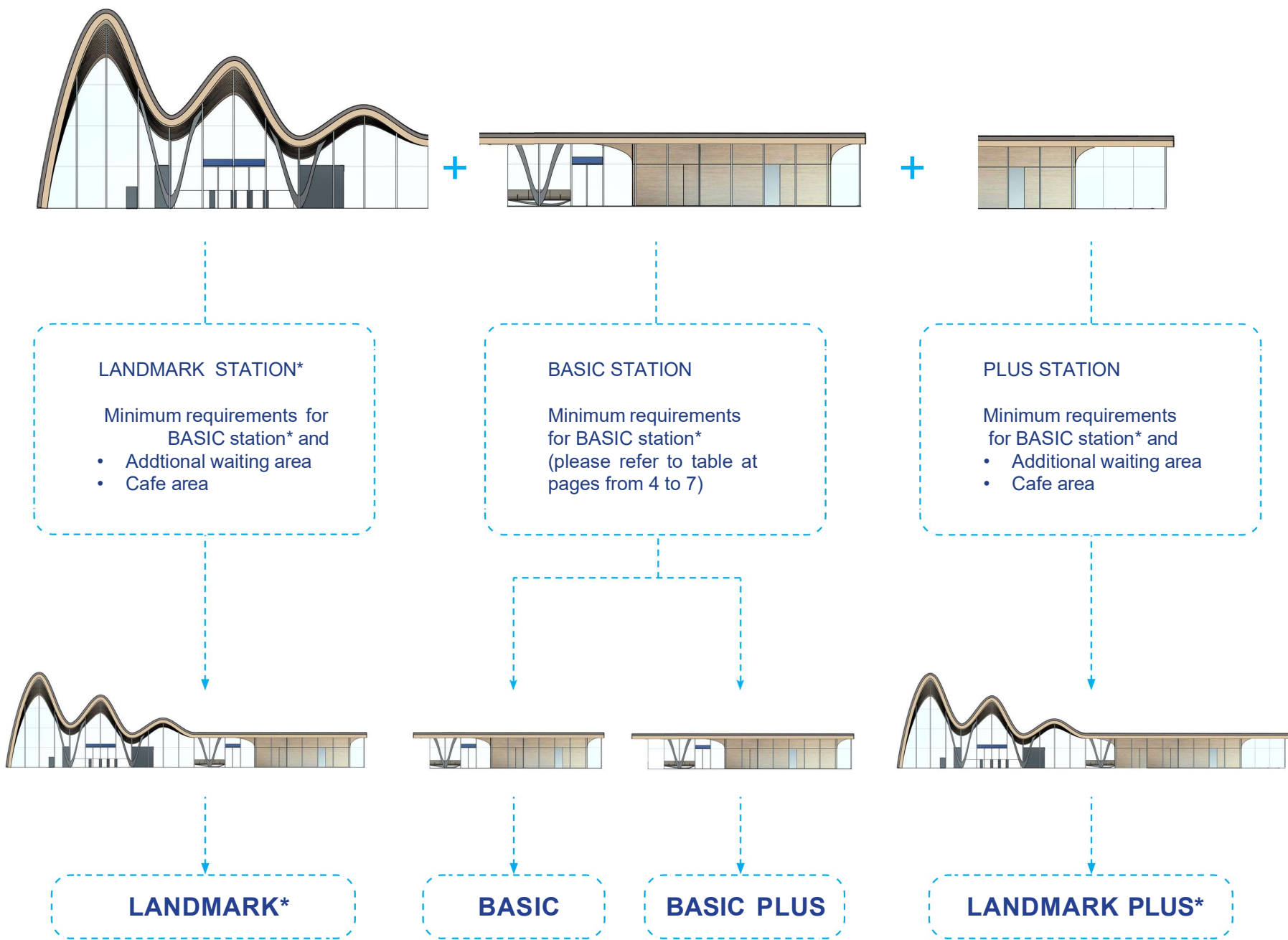
Station Basic consists of station building and the platform as well as all minimum station facilities. It was designed for average number of passengers.

Station Landmark is composed of the base station building and the platform. Consists of station building and the platform, minimum facilities as well as additional space such as bigger waiting space, cafe space.

Station Plus is composed of the station building and the platform. Consists of station building and the platform, minimum facilities, bigger waiting space, retail/cafe and additional commercial space.

Modular design brings several advantages such as reduced capital requirements and economies. Modularity is especially advantageous when the scale and scope of the project are relatively large. In such cases, it is a practical and economic option. Through modularity Rail Baltica can achieve various designs, while achieving low-cost for development.

*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station



Growth Strategy

B1.5

Modular design

Based on several analysis and also on the medium number of passengers per day, four type of station have been define:

- Type 1: International Station
- Type 2: Landmark Station
- Type 3: Basic Station
- Type 4: Platform Station (no building, only shelters)

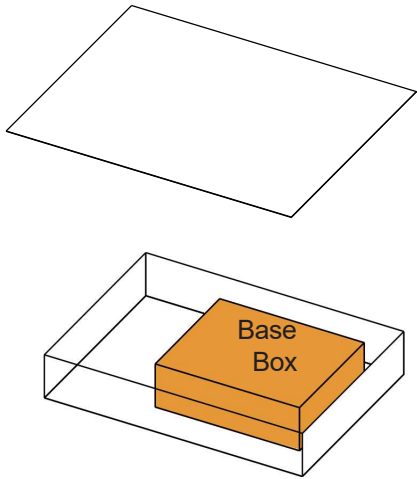
The scheme illustrates how, starting from the basic, a station can growth choosing to expand toward the Landmark station or the Basic Plus.

The maximum possible expansion will allow reaching the Landmark plus station.

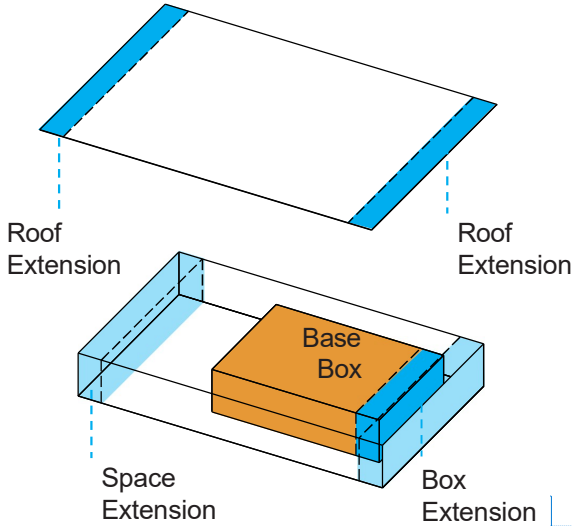
Note:

The Client shall make the final decision for growth strategy case-by-case considering the site-specific aspects.

BASIC

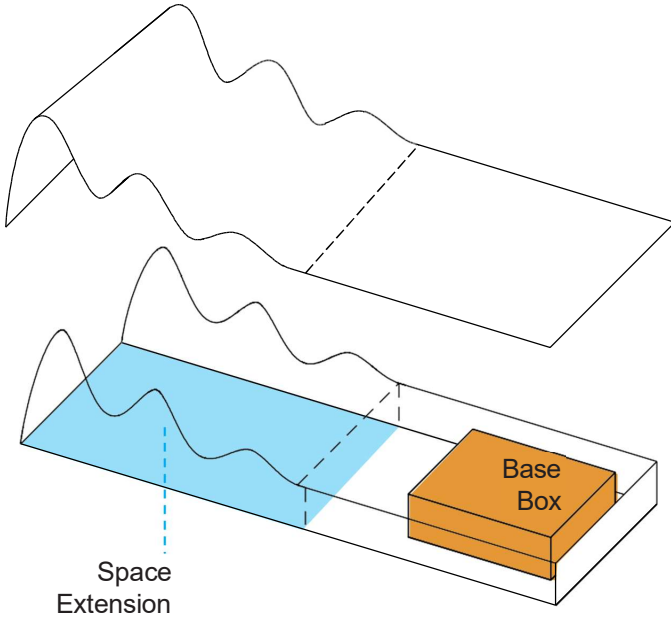


BASIC PLUS

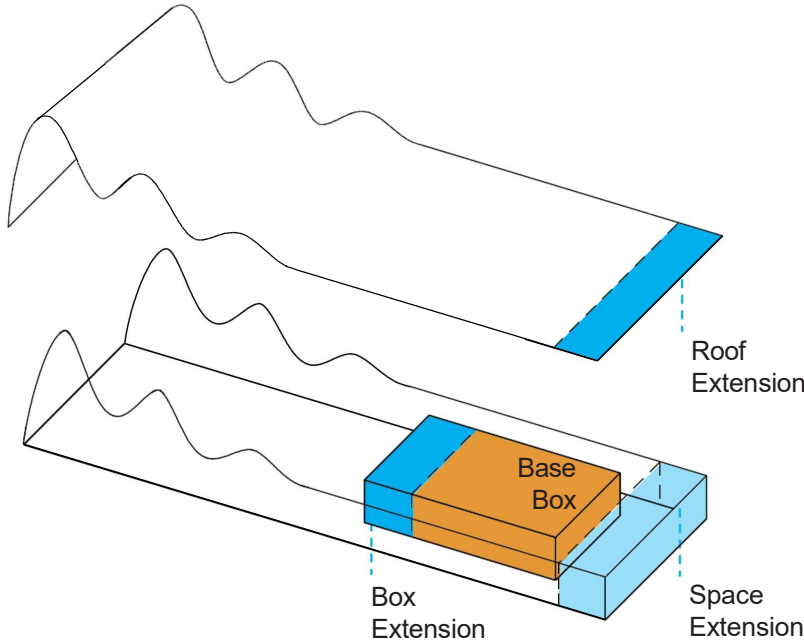


Commented [TA2]: Haven't we already done that by following the general approach of ALG for stations

LANDMARK



LANDMARK PLUS

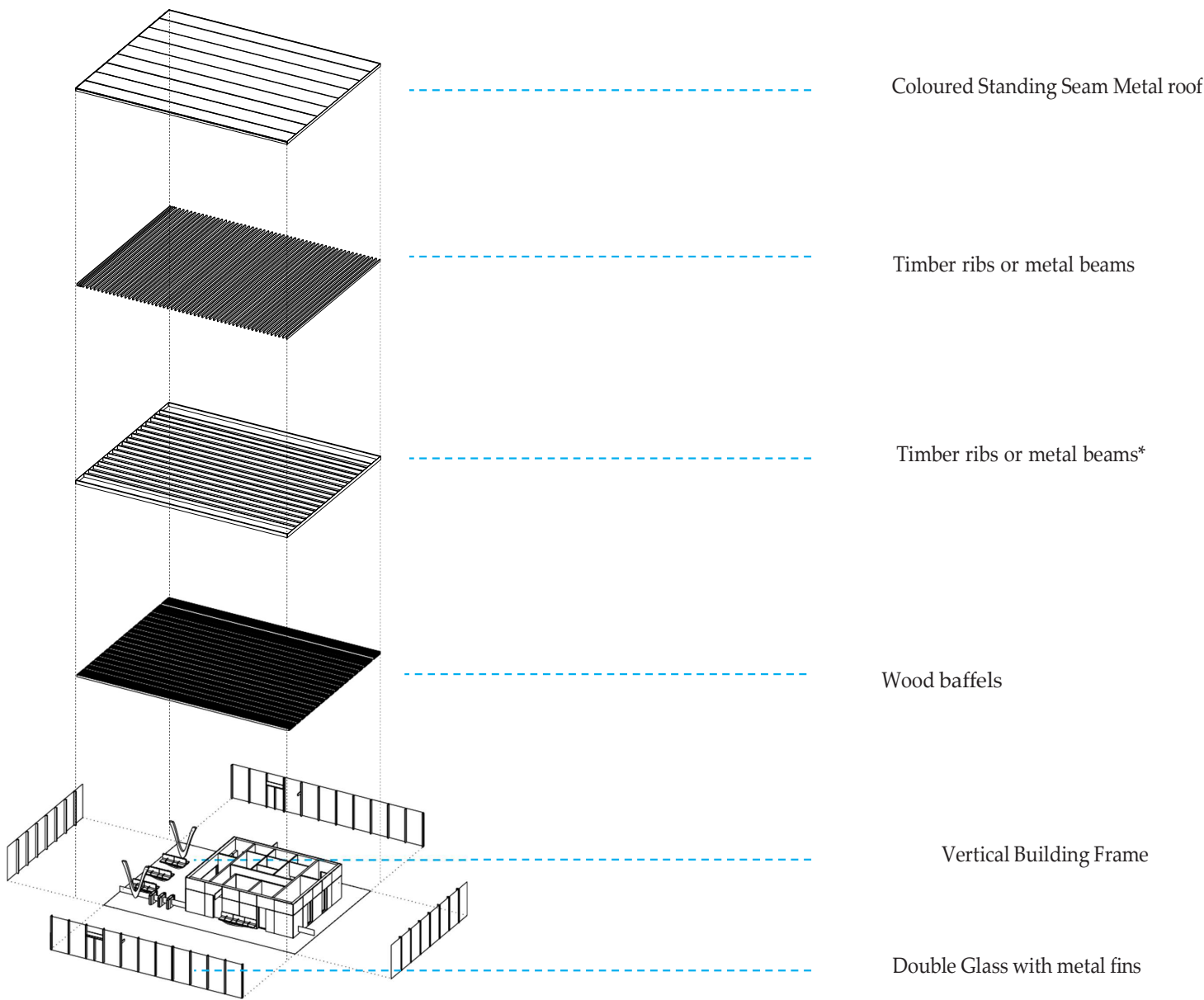


Layout

B1.6

*visible metal beams must be sheated with wood

Basic



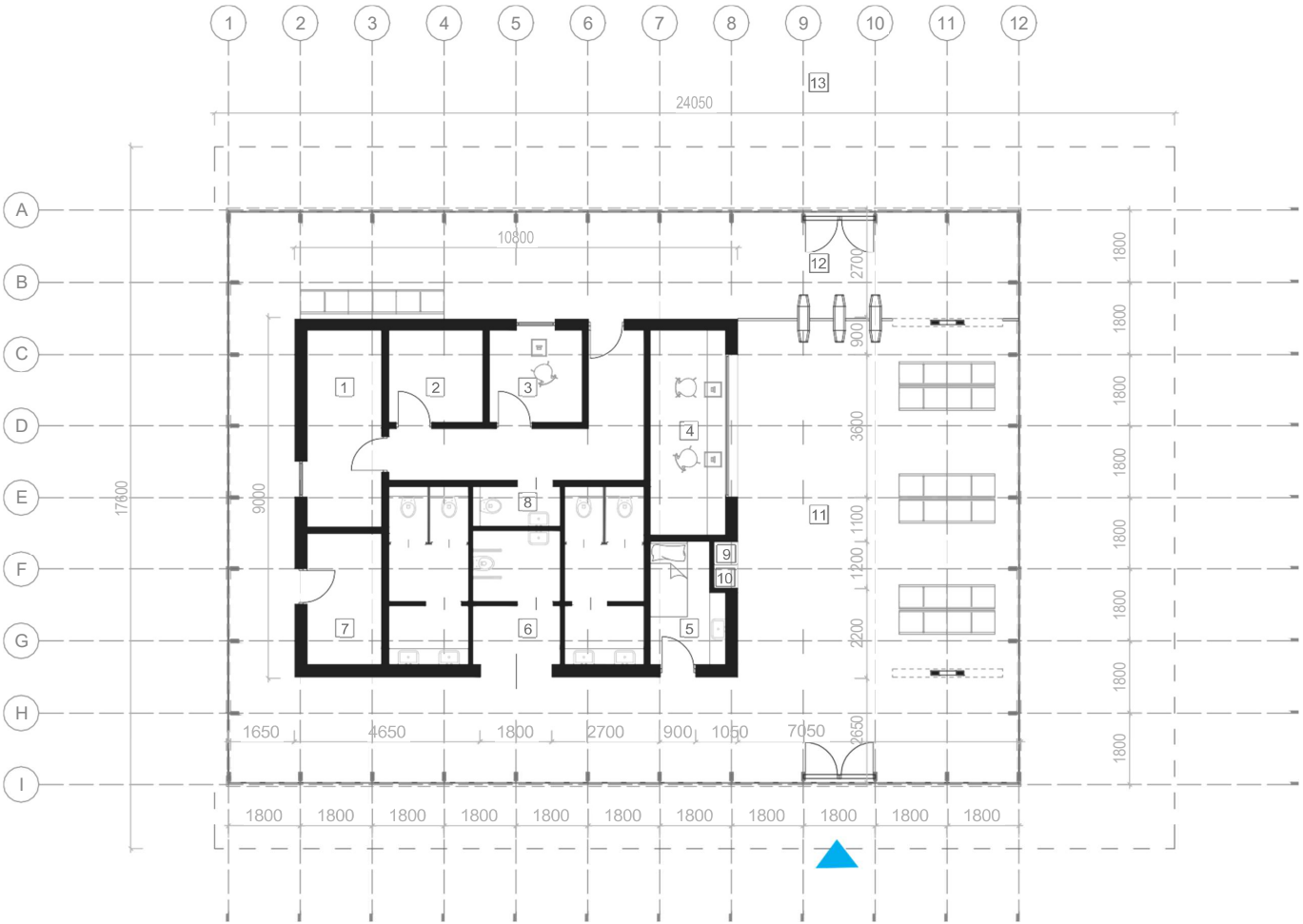
Note:
The station layout is indicative.

Layout

Basic

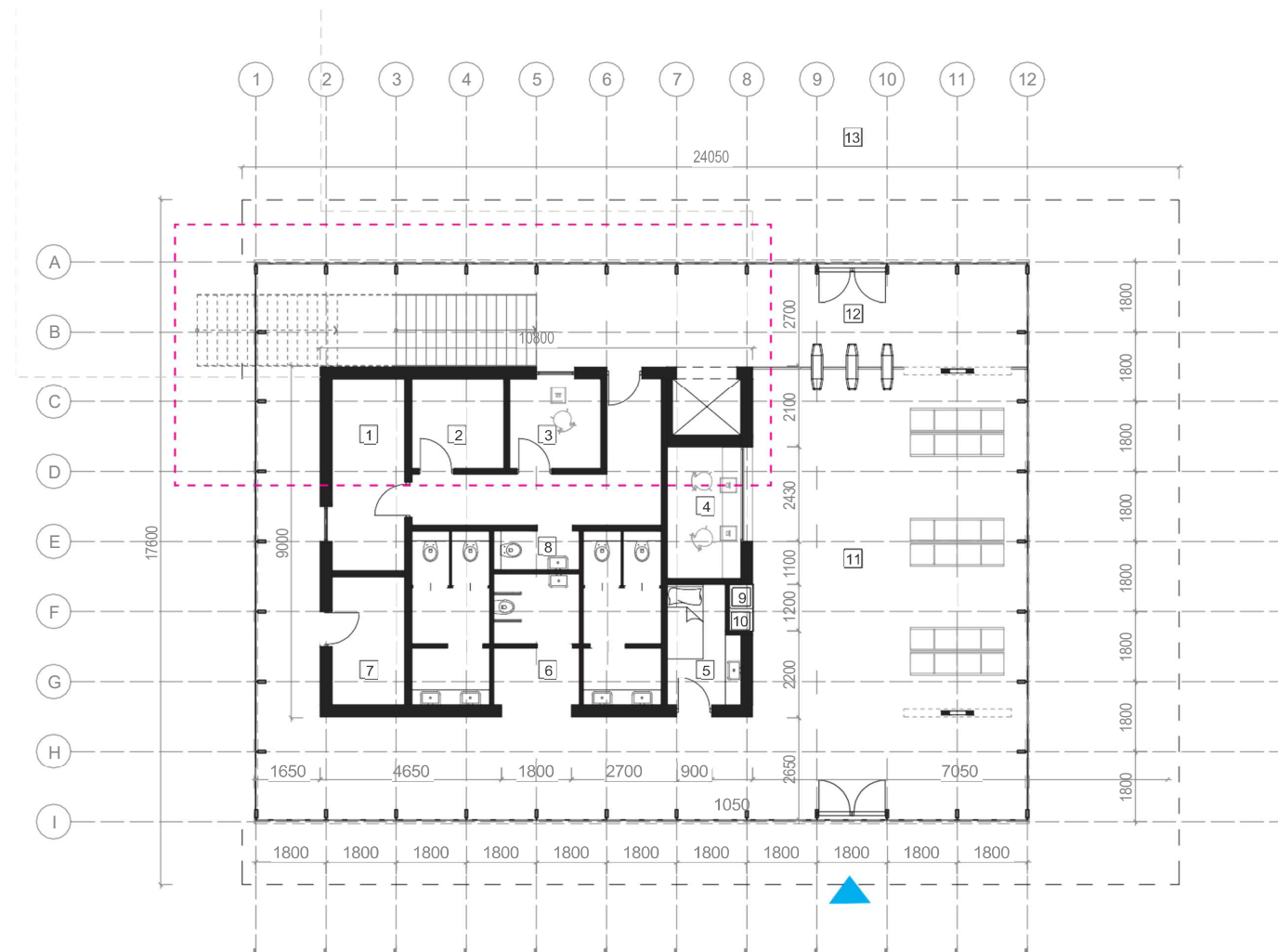
Note:
The station layout is indicative

- Legend**
- 1. Staff Room
 - 2. Police
 - 3. Control Room
 - 4. Ticket office
 - 5. First Aid
 - 6. Toilets
 - 7. Master
 - 8. Staff Toilet
 - 9. ATM
 - 10. TVN
 - 11. Waiting Zone
 - 12. Ticket Validation Zone
 - 13. Platform



Layout

Basic with Direct Access to the Underpass



Note:

The station layout is indicative

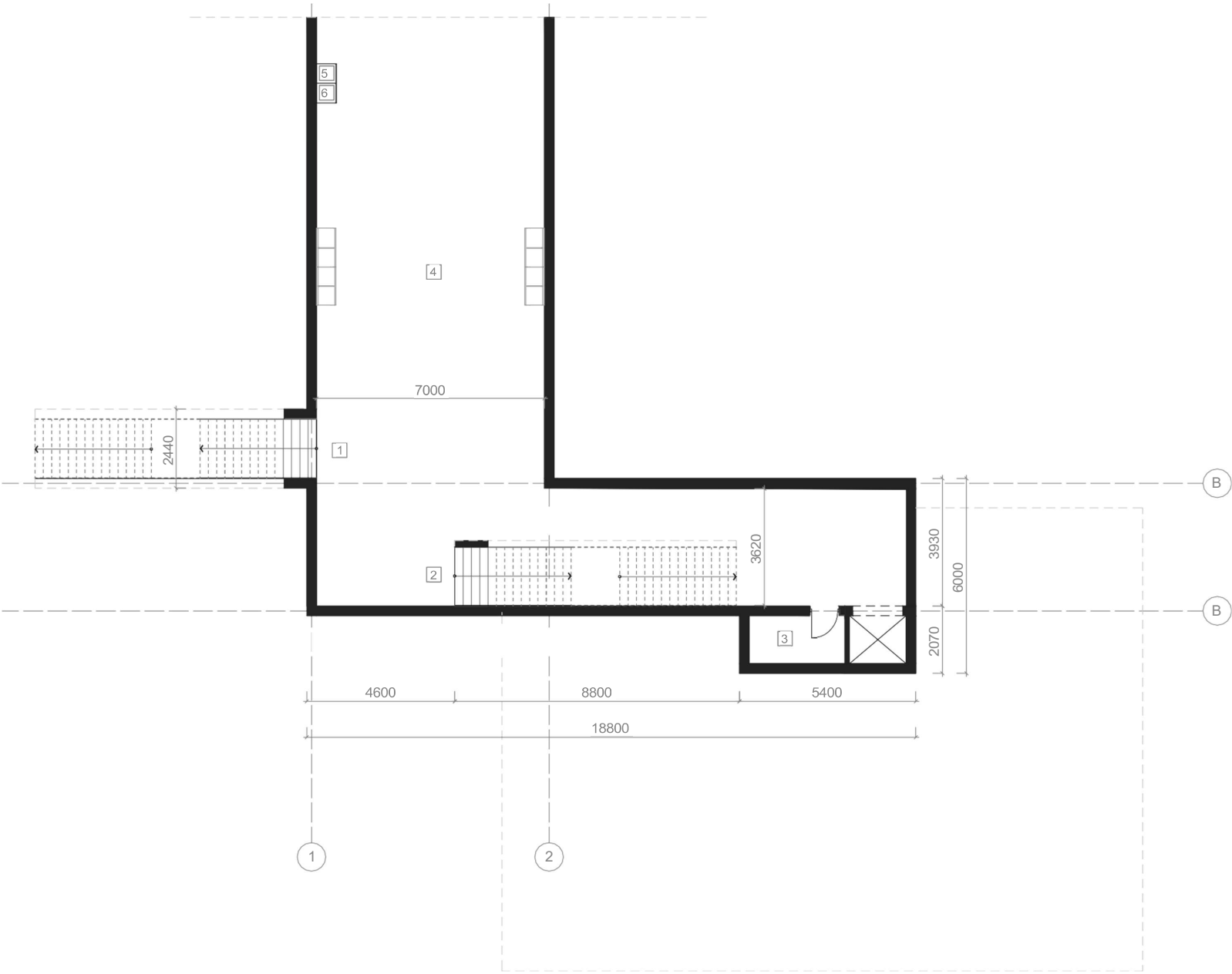
Legend

1. Staff Room
2. Police
3. Control Room
4. Ticket office
5. First Aid
6. Toilets
7. Master
8. Staff Toilet
9. ATM
10. TVN
11. Waiting Zone
12. Ticket Validation Zone
13. Platform

Layout

B1.6

Basic with Direct Access to the Underpass



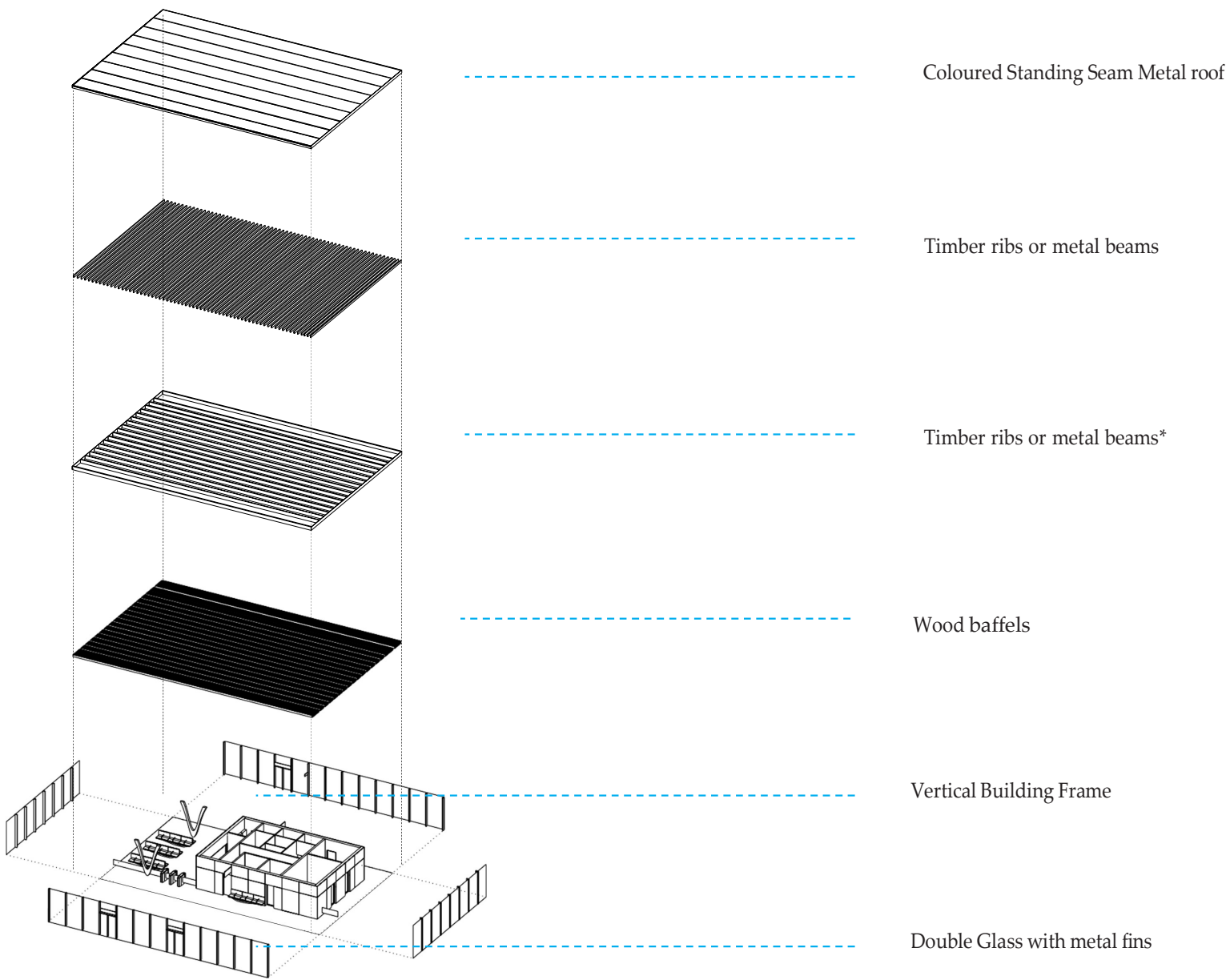
Note:
The station layout is indicative

- Legend**
- 1. Stairs to the Platform
 - 2. Stairs to the Station
 - 3. Storage Room
 - 4. Main Underpass Route
 - 5. ATM
 - 6. TVN

Layout

*visible metal beams must be sheated with wood

Basic Plus



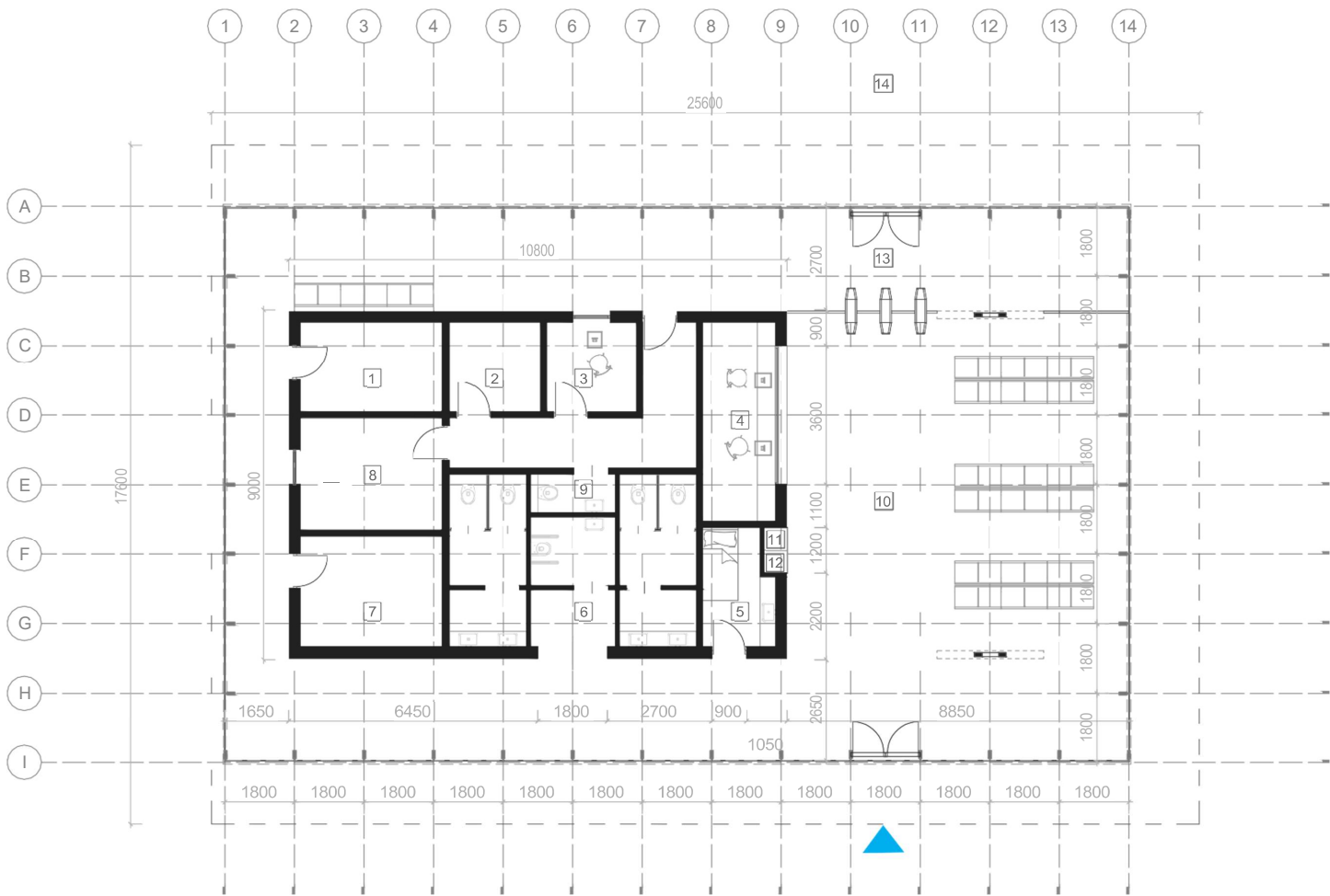
Note:
The station layout is indicative

Layout

Basic Plus

Note:
The station layout is indicative

- Legend**
- 1. Storage Room
 - 2. Police
 - 3. Control Room
 - 4. Ticket office
 - 5. First Aid
 - 6. Toilets
 - 7. Master
 - 8. Staff Room
 - 9. Staff Toilet
 - 10. Waiting Zone
 - 11. ATM
 - 12. TVM
 - 13. Ticket Validation Zone
 - 14. Platform

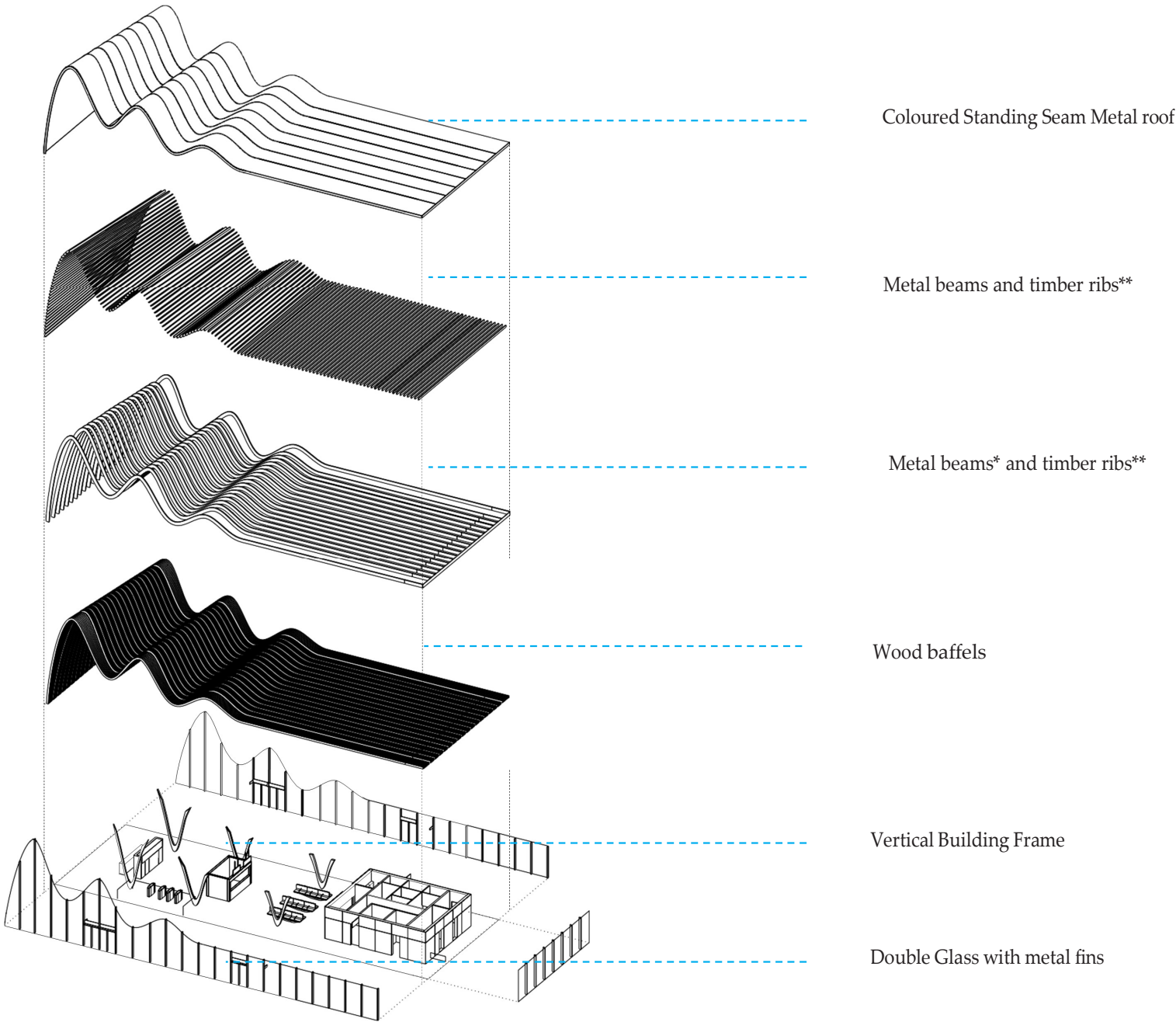


* visible metal beams must be sheated with wood

** wood structures can be used for flat part of the roof

Layout

Landmark

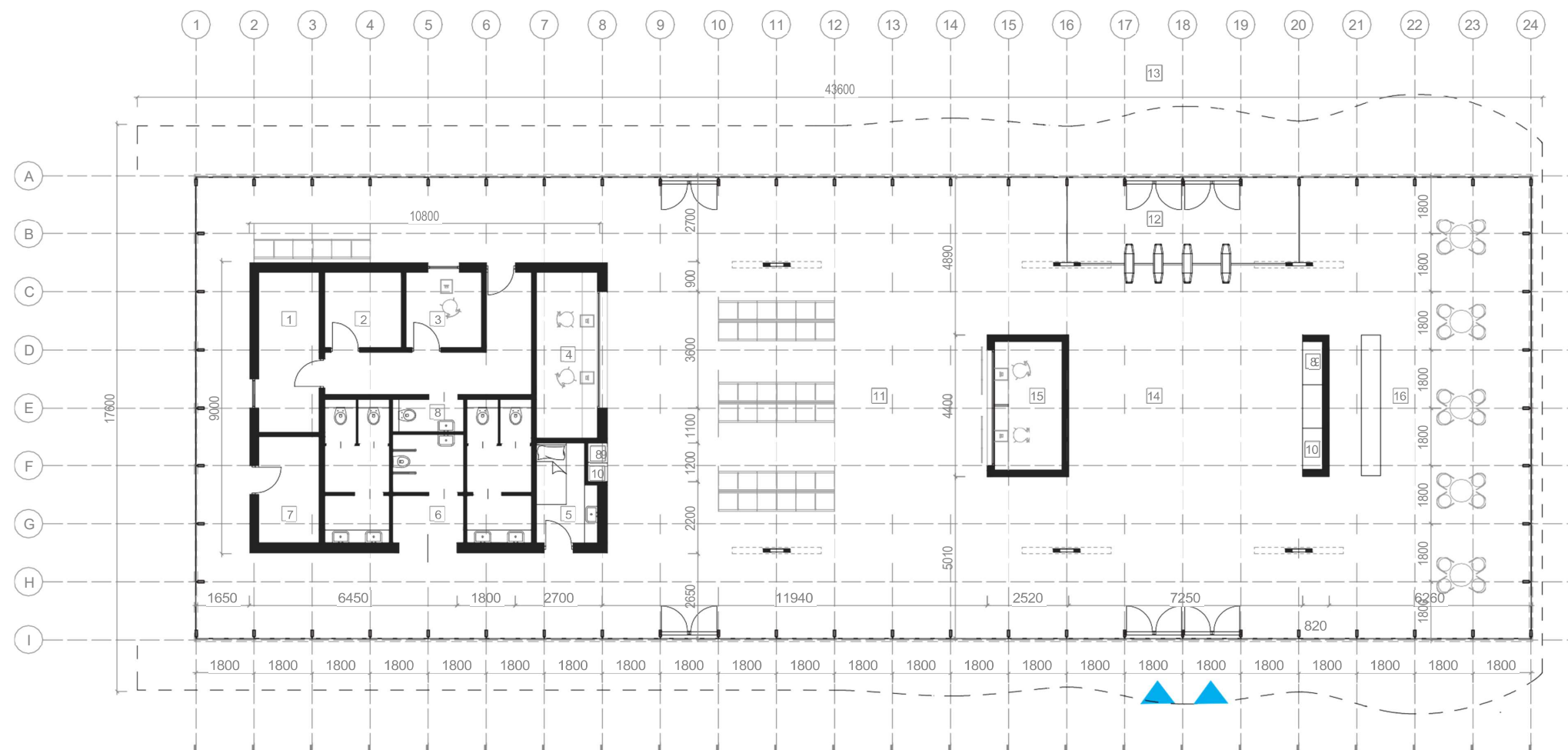


Note:
The station layout is indicative

Note:
The station layout is indicative

Legend

1. Staff Room
2. Police
3. Control Room
4. Ticket office
5. First Aid
6. Toilets
7. Master
8. Staff Toilet
9. TVM
10. ATM
11. Waiting Zone
12. Ticket Validation Zone
13. Platform
14. Main Route
15. Information Desk
16. Retail zone

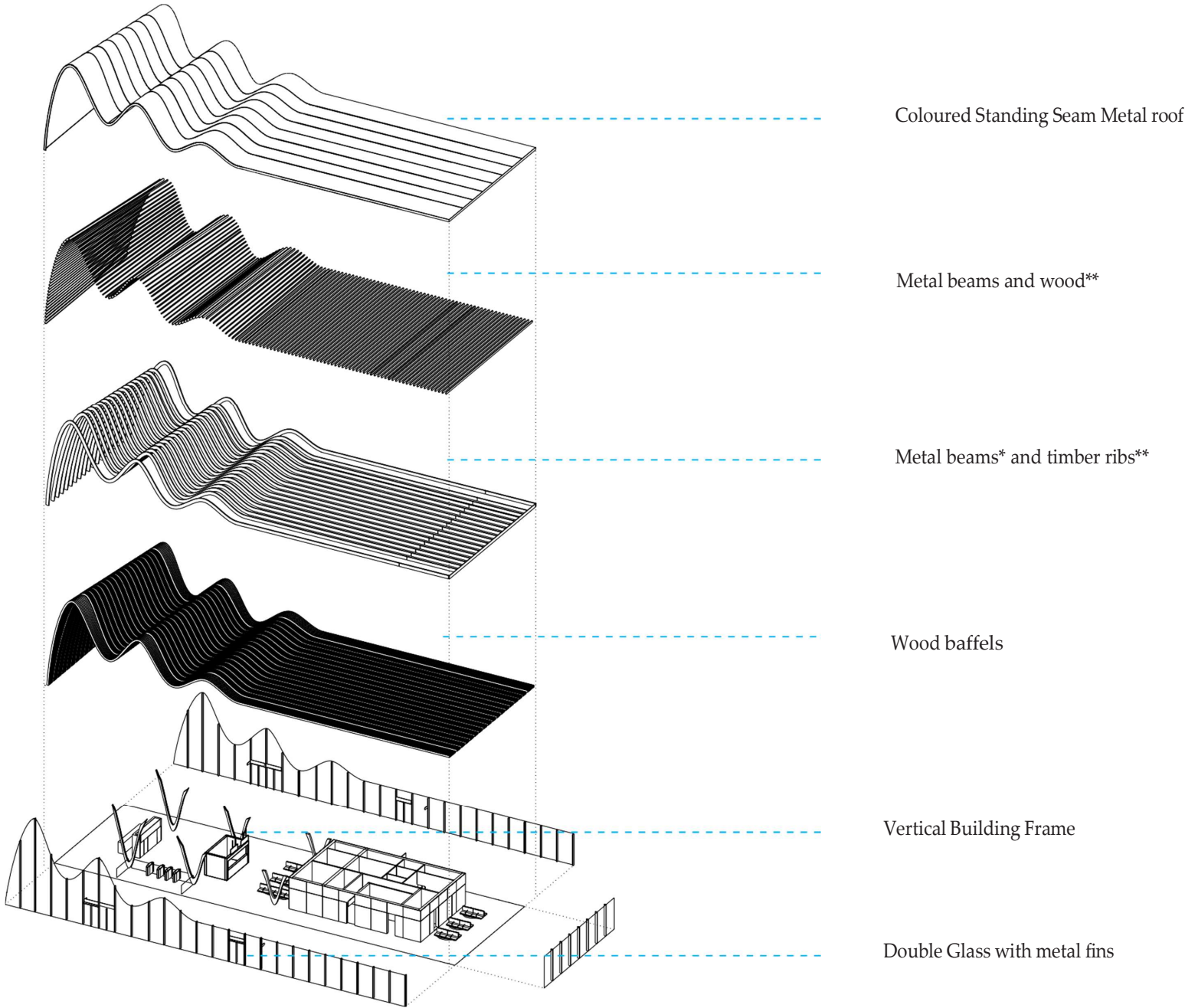


* visible metal beams must be sheated with wood

** wood structures can be used for flat part of the roof

Layout

Landmark Plus

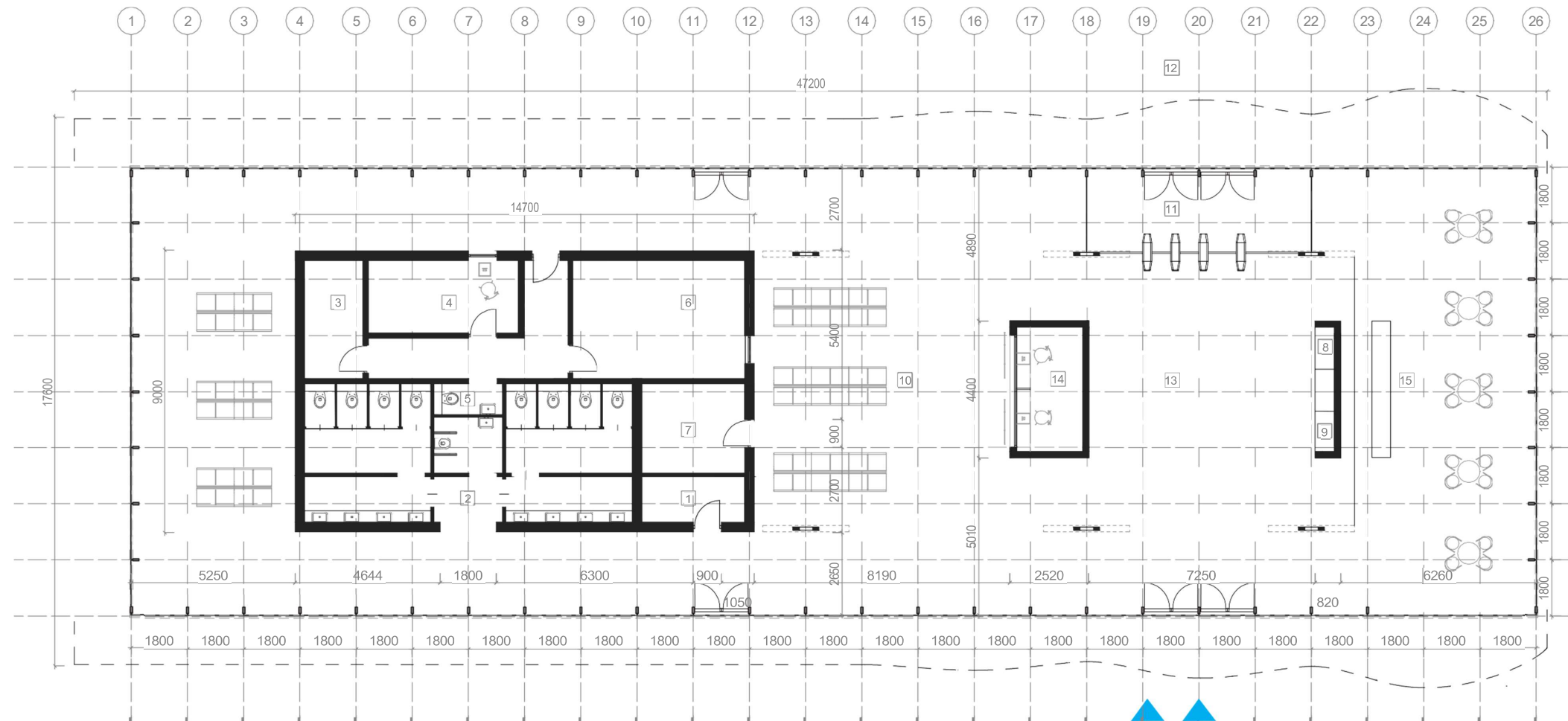


Note:
The station layout is indicative

Note:

The station layout is indicative.

Landmark Plus



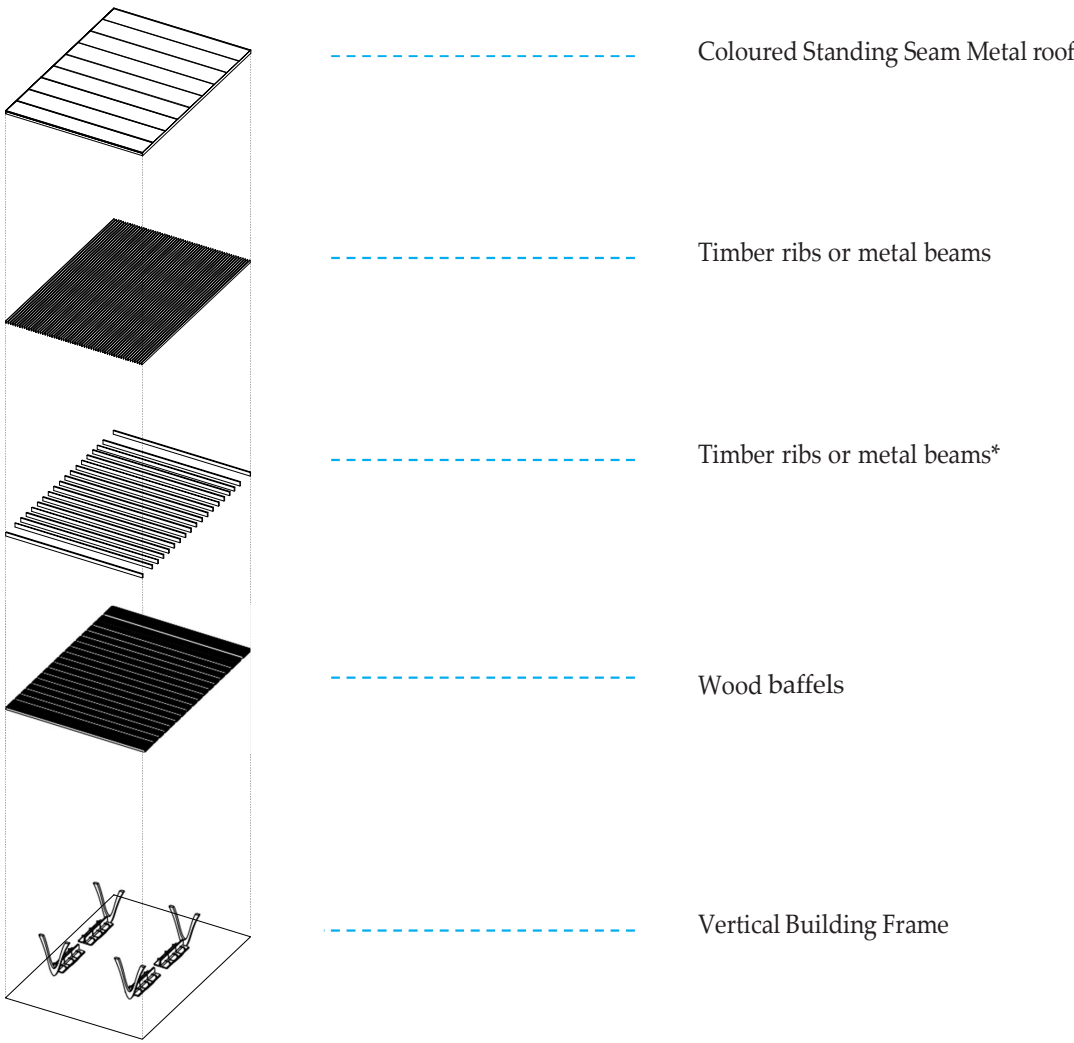
Legend

1. Storage Room
2. Toilet
3. Police
4. Control Room
5. Staff Toilet
6. Staff Room
7. Master
8. TVM
9. ATM
10. Waiting Zone
11. Ticket Validation Zone
12. Platform
13. Main Route
14. Ticket office
15. Retail zone

* visible metal beams must be sheathed with wood

Layout

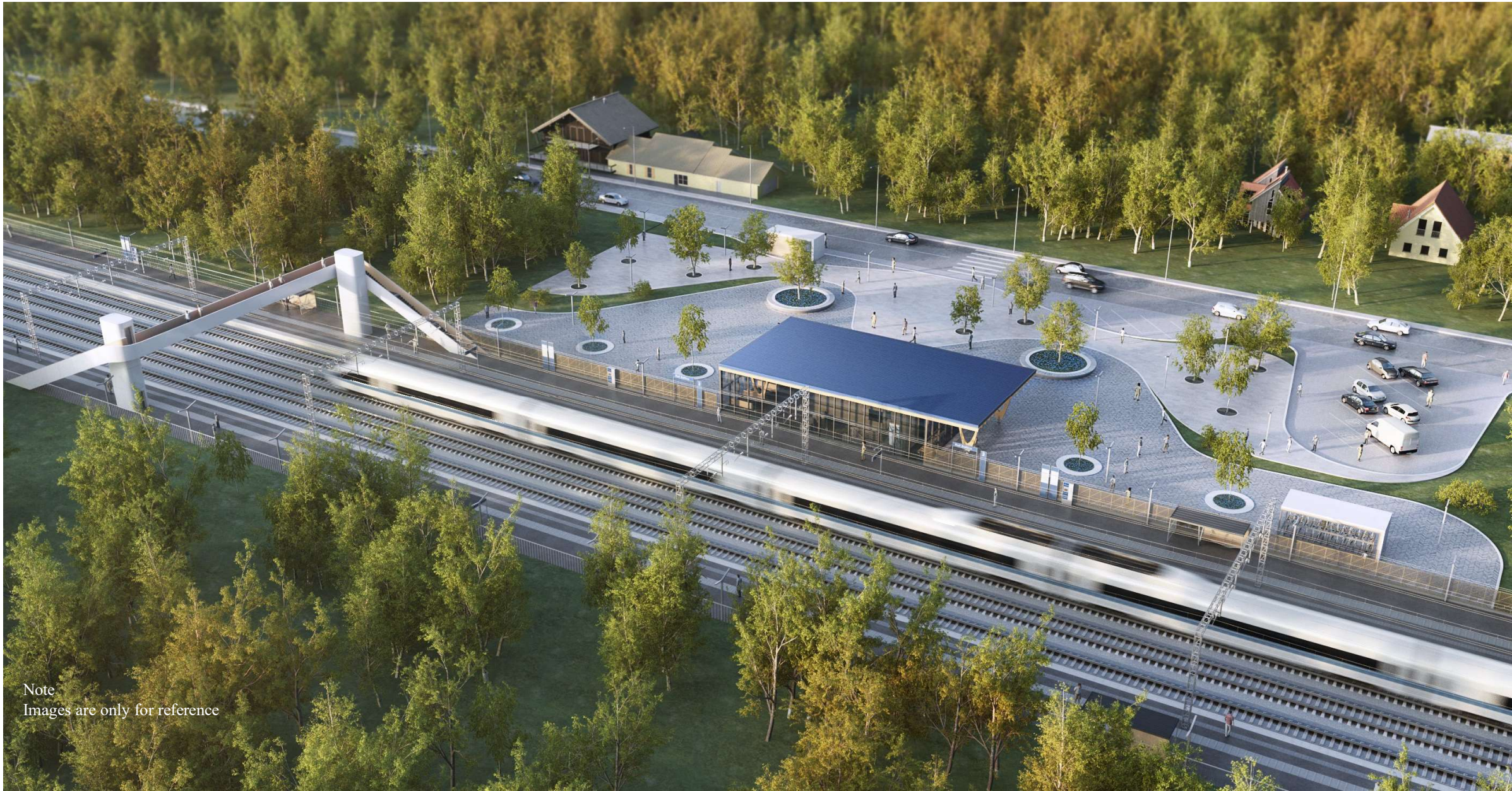
Shelter



Note:
The station layout is indicative

Design

Typical Basic Station Scenario



Note
Images are only for reference

Design

Typical Landmark Station Scenario



Note
Images are only for reference

*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station

Design

Typical Landmark Plus Station Scenario



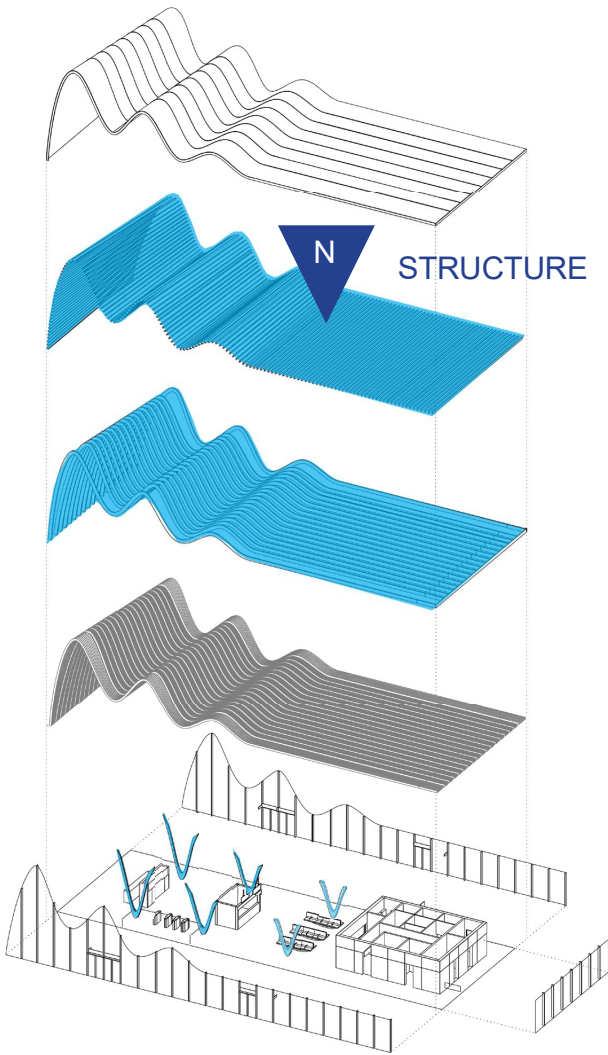
Note
Images are only for reference






*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station



Structure

B1.8

Identity Matrix



-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Structure	 		

Structure

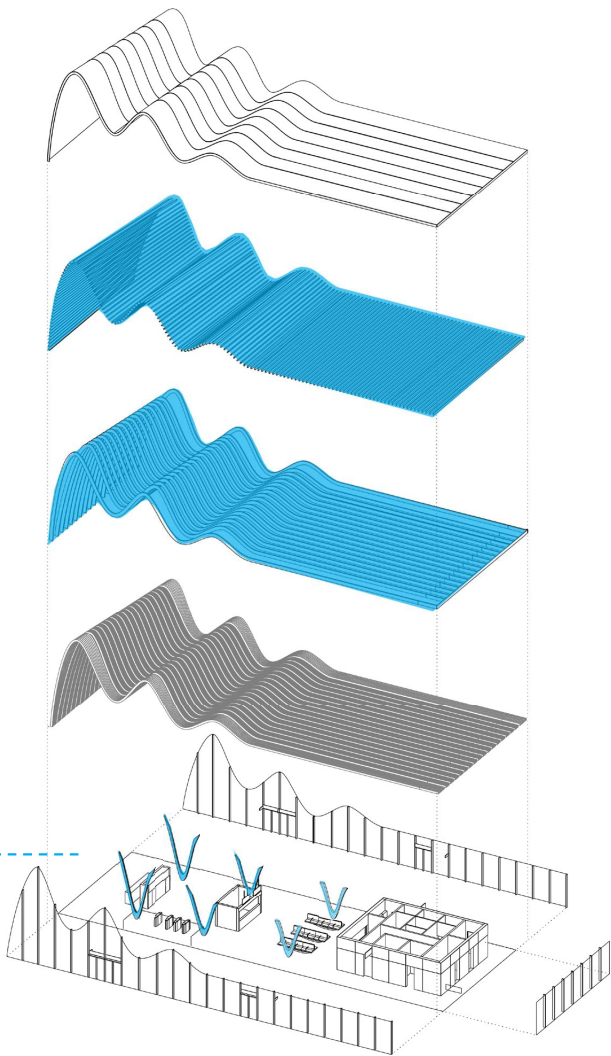
Concept Design

B1.8

Sub-Structure

Main Structure

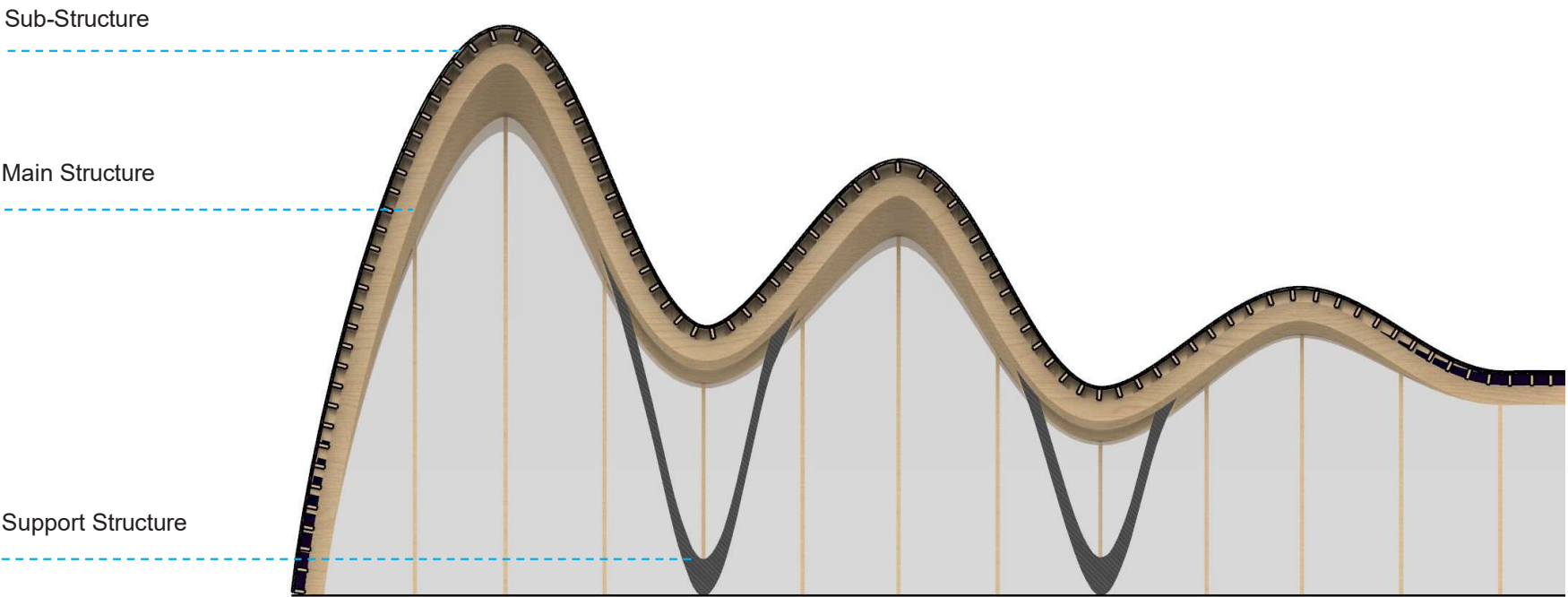
Support Structure



Structure

B1.8

Concept Design



Note
Image above shows the station structure from the interior.
There are no horizontal slope towards trackside/entrance of the station

For timber rib dimensions and module refer to this page

Metal beam dimensions and module need to be designed so that they are in accordance with country's legislation.

Note:
The dimensions are indicative

Structure

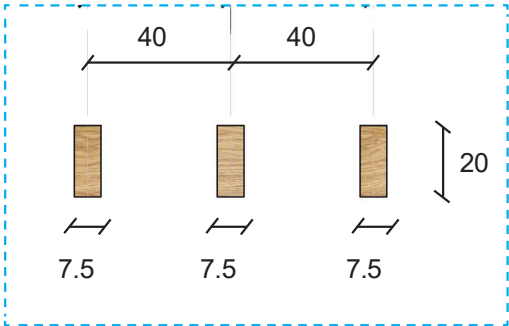
Geometry



Timber Ribs

size - 20 x 7.5 cm

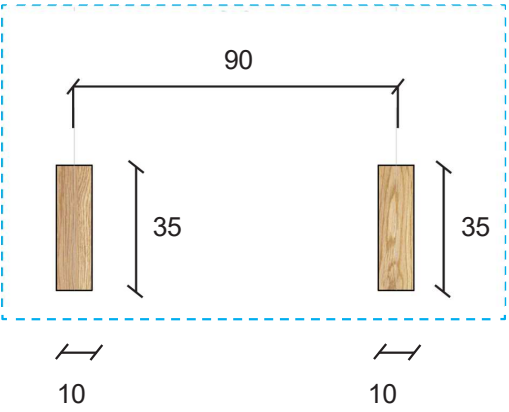
module of every 40 cm



Timber Ribs

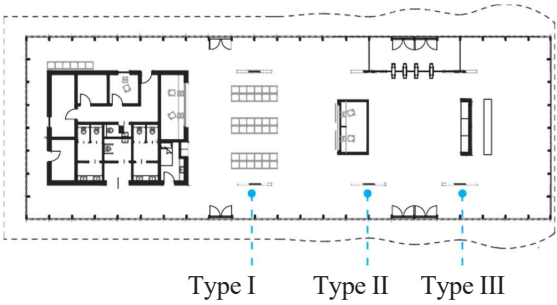
size - 35 x 10 cm

module of every 90 cm



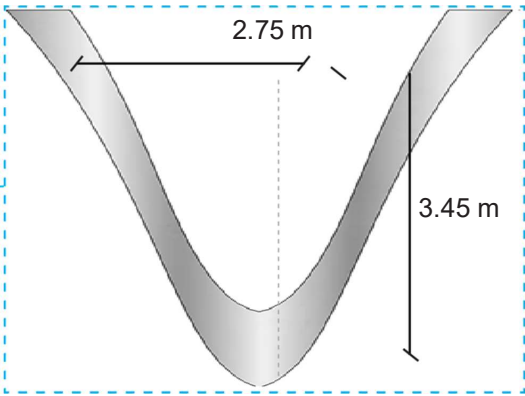
Structure

Geometry

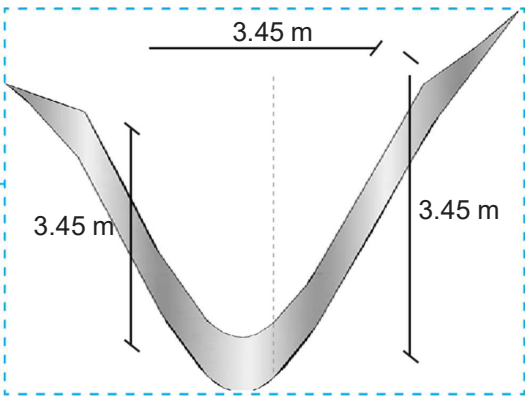


Note:
The dimensions are indicative

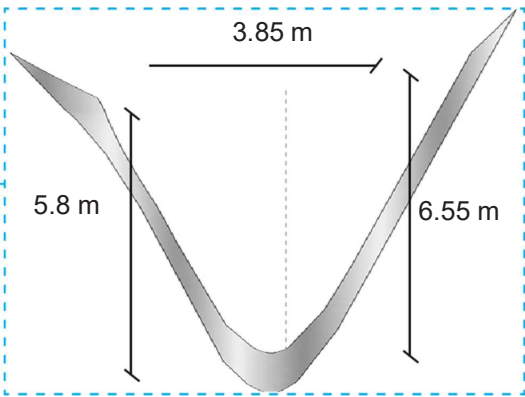
Support Building Frame Type I



Support Building Frame Type II



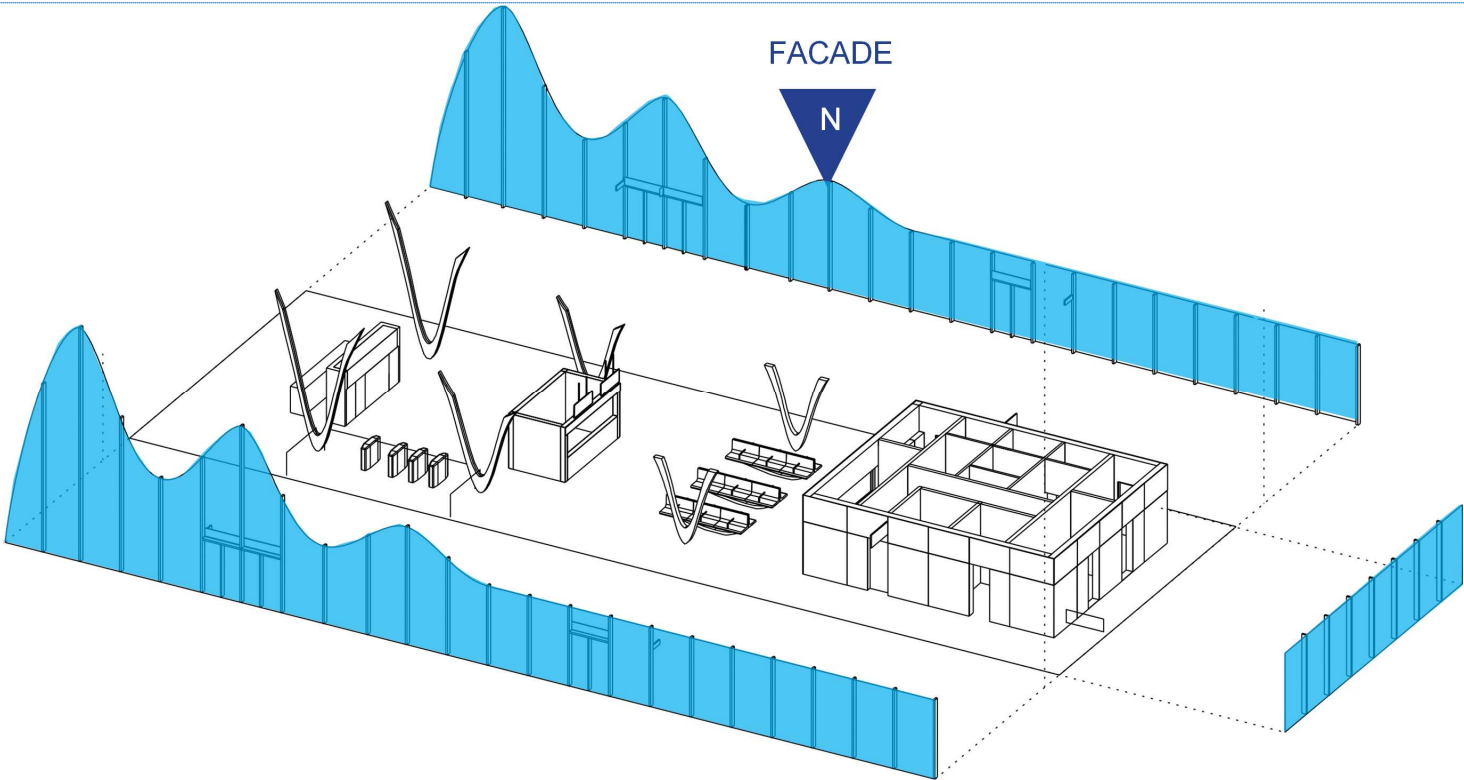
Support Building Frame Type III



Facade

B1.9

Identity Matrix



Commented [TA3]: I would remove the triangles from this page so it would follow similar approach with pg. 33



Material



Geometry





Modularity



Color



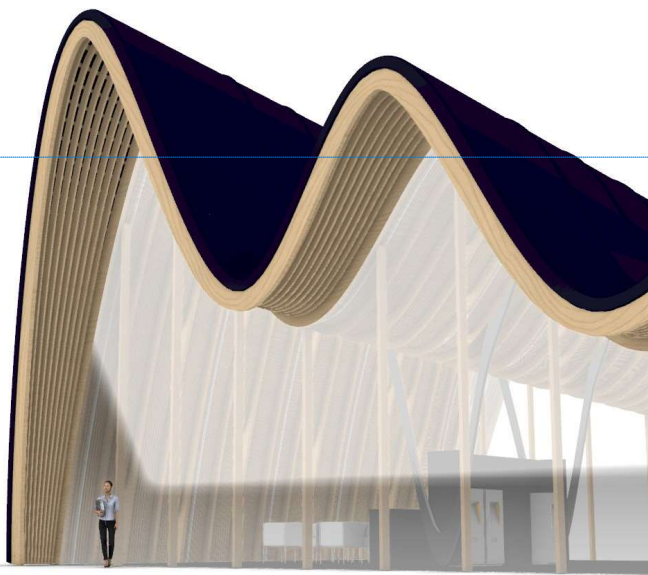
Vegetation

	N	C	R
Facade	 		

Facade

B1.9

Design of the station’s walls refers to the traditional Baltic constructions utilizing the same materials but differs in form using Baltic waves as a direct inspiration behind parametric design.



Commented [TA4]: In case we’re following the same approach, in this page, there should be also triangles (similar to the pg. 34 and 35)

Pictures

Image from left:
Image 1 - Credits: SBS Engineering
Image 2 - Credits: pixabay.com
Image 2 - Credits: wikipedia.org

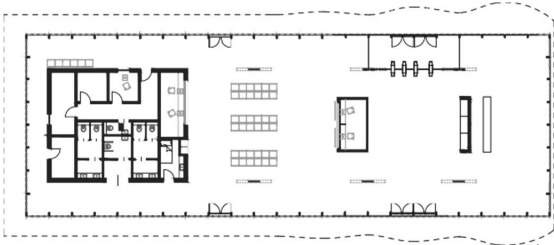


Facade

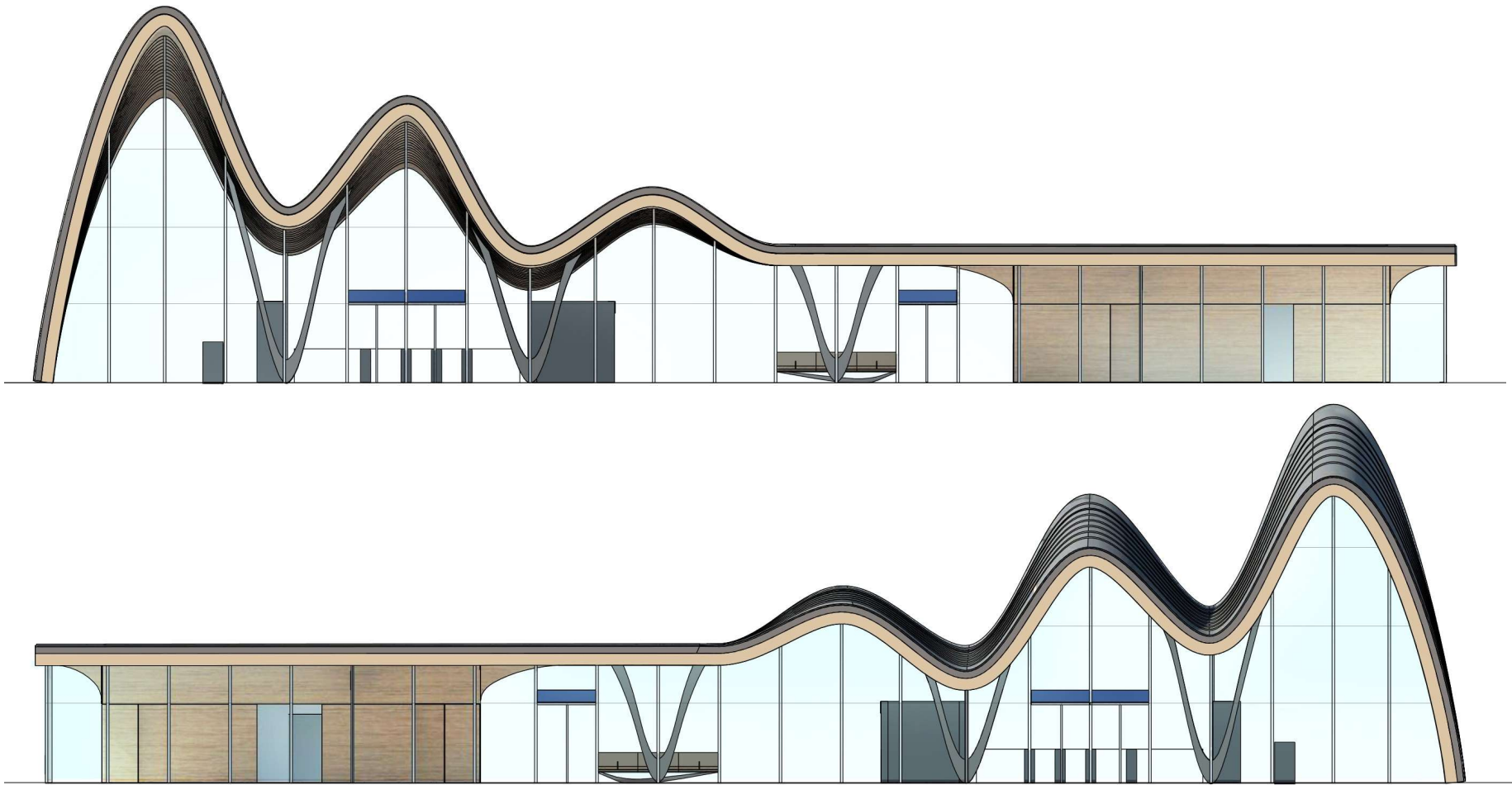
B1.9

Geometry

▼ E1



▲ E2



E2 Elevation from the entrance

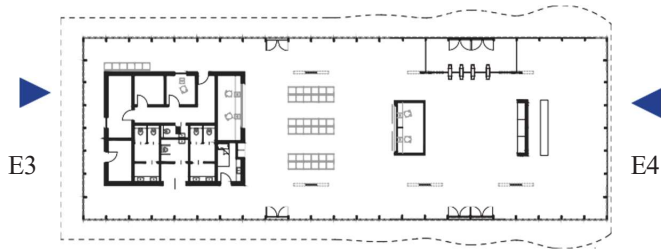
*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station

Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

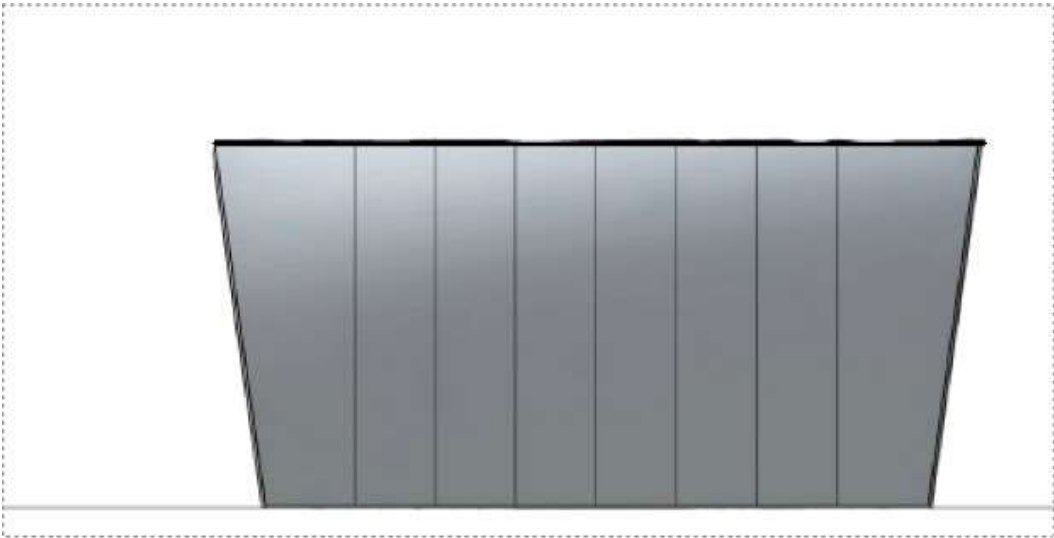
Facade

B1.9

Geometry



E3 Elevation from the left side



E4 Elevation from right side

Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Note:
The geometry and dimensions are indicative.
Detailing shall be carried out during the design process and agreed with the Client.

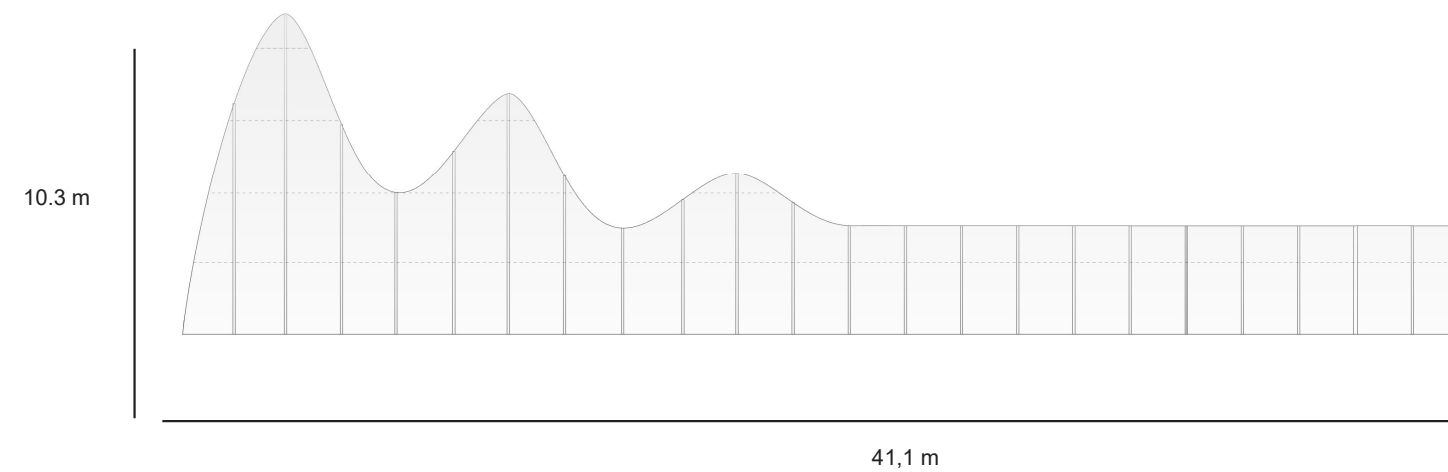
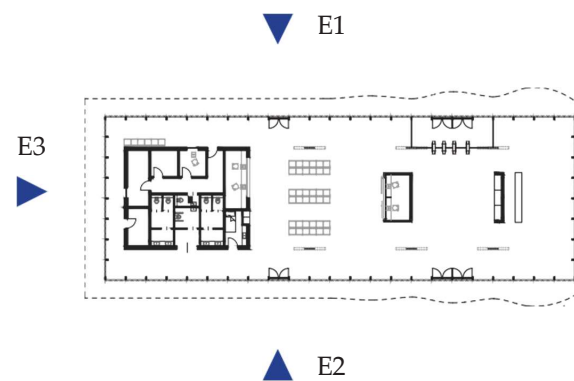
Station

Facade

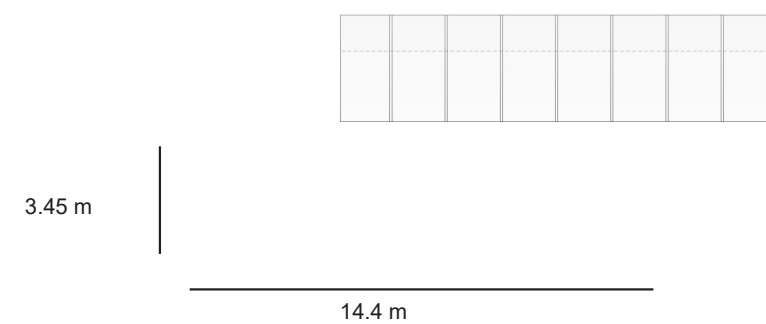
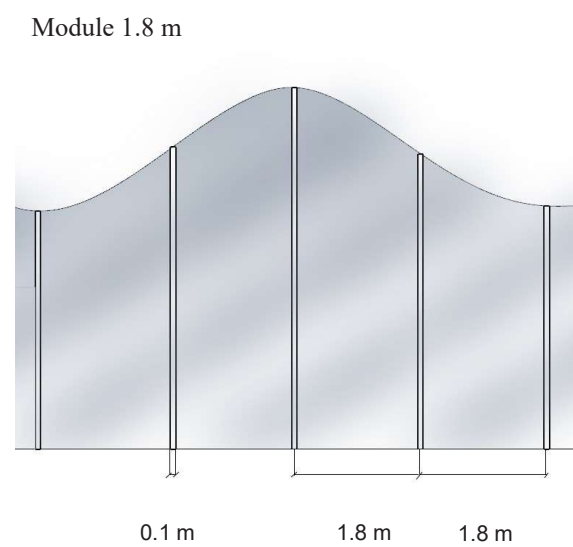
Geometry



Geometry of the facade is created by the shape of the roof. Module used as a design principle is 1.8 m.



E1 Elevation seen from both sides

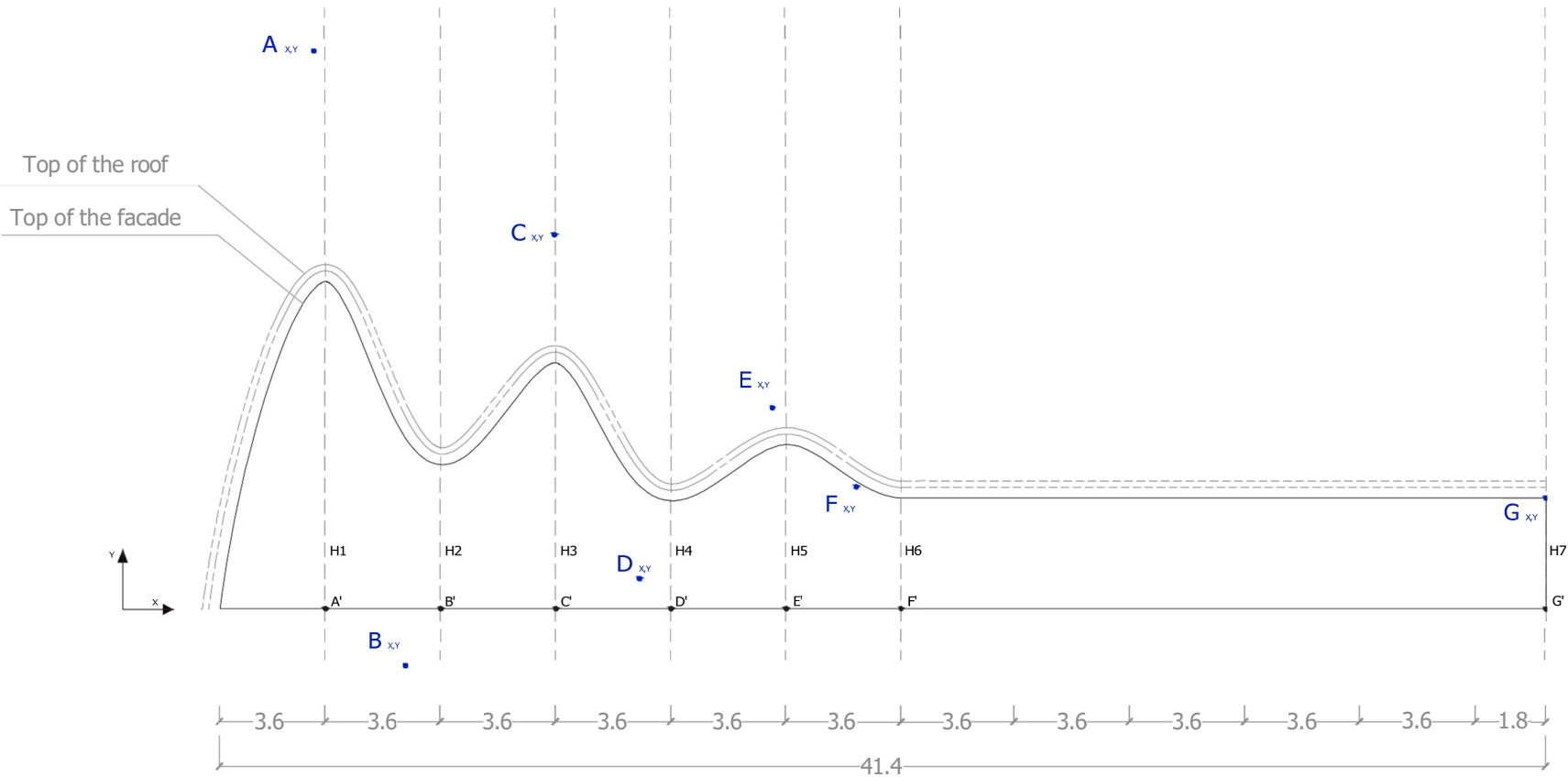
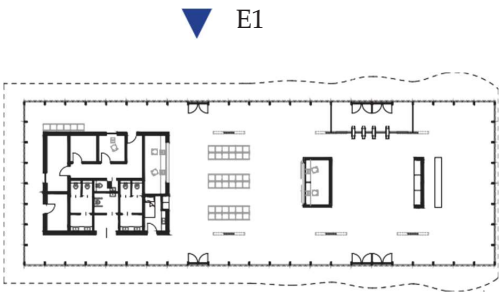


E2 Elevation

Facade

Roof geometry platform side

The shape of the elevation is defined by spline curve with the control points A, B, C, D, E, F with following coordinates.



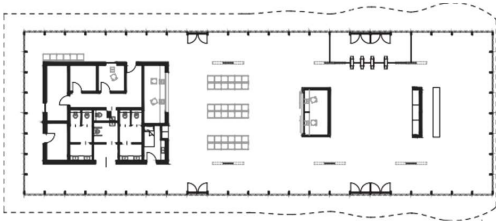
H1 = 10.3 M H2 = 4.5 M H3 = 7.7 M H4 = 3.4 M H5 = 5.2 M H6 = 3.45 M

H6 = 3.45 M

Note:
The geometry and dimensions are indicative.
Detailing shall be carried out during the design
process and agreed with the Client.

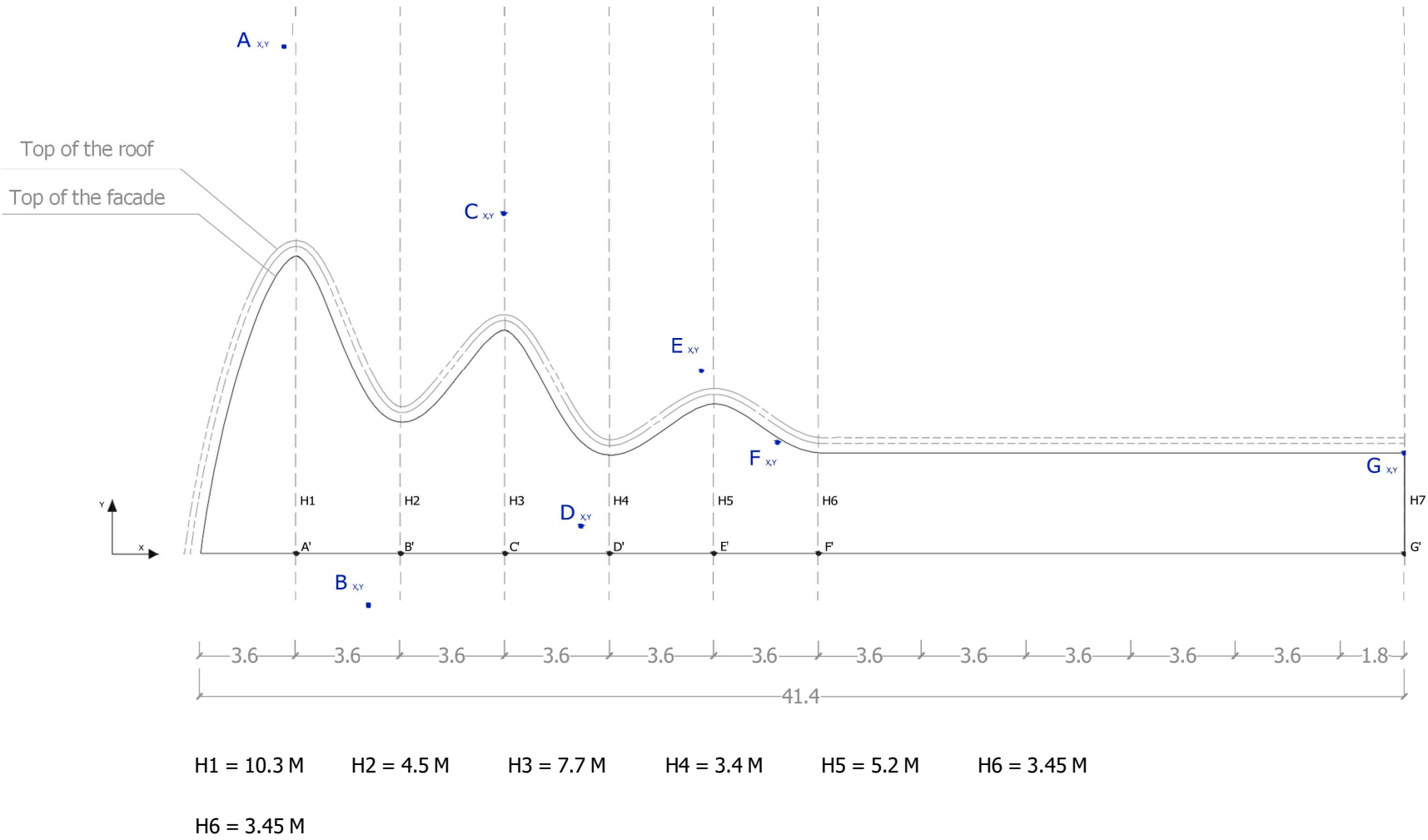
From A': $A_{xy} = \{-0,36; 17,70\}$	From E': $E_{xy} = \{-0,34; 6,23\}$
From B': $B_{xy} = \{-1,1; -1,83\}$	From F': $F_{xy} = \{-1,43; 3,82\}$
From C': $C_{xy} = \{0,0; 11,85\}$	From G': $G_{xy} = \{0,0; 3,45\}$
From D': $D_{xy} = \{-0,99; 0,93\}$	

The shape of the elevation is defined by spline curve with the control points A, B, C, D, E, F with following coordinates.



E2

Roof geometry entrance side



Note:
The geometry and dimensions are indicative. Detailing shall be carried out during the design process and agreed with the Client.

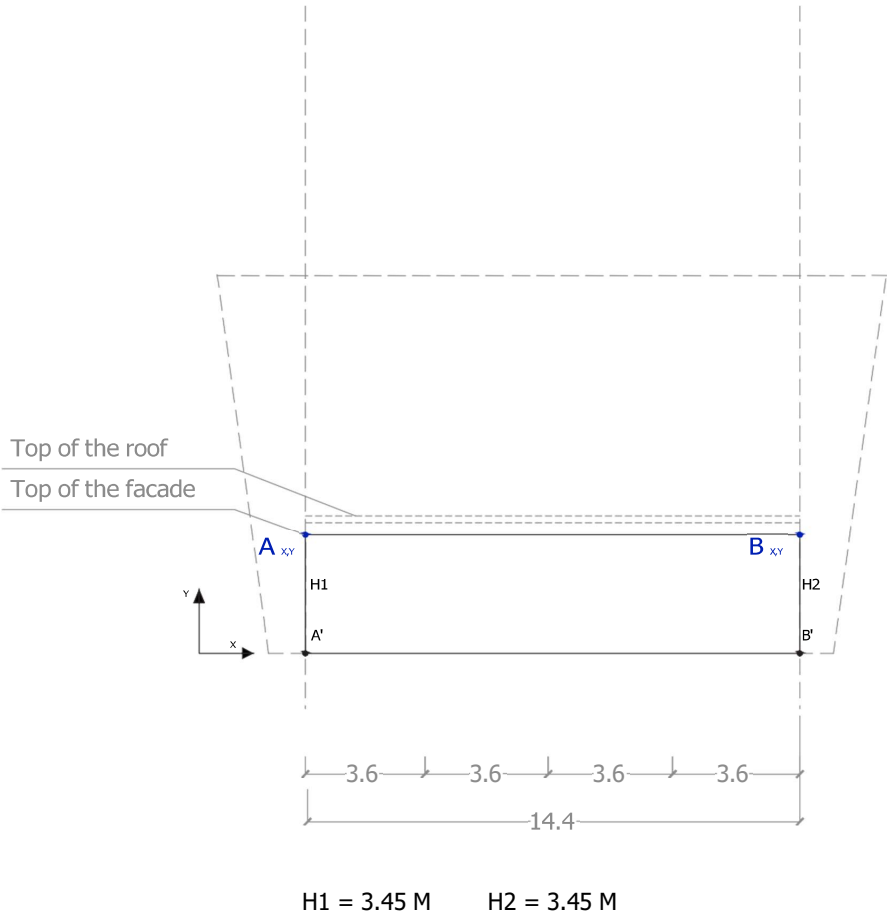
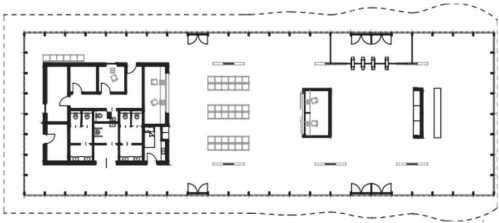
- | | |
|--------------------------------------|-------------------------------------|
| From A': $A_{xy} = \{-0,36; 17,70\}$ | From E': $E_{xy} = \{-0,34; 6,23\}$ |
| From B': $B_{xy} = \{-1,1; -1,83\}$ | From F': $F_{xy} = \{-1,43; 3,82\}$ |
| From C': $C_{xy} = \{0,0; 11,85\}$ | From G': $G_{xy} = \{0,0; 3,45\}$ |
| From D': $D_{xy} = \{-0,99; 0,93\}$ | |

Facade

Geometry - Terrace Elevation

The shape of the elevation is defined by points A, B and following coordinates.

E3



Note:
The geometry and dimensions are indicative. Detailing shall be carried out during the design process and agreed with the Client.

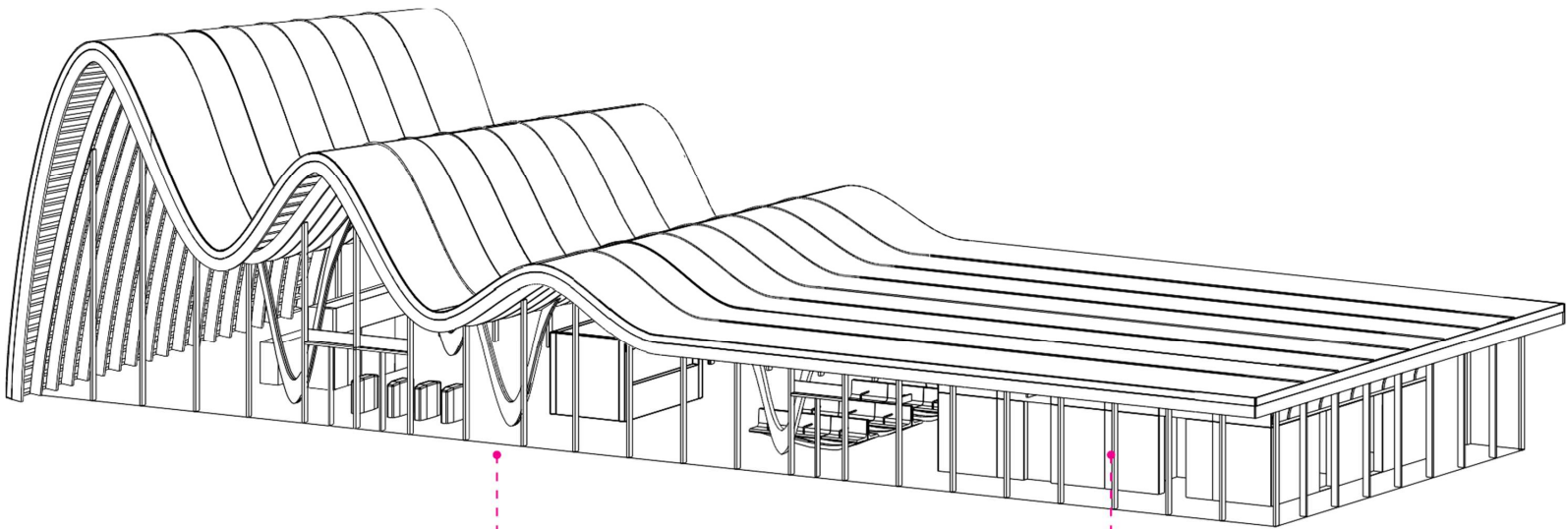
From A': A_{xy} = {0,0; 3,50} From E': E_{xy} = {0,0; 3,50}

Facade

B1.9

Materials

Commented [TA5]: Proposal is to remove the note from this page because we already have highlighted the general concept of materials with metal/class together with shall triangle



Glass

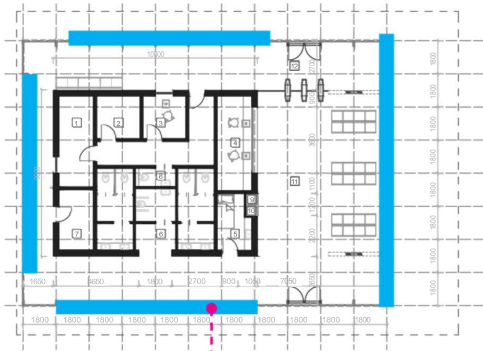


Metal vertical ribs



Note:
Design specific aspects are recommendation basis and need to be selected in the designs.

This type of alternative material strategy is used to decrease environmental impacts, such as energy usage, during the life-cycle of the station.



Metal cladding

Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Facade

Alternative Material Strategy



Glazing



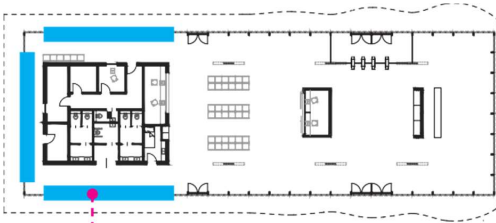
Glazing + Metal Cladding



Facade

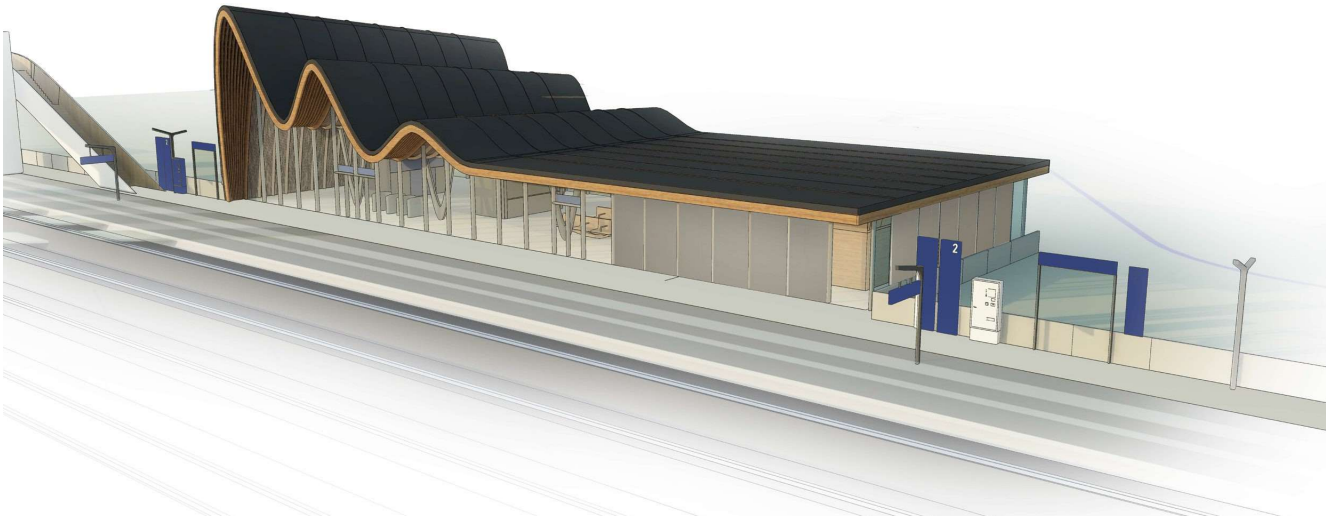
Alternative Material Strategy

This type of alternative material strategy is used to decrease environmental impacts, such as energy usage, during the life-cycle of the station.



Metal cladding

Glazing



Glazing + Metal Cladding

*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station

Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

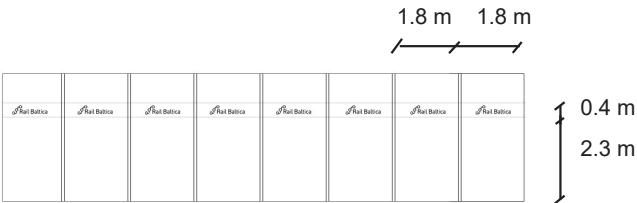
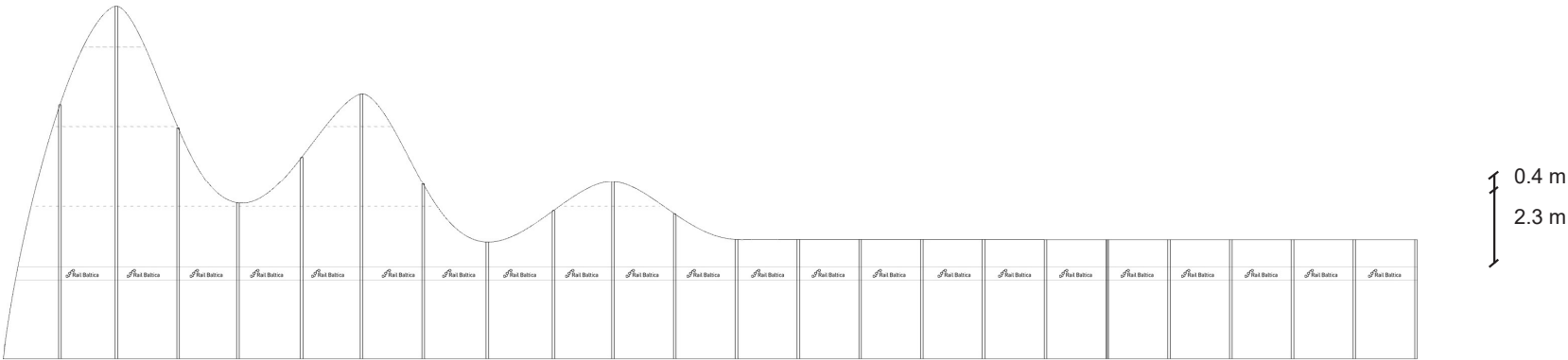
Facade

B1.9

Branding Implementation

Glazed wall branding example

Module 1.8 m



Note

For Rail Baltica visual identity instruction, please refer to *Visual Identity Guidebook*

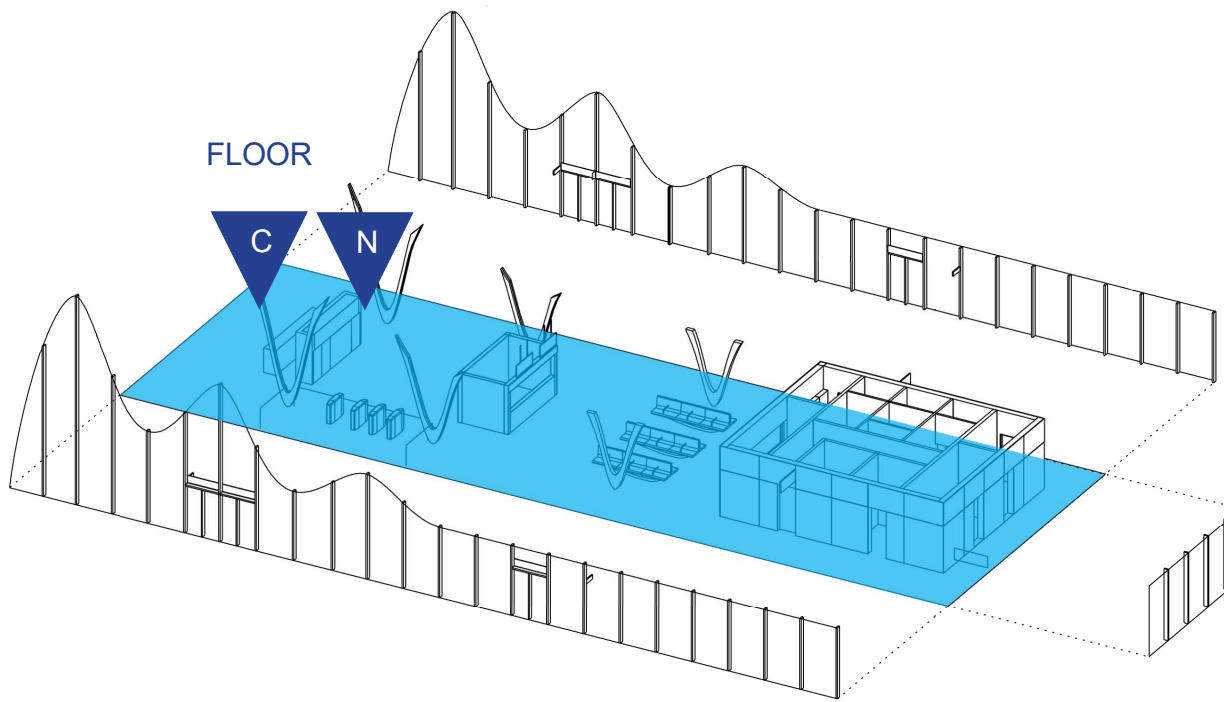
The dimensions are indicative.






Floor




B1.10

Identity Matrix

Commented [TA6]: I would remove the triangles from this page so it would follow similar approach with pg. 33



-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Floor	 		

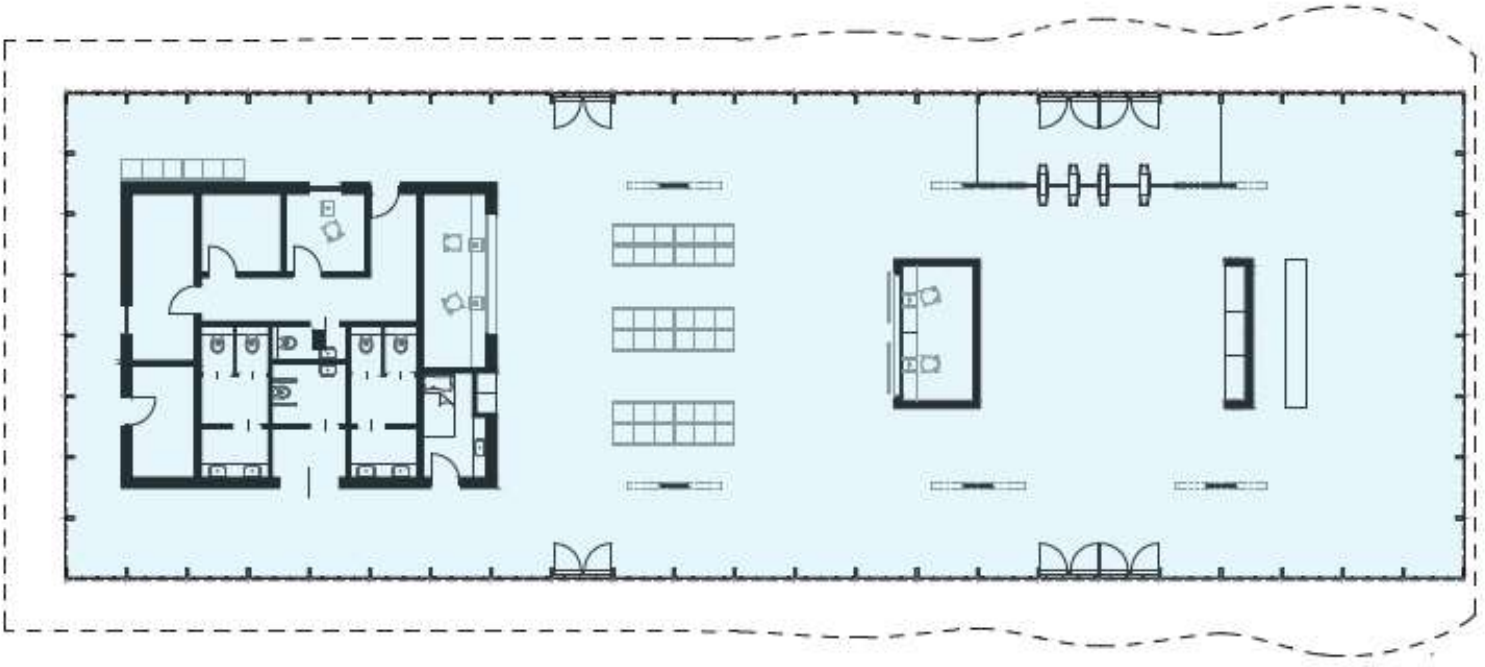
Floor

B1.10

Concept Design

Given the dense woodland nature of the Baltic countries, much of traditional architecture centers around timber. For centuries was the material for houses and villages as a natural resource. These structures are very simple with some unique architectural details such as the Landmark forms of the gabled roofs.

The floor design refers to the traditional materials, underlining the connection between the three countries but also emphasizes the idea of using sustainable materials.



Commented [TA7]: In case we're following the same approach, in this page, there should be also triangles (similar to the pg. 34 and 35)

Pictures

From left
Image 1 - Credits: wikipedia.org
Image 2 - Credits: SBS Engineering
Image 3 - Credits: polandtour.pl



Connecting three countries



Durability



Sustainability

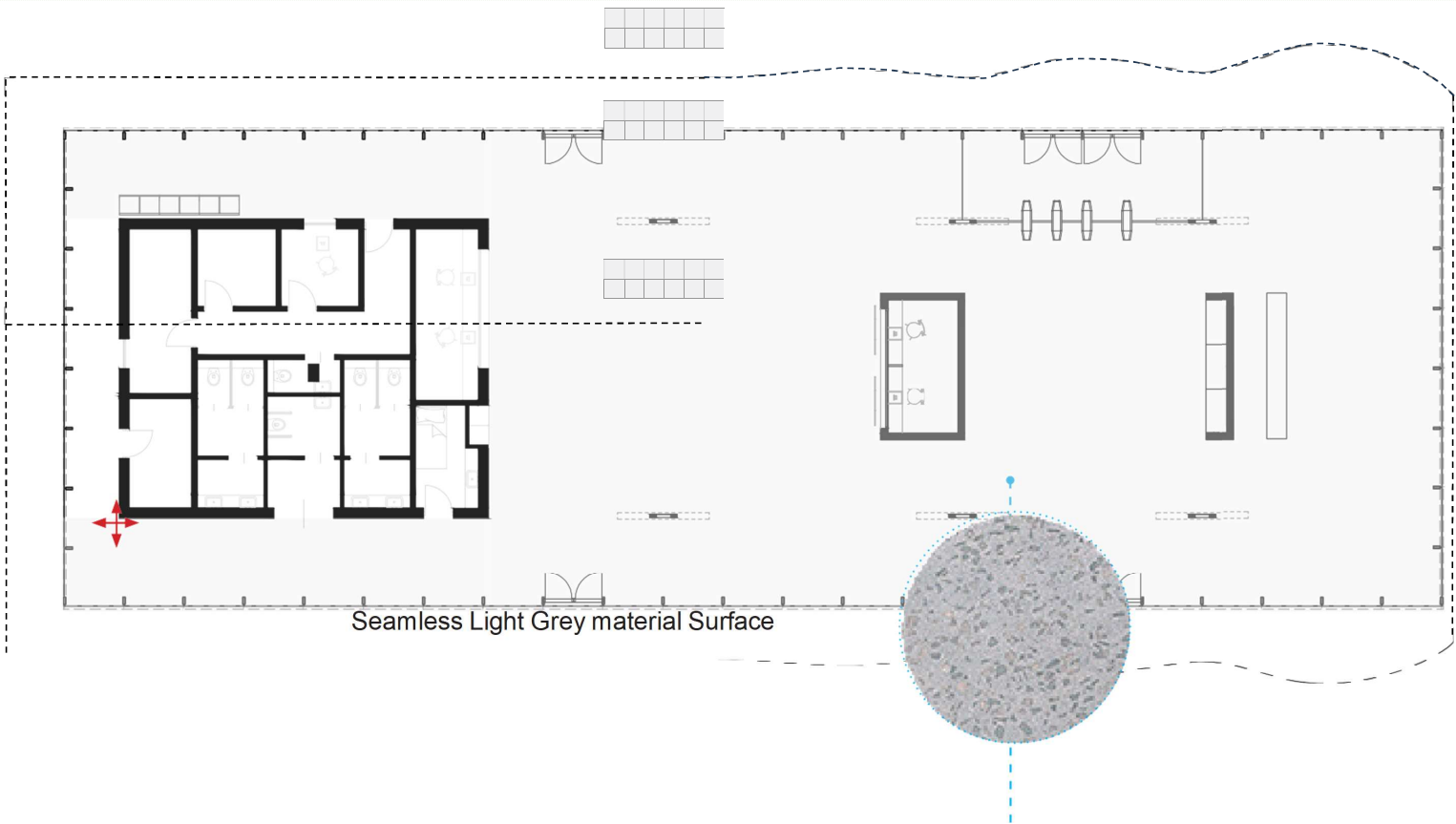
Floor

B1.10

FOH Geometry and Materials

Floor should be compiled from the materials which are slip resistant and durable. Slip resistance of a floor in service is dependent upon the nature of its surface..

Light grey material



Commented [JK8]: Whole chapter describes terrazzo floor, but the reference material indicates regular "Light gray material". Terrazzo information is irrelevant in this case

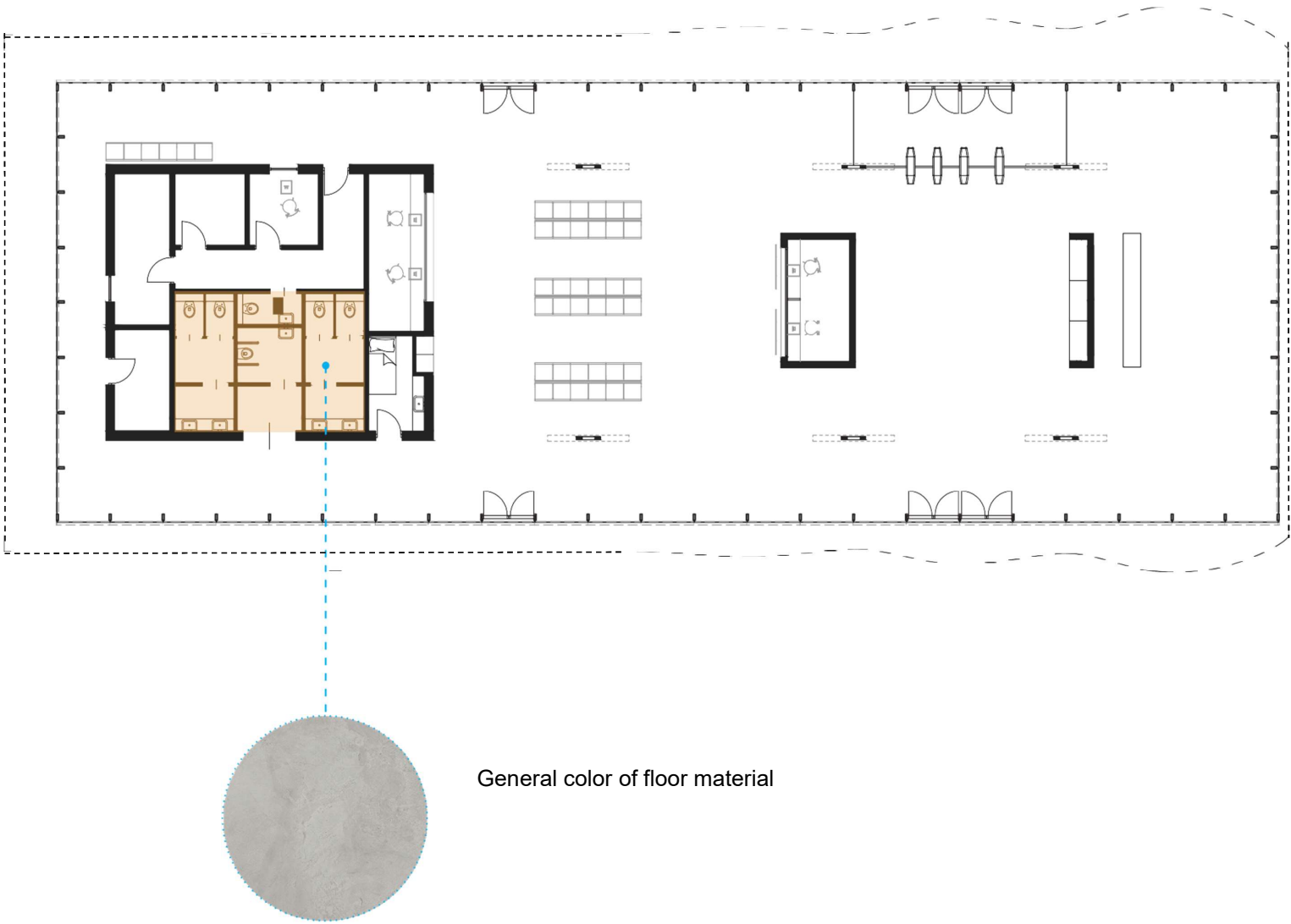
Floor

B1.10

BOH Geometry and Materials

Note:
Detailing of materials shall be carried out during the design process and agreed with the Client.

Floor material

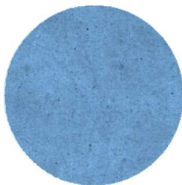


Floor

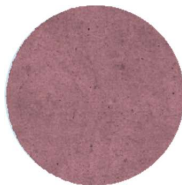
B1.10

BOH Identity Approach

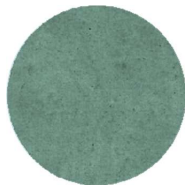
By applying the colors of the three countries to the floor on the back of the rooms of the house, designers can apply the identity of the country to this architectural element.



Estonia



Latvia



Lithuania



Floor

Tactile Tiles

In order to make it accessible and reachable in a broad sense, a station should be designed so that it is usable for all. Regulations and guidelines are found in both national and EU directives.

For people with disabilities, a well thought-out, integrated environment with few obstacles to ease and independence of movement in the environment is crucial. In addition to creating an integrated environment, stations and transfer points in their basic functions, construction and design should comply with the requirements and regulations regarding disabilities that society imposes on a station’s function and physical design.

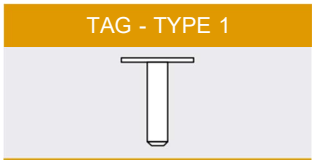
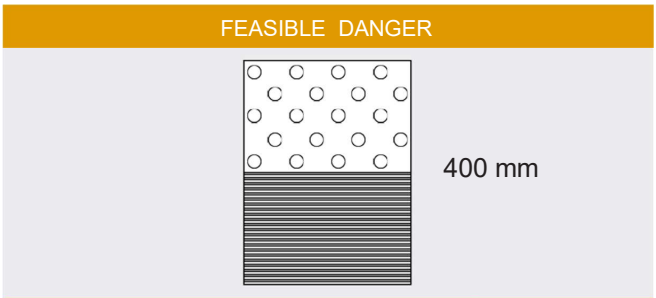
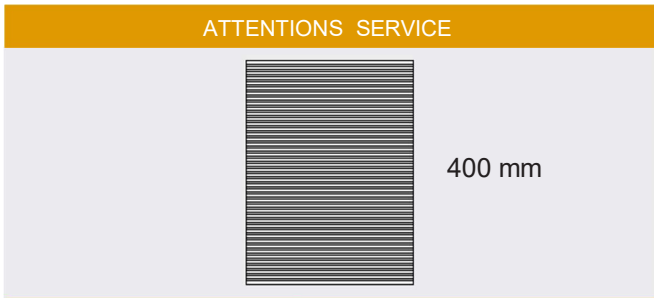
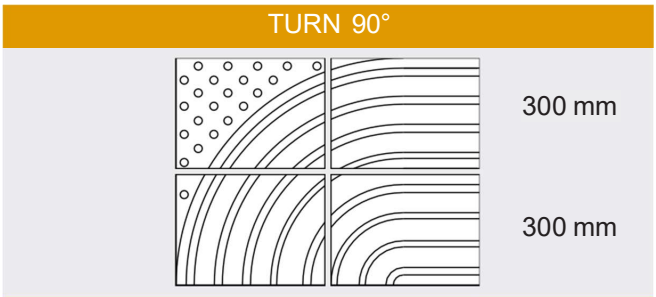
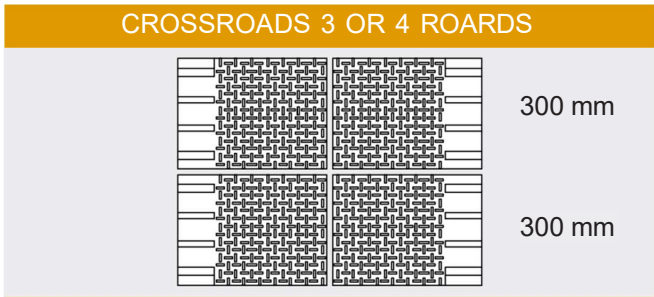
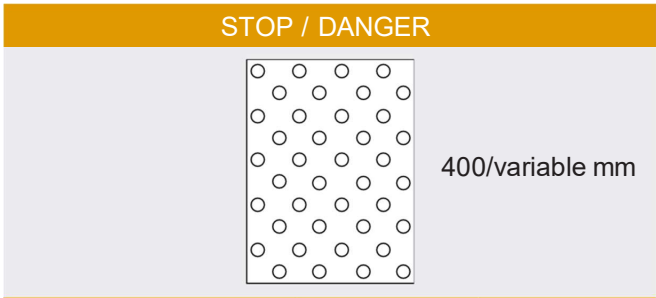
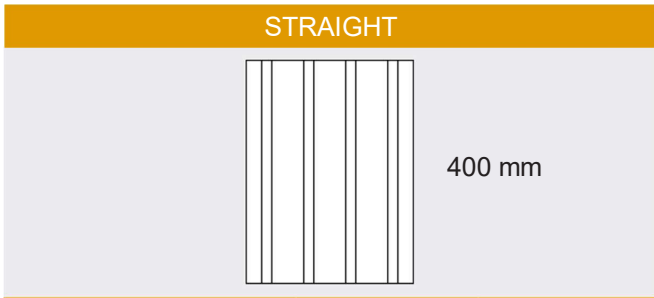
Tactile paths are one of the main important elements to ensure to all passengers an easy use of the station areas.

Based on the information that must be communicate to blind people, a specific tactile tile must be used.

Six are the main codes that should be used:

- 1. Straight
- 2. Stop / Danger
- 3. Crossroads between 3 or 4 roads
- 4. Turn 90°
- 5. Attention important service
- 6. Feasible danger

The tactile tiles are indicative. Detailing shall be carried out during the design process according to the local legislation and TSI.



Commented [JK9]: The new comment in red. Do I understand correctly that the tactile tile presented in page 55 are indicative and final tactile tile and path solutions shall be done based on the local legislations?

Commented [DJ10R9]: As it was agreed during coordination meeting between IB's : "All design specifics aspect should remain as recommendation and need to be selected in the designs national legislation basis". Thus it is stated, that "SHOULD be used", not "SHALL be used" and additional note added, stating, that detailing shall be carried out according to local legislation and TSI.

Note
Source: dascenzi.it

Floor

B1.10

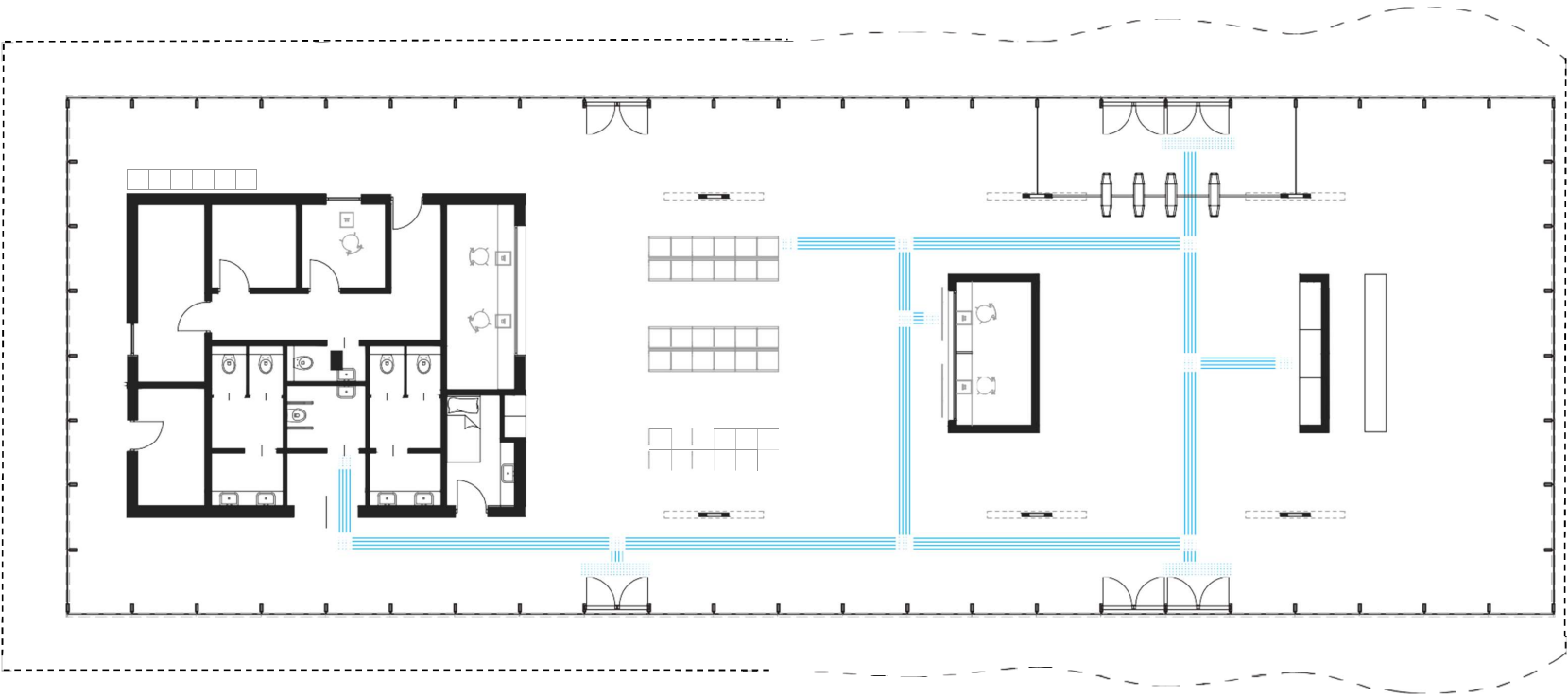
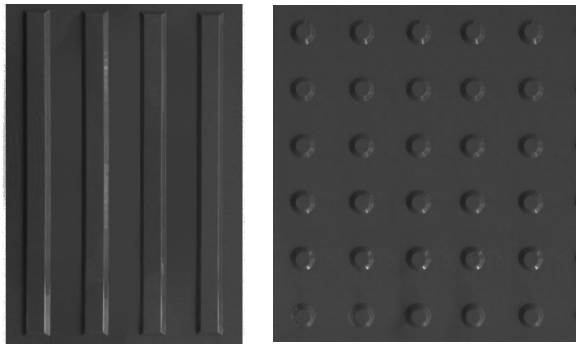
Tactile - Layout

Tactile warning strip

Tactile warning strip are placed in dangerous place such as stairs, elevators and streets. Warning strip will be placed also at the platform edge.

Tactile guide path

Lead visually travelers from the arrival zone to the platform and in all the other function of the public external area of the station.



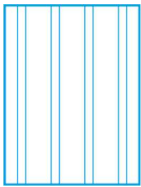
Dark grey/ contrasting material

Material and color

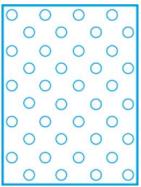
Tactile should be easy to detect due to the high visual contrast with the floor, in accordance with ISO 21542 requirements. Dark grey color was used to ensure this contrast with light grey floor. Material tiles shall be non-slip even in moist conditions, they are wheelchair-friendly and eliminate the tripping hazard. The tiles are glued onto existing floors or surfaces without damaging them.

Note:

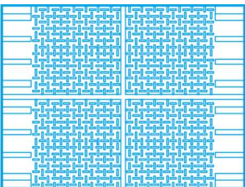
The tactile layout is indicative. Detailing shall be carried out during the design process according to the local legislation and TSI.



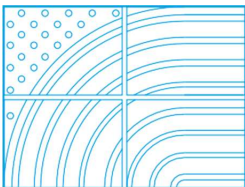
Straight



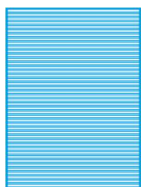
Stop / Danger



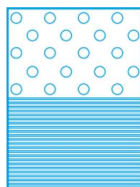
Crossroad



Turn



Service



Feasible
Danger

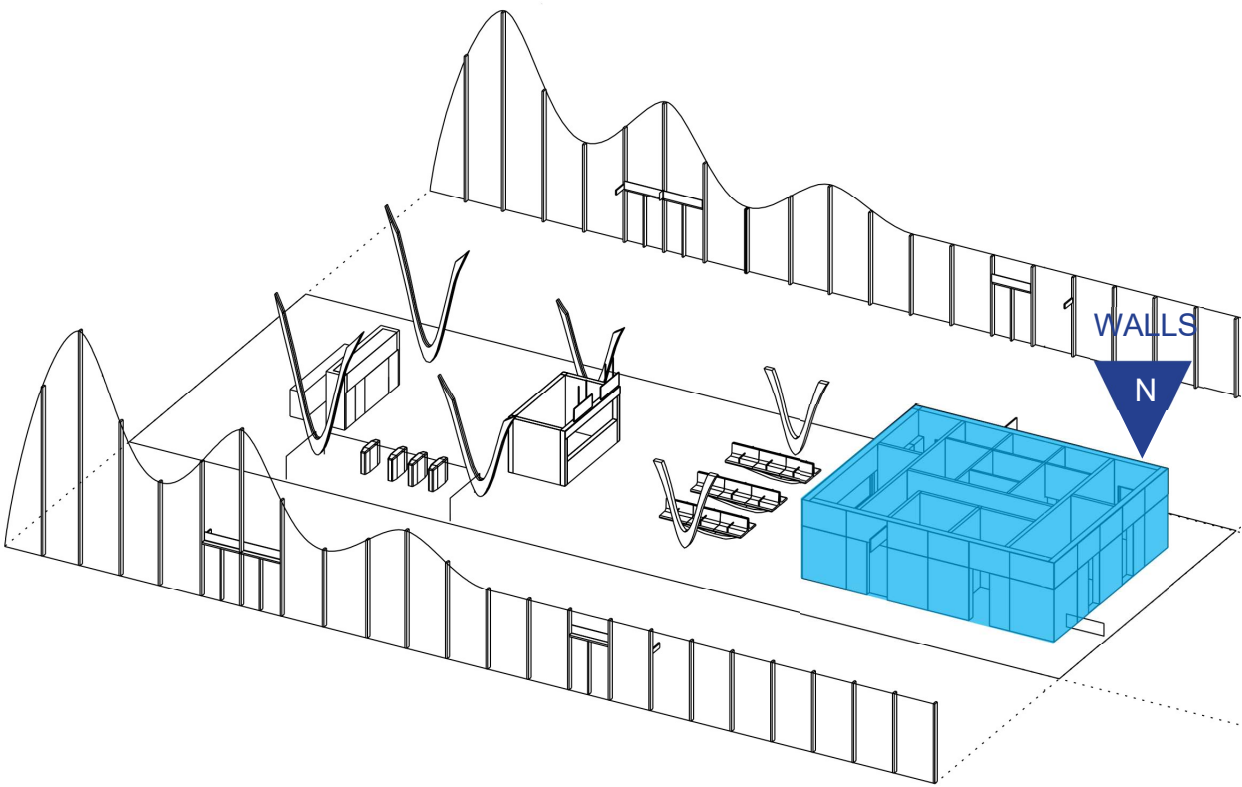
Commented [JK11]: The picture reflects black tactile tiles but the description is "Light grey". Also is the color prescription justified? I would say that the main goal should be achieving contrast between main floor surface and tactile path (ISO 21542). Therefore I would leave open the tactile path color choice.






Wall



B1.11

Identity Matrix

Commented [TA12]: I would remove the triangles from this page so it would follow similar approach with pg. 33



-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Floor	 		

Wall

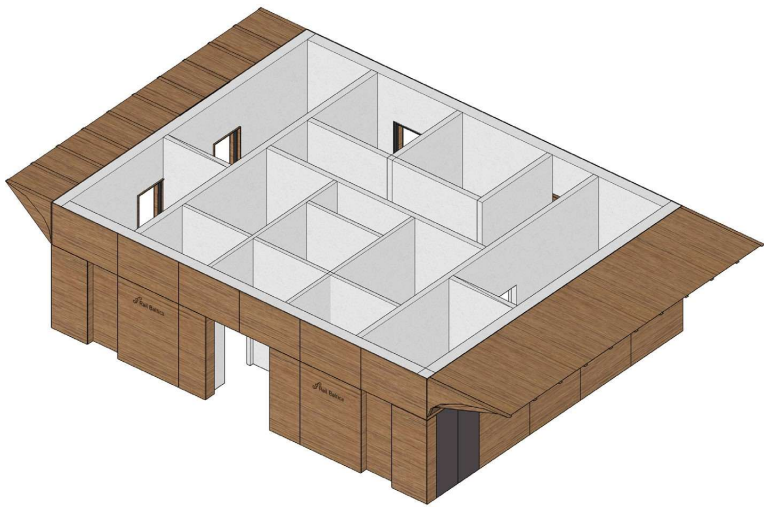
B1.11

Concept Design

Design of the station’s back of house walls is elegant and efficient.

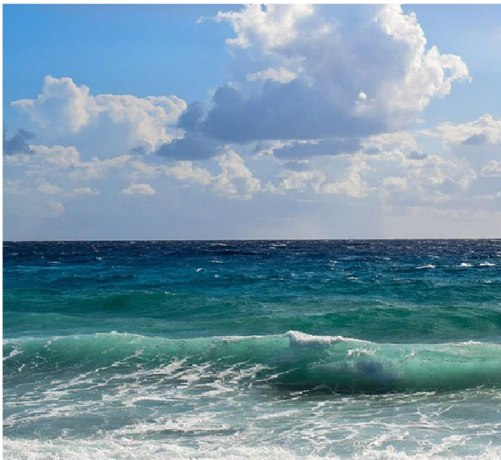
Design of the station’s back of house walls to the traditional Baltic constructions utilizing the same materials but differs in form using baltic waves as a direct inspiration behind parametric design.

Commented [TA13]: In case we’re following the same approach, in this page, there should be also triangles (similar to the pg. 34 and 35)



Pictures

From left
Image 1 - Credits: SBS Engineering
Image 2 - Credits: pixabay.com
Image 3 - Credits: wikipedia.org

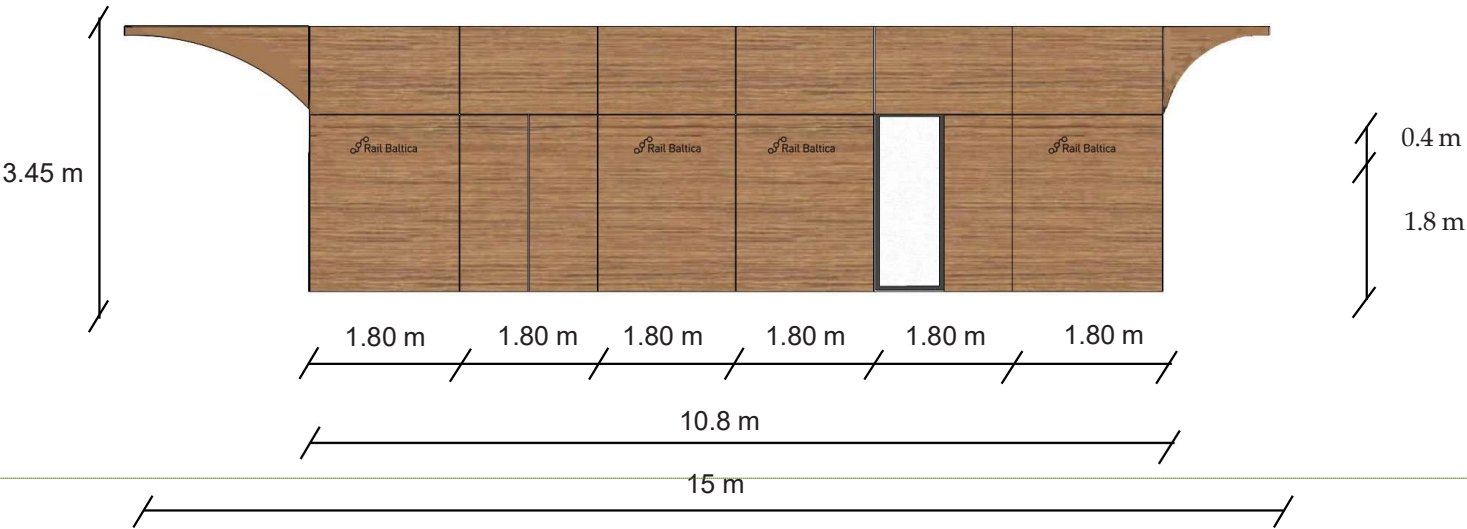
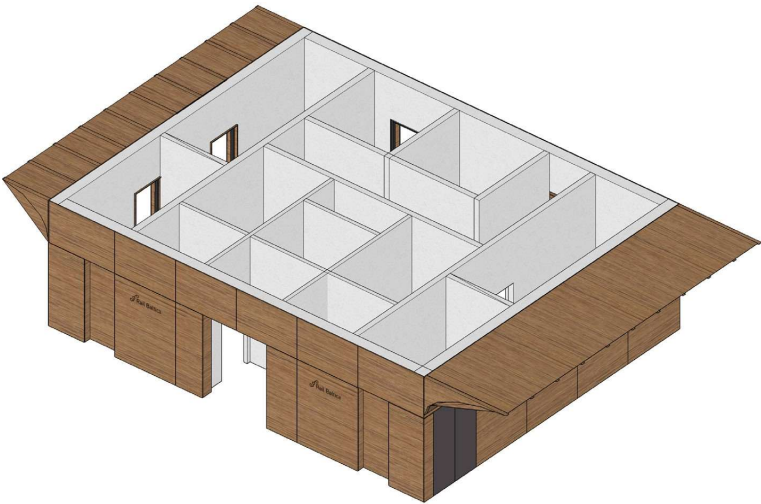
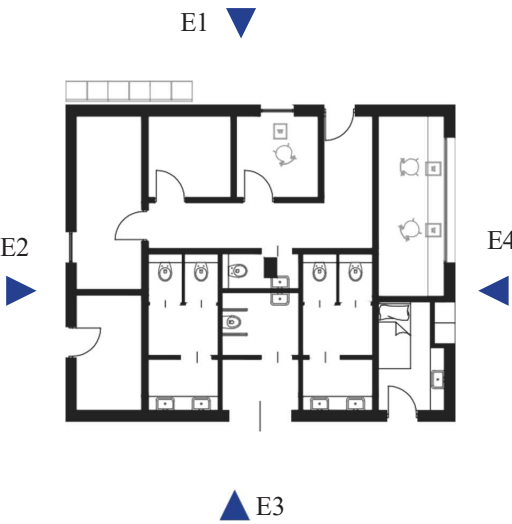


Wall

Geometry

B1.11

Front of house Internal wall system cladding



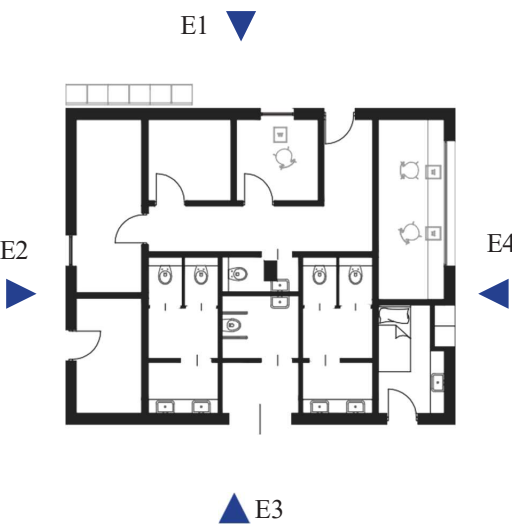
Note
For Rail Baltica visual identity instruction, please refer to *Facade chapter*.
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Commented [JK14]: I would propose adding a similar note as in some previous Chapters "Design specific aspects are recommendation basis and need to be selected in the designs. Parameters are only indicative"

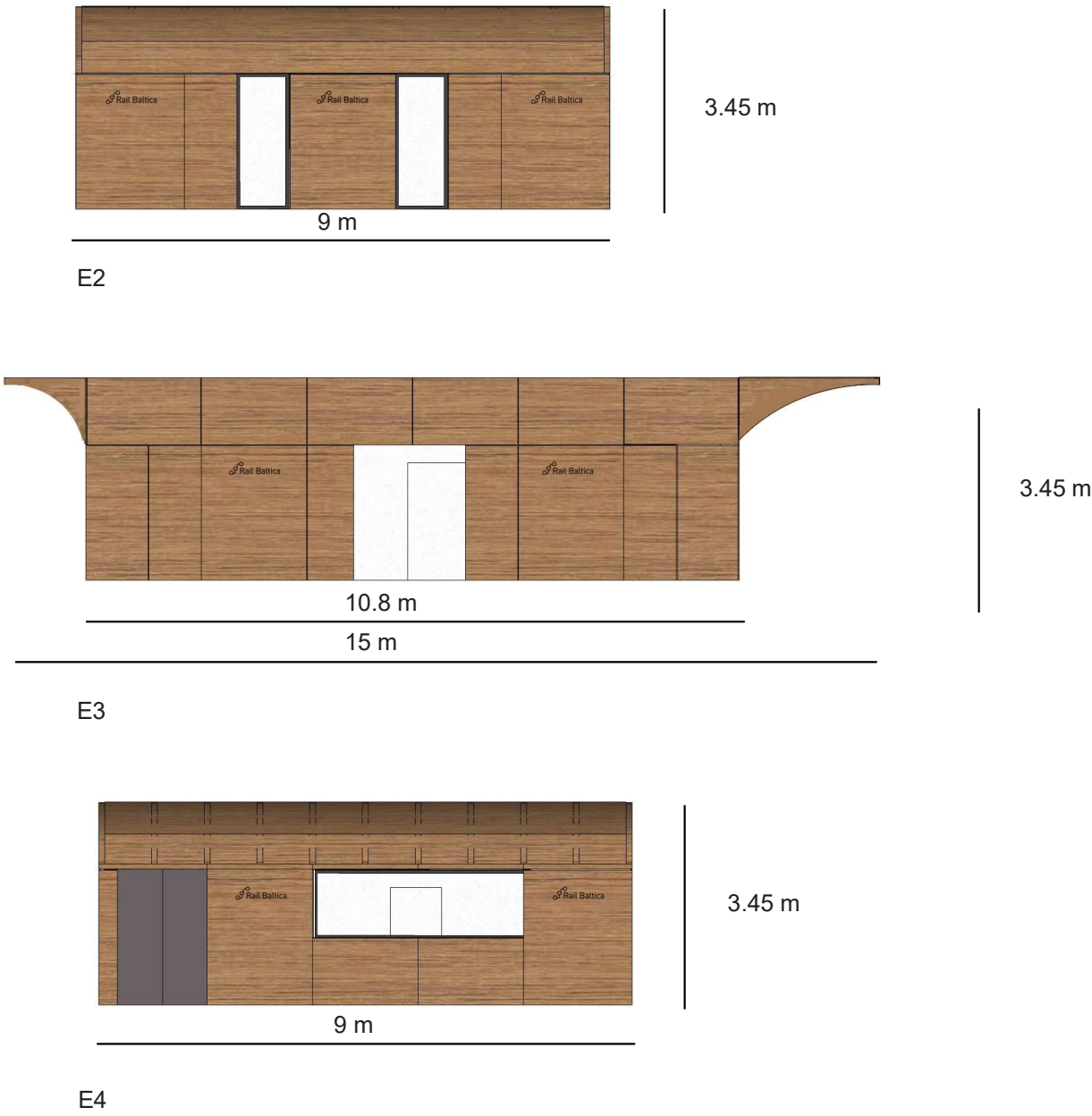
Wall

Geometry

Front of house Internal wall system cladding



Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

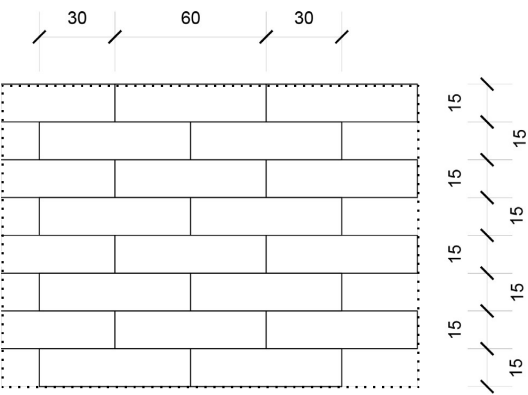


Commented [JK15]: I would propose adding a similar note as in some previous Chapters "Design specific aspects are recommendation basis and need to be selected in the designs. Parameters are only indicative"

Wall

Materials

Front of house Internal wall system cladding utilizes wooden panels, ceramic tiles and plaster.



Tiles positioning

Note:
The materials and dimensions are indicative. Detailing shall be carried out during the design process and agreed with the Client.



Laminated wooden panels

Back of house wall finishes:

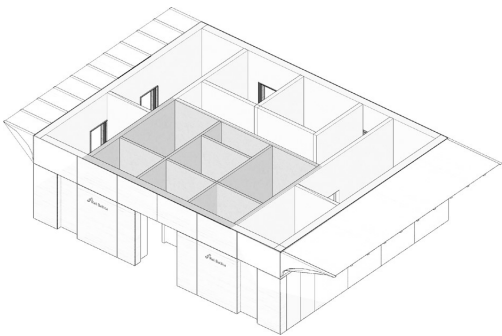
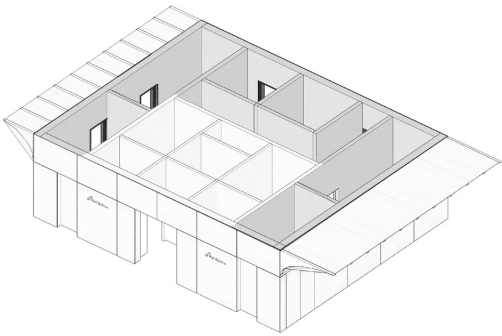
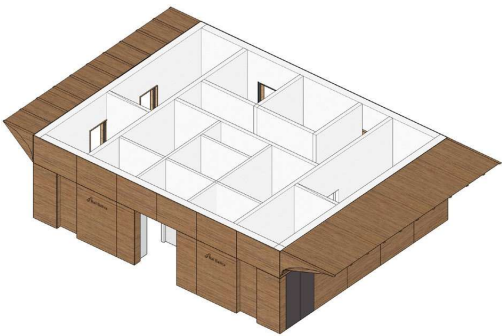


Plaster with paint finish

WCs wall finishes:



Ceramics tiles 15 x 60 cm



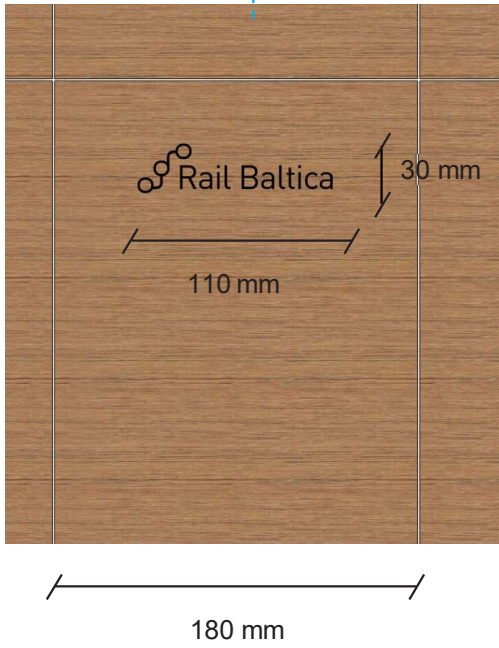
Wall

B1.11

Branding Implementation

Wooden panels allow easy implementation of the branding as well installation of the Signage.

Note:
The branding is indicative. Detailing shall be carried out during the design process and agreed with the Client.



Commented [JK16]: I would propose adding a similar note as in some previous Chapters "Design specific aspects are recommendation basis and need to be selected in the designs. Parameters are only indicative"

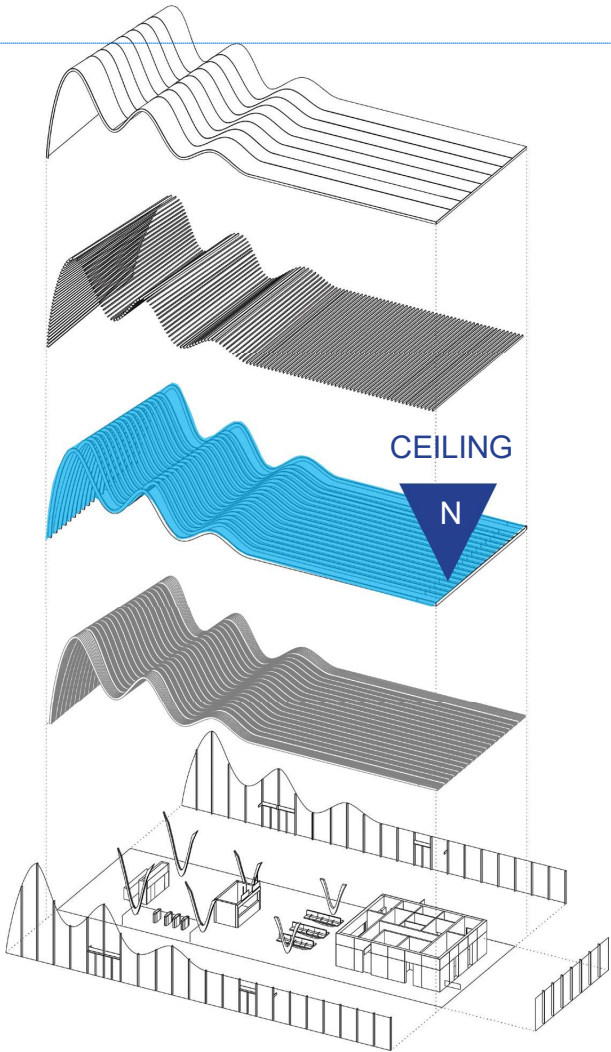
Note
For Rail Baltica visual identity instruction, please refer to *Visual Identity Guidebook*






Ceiling



Identity Matrix

B1.12

Commented [TA17]: I would remove the note from this page so it would follow similar approach with pg. 57, 50, 38, etc.



-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Ceiling	 		

The roof and ceiling is an important element of the construction. The proportions between the building’s walls and the roof height are very important. Traditionally, the roof takes an exceptional place in building construction and its construction has been allocated about two-thirds of the total building height. Traditional buildings were either covered by a tent roof, a double pitch roof, or a double pitch roof with hip ends. Design of the station’s roof refers to the traditional Baltic constructions utilizing the same materials but differs in form using baltic waves as a direct inspiration behind parametric design.

Pictures
From left
Image 1 - Credits: SBS Engineering
Image 2 - Credits: wikipedia.org

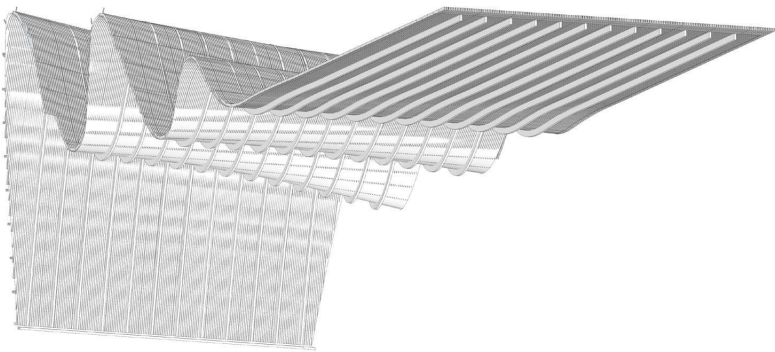
Ceiling

Concept Design

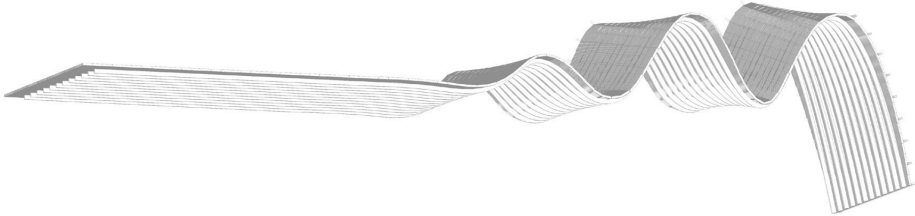
B1.12

Commented [TA18]: In case we’re following the same approach, in this page, there should be also triangles (similar to the pg. 34 and 35)

Traditional house



Baltic Sea



*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station

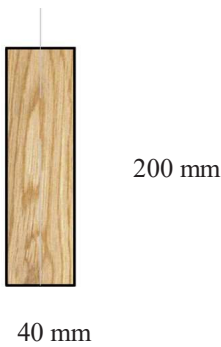
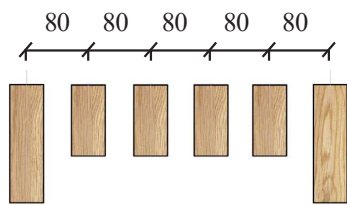
Ceiling

Materials

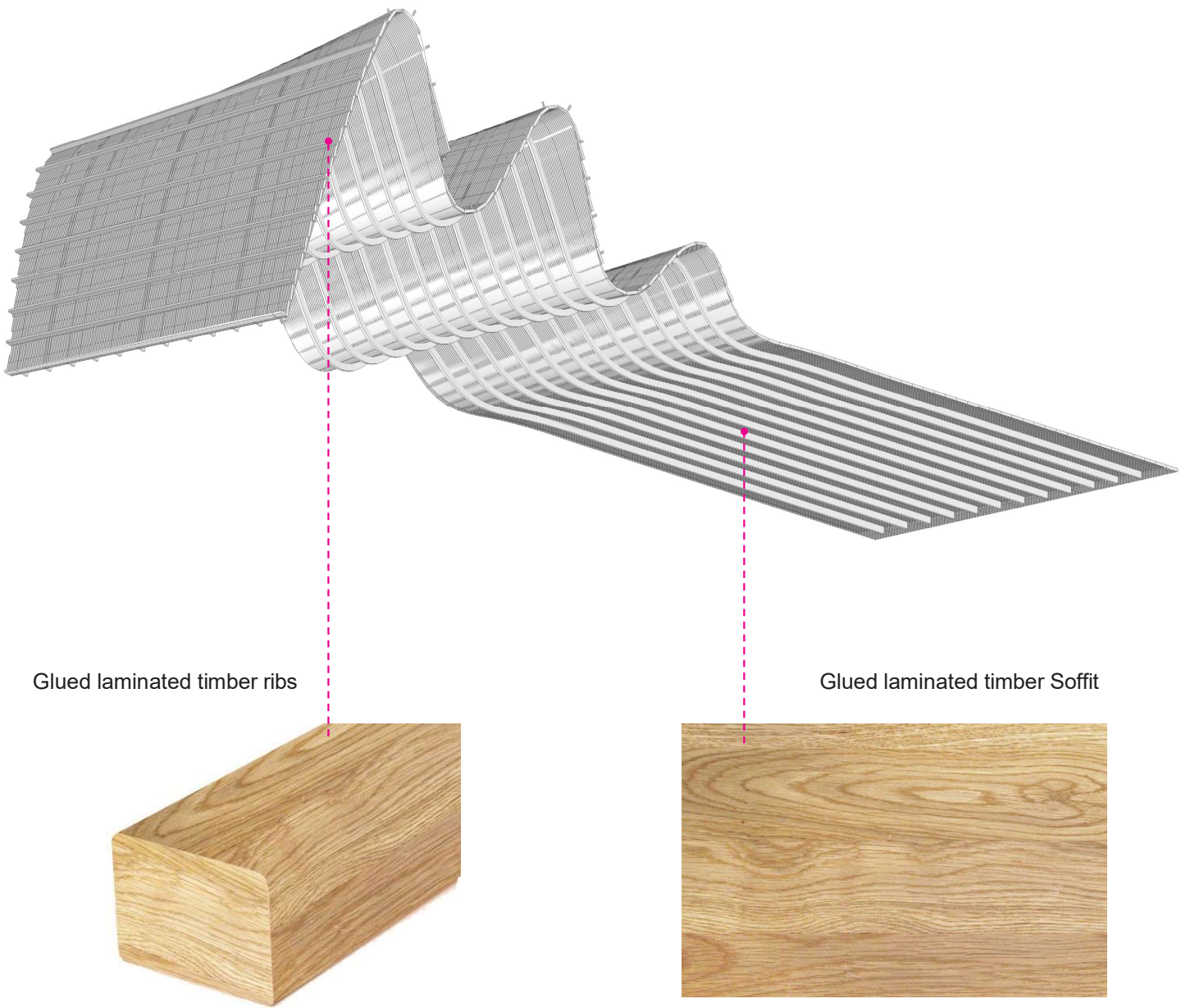
Wooden soffit

size - 200 x 40 mm

regular module of 80 mm



Note:
The materials and dimensions are indicative. Detailing shall be carried out during the design process and agreed with the Client.

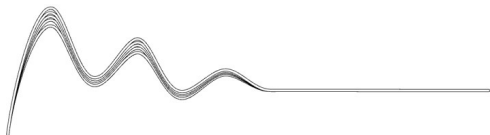


Ceiling

B1.12

Lighting

Incorporated into wooden soffit



*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station

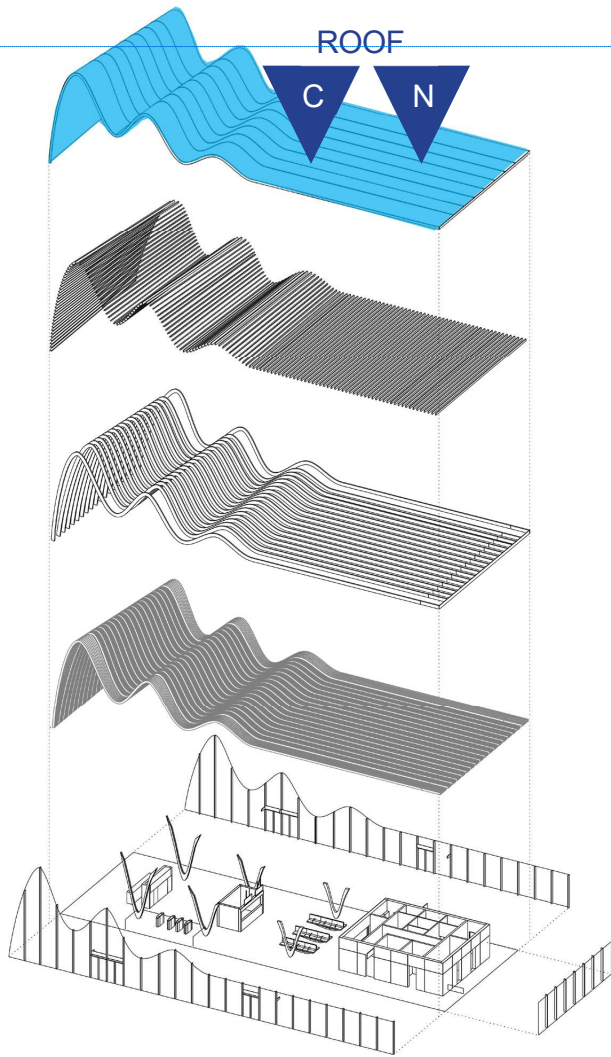


Continuous LED light






Roof




B1.13

Identity Matrix



Commented [TA19]: I would remove the note from this page so it would follow similar approach with pg. 57, 50, 38, etc.

-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Roof	 		

Roof

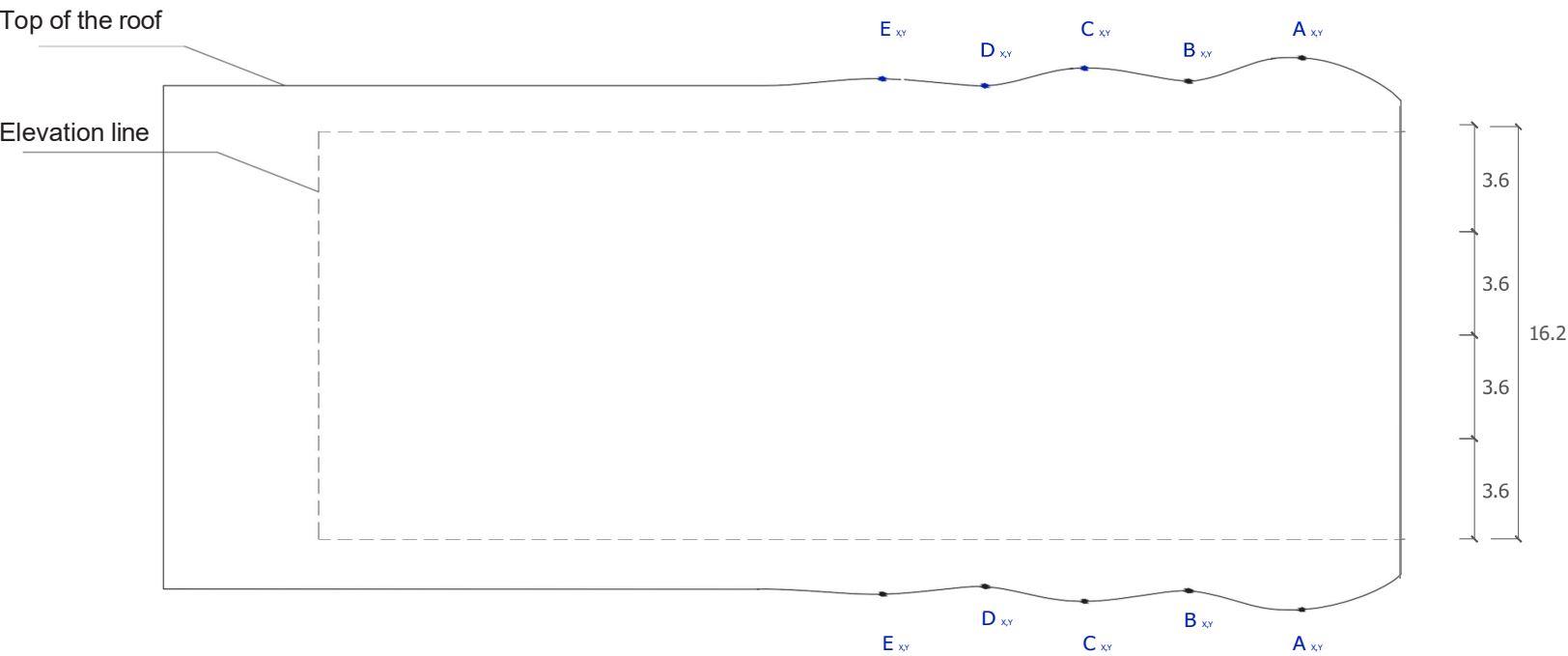
Geometry

Point A is generated from the cut of the side plane at an angle of 82°

Point B is generated from the cut of the side plane at an angle of 82°

Point C is generated from the cut of the side plane at an angle of 82°

Point D is generated from the cut of the side plane at an angle of 82°

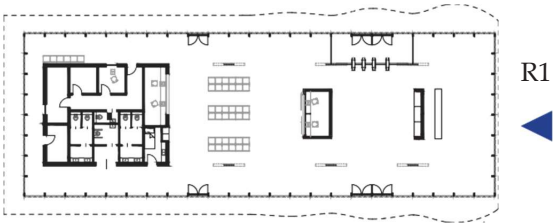


Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

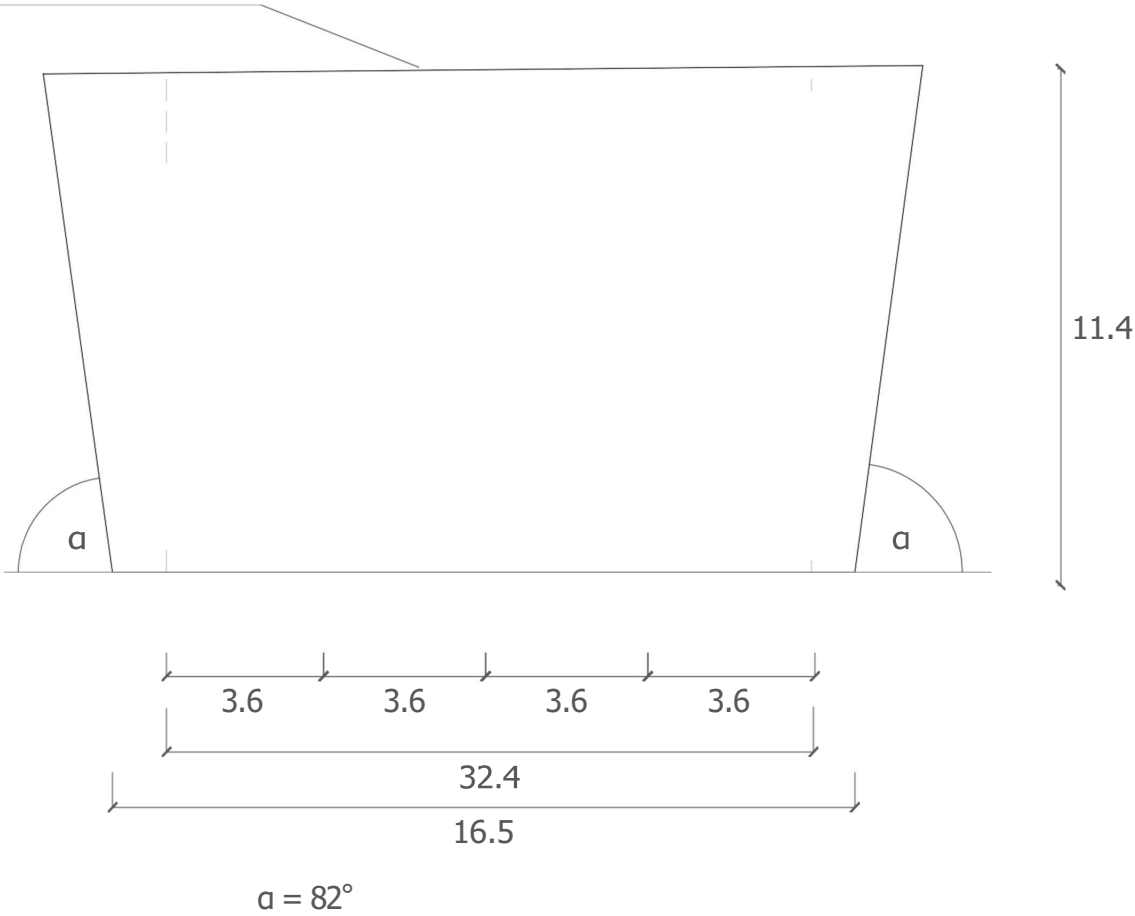
Roof

B1.13

Geometry



Top of the roof



Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

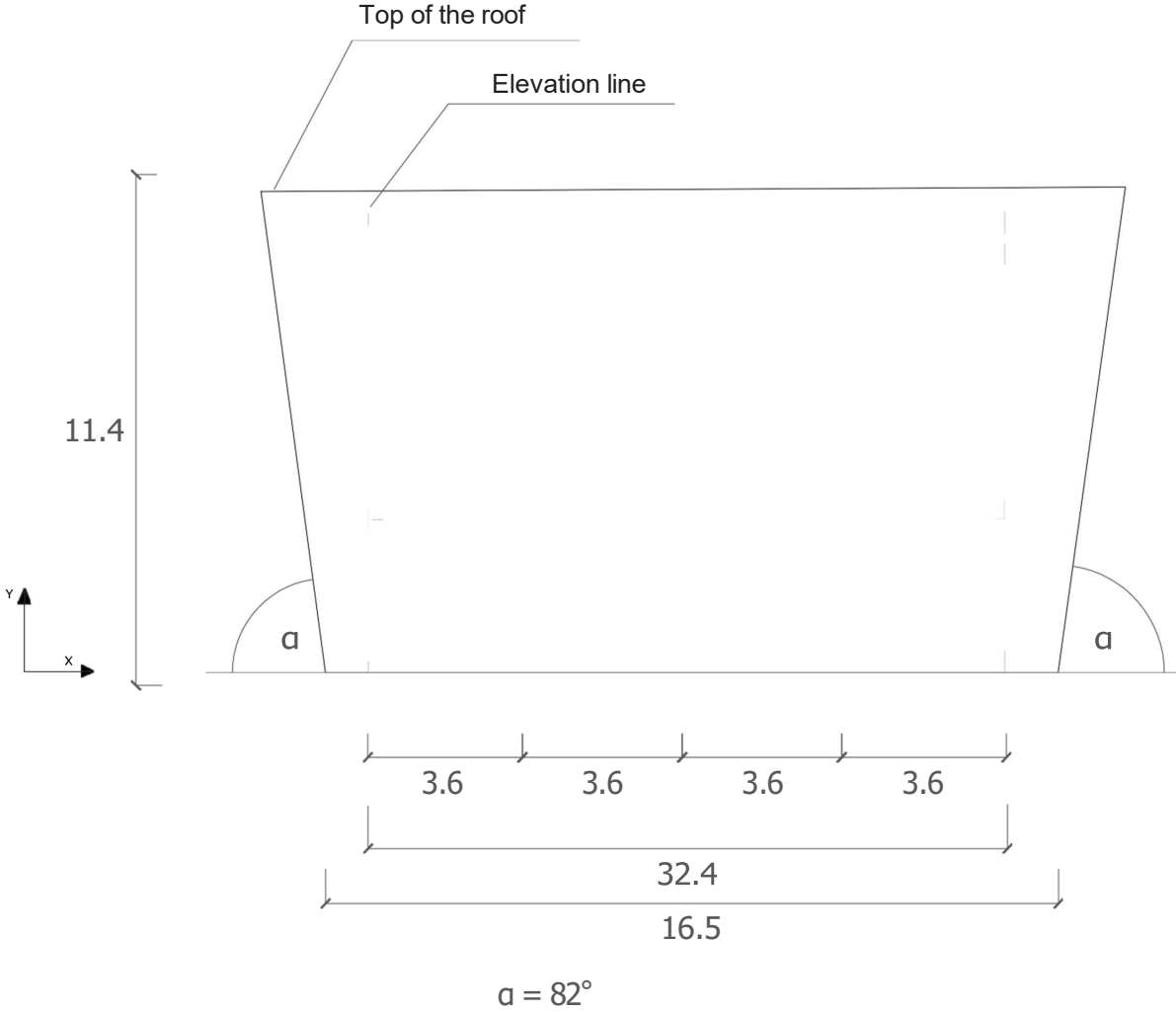
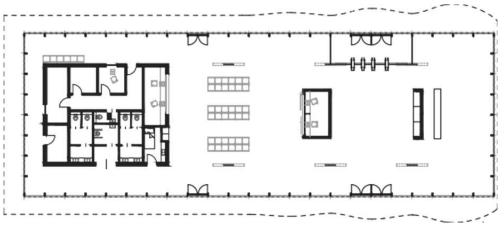
R1 East elevation

Roof

B1.13

Geometry

R2



Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.

R2 West elevation

Roof

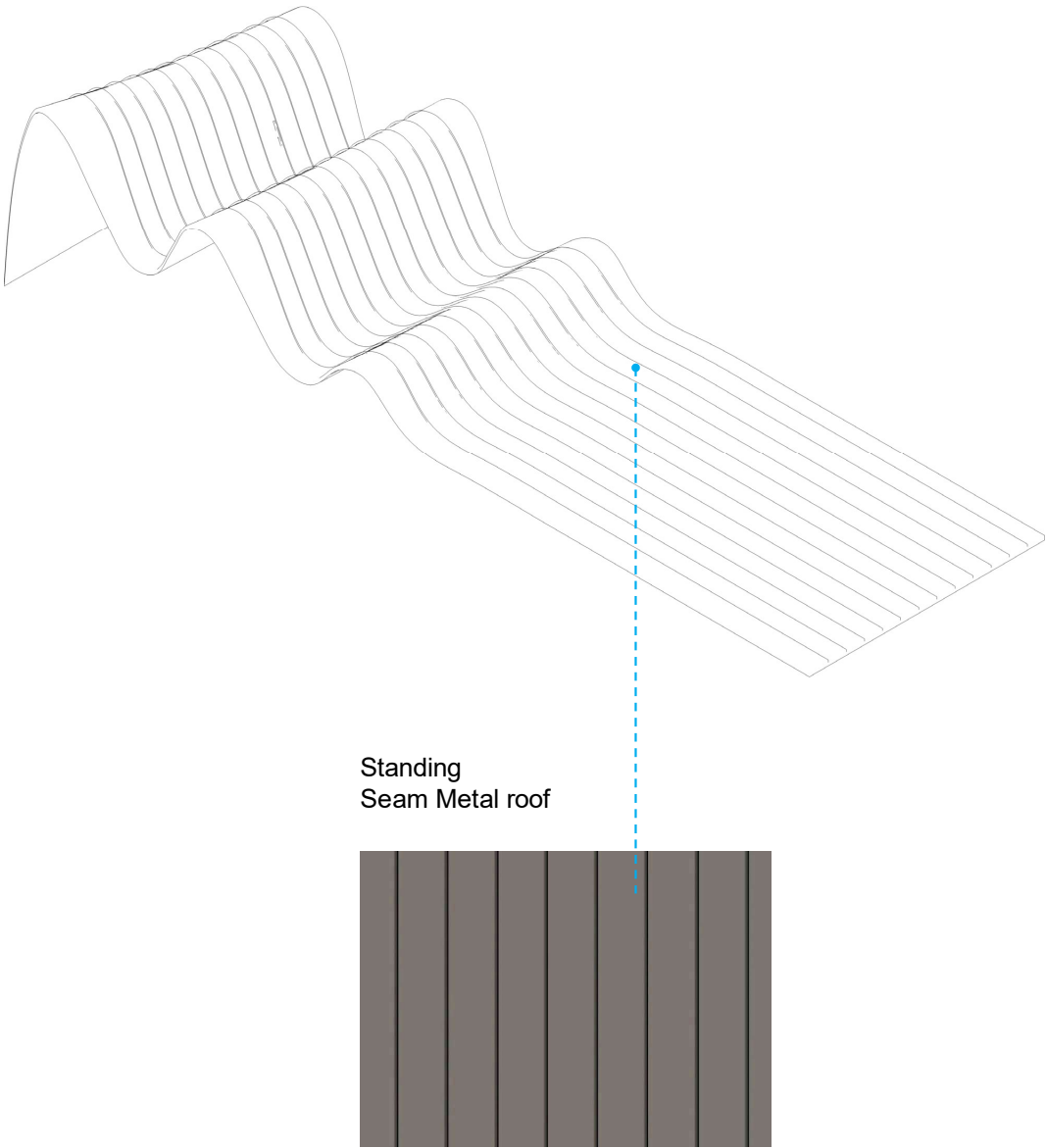
Materials

B1.13

A standing seam roof is among the most durable and maintenance-free type of any metal roof. Standing seam roofing provides additional energy reduction benefits and can be installed easily, in many instances over the existing roofing material.

Metal roof requires no or very little maintenance over the years and is able to withstand substantial wind pressure. It also offer fire resistant properties and will not collapse due to heavy water or snow loads. The metal reflects the sun’s rays, which in turn reduces heat transfer so it will lower cooling costs in summer.

Note:
The geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.



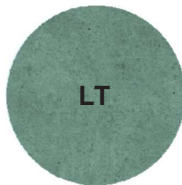
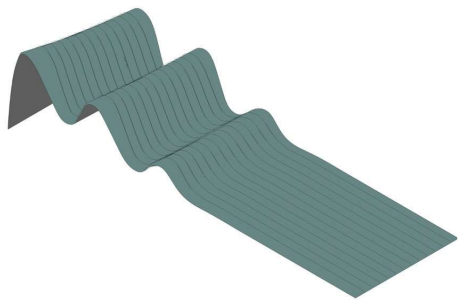
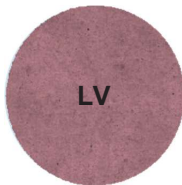
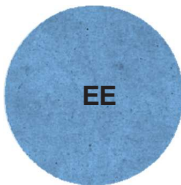
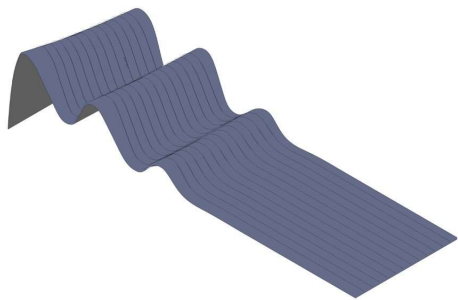
Standing
Seam Metal roof

Roof

B1.13

Identity Approach

Designers will ensure to apply the country identity through the color on the roof of the station.



Note:
The color of the roof is indicative. Detailing shall be carried out during the design process and agreed with the Client.



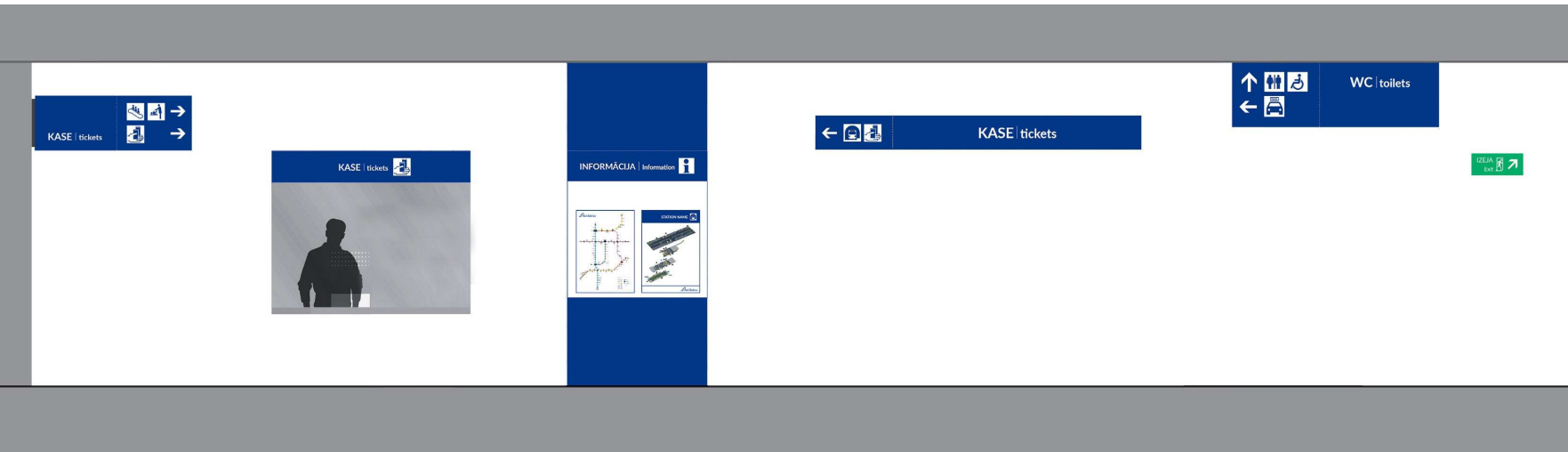
Signage & Wayfinding

B1.14

Passenger Information

Station must have an accessible and legible design for passenger information and wayfinding which requires minimal signage and are well integrated with their surroundings. The philosophy underlying signing and passenger information at stations should be that of clarity, consistency and coherence in order to guide people through the stations in a steady, convenient and safe manner helping to ensure station users have a positive, stress-free experience. This philosophy supports a well-planned and well laid out station, and is integral to its design.






Information is a fundamental requirement for a positive passenger experience. Information can serve multiple uses including: rail services, station and facility opening hours, maps of the local area and information for interchange modes. Information should be delivered across the full range of media including audio, visual and tactile to meet with the needs of all interchange facility users.






Requirements of ISO 28564-2 must be followed.

Commented [JK20]: This is totally new standard which is not even mentioned in TSI PRM. Is it absolutely mandatory?

Commented [DJ21R20]: This was agreed during coordination meeting with all the IBs

-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Signage	  		

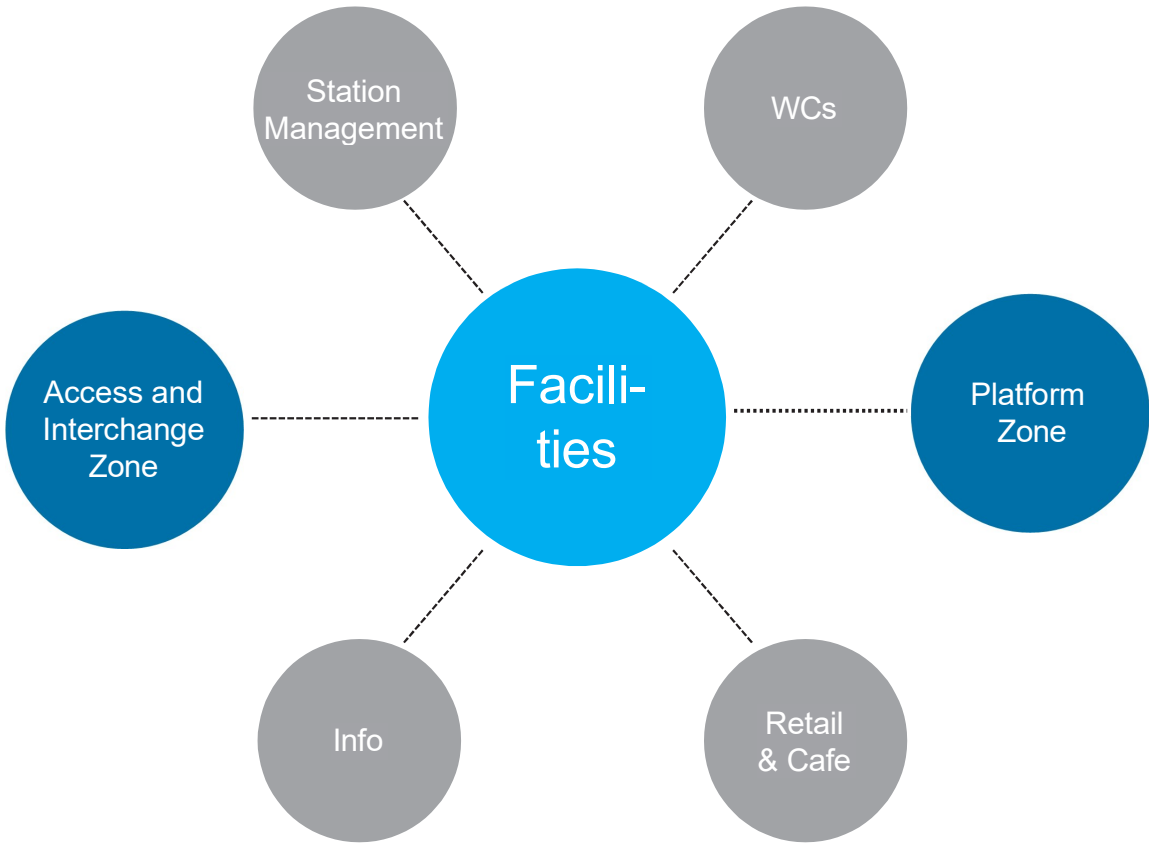
Signage & Wayfinding

B1.14

Signs must be positioned where people need them most. These locations are generally route decision points, such as entrances, exits and junctions. Decision point signs normally provide directional information to way out routes, inter-modal transport connections, platforms and key facilities. Integrated wayfinding minimises physical obstructions to movement and helps station users.

General rules are:

- Design wayfinding to be seamless to help passengers move between different locations, using all modes of transport in one continuous journey.
- Design routes to be simple and legible requiring minimal signing by integrating spatial planning, lighting and surface finishes alongside other building elements such as public art and landscaping.
- Wayfinding signage must always take visual priority over other information and its view must always remain unobstructed from key reading directions.



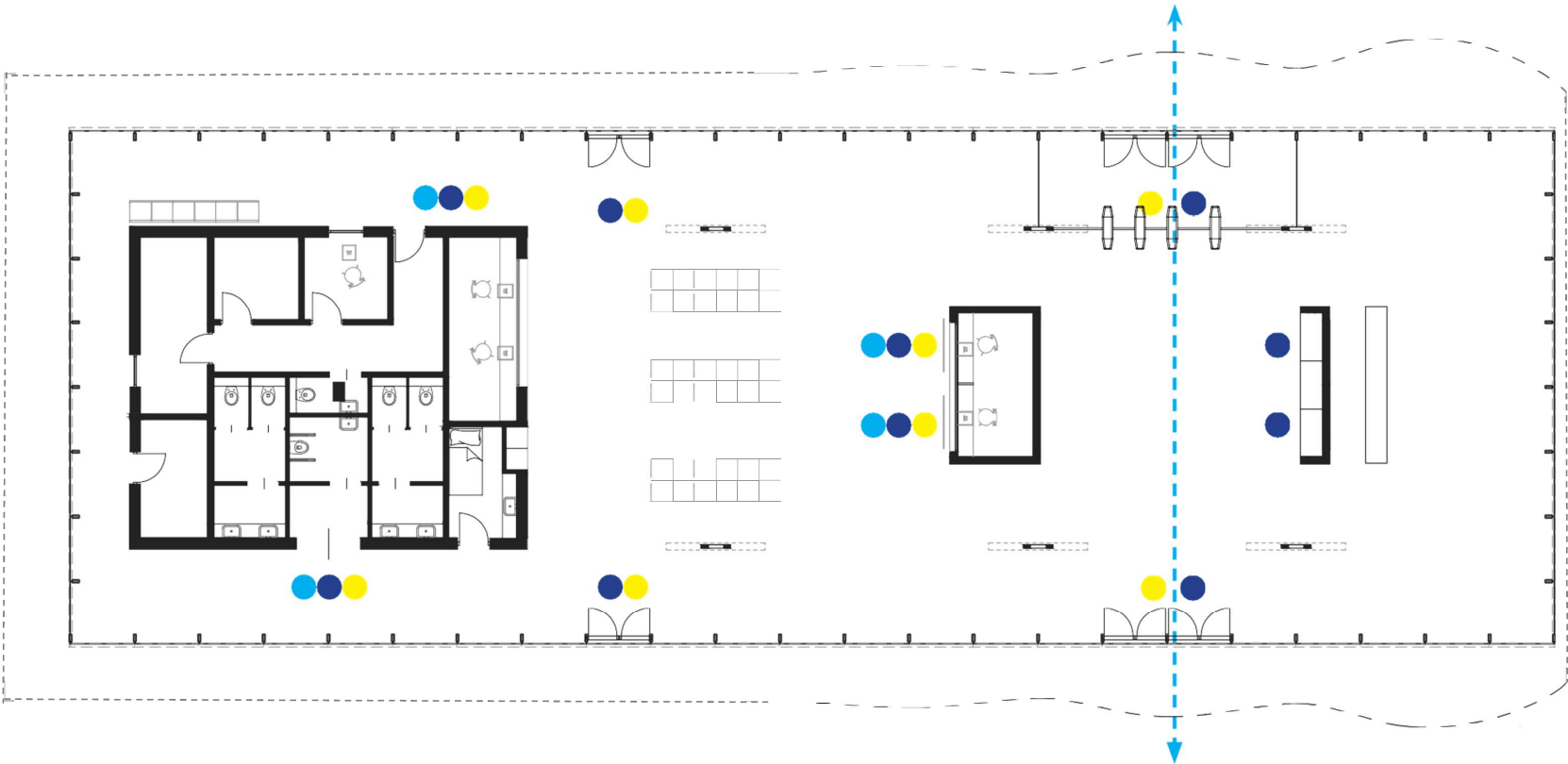
Signage & Wayfinding

B1.14

Signs shall be placed perpendicular to sight lines.

For signage design please refer to Book G.

Note:
The layout is indicative. Detailing shall be carried out during the design process according to the local legislation and standards.



Legend

- Identification Sign
- Directional Sign
- Information Sign
- - Main pathway

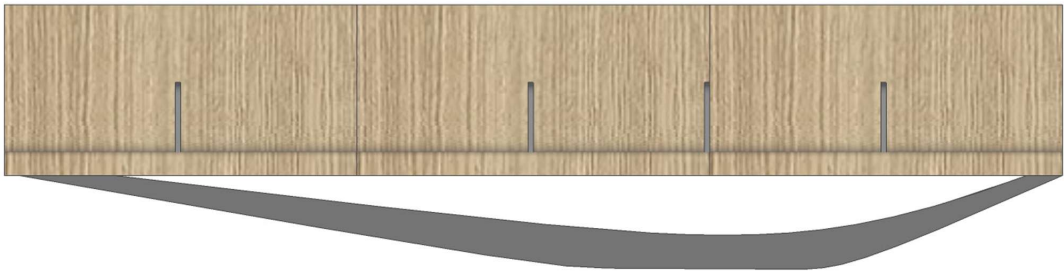
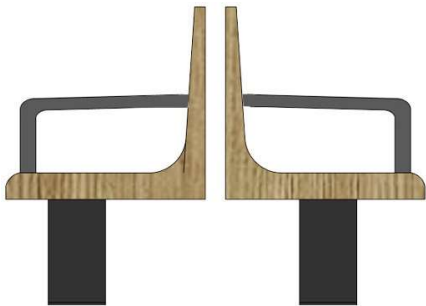
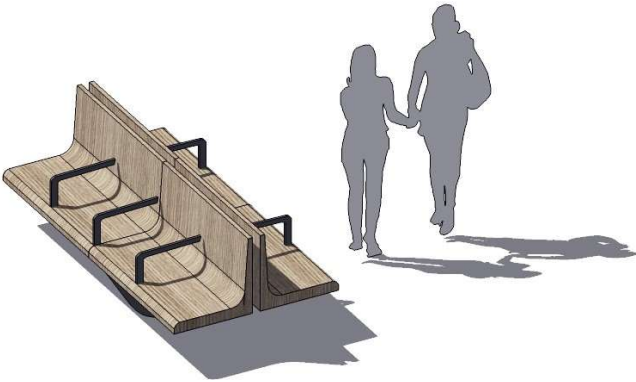
Furniture

Furniture for station

Modular seating systems for public areas could be provided. Solutions could be made with individually shaped wood slats that can be joined to form a range of seating configurations and to have its own design.

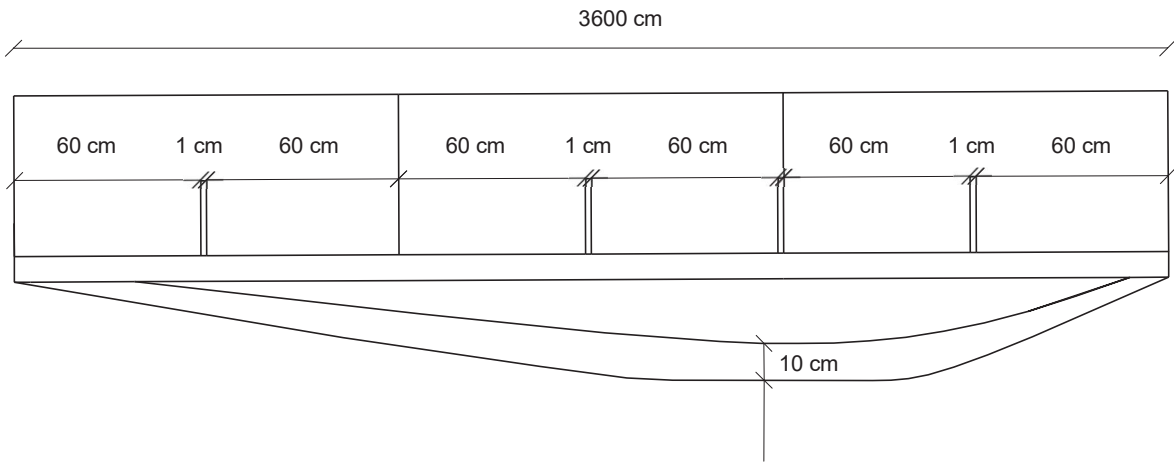
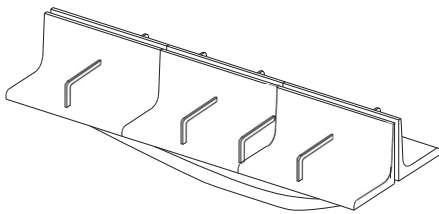
The modular furniture shall be made to fit any space. Customized furniture will include workstations and device chargers, which aim to improve customer satisfaction and sales and to be used in Stations Type I and Type II.

The furniture must provide railway seating comprising durable materials in ergonomic, durable and sustainable designs and shall enhances public spaces by providing them with identity, meaning and function.



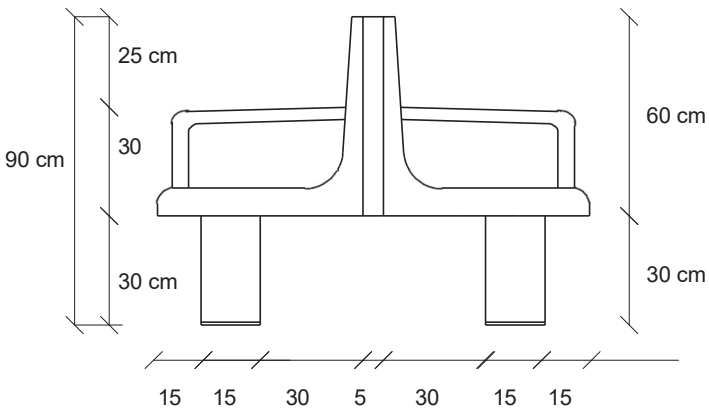
Furniture

Technical Details



Front View

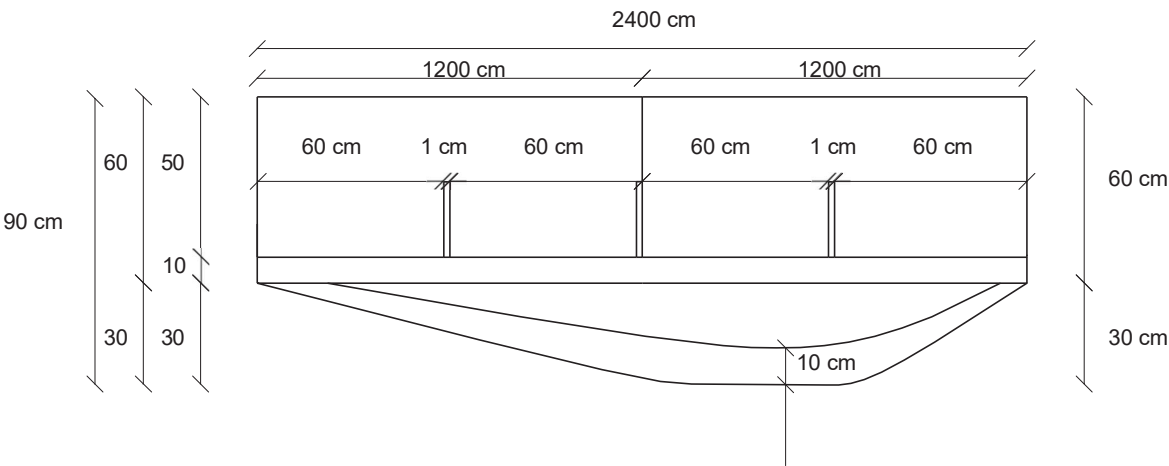
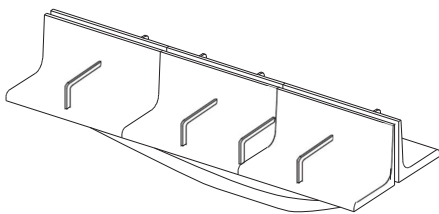
Commented [JK22]: I would propose adding a similar note as in some previous Chapters "Design specific aspects are recommendation basis and need to be selected in the designs. Parameters are only indicative"



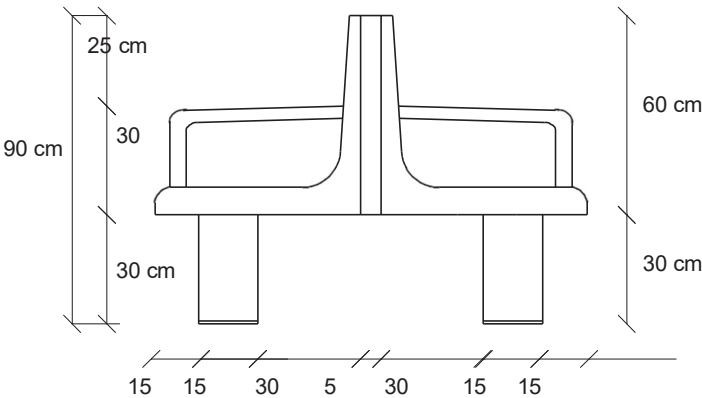
Side View

Note:
The parameters are indicative. Detailing shall be carried out during the design process and agreed with the Client.

Technical Details



Front View



Side View

Note:
The parameters are indicative. Detailing shall be carried out during the design process and agreed with the Client.

Commented [JK23]: I would propose adding a similar note as in some previous Chapters "Design specific aspects are recommendation basis and need to be selected in the designs. Parameters are only indicative"

I also draw your attention that 1cm wide seat border is basically like a knife

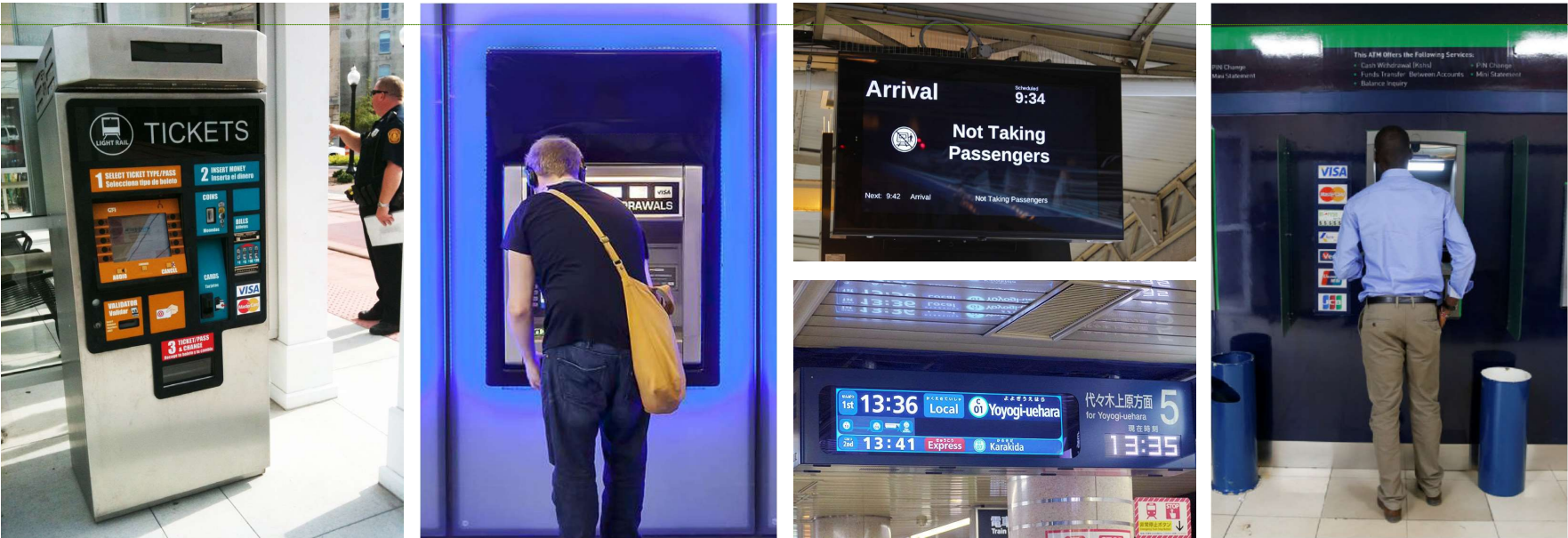
Equipment

Principles

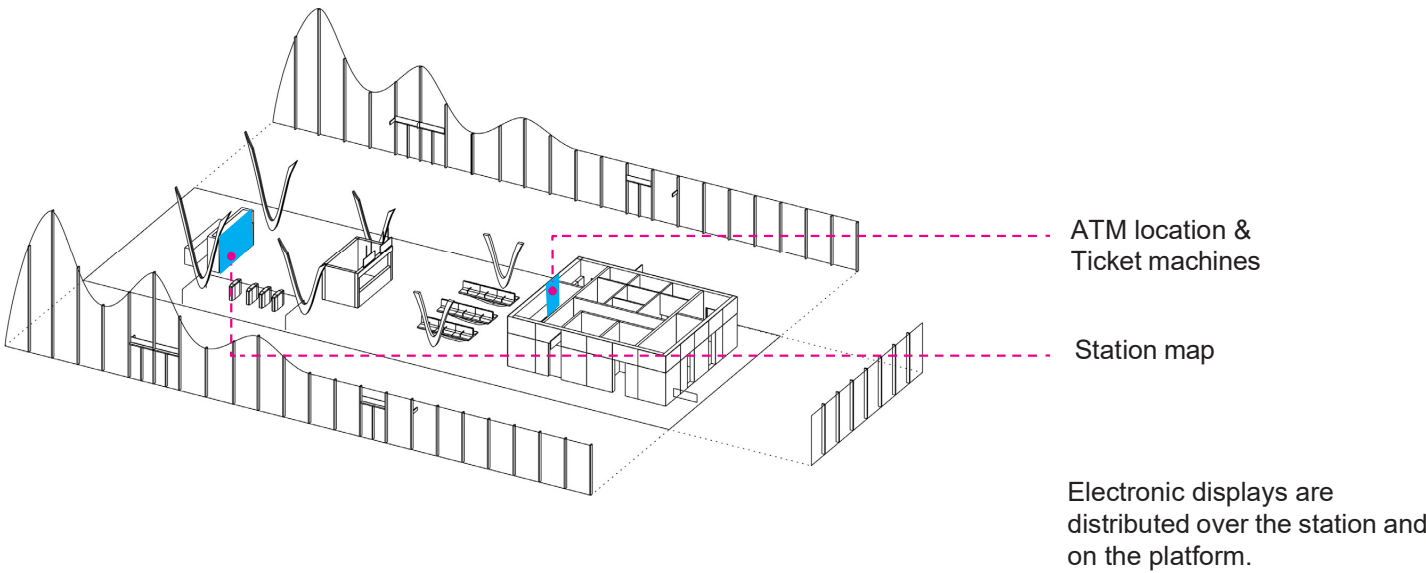
Although many passengers have tickets when they arrive at the station, they should be able to buy tickets, renew their monthly card, download discount cards or collect paper tickets. Ticket machines should, therefore, be provided at type I, type II, type III and type IV stations. The biggest stations should also house a staffed ticket booth for selling tickets manually.

Ticket vending machines should to be placed so that they do not interfere with either traveller flows or the flow of the general public through the passage. Ticket vending machines for different operators must be coordinated so that their function is clear, and they must be consciously designed.

Installation of ticket machines should comply with applicable requirements of ISO 21542.



Commented [JK24]: It was previously "may". Why was it changed to "should"



Underpass

B2

B2.1 Matrix

B2.2 Concept Design

B2.3 Layout






B2.4 Materials

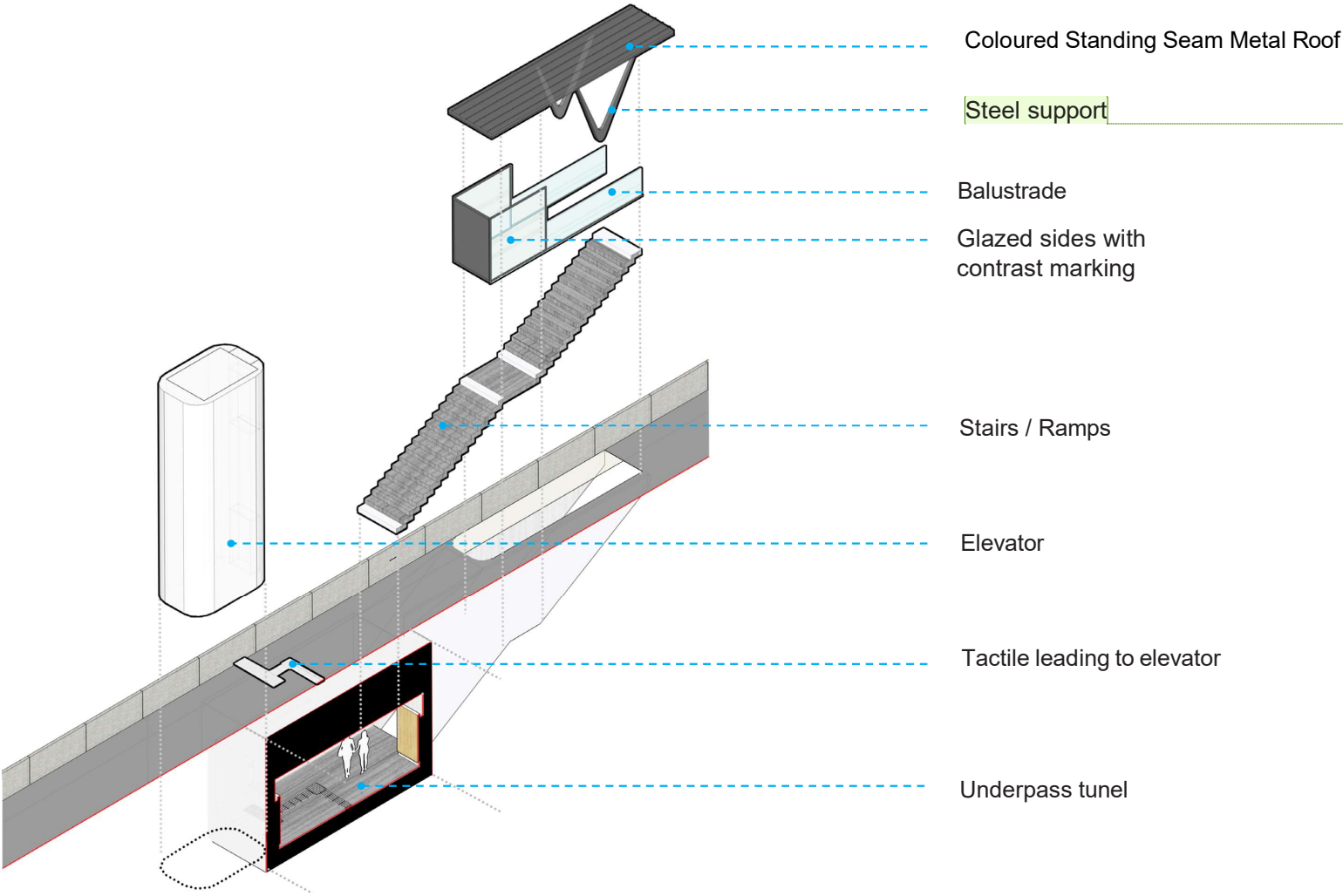
Matrix

B2.1




Identity Matrix

Note:
The indicated concept of underpass is general approach.
The Client shall make the final decision considering the site-specific aspects for applicable architectural elements.

-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation



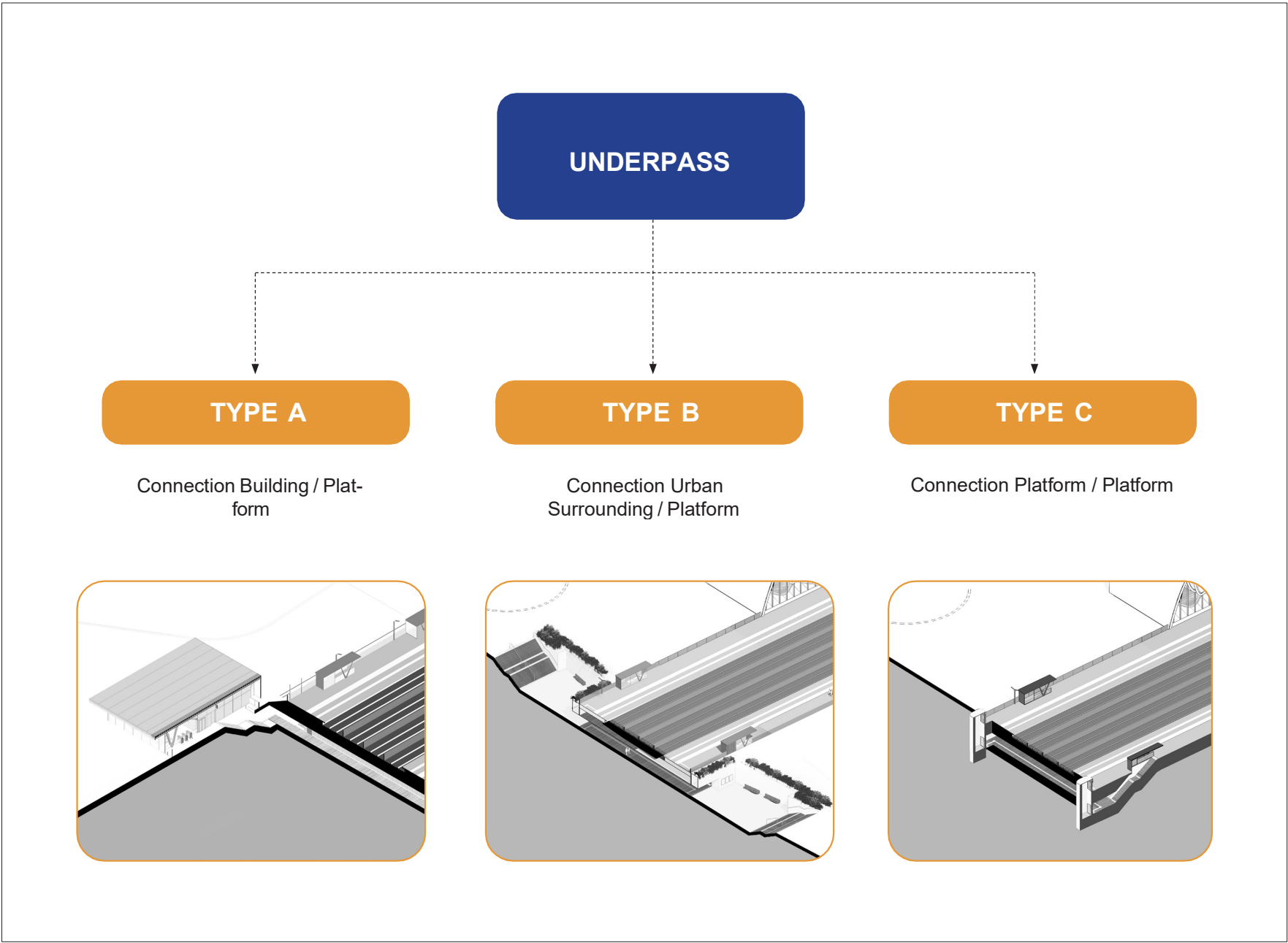
Commented [JK25]: In station building steel was changed to metal. Could we do the same here? Also the Note "The Client shall make the final decision" needs clarification. Decision about elements and materials?

	N	C	R
Underpass	  		

Concept Design

B2.2

Designers, considering specific site conditions, can define and select the best type of underpass to use to connect the platforms with the station building and the urban context.



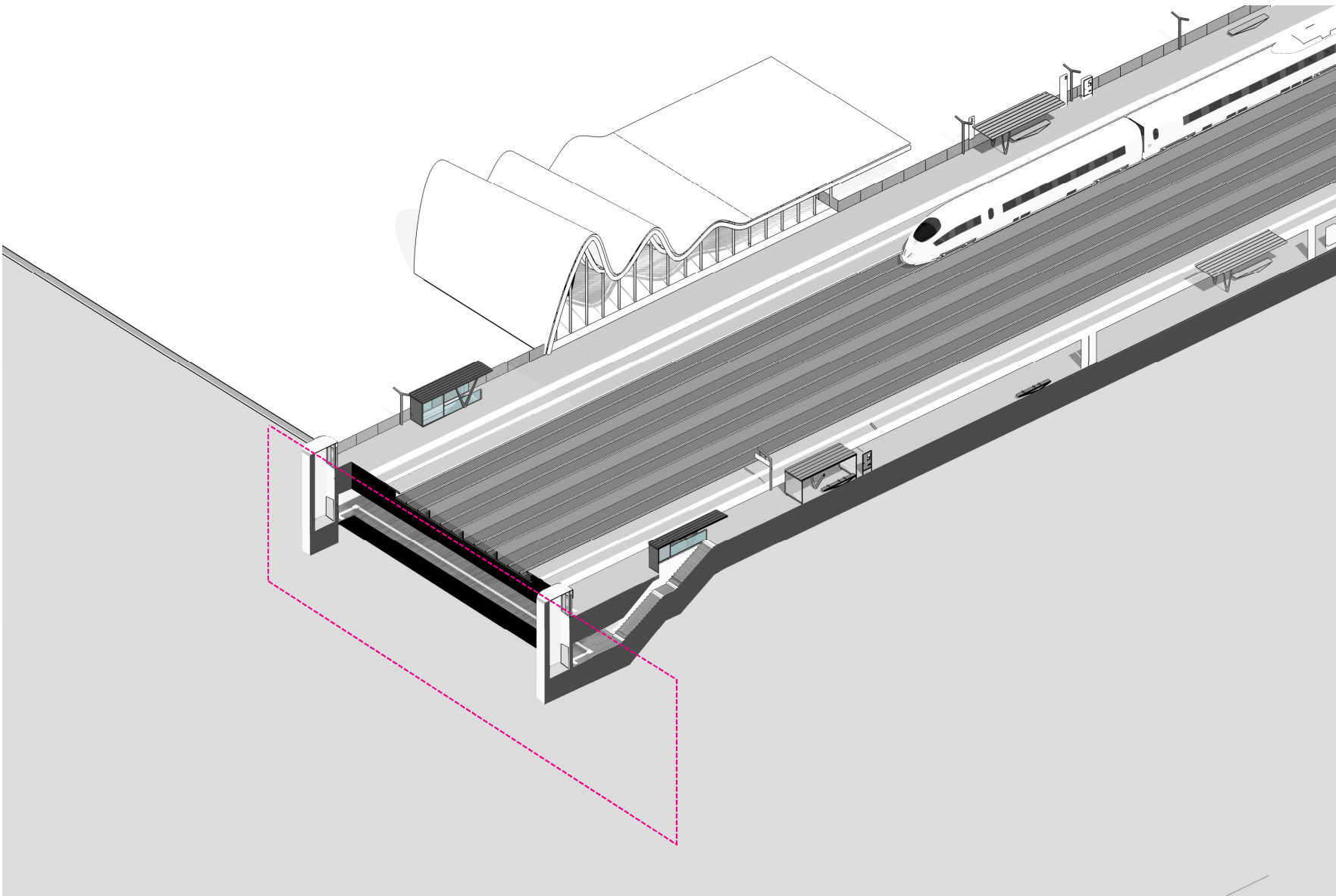
Layout

Type A Overview



B2.3

Commented [TA26]: I would propose to delete the triangle from this page to keep the similar approach as in pg. 84, 85, etc.



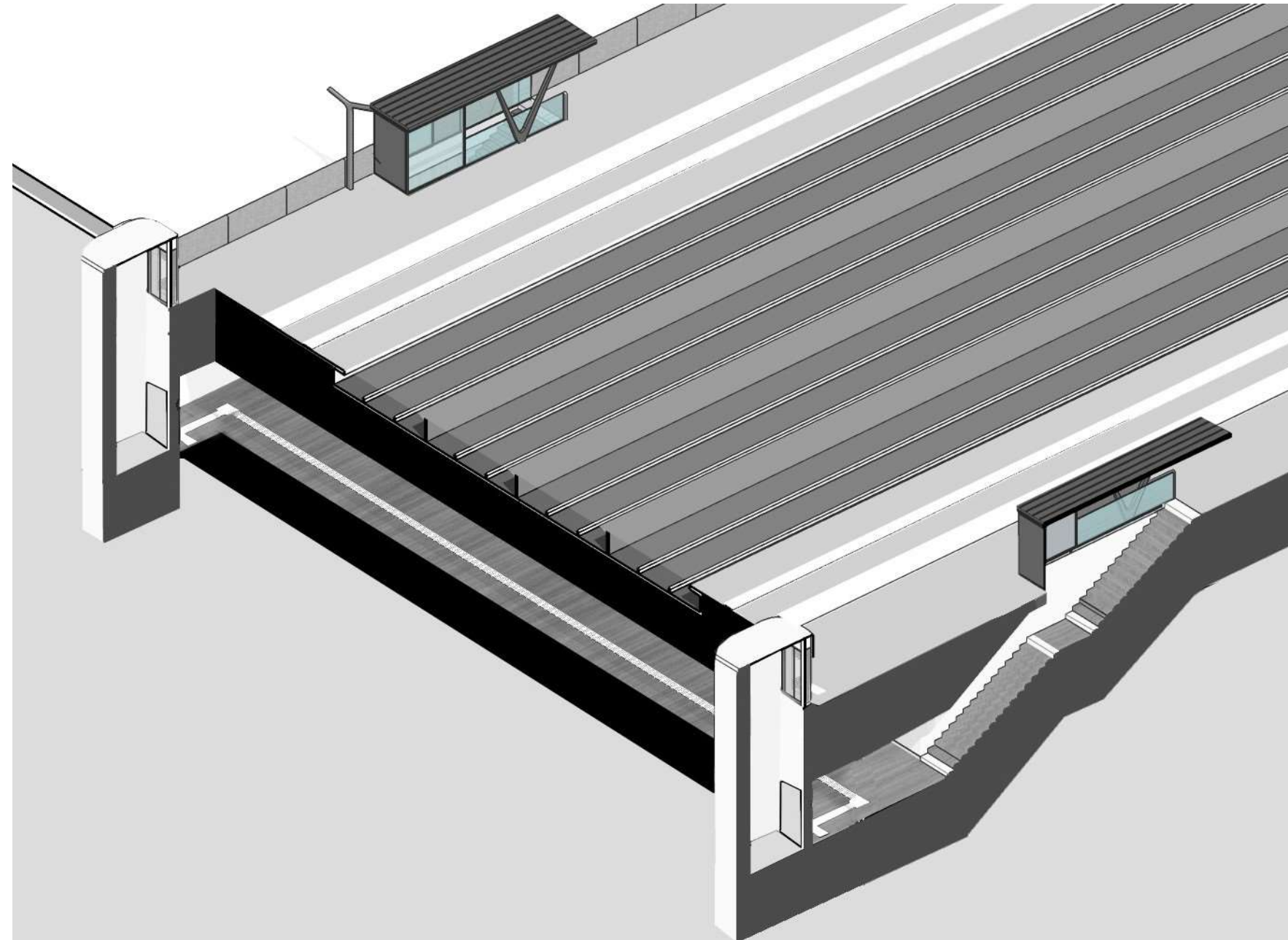
*Illustrative picture, there are no horizontal slope towards trackside/entrance of the station

Layout

B2.3

Type A

Underpass as all other Station elements refers to the traditional materials form Baltic countries, underlining the connection between the three countries but also emphasizes the idea of using sustainable materials. Its logical shape allows to commute easily between different platforms.

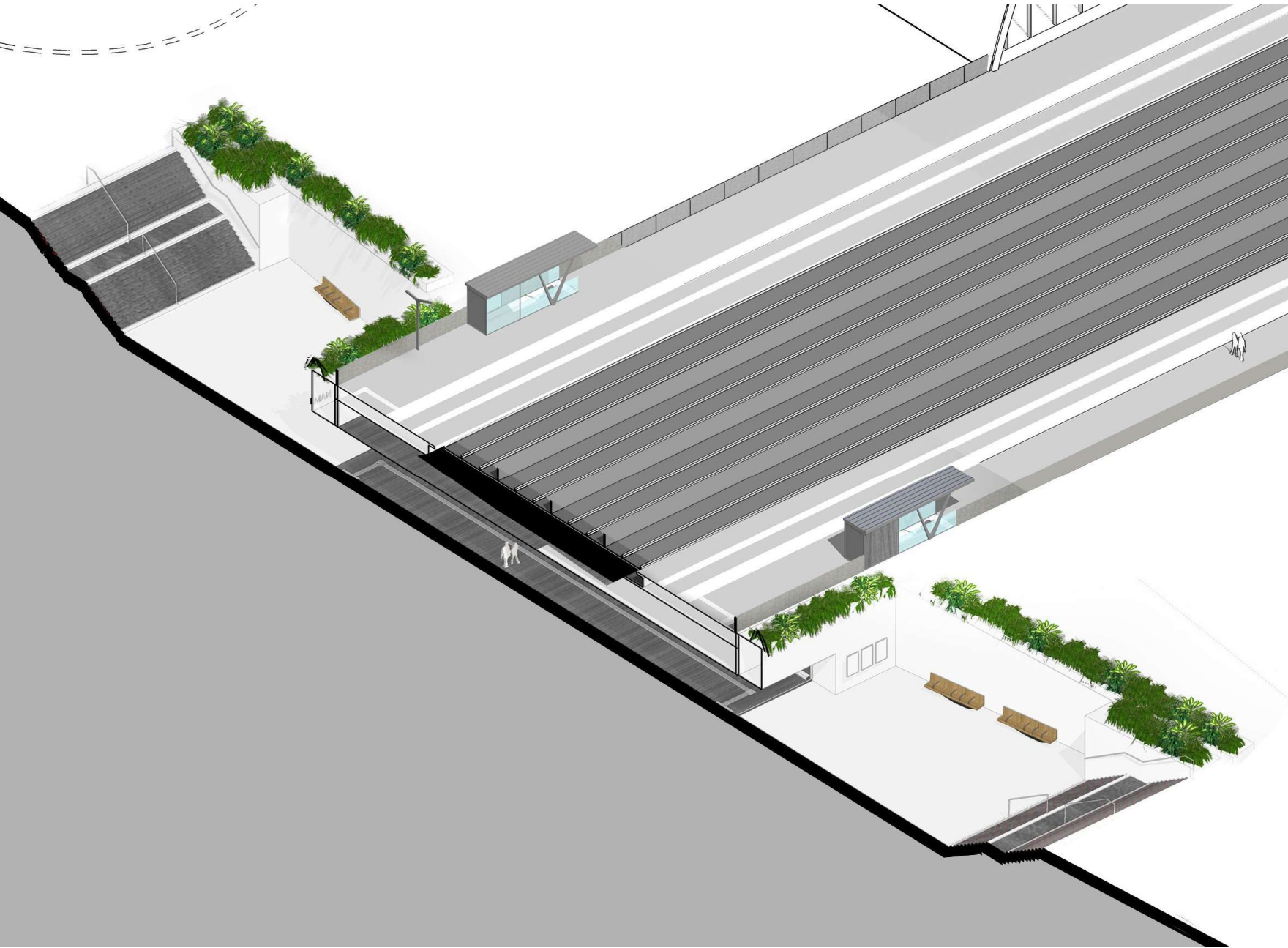


In most cases, platform connections under railway tracks also involve a connection between the parts of the city/community located on different sides of the railway. Properly located and designed, a passage under the tracks can provide a natural and comfortable link that, in many cases, also provides a transit route for cyclists. Passage location has a significant impact on station function. A central location along the platform will shorten travellers' walking times to the right carriage on the train. How the interior of a passage is designed plays a significant role in how it is perceived as both a station entrance and a city thoroughfare.

Layout

B2.3

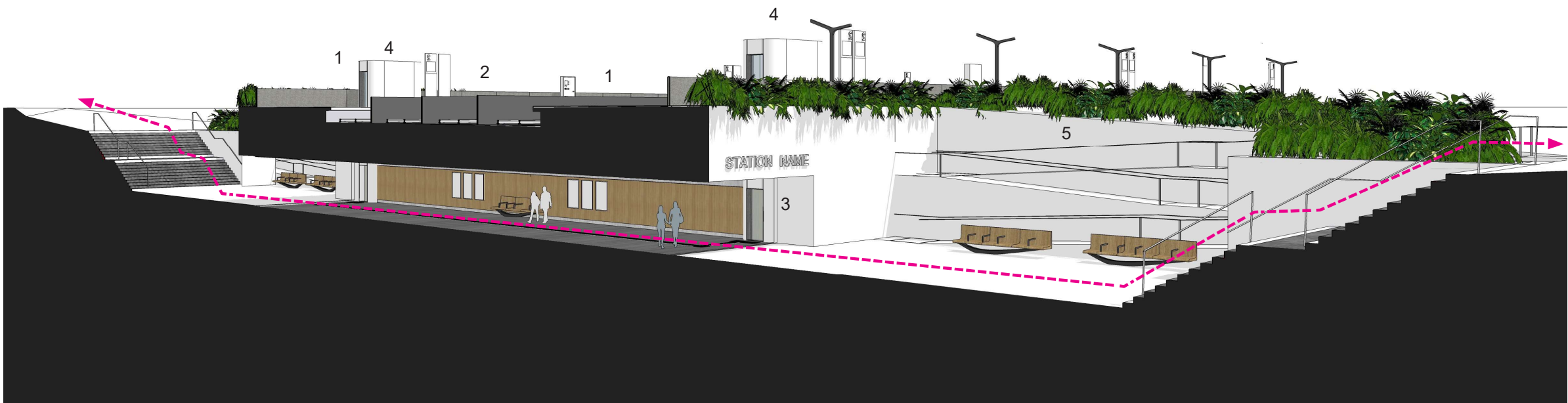
Type B Overview



Layout

Type B

B2.3



Legend

- 1. Platform Walkway
- 2. Tracks
- 3. Underpass entrance
- 4. Elevator
- 5. Platform
- 6. Ramp

Flow of passengers

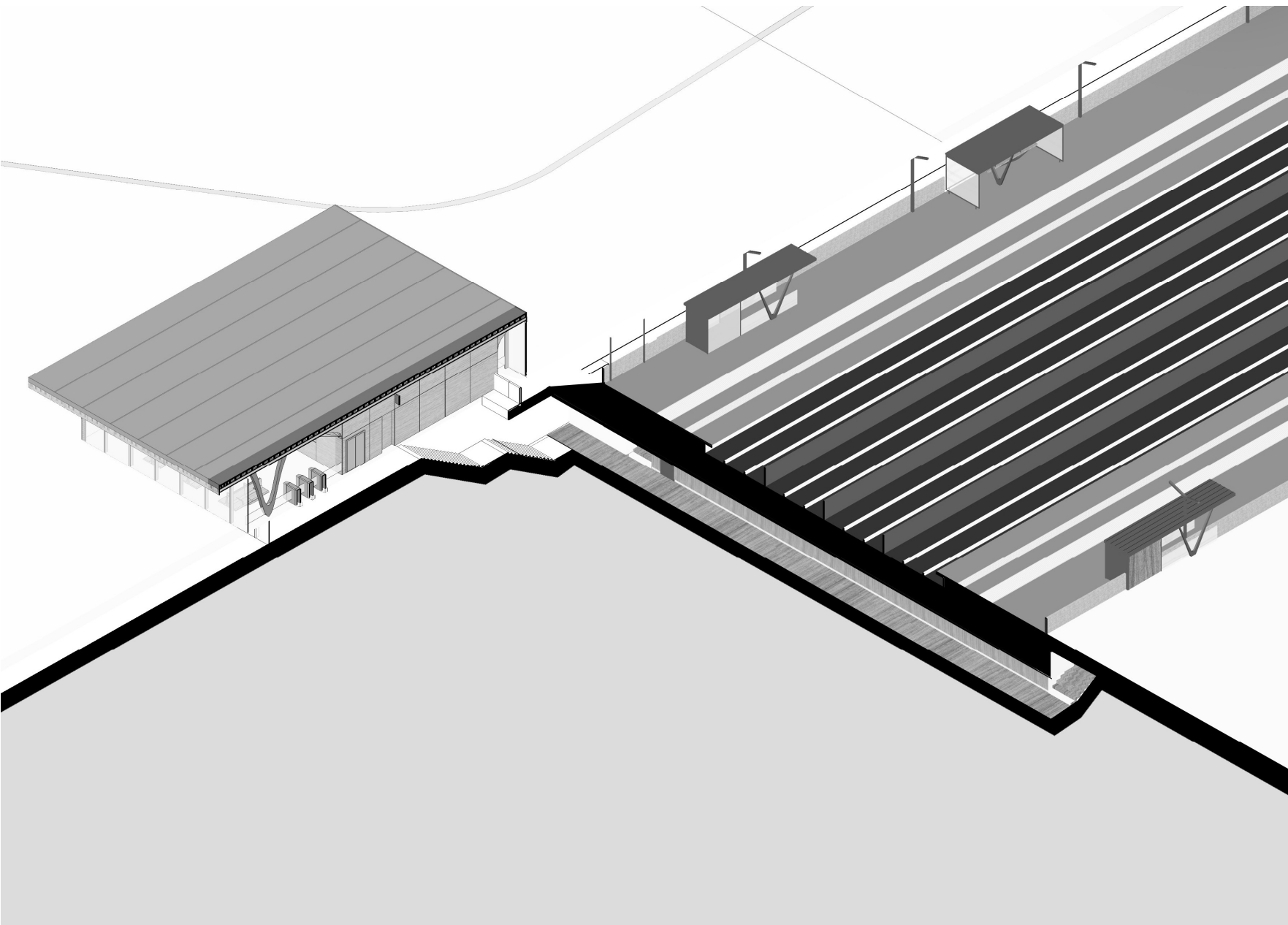
As the passage under the tracks can be the first interaction with a station, it is important for it to be designed in a way that contributes to a positive and welcoming ‘first contact’. Through judicious use of materials and lighting, as well as elements of artistic inspiration, the passage can give travellers the best possible first impression and give a station and the town/city a distinct identity.

Note
Plan of station with underpass inside the building is at page 18.

Layout

Type C Overview

Commented [TA27]: I would propose to delete the triangle from this page in order to keep the similar approach with previous pages

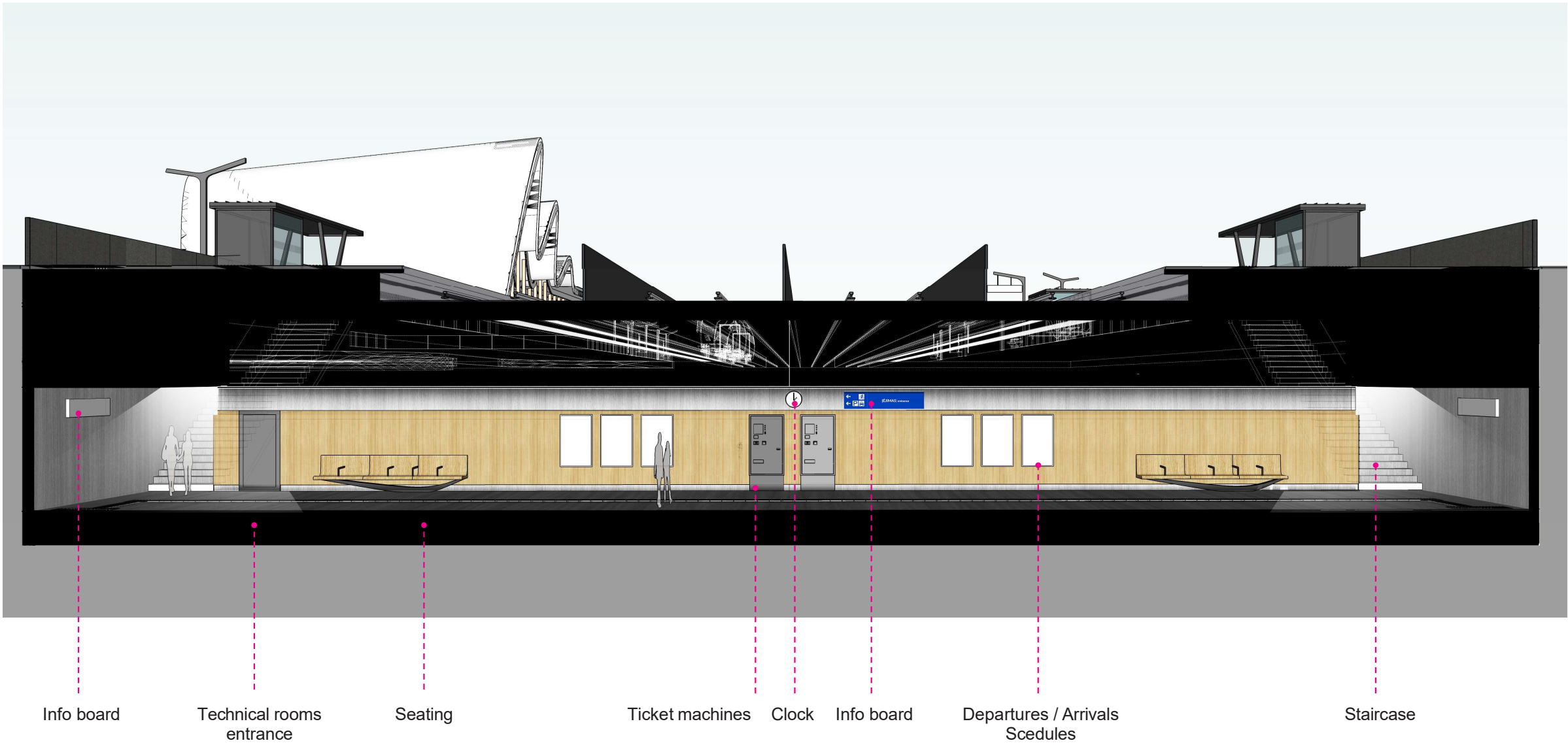


Layout

B2.3

Longitudinal Section

Commented [JK28]: There are no technical rooms in underpass tunnel

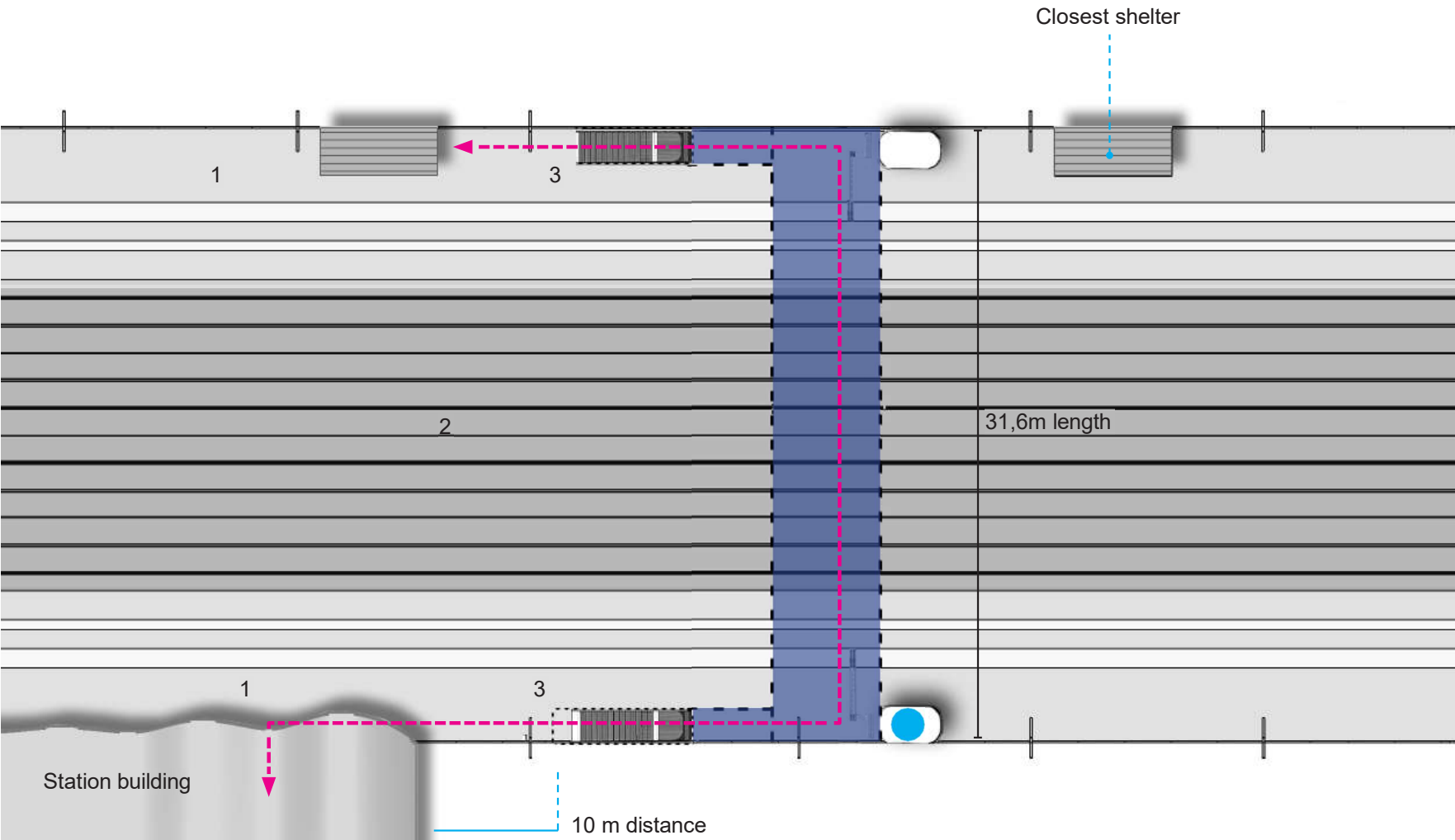


Note:
The longitudinal section is indicative.

Layout

B2.3

Route



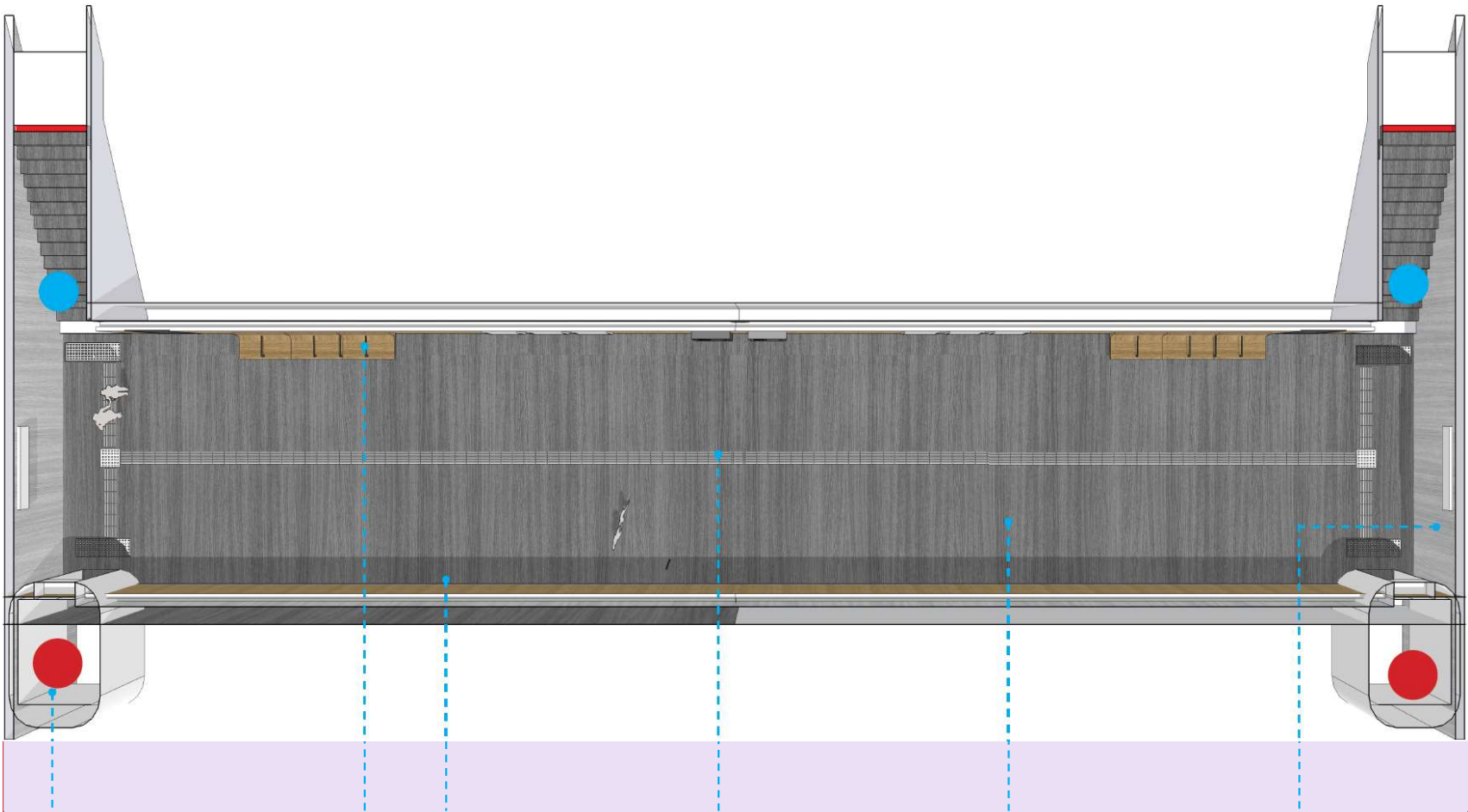
Note:
The general concept of underpass route is indicative. Detailing shall be carried out during the design process considering the site-specific aspects and agreed with the Client.

- Legend**
- 1. Platform
 - 2. Tracks
 - 3. Underpass entrance
 - 4. Elevator

- Flow of passengers
- Underpass Floor
- Elevator

Layout

Underpass level

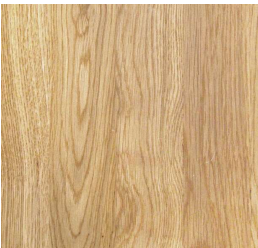


Legend

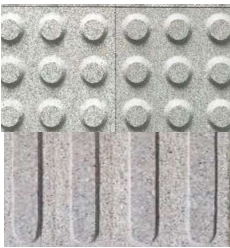
- Elevator
- Staircase entrance



Metal Cladding
Lift



Wood material



Light Grey Concrete



Walkway Dark
Grey Concrete



Light Grey Concrete

Commented [EB29]: JK: Tactile path should be amended and should lead also to stairs.

Commented [DJ30R29]: Picture corrected

Note:
The underpass section is indicative.
Detailing shall be carried out during the design process considering the site-specific aspects and instructions of local legislation.

Layout

Cross Section

B2.3

Tracks

~200 cm

Upper slab
according structural design

min. 300cm

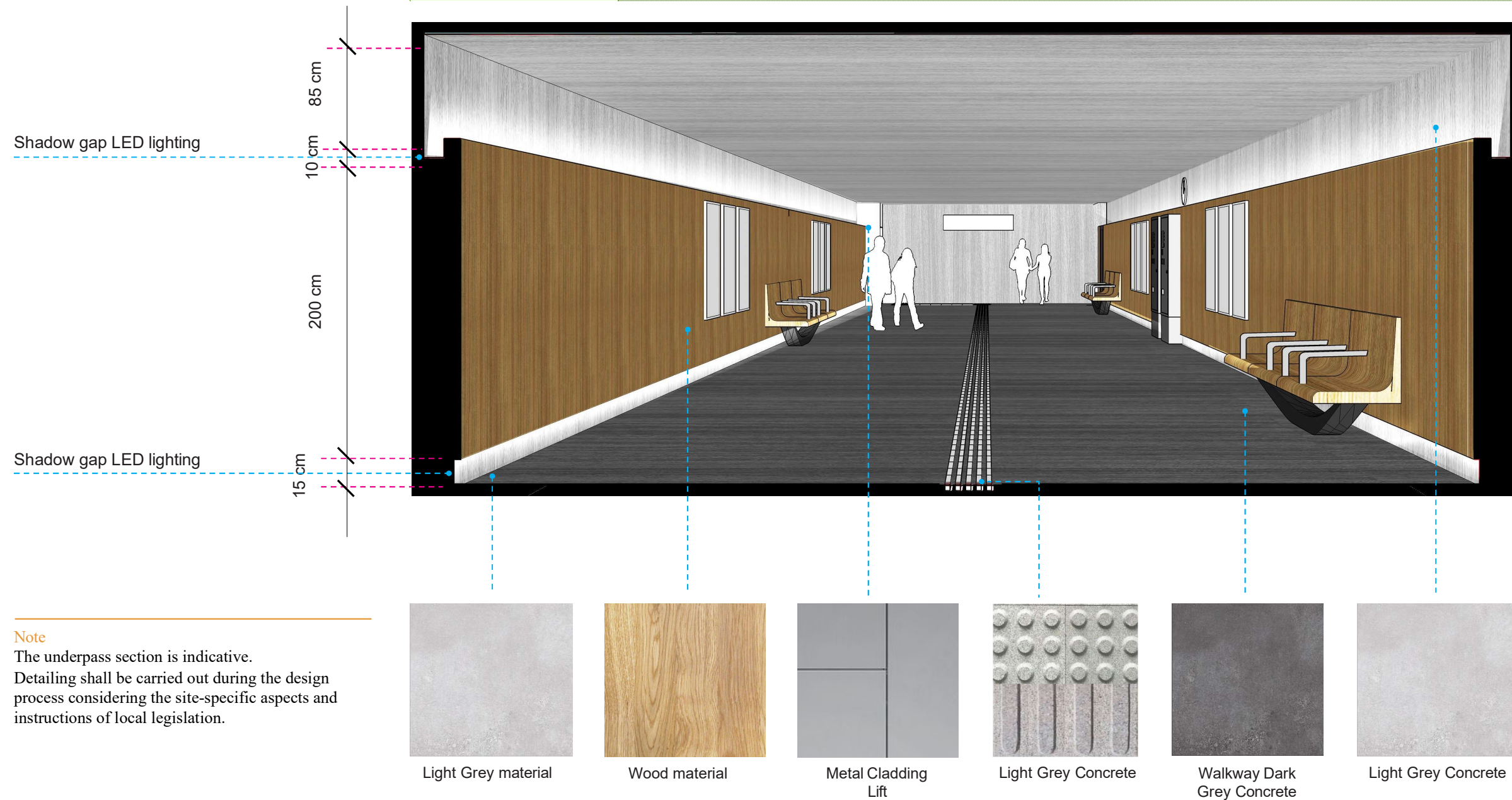
Walkable tunnel
min. 300cm till the finished ceiling surface

Foundation slab
according structural design



Layout

Cross Section



Commented [JK31]: Is the shadow gap necessary? It is quite unpractical solution, where lots of dust and debris will form. Also the LED lighting in gaps will be only for mood lighting as these will most definitely not fulfill tunnel illumination requirements.

Perhaps leave open whether wood could be installed from floor surface until tunnel ceiling

Note
The underpass section is indicative.
Detailing shall be carried out during the design process considering the site-specific aspects and instructions of local legislation.

Layout

Zoning

Implementation of functional stripes (areas with benches) in the underpass shall be evaluated case-by-case and agreed with the Client.



Note
The underpass zoning is indicative. Detailing shall be carried out during the design process considering the site-specific aspects and agreed with the Client.

Floor space for users of passenger information

Space free of any obstacles min. 160 x 240 cm on floor

Floor space for users of passenger information

Free communication space min. 300 cm

Commented [EB32]: It could be discussed if functional stripes with benches are required - if they can be removed, then width of underpass can be also reduces which leads to CAPEX and OPEX savings.

Commented [DJ33R32]: Suggestion included

Commented [JK34R32]: Do I understand correctly, that station owner can choose whether to take into account separate bench area space or not? If not, then tunnel width could be reduced and no seating will be provided.

Materials

B2.4

Overview



Coloured Standing Seam Metal Roof

Panoramic Glass enclosure

Light Grey Concrete

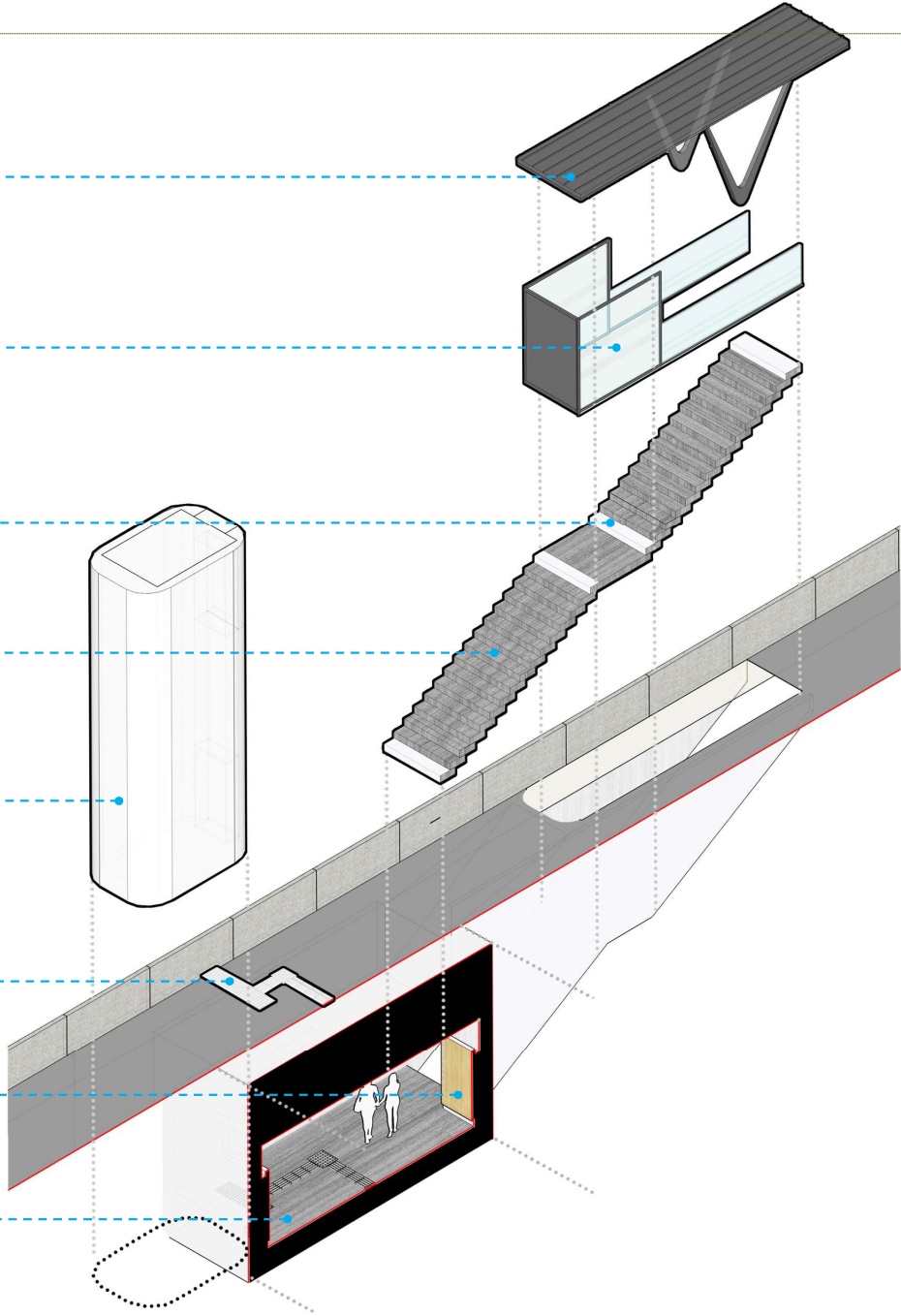
Walkway Dark Grey Concrete

Metal Cladding

Light Grey Concrete

Wood material

Walkway Dark Grey Concrete



Commented [JK35]: Is light grey concrete steps justified? Usually the staircase first and last step of the riser is marked with contrasting strip (In Estonia yellow 80 mm line) indicating danger.

Note:
The general concept of materials is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Platform

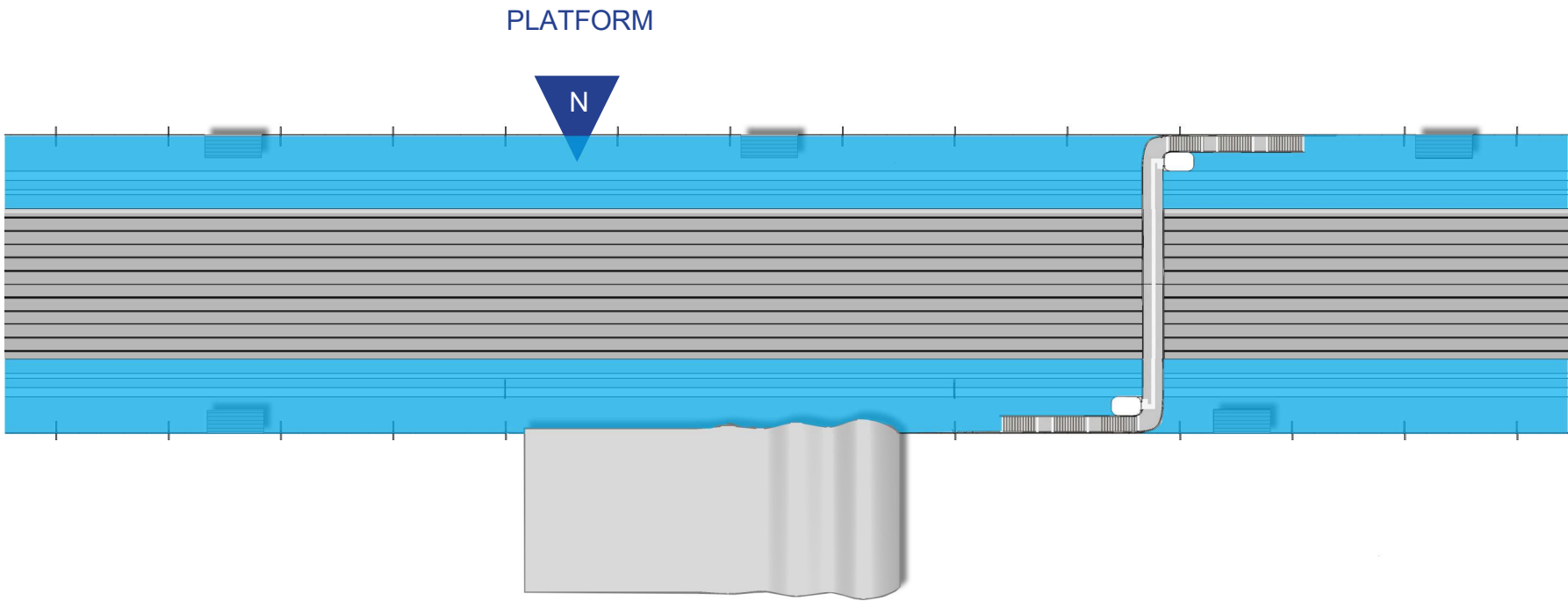
B3






- B3.1 Matrix
- B3.2 Layout
- B3.3 Floor
- B3.4 Shelter
- B3.5 Lighting
- B3.6 Signage and Wayfinding
- B3.7 Furniture
- B3.8 Universal Design




Matrix

B3.1

Identity Matrix



-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Platform surface	  		

Layout

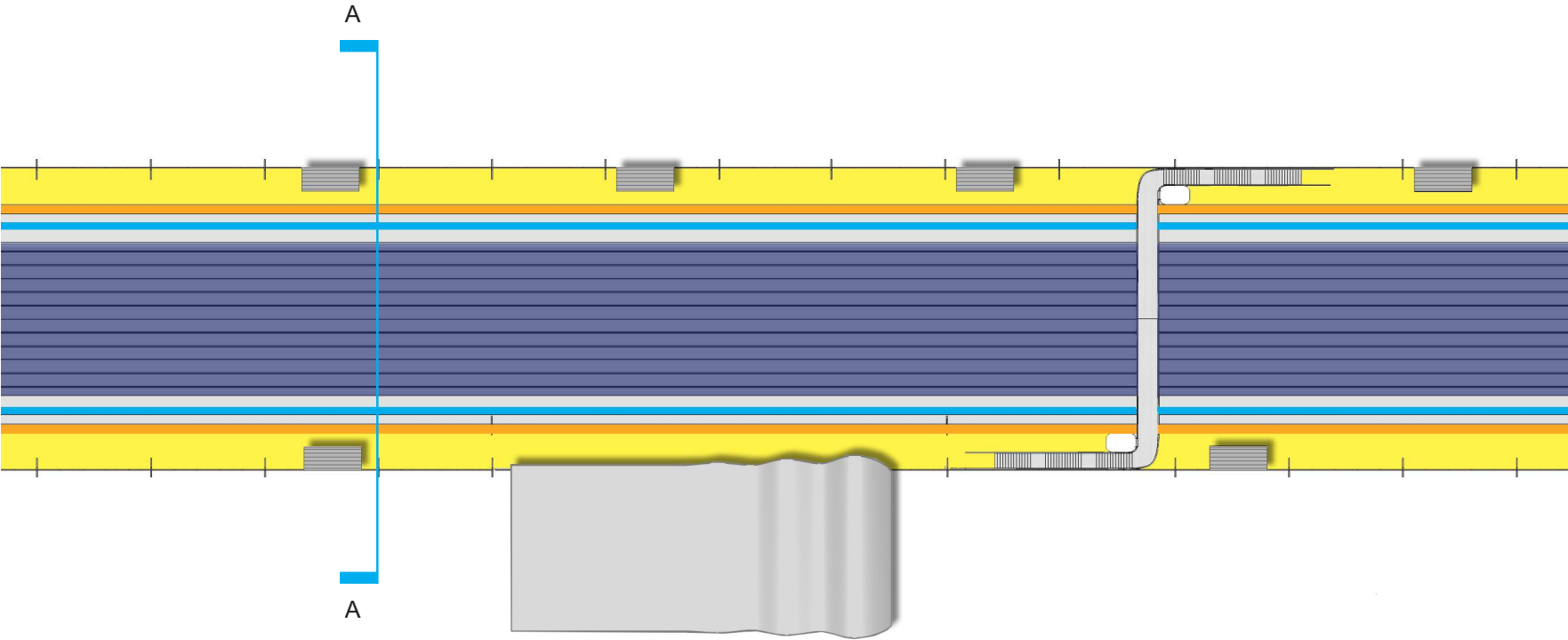
B3.2

Zones

The platform floor is an important part of a station’s spatial layout. The floor should have a pleasing overall design and help passengers understand how the platform should be used. It should include protective zones from the track area and guide paths

All floor surfacing should be even, firm and non-slip. The platform floor should have a well-maintained impression and must be installed with care.

Simple concrete paving flags/blocks provide higher quality, longer durability and lower maintenance costs than an asphalted surface. Adaptation to fixtures such as poles etc. by cutting plates, should be taken into consideration in the material selection.



Legend

- Rail track zone
- Safety zone
- Furniture zone
- Walking Zone

Layout

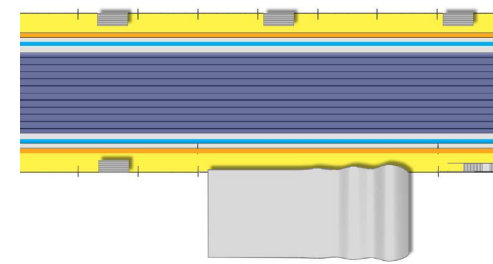
Zones Layout



The platform is divided into different zones. On the platform, pedestrian areas and furniture zones can determine whether the platform roof is supported by one or two pillars in case such structure is foreseen in the design. Pedestrian areas must include guides in order to assist people who are visually impaired. The width of pedestrian paths and/or areas shall be determined based on legal requirements.

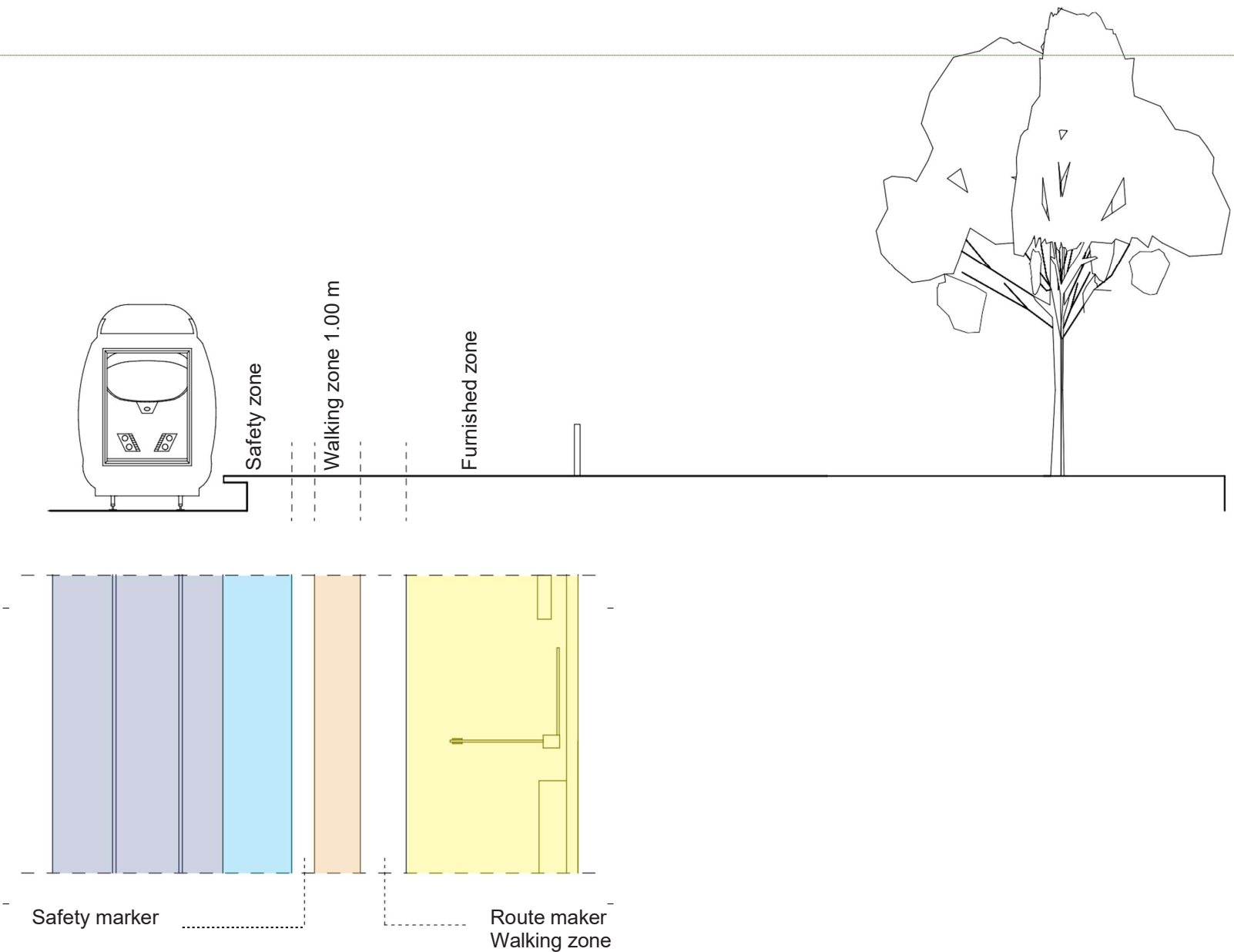
A buffer zone gives the traveller a clear warning that they are close to the tracks. Buffer zone width is determined by the highest speed of passing trains.

The boundary between the platform and the surrounding area is must be clear. This could be done by the installation of a wall or canopies in the boundary. Towards the tracks, there must always be a safety zone with a tactile warning line.



Legend

- Rail track zone
- Safety zone
- Furniture zone
- Walking Zone



Commented [JK36]: The zone layout seen in this page does not correspond to the one seen in page 99. In page 99 it is: Safety zone > Safety line > Buffer > Walking zone > Furniture zone.

Page 98 zone is missing buffer zone. Also page 98 indicates route marker, which in page 99 is considered walking zone, meaning page 98 walking zone is not the same like page 99 walking zone.

Solution would be to change the page 98 walking zone to "Buffer zone" and adding "Walking zone" under the text "Route marker"

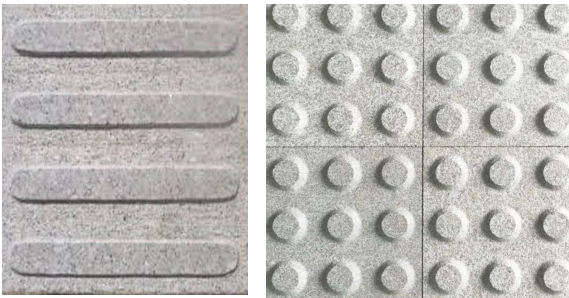
Commented [JK37]: What platform roof?

Layout

Zones Layout

The boundary between the platform and the surrounding area is often vague. This boundary must be made clear in terms of liability and safety issues and brought into specific relief. This could be done by the installation of a wall or canopies in the boundary. Such measures shall, inter alia, ensure that no vehicle accidentally runs onto the platform, with the risk of falling down onto the track. They also act as control tools, making the traveler flows between the platform and the surrounding area clear.

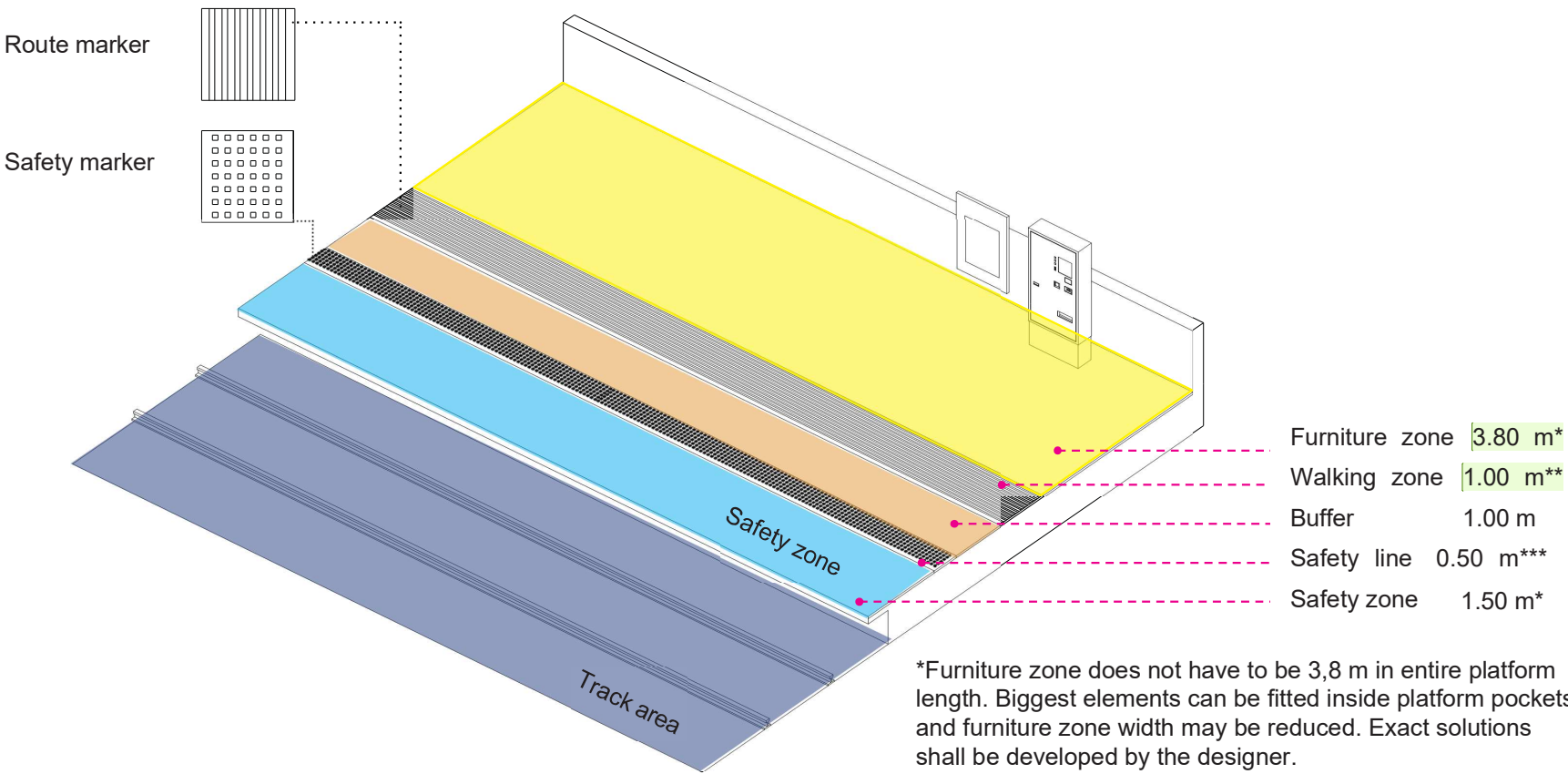
Safety zone, safety line, buffer zone and walking zone must be designed with dimensions indicated in the drawing. Furniture zone dimensions may be reduced dependent on forecasted passenger flow and type of the station. In cases when furniture zone dimensions are decreased and requirements of the PRM TSI cannot be met, furniture and shelters must be placed in platform pockets.



Light Grey Concrete Tiles

Material and color

Tactile should be easy to detect due to the high visual contrast with the floor. Light grey colour was used to ensure this contrast with dark grey floor. Concrete tiles should be non-slip even in moist conditions, they should be wheelchair-friendly and eliminate the tripping hazard. Materials should comply with relevant requirements of ISO 21542 and ISO 23599.



*Furniture zone does not have to be 3,8 m in entire platform length. Biggest elements can be fitted inside platform pockets and furniture zone width may be reduced. Exact solutions shall be developed by the designer.

**Width of tactile path shall be determined based on legal requirements.

***Platform safety

***Platform safety zone and safety line together (2m security area) may be reduced till 0,8m if the foreseen maximum speed of passing by trains with good aerodynamic profile does not exceed 100km/h. The width of pedestrian paths and/or areas shall be determined based on legal requirements.

Any decision to reduce Platform security area shall not create speed restriction or loss of railway operational functionality on the mainline.

Commented [JK38]: During the regional station platforms design works we have opted for more CAPEX and OPEX friendly solutions by adding platform pockets. Platform pockets are approx. 100 m long and accommodate waiting shelters and overpass/underpass. Rest of the platform is narrower and those parts only accommodate benches. The solution is logical and eliminates the necessity to have full width in entire platform length.

Therefore I would add a "*" behind the furniture zone with following sentence: "Furniture zone does not have to be 3,8 m in entire platform length. Biggest elements can be fitted inside platform pockets and furniture zone width may be reduced. Exact solutions shall be developed by the designer"

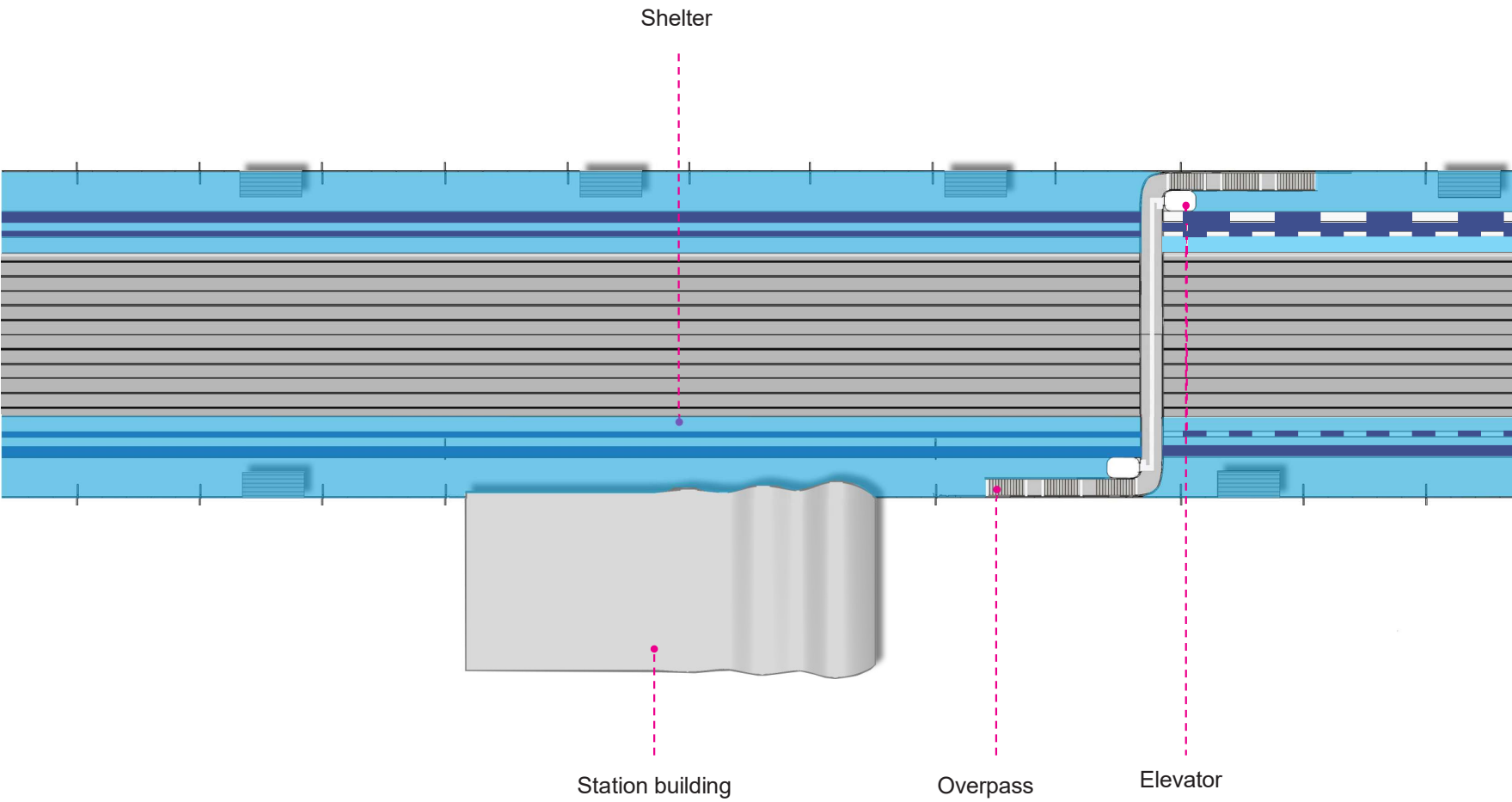
Commented [JK39]: Tactile path width of 1,00 m is not justified and does not correspond to any relevant standard/legislation/ISO or guidance from the Visually Impaired Organization. Recommendation to showcase 300 mm wide tactile path, which is good practice and aligned with many standards/ISO etc. For example ISO 21542 and 23599.

I would also add "*" behind the walking zone with the following sentence "Width of tactile path shall be determined based on legal requirements"

Floor

B3.3

Overview



Note:
The indicated floor concept is general approach.
Detailing shall be carried out during the design
process and agreed with the Client.

Legend (for general indication)

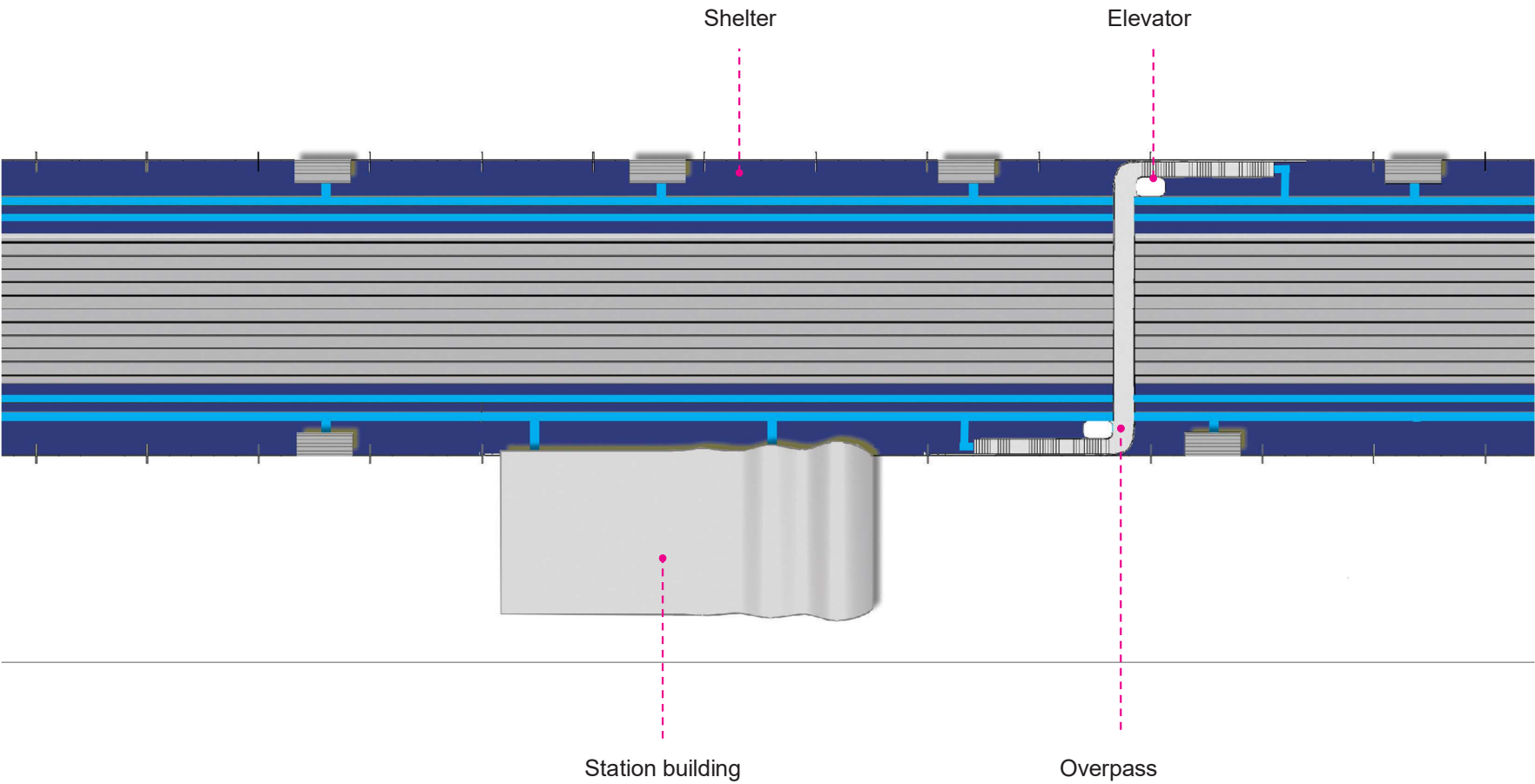
- Tactile paving
- Concrete paving flags/blocks

Floor

B3.3

Tactile

The image shows the location of tactile routes on the platform and the division of the platform paving and tactile marking. Tactile route is provided along the whole length of the platform.



Legend

- Dark grey concrete platform paving flags/blocks
- Light grey concrete tactile tiles

Floor

B3.4

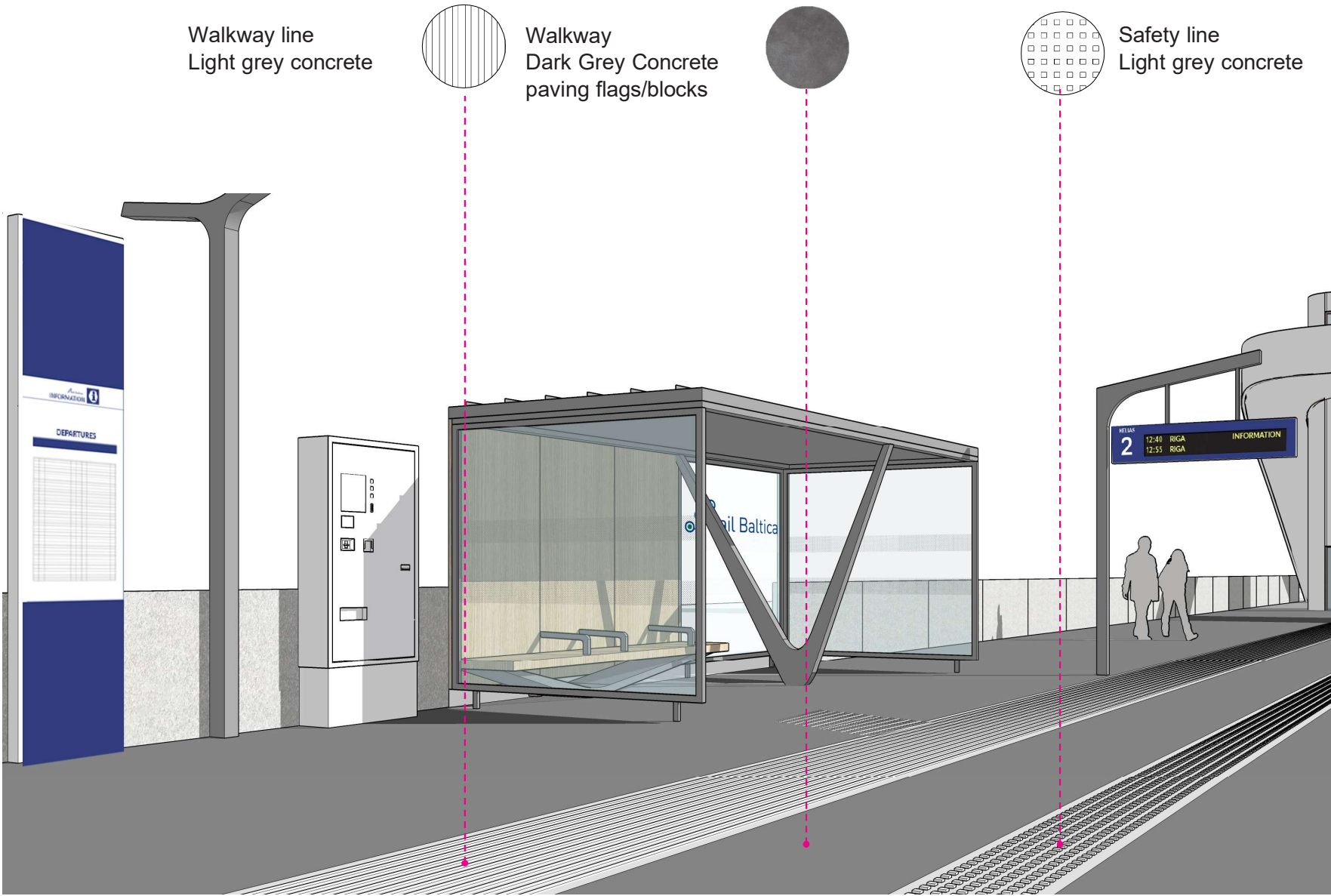
Materials

The platform is a space where travellers can stay for shorter or longer periods of time. Platform floor must help the traveller understand how the platform is to be used. It must include a safety zone in relation to the track area and guide paths for the visually impaired.

A floor should provide a pleasant experience must be able to satisfy the basic requirements for safety and accessibility. A design that uses a few good materials can contribute to a good entity and a facility that lasts over time and is optimised for efficient operation and maintenance.

Note

The platform floor must be designed according to all safety and accessibility requirements, whilst being a well-designed and coherent surface.



Shelter

B3.4

Identity Matrix

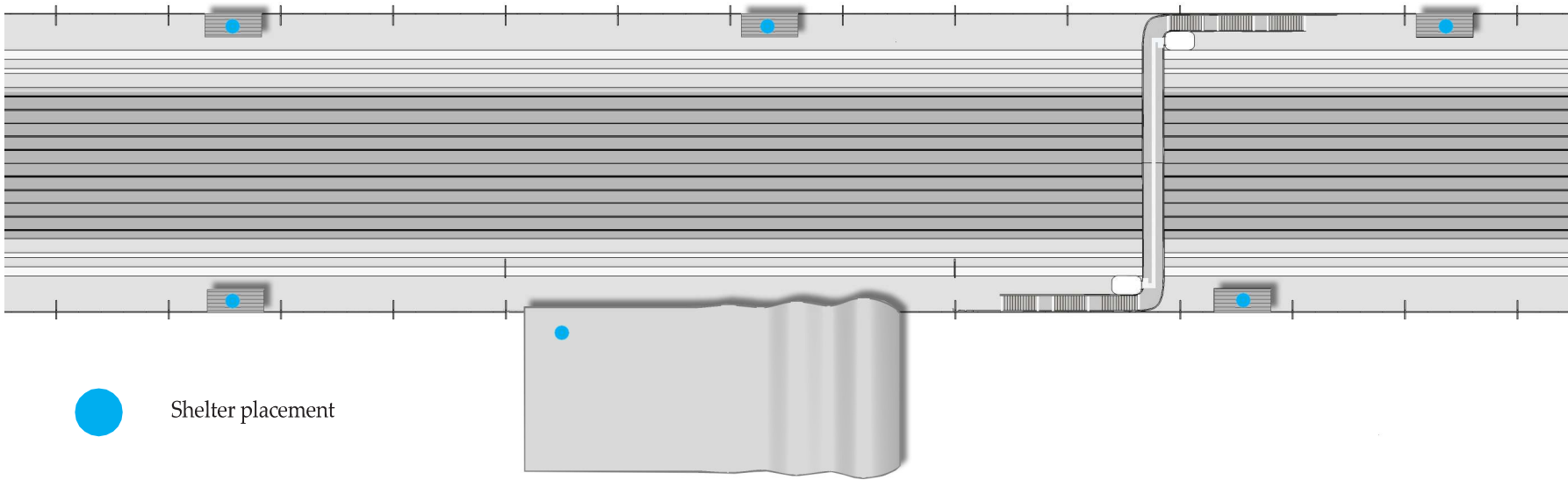
Number of shelters on the platform is design to fit maximum number of passengers at the same time at the peak hours.

Station Type II 6 shelters per platform

Station Type III 4 shelters per platform.

Station Type IV 3 shelters per platform.

*If station building is located next to platform and in the same level as platform, it can be considered as a shelter



Material



Geometry






Modularity



Color



Vegetation

	N	C	R
Shelter	 		

Shelter

B3.4

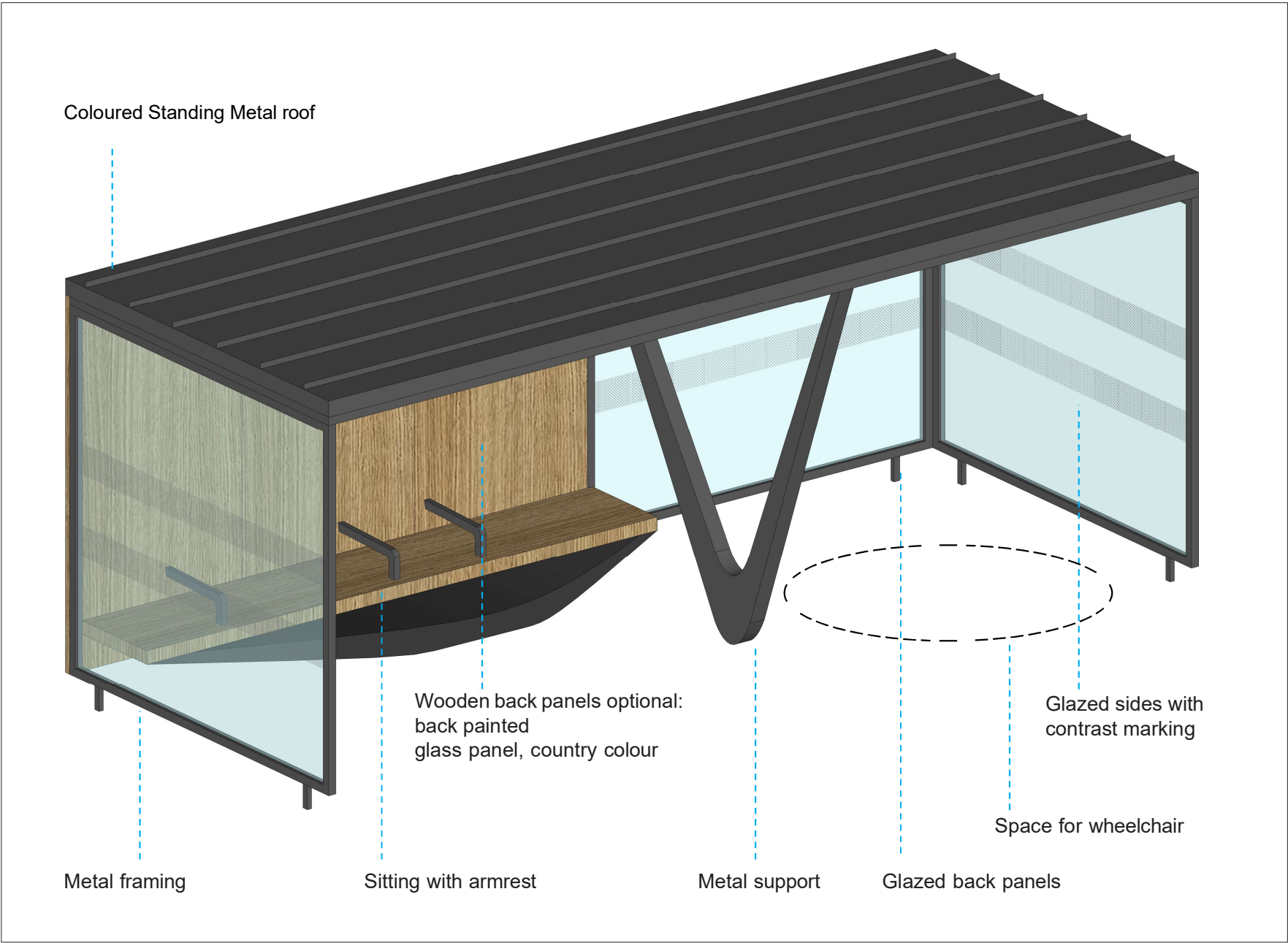
Overview

Shelters must be available at all stations. Waiting areas may be located adjacent to the platform connection from passages above or below tracks. This makes the waiting area the point at which the traveller interacts with the platform.

Standalone waiting areas on platforms must be transparent, provide space for wheelchairs and be designed, illuminated and furnished to provide a warm and welcoming impression. All categories of traveller must be able to use these waiting areas throughout the day and to feel comfortable.

Shelters on platforms must be designed to provide open and unheated protection against rain and wind. Shelters must be transparent in order to allow travellers to see into the shelter and to see the platform and arriving trains. Shelters may have openings to the tracks, to the middle of the platform, or both, depending on the width of the platform and how flows and other furniture are organised.

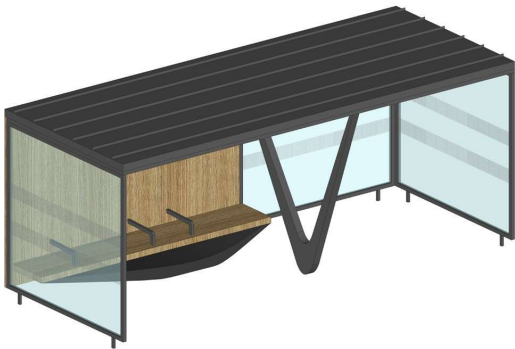
The areas should be well illuminated to create a sense of security and overview. Shelters must be constructed in dimensions strong enough.



Commented [JK40]: There is no triangle in this page. Is this intentional? Some other pages were missing as well

Shelters must be available in different sizes, depending on the size of the station. The smallest shelters can consist of a canopy with two glass panels on the sides, while the larger ones should be wider and have glass-panelled walls on several sides.

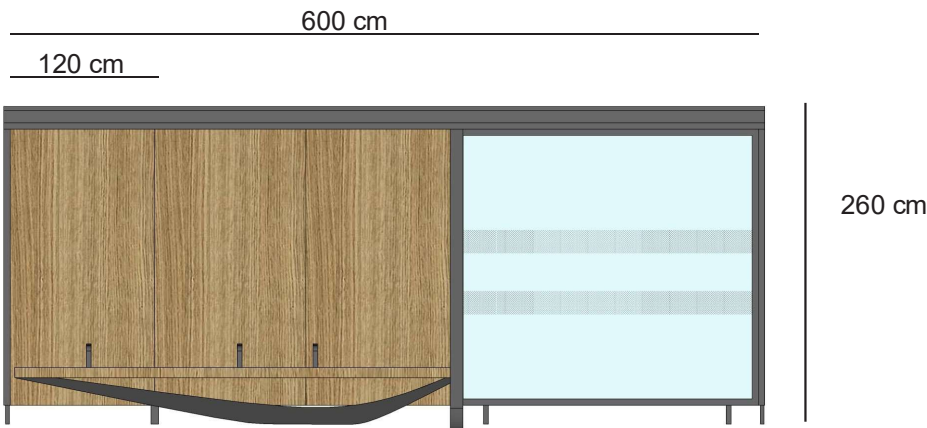
Shelters are designed on the module of 120cm and can be adjusted by adding or subtracting 120cm module



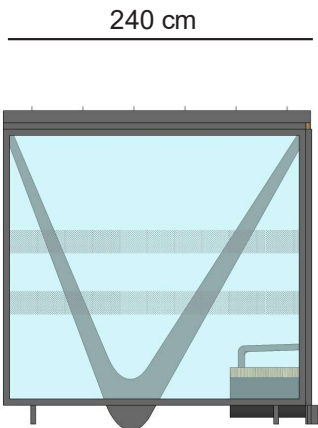
Note:
The geometry of the shelter is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Shelter

Geometry



Front elevation



Side elevation

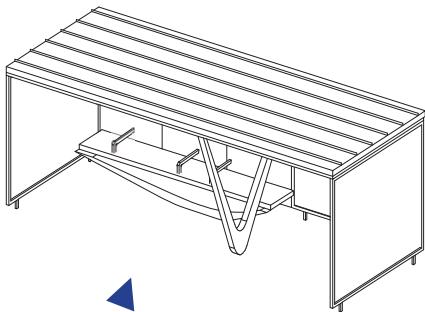


Back elevation

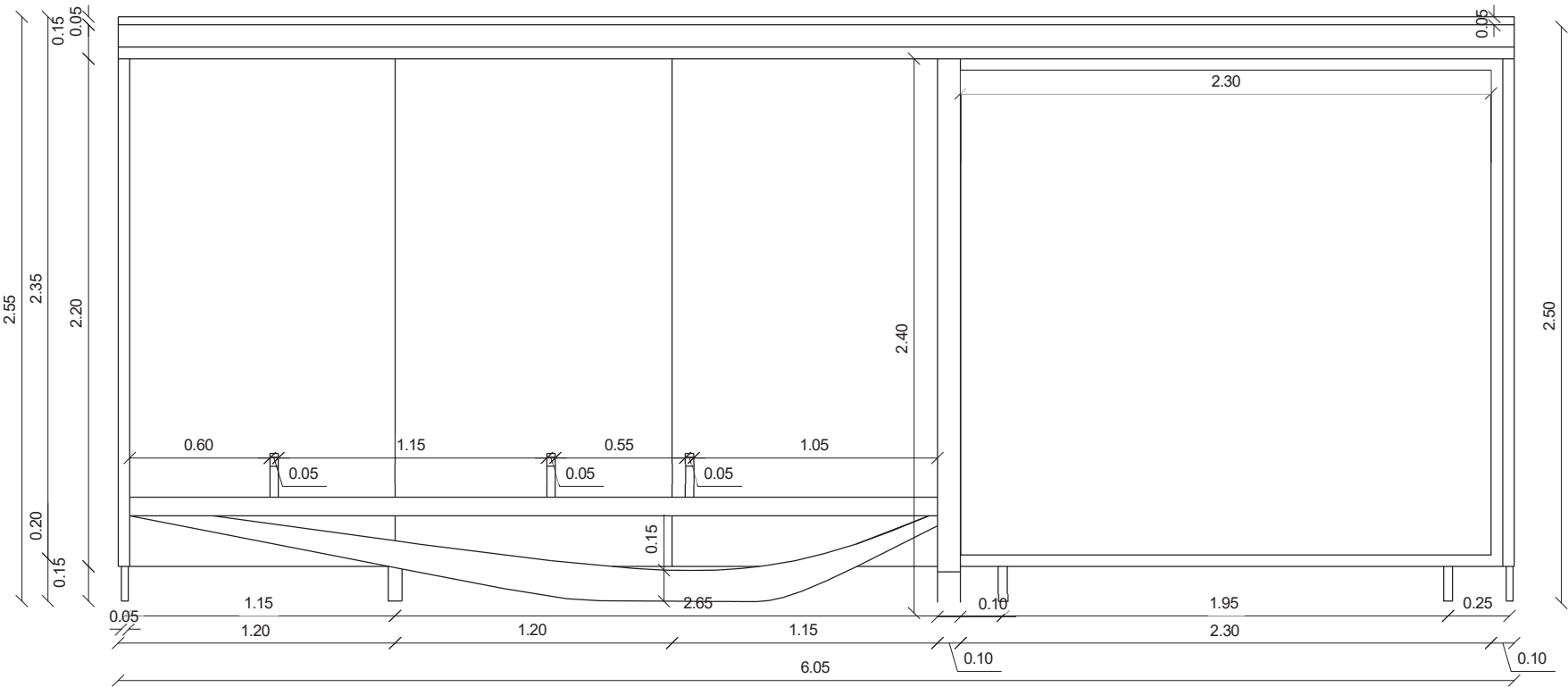
Shelter

Geometry

B3.4



Note:
The geometry of the shelter is indicative. Detailing shall be carried out during the design process and agreed with the Client.



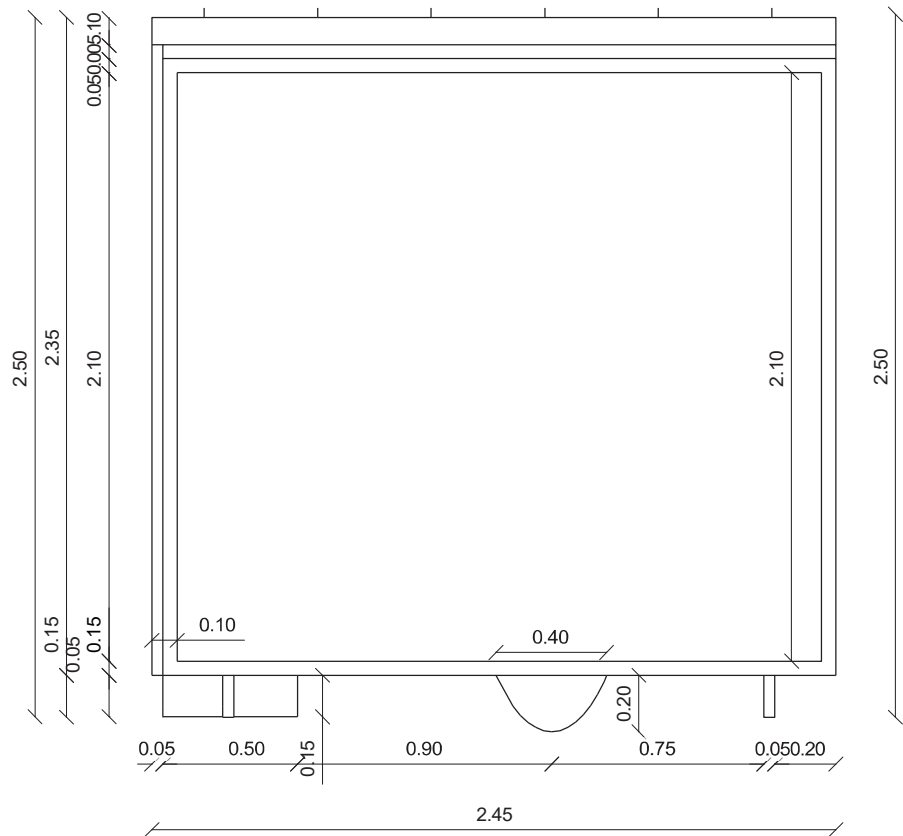
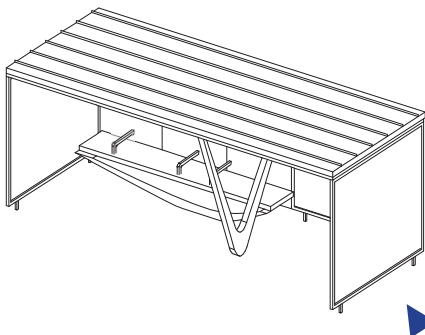
Front View



Shelter

B3.4

Geometry

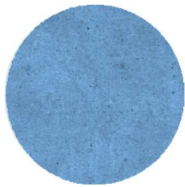


Side View

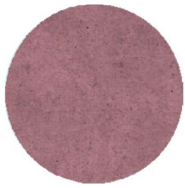
Note:
The geometry of the shelter is indicative. Detailing shall be carried out during the design process and agreed with the Client.

The branding is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Finishing 1 - Estonia



Finishing 2 - Latvia



Finishing 3 - Lithuania

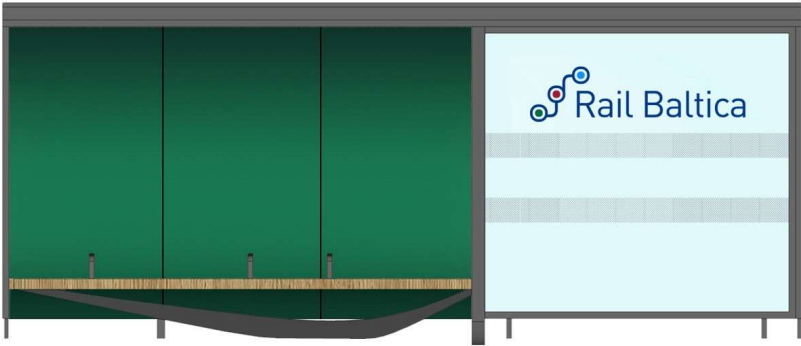
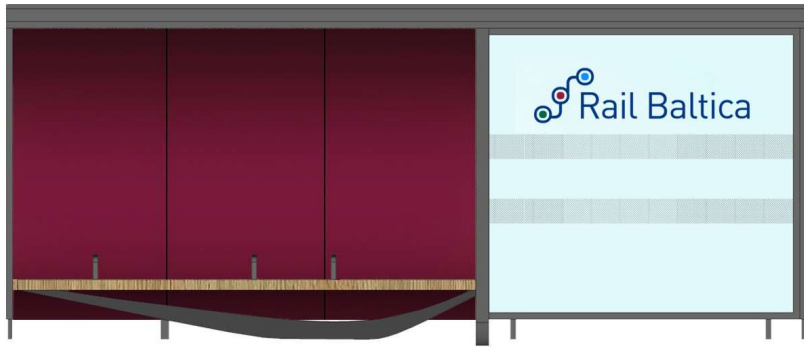
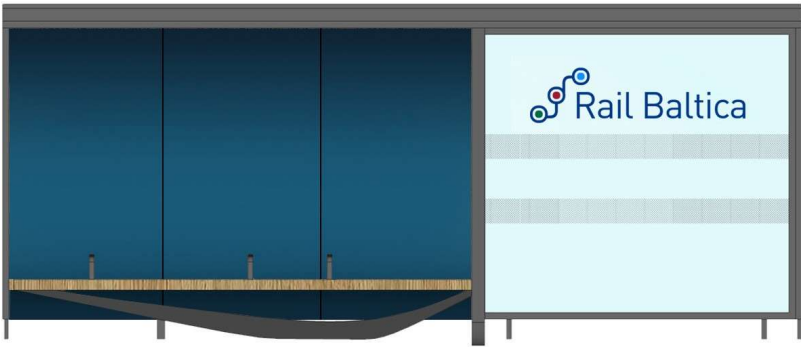


Note

For Rail Baltica visual identity instruction, please refer to *Visual Identity Guidebook*

Shelter

Identity Approach and Branding Implementation



Lighting

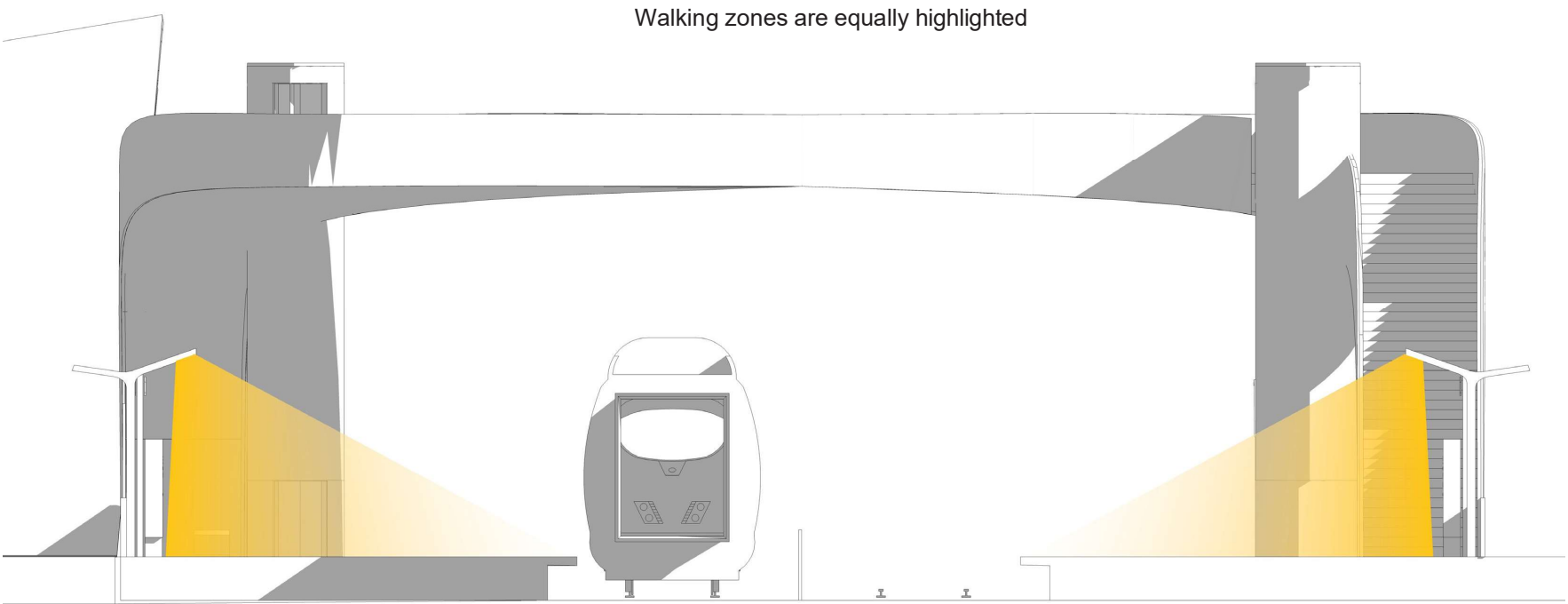
B3.5

Design principles

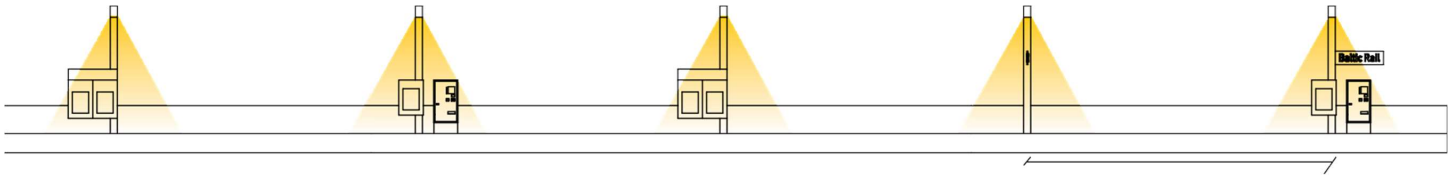
Lighting on platforms must be designed with safety and to make the platform easier to navigate for people who are visually impaired. In addition, well-designed lighting and illumination may help to create a positive impression of a station environment.

Lighting and illumination can actively promote spatial experience on the platform. Good general lighting brings together the various zones of the platform. Different functions and areas can be highlighted using supplementary lighting.

Lighting on platforms shall comply with requirements of EN 12464-1 and EN 12464-2. Applicable provisions of ISO 21542 and EN 1838 should be fulfilled.



Platform lighting design

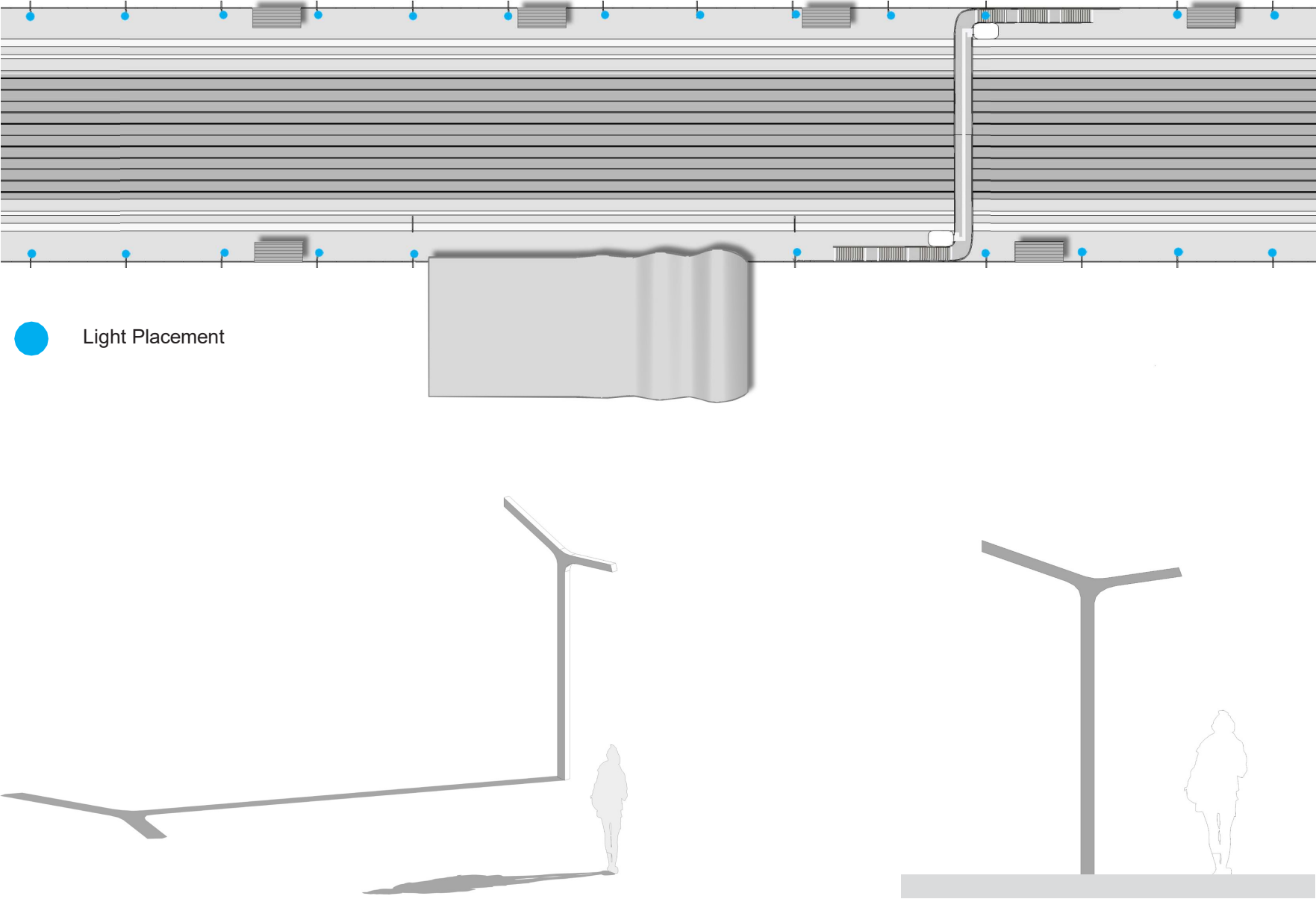


Elevation lighting principle for the platform

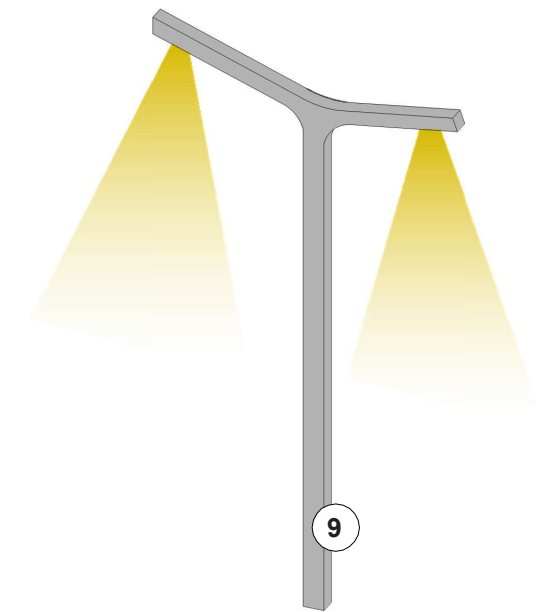
Lighting

B3.5

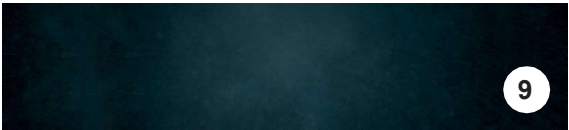
Position Strategy



Note:
The lighting geometry is indicative. Detailing shall be carried out during the design process and agreed with the Client.



Isometric View

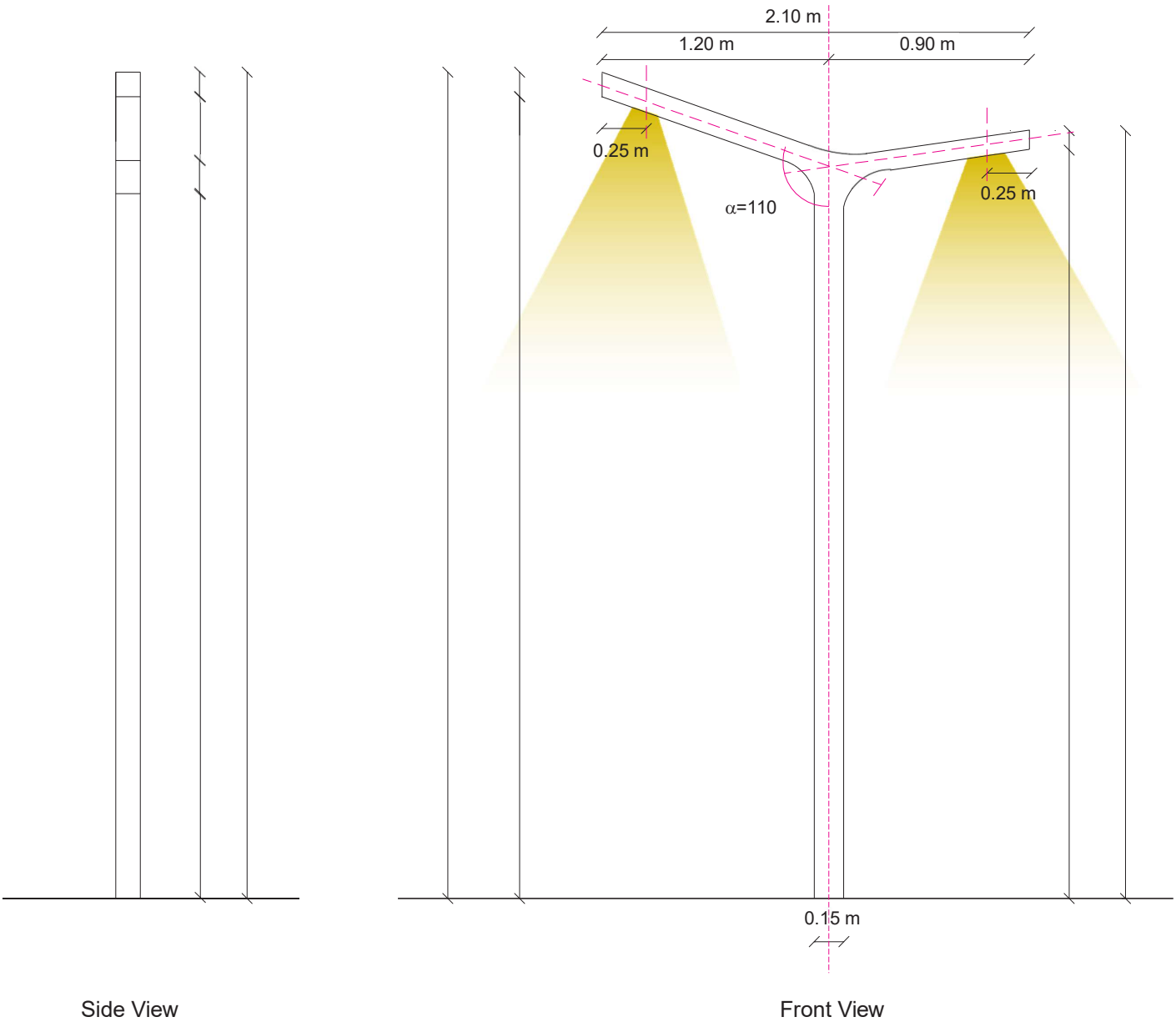


Lighting

Geometry



Commented [JK41]: The lighting pole should also me with symmetrical console arms, as it is not possible to achieve same illumination results with asymmetrical consoles



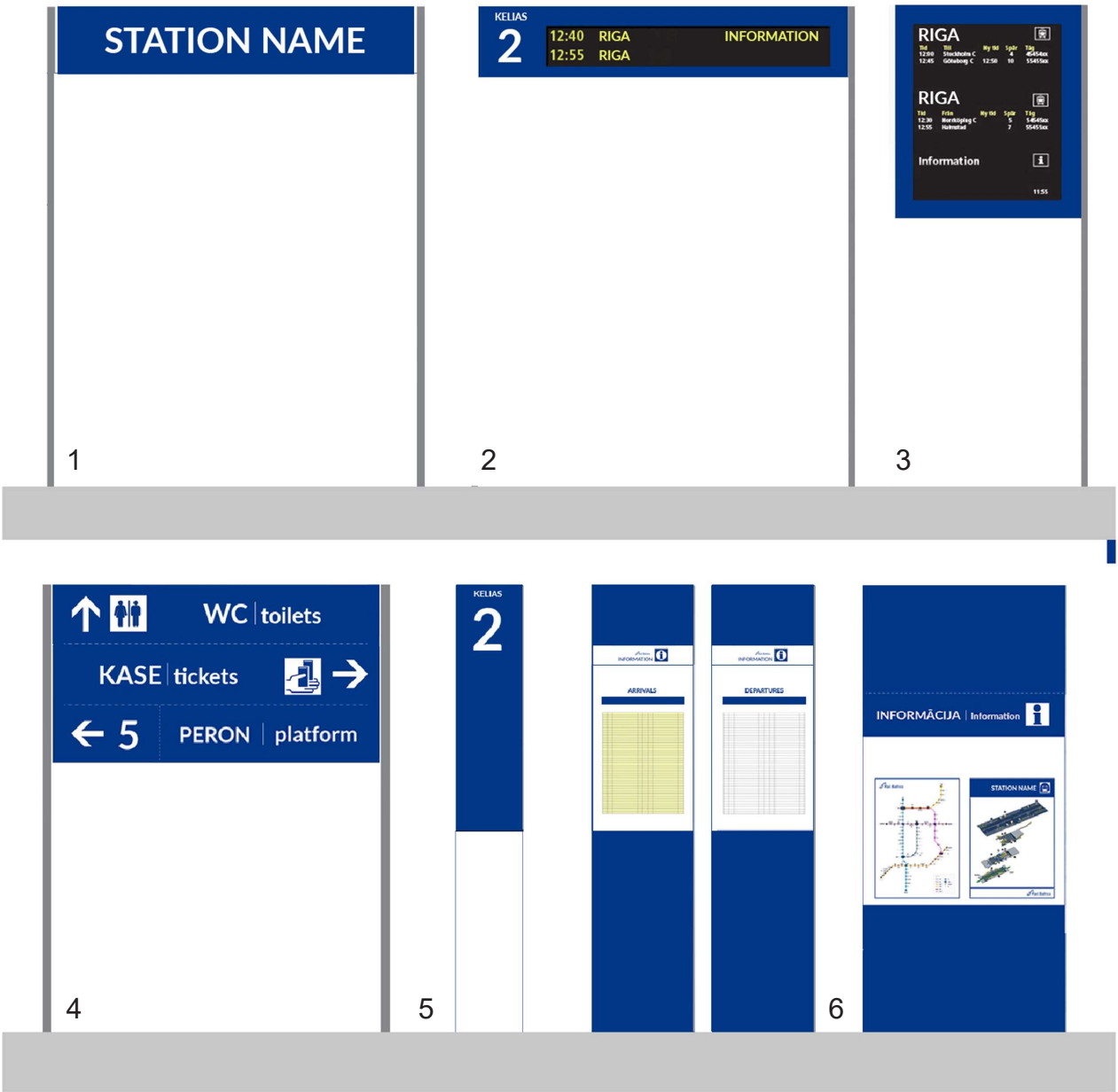
Signage & Wayfinding

B3.6

Overview

Signs on platform

Platform signs include: platform signs, multi-train displays with real time information, station name sign, track number signs, direction signs as well as loudspeakers and clocks.



Picture

- 1. Station name
- 2. Platform sign
- 3. Multi-train display
- 4. Directional Signage
- 5. Track number sign
- 6. Informational boards

Signage & Wayfinding

B3.6

Position Strategy

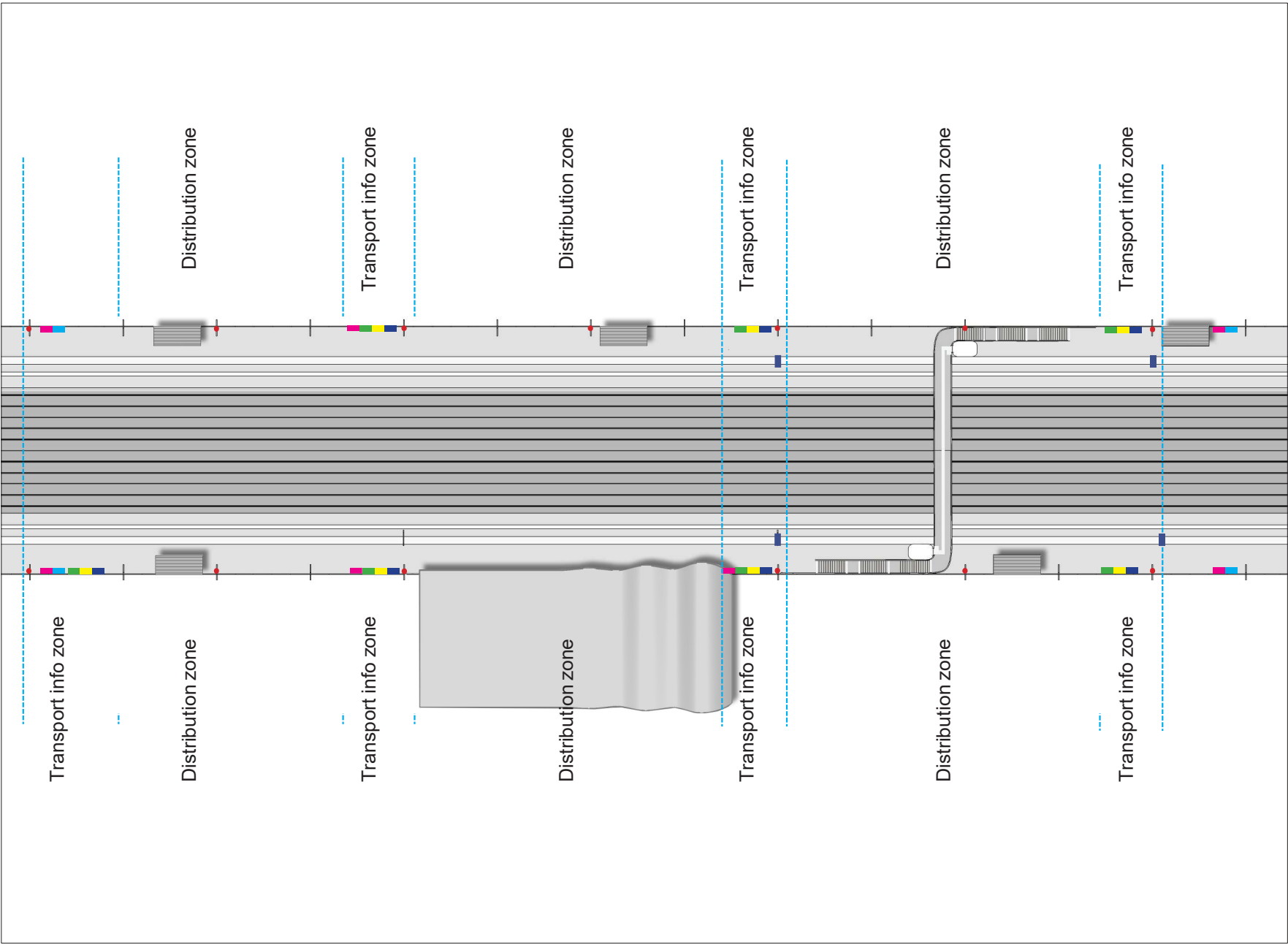
Signs on platform

It is important for the signs to be allocated in the best possible way in the limited space of the platform in order to ensure safety and accessibility. The flow of the passengers on the platform heavily depends on the location of the overpass and lifts and how many entrances are there.

Note:
The indicated positions of signage & wayfinding are informative. Detailing shall be carried out during the design process and agreed with the Client.

Legend

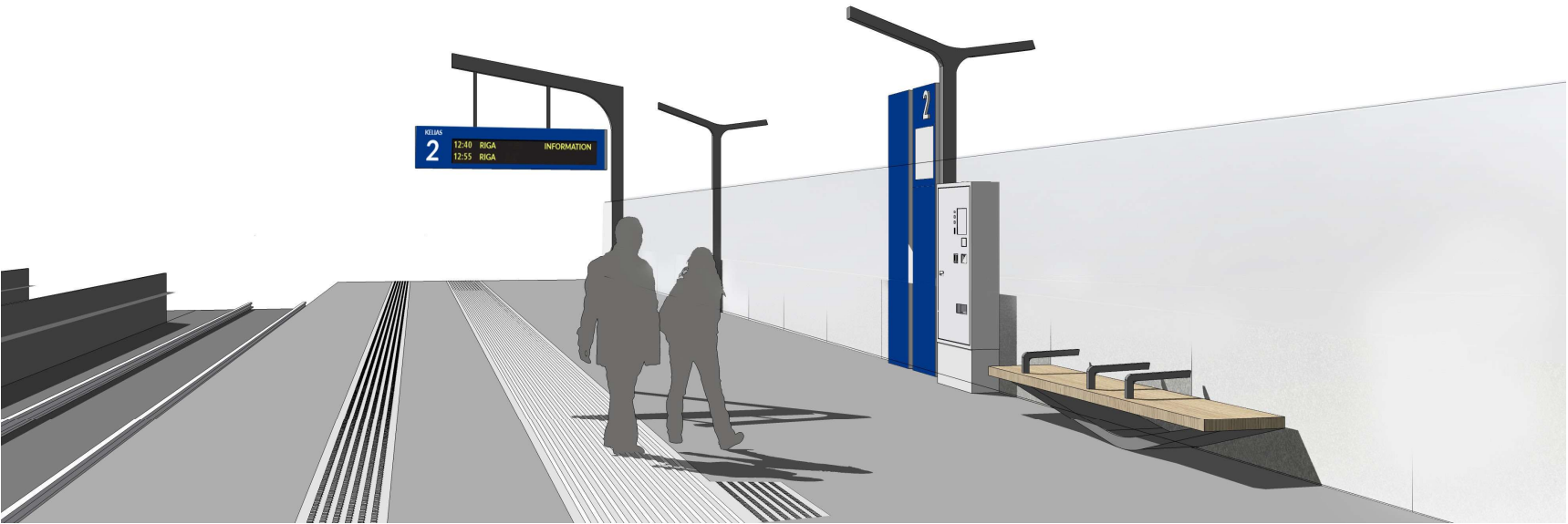
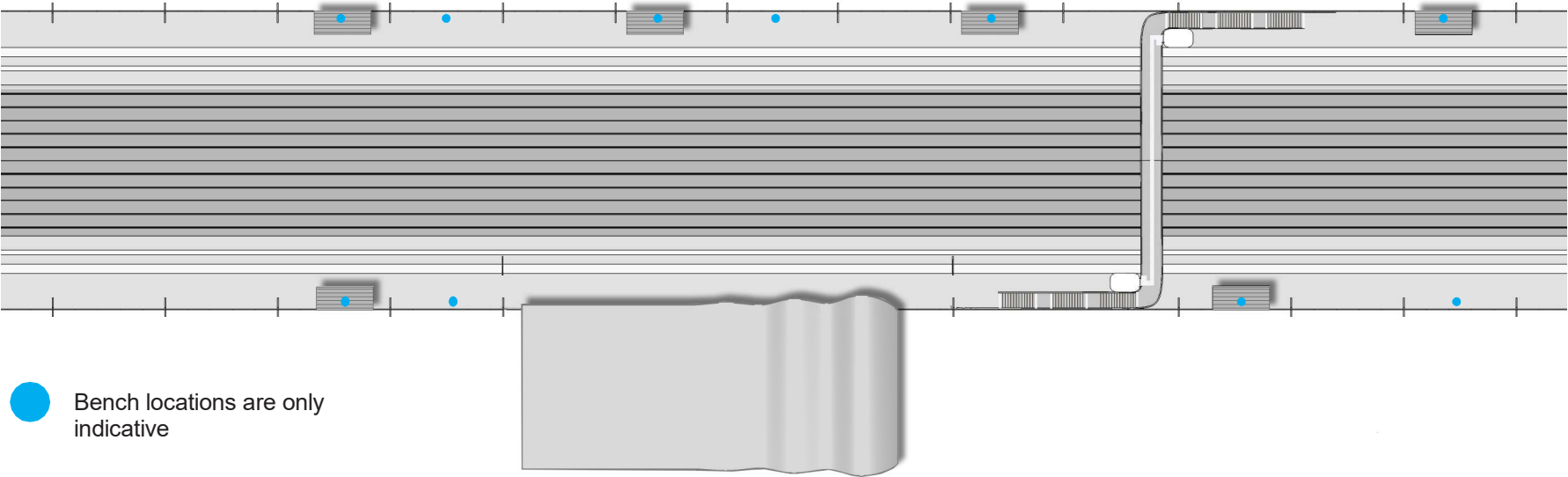
- Station name
- Platform sign
- Multi-train display
- Directional Signage
- Track number sign
- Informational boards
- Loudspeaker



Furniture

B3.7

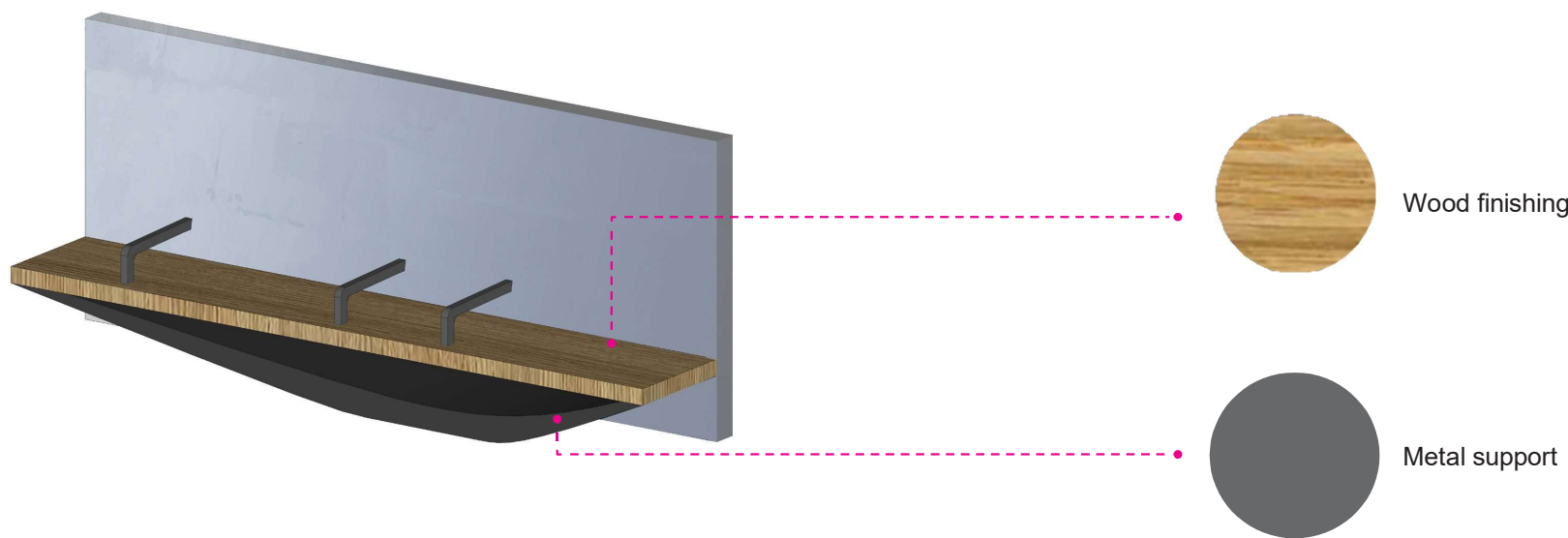
Bench Position Strategy



Furniture

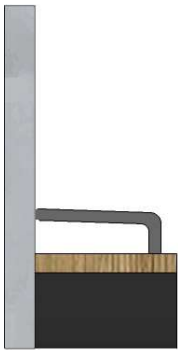
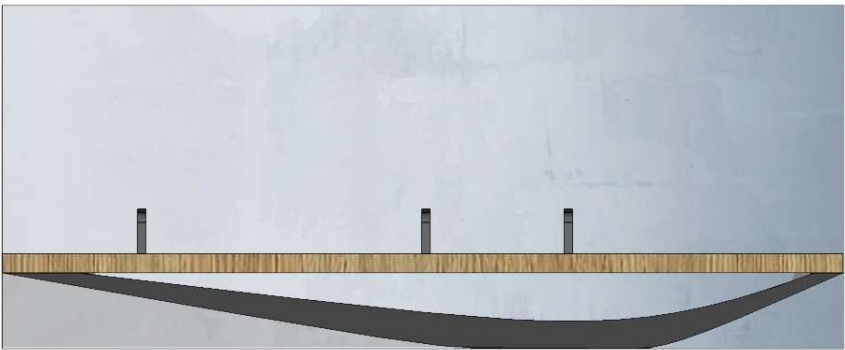
B3.7

Bench



240 cm / 355 cm

70 cm



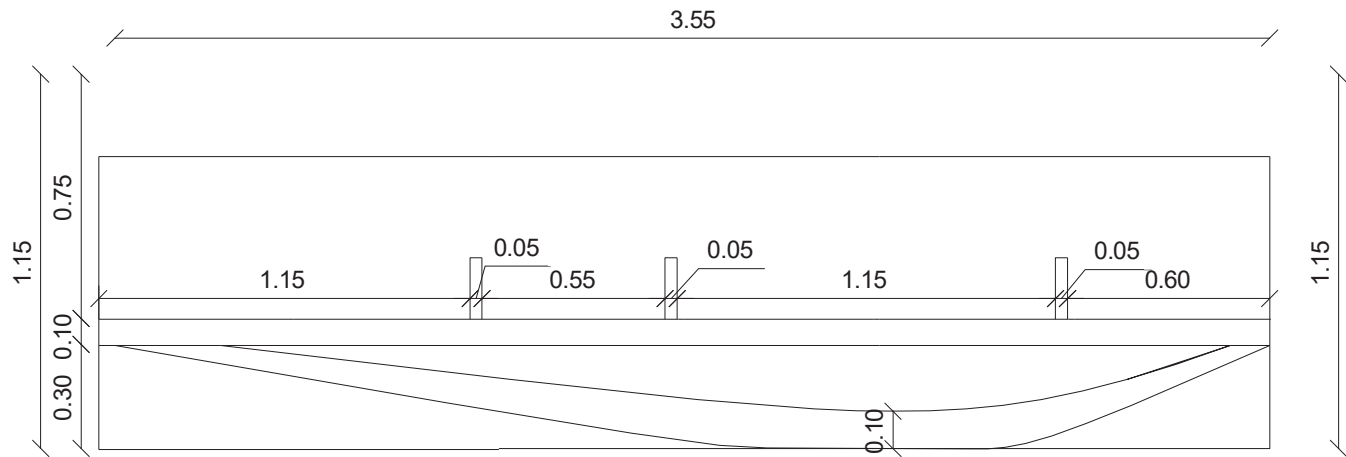
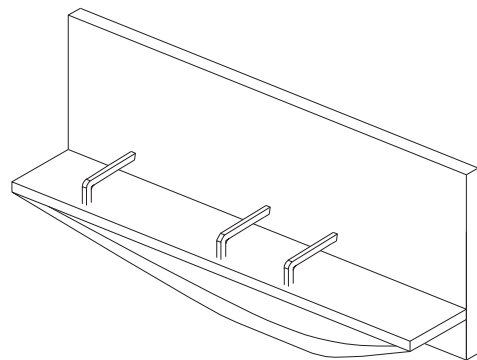
Commented [JK42]: Proposal to lose the concrete wall back support. The benches are situated next to platform fence anyway and the fence can be used as back support. The concrete wall solution is very unpracital and visually ugly

Note:
The bench geometry is indicative. Detailing shall be carried out considering the instructions from respective standards and TSI PRM during the design process and agreed with the Client.

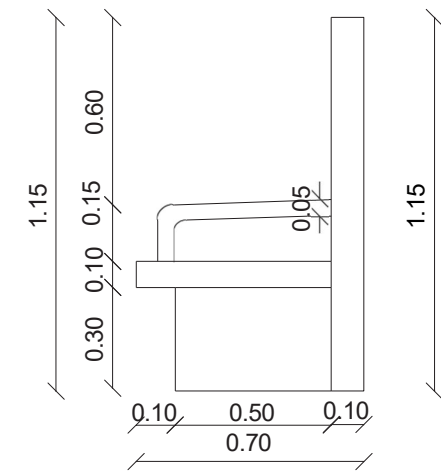


Furniture

Geometry



Front View



Side View

Note:
The bench geometry is indicative. Detailing shall be carried out considering the instructions from respective standards and TSI PRM during the design process and agreed with the Client.

Universal Design

The designed station must be fully accessible to everyone. This includes people with reduced mobility as well as:

- People moving on wheelchairs,
- People with other physical limitations,
- Visually impaired people,
- People with the elderly and children.

Station design must allow safe and collision-free movement inside the building and in its immediate surroundings. The building should also meet the highest requirements regarding the safety of travellers and clients of the Rail Baltica.

Rules of accessible design:

- A) Full adjustment of the facility and its surroundings to be used by persons with reduced mobility should be assumed.
- B) At the station building, special parking spaces for the disabled should be provided with provision of manoeuvring space.
- C) Access to the building and platforms should have an obstacle-free route.
- D) Both in the building, as well as access to the platforms, tactile routes for the visually impaired should be provided.
- E) Use as appropriate possibility of a non-threshold door.
- F) Ticket office should be equipped with counter tops with reduced height of 80-90 cm for the wheelchair users and low-height people.
- G) Braille inscriptions should also be used in public areas marked with information boards.



Braille directions on handrails



Tactile information map



Tactile floor for visual impaired

Rules of Universal Design

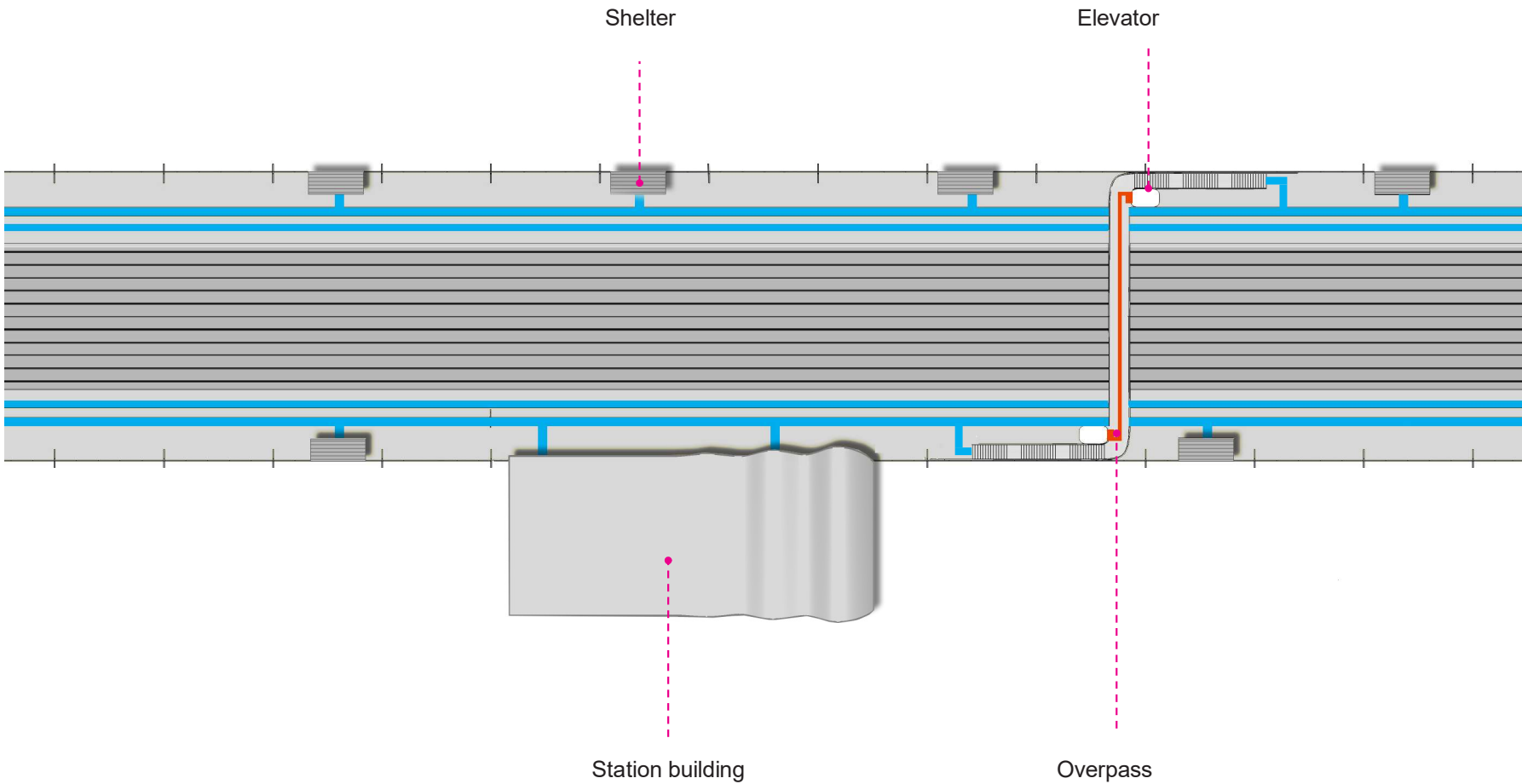
- 1. Usability for people with different immobility
 - 2. Flexibility in use
 - 3. Simplicity
 - 4. Clear communicated information
- 5. Tolerance for errors
 - 6. Comfortable use without effort
 - 7. Size and space suitable for access and use
 - 8. Equality perception

Universal Design

B3.8

Tactile Position Strategy

Image illustrates tactile routes on platform and overpass. Tactile route is provided along the whole length of the platform and along the overpass.



Legend

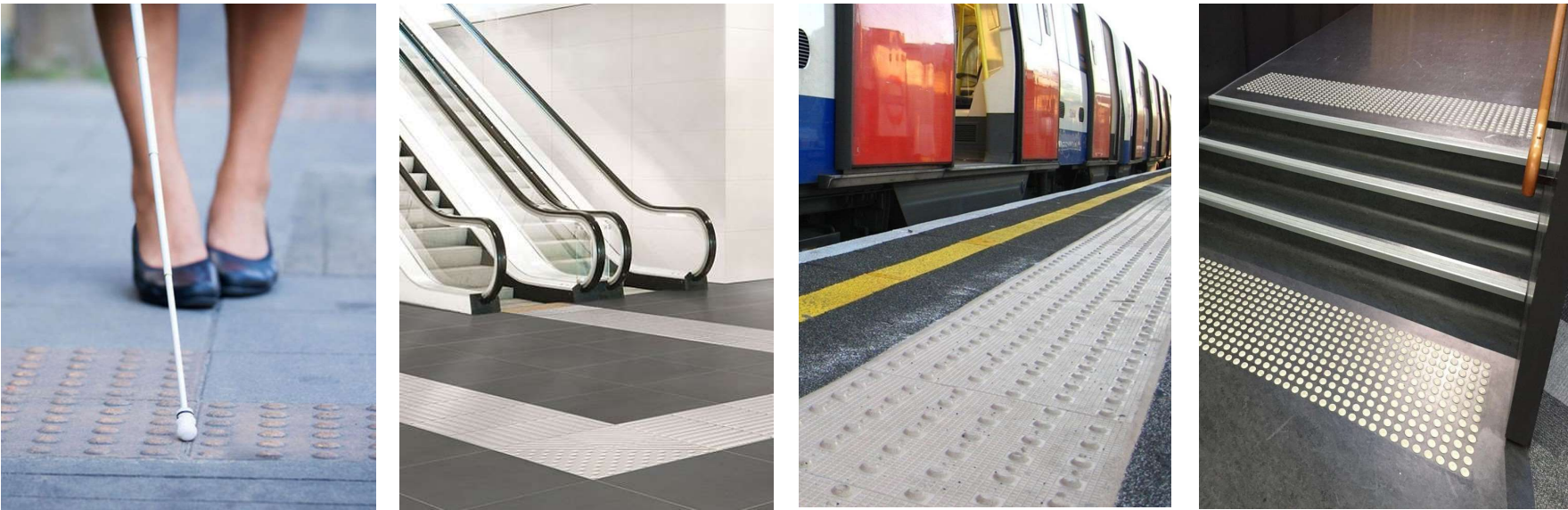
- Tactile path on the overpass
- Tactile path on the platform



Universal Design

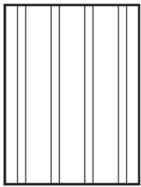
B3.8

Tactile tiles

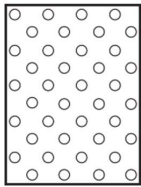


Note

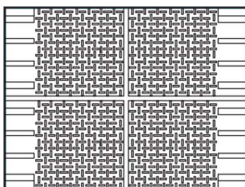
The tactile tiles are indicative. Detailing shall be carried out during the design process according to the local legislation and TSI.



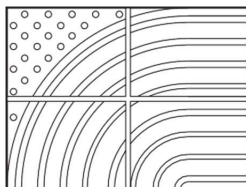
Straight



Stop / Danger



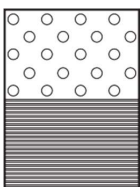
Crossroad



Turn



Service



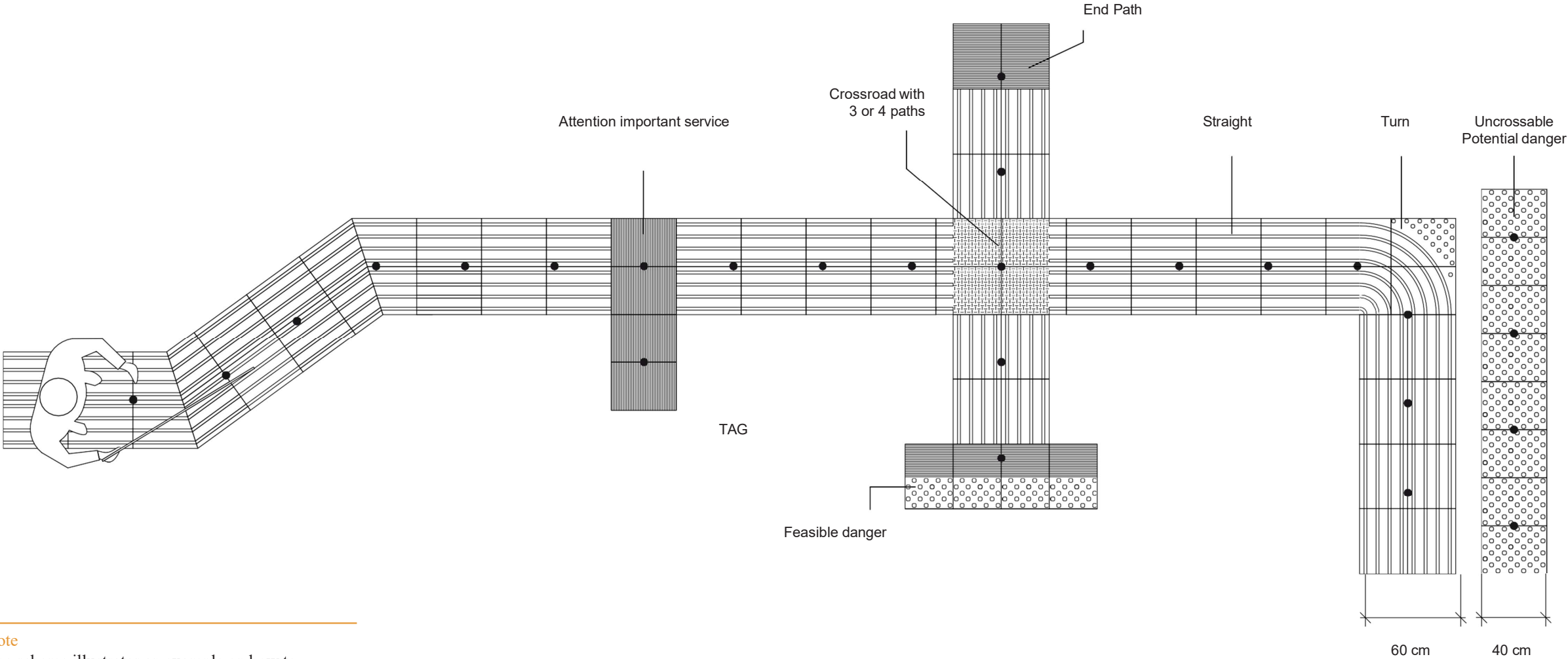
Feasible
Danger

Pictures

From left:
Image 1 - Credits: Shutterstock
Image 2 - Credits: caesar.it
Image 3 - Credits: visulsystems.com
Image 4 - Credits: tacpro.com.au

Universal Design

Typical Tactile Path



Note
The scheme illustrates an example on how to combine the different tactile tiles. Detailing shall be carried out during the design process according to the local legislation and TSI.
Source: dascenzi.it

Universal Design

New Technologies

Each LVE tactile path, in order to work in the best way as a multisensual guide for blind people, must be mapped.

The mapping consists in assigning to each TAG RFG, placed under the pavement, several useful information for the user as the signalling of a danger, a service and any other specific information to every design requirement.
The mapping can also be done later than the installation of the tactile path.

LVE technology provides rapid vocal information on the surrounding environment. In this way, the user, through the connection system with the smartphone / tablet and the bluetooth earphone, is correctly and analytically informed of the entire environmental context.

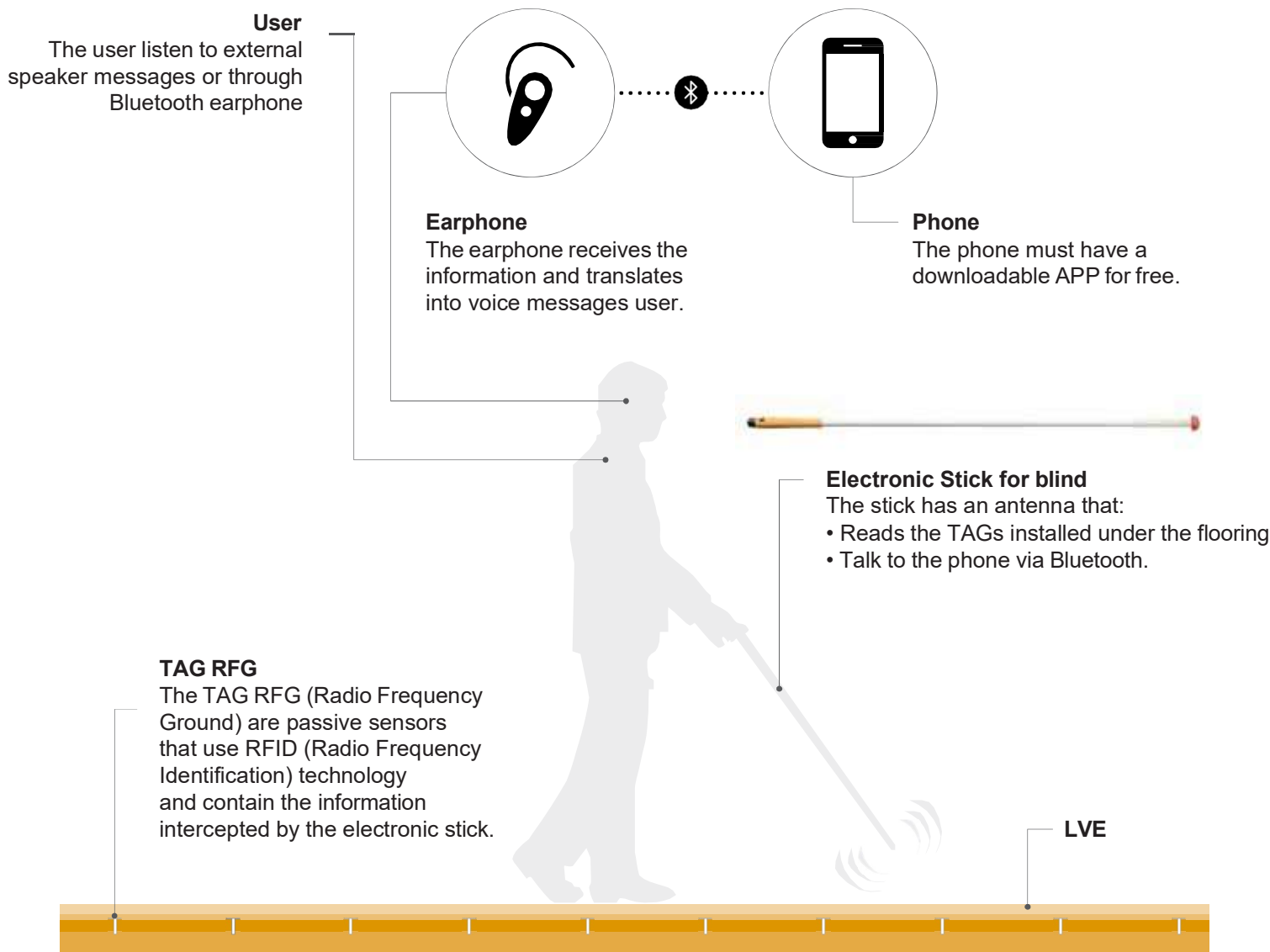
It is also possible to transmit voice messages that provide simple information, such as:

- presence of crossings;
- pedestrian crossings;
- travel guidelines;
- any points of interest.

Furthermore, the voice messages, allow the transmission of even more elaborate information, such as:

- news on means of transport;
- presence and information on museums, archaeological excavations, historic centers etc;
- information on public facilities (universities, schools, hospitals, etc.).

Note
Source: dascenzi.it



Overpass

B4

B4.1 Matrix

B4.2 Concept Design

B4.3 Layout

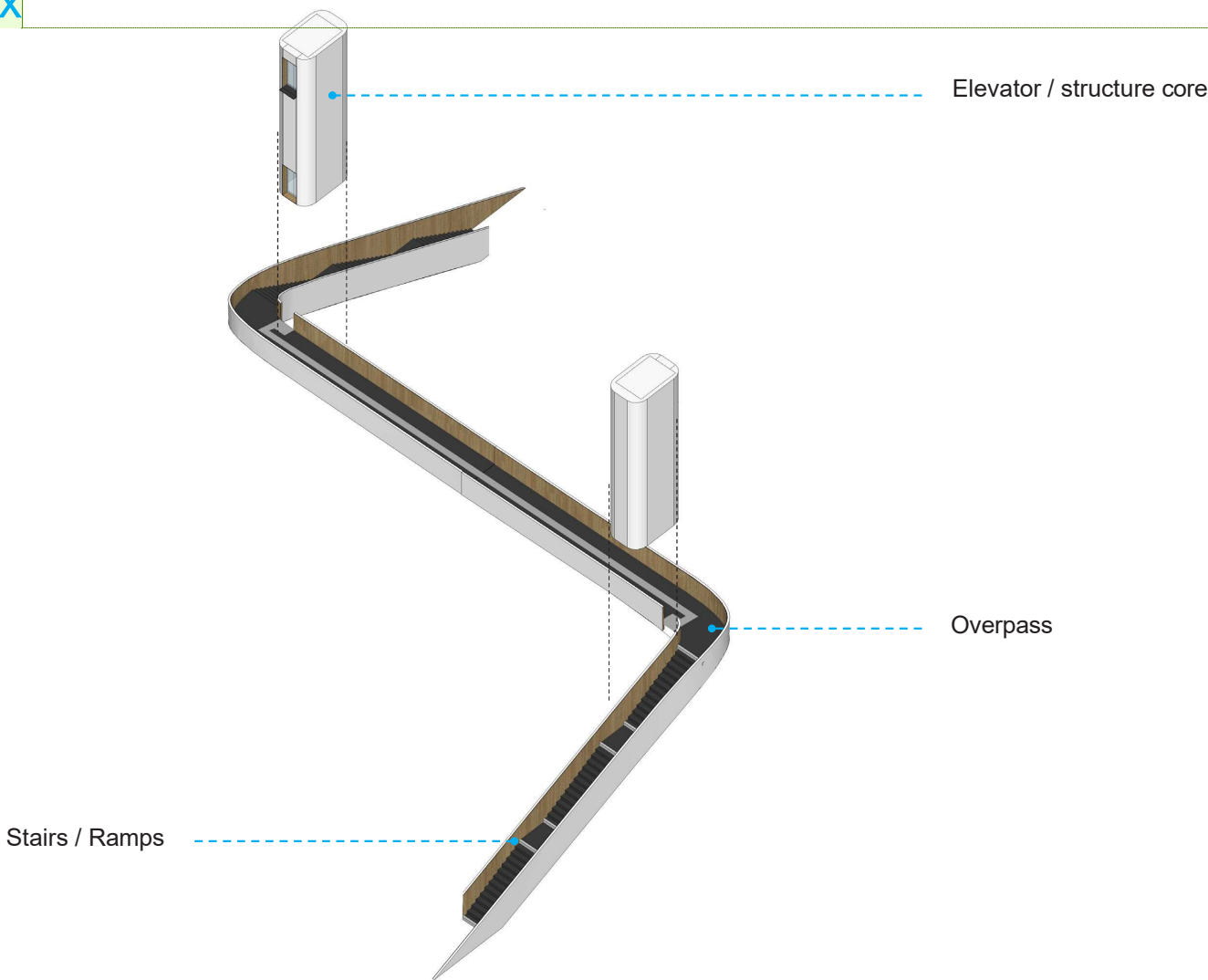
B4.4 Materials

B4.5 Structure

Matrix

B4.1

Identity Matrix











Commented [JK43]: Overpass is without roof which is not suitable for Baltic climate. The staircase steps will be covered in snow and rain, increasing OPEX and lowering safety. Staircase steps will be packed with snow and there is much greater risk for slipping (safety hazard).

Overpass without roof means that people can reach overhead contact lines which could end in fatality.

Secondly the overpass S-shape is not justified. Proposal to also have U-shape, where both staircases face the same way which will also benefit to the overpass structural integrity.

Note:
The indicated concept of overpass is informative. The Client shall make the final decision considering the site-specific aspects for applicable architectural elements.

-  Material
-  Geometry
-  Modularity
-  Color
-  Vegetation

	N	C	R
Overpass	  		

Concept Design

B4.2

Overpass as all other Station elements refers to the traditional materials form Baltic countries, underlining the connection between the three countries but also emphasizes the idea of using sustainable materials. Its dynamic shape take inspiration from Baltic sea, simulating the flow of waves and people



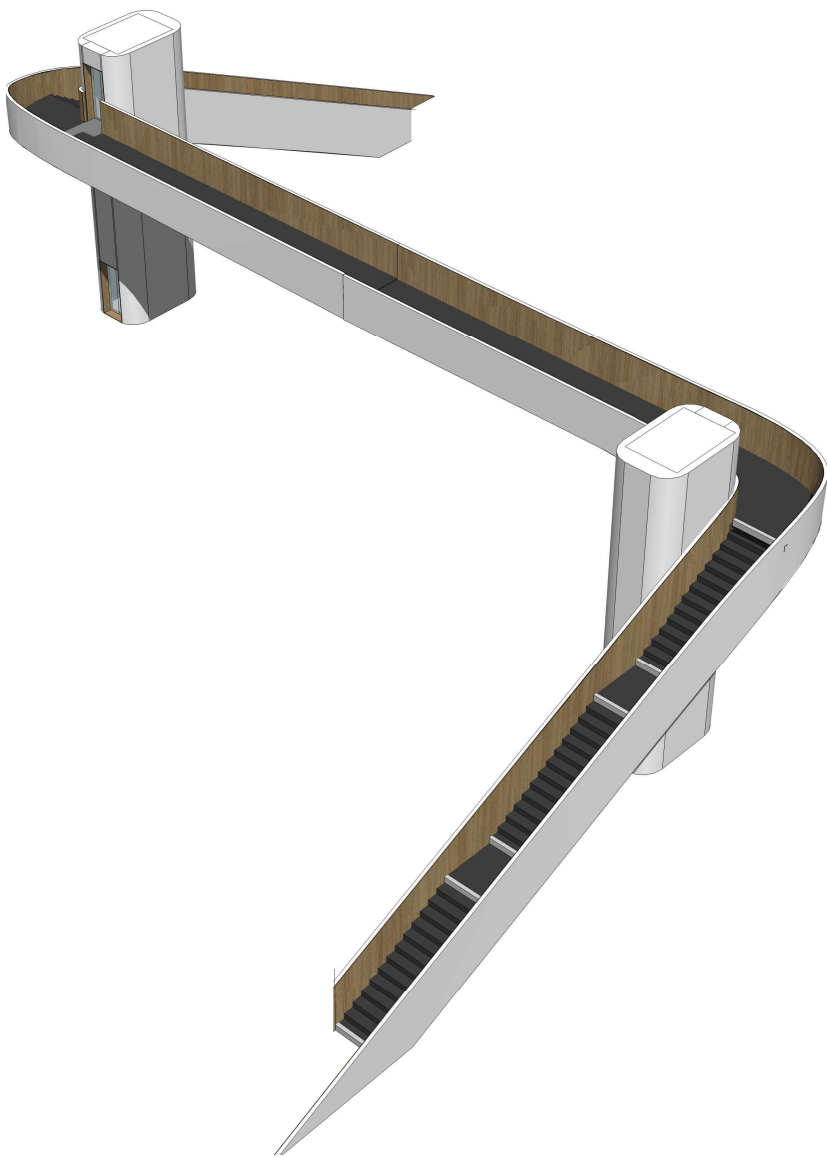
Traditional houses



Baltic Sea



Natural landscape



Note:
The indicated concept of overpass is informative.
The Client shall make the final decision considering the site-specific aspects for applicable architectural elements.

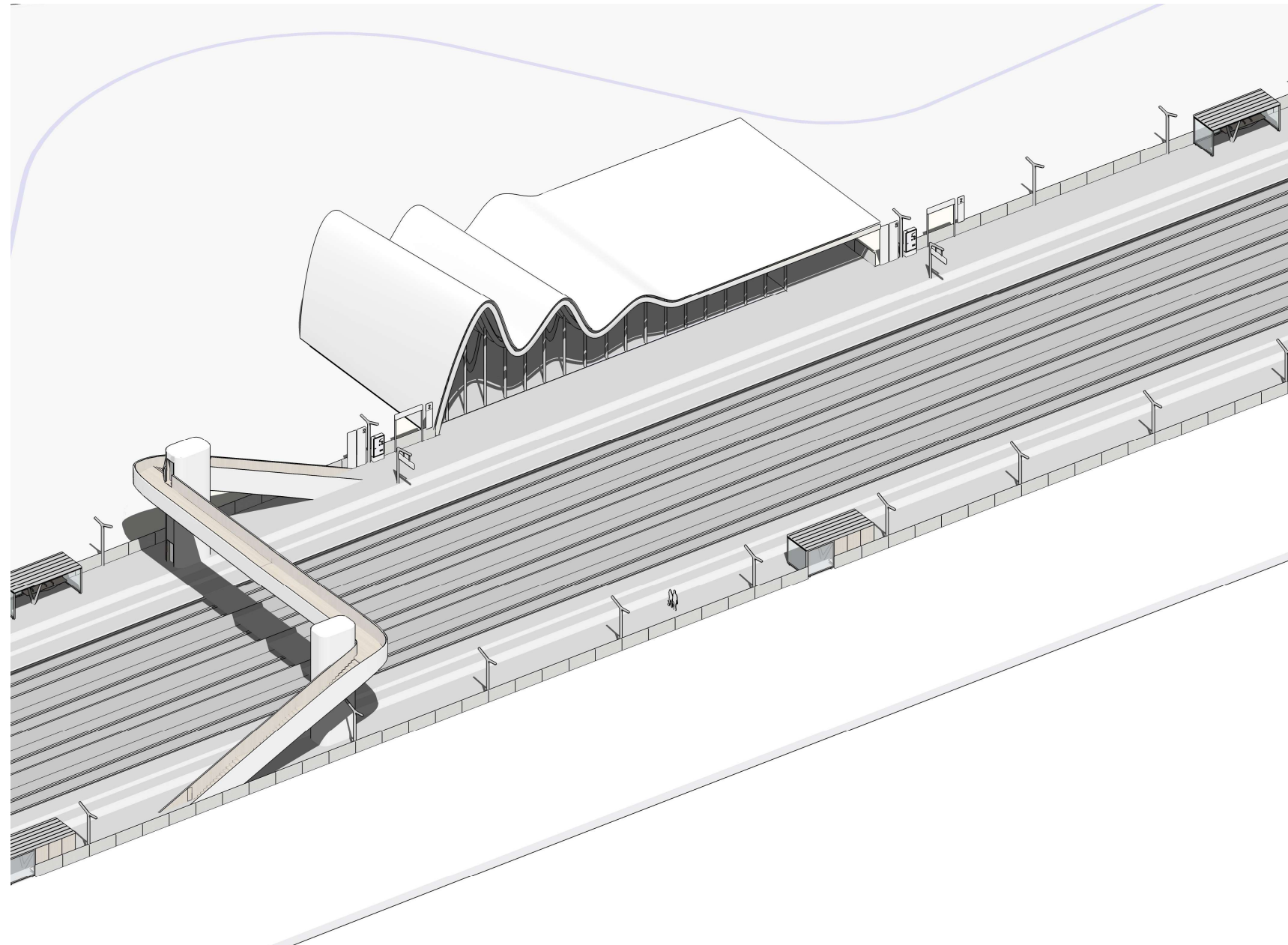
Pictures
From left:
Image 1 - Credits: SBS Engineering
Image 2 - Credits: pixabay.com
Image 3 - Credits: lithuania.blogas.lt

Layout



B4.3

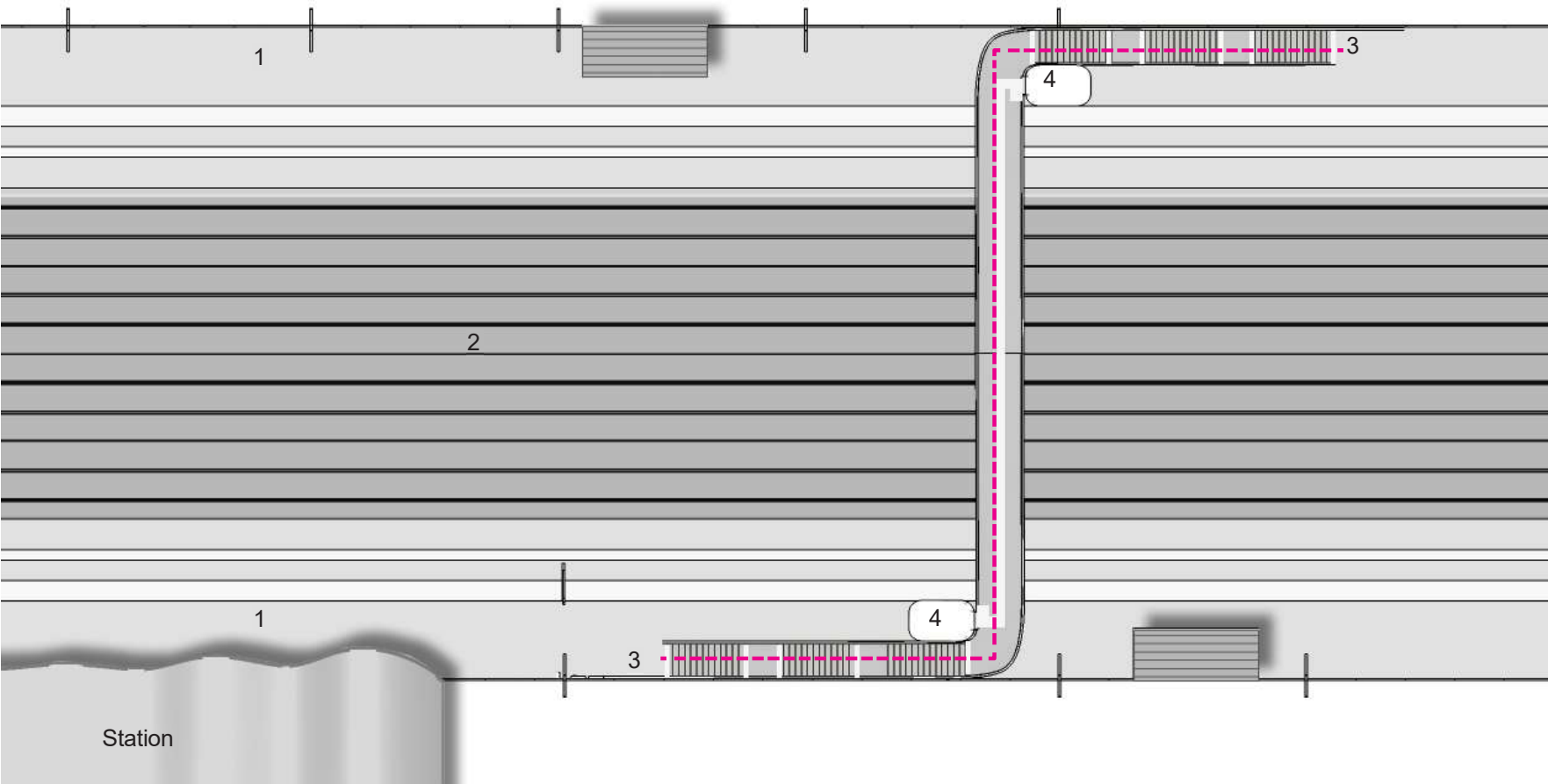
Overview



Layout

B4.3

Route



Picture

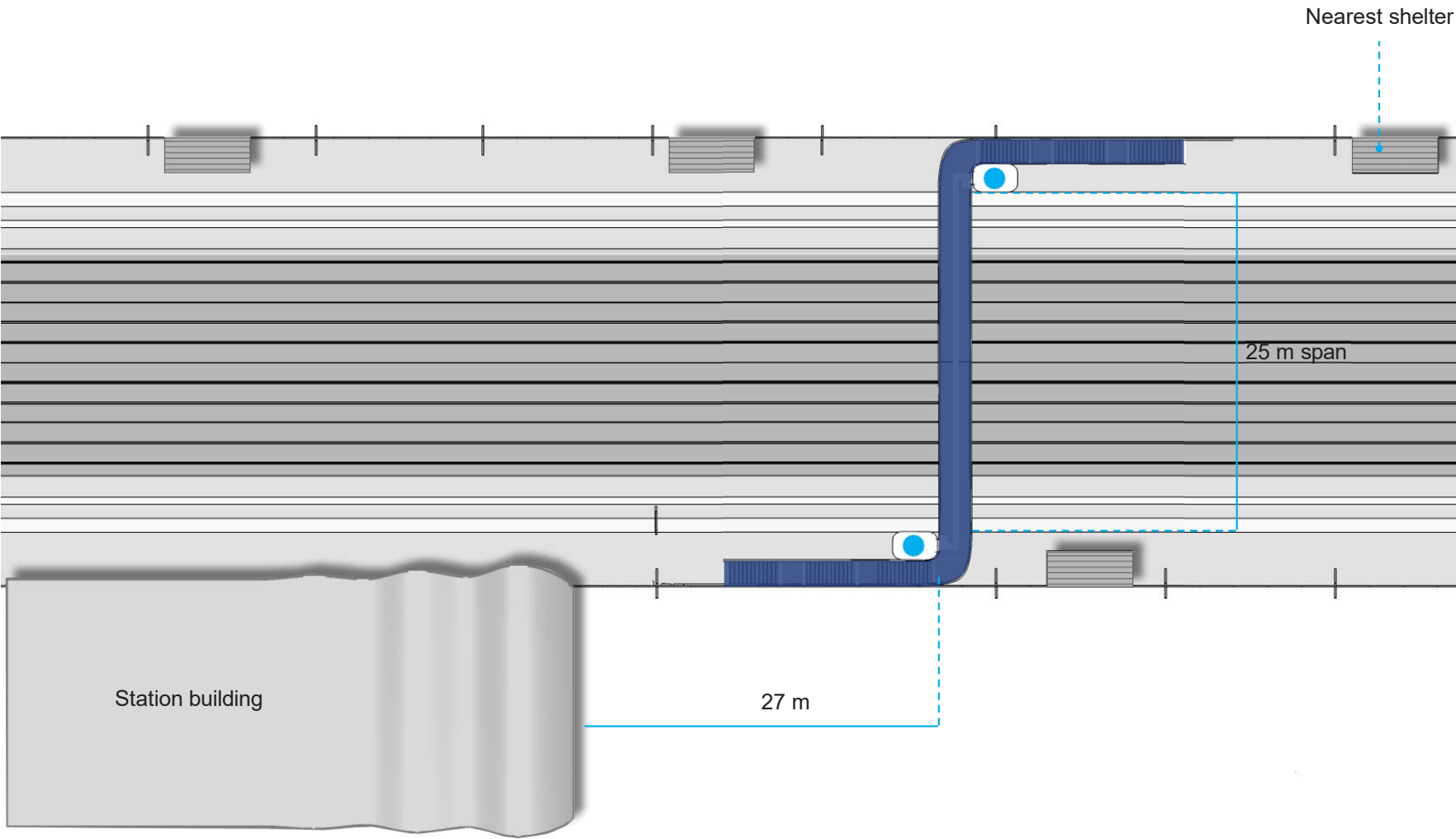
- 1. Platform Walkway
- 2. Tracks
- 3. Overpass access
- 4. Elevator
- 5. Platform

--- Flow of passengers

Layout

B4.3

Functional Layout



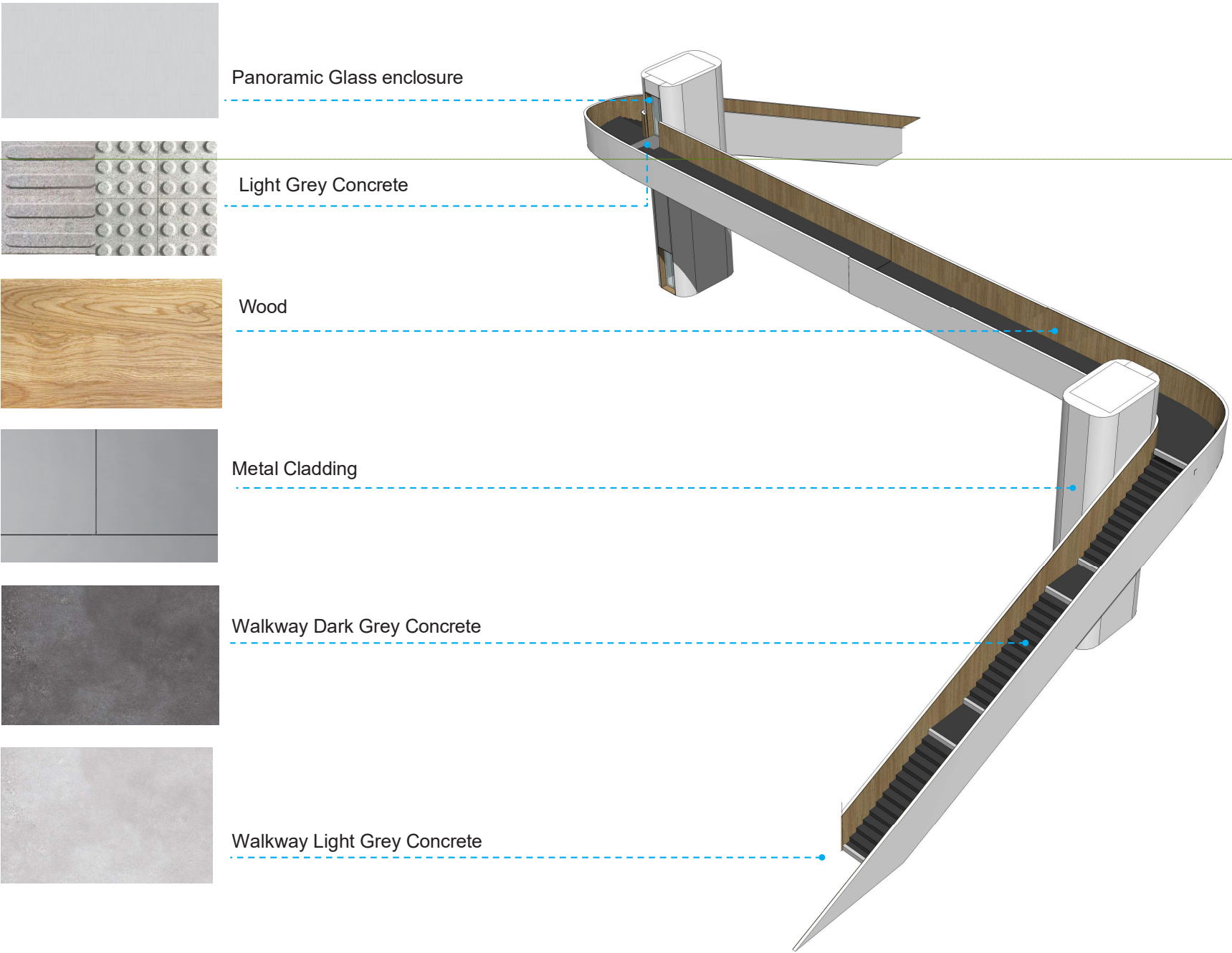
Note

The dimensions are indicative. Detailing shall be carried out during the design process according to the local legislation and agreed with the Client.

- Overpass
- Elevator

Overview

Stairs should be easy to find, obstacle-free, non-slip and comfortable to walk on. Contrast markings, guide rails, width, tactile markings and signage should comply with TSI PRM and related national regulations.. The guttering should be seen as an integral part of the stairs and the selected materials should harmonise with other materials on the stairs.



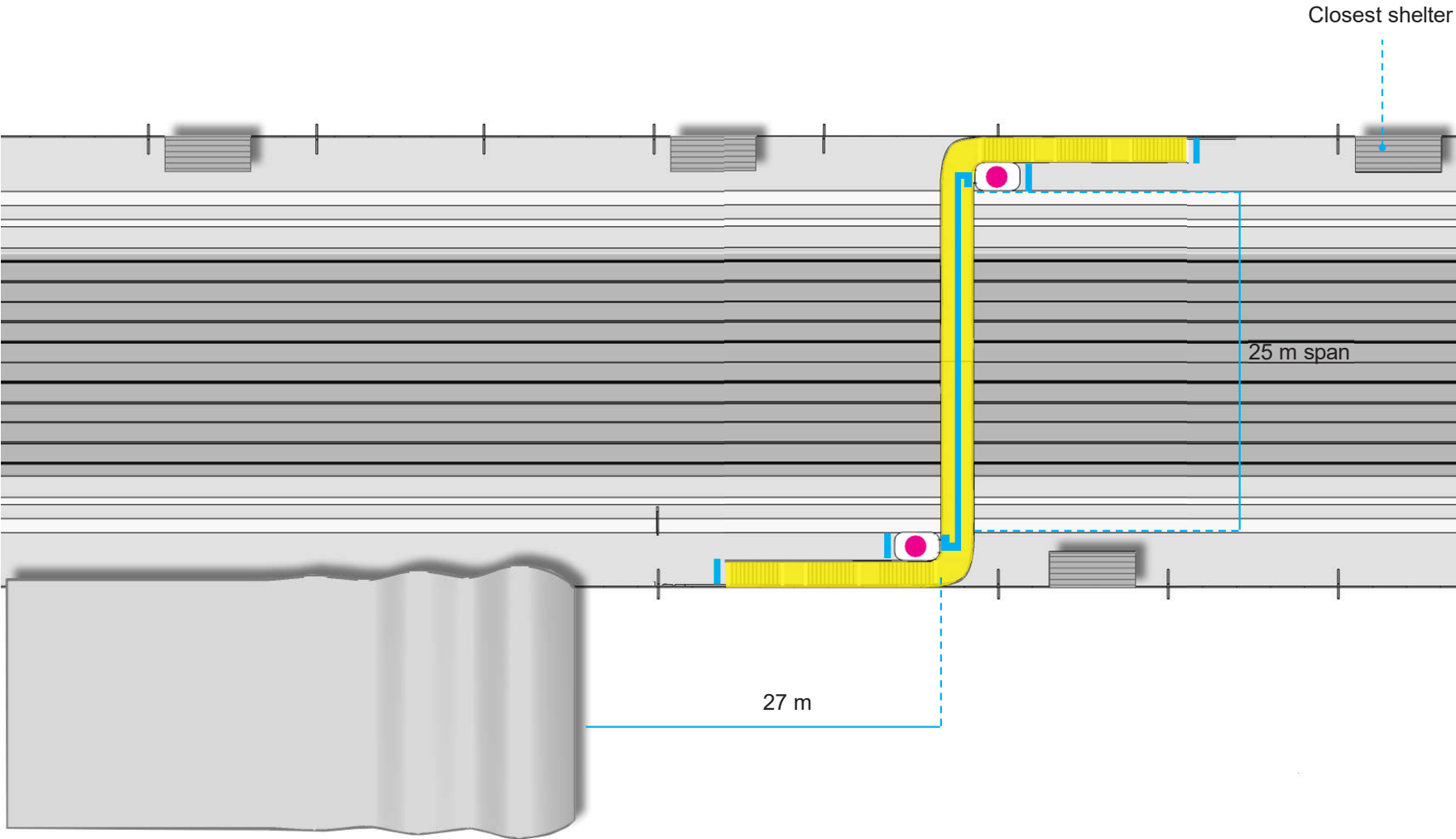
Commented [JK44]: Same comment as in underpass staircase. Proposal to lose the light gray staircase step requirement. The first and last step of the riser is marked with contrasting band anyway. This is TSI PRM requirement.

Note:
The general concept of materials is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Materials

B4.4

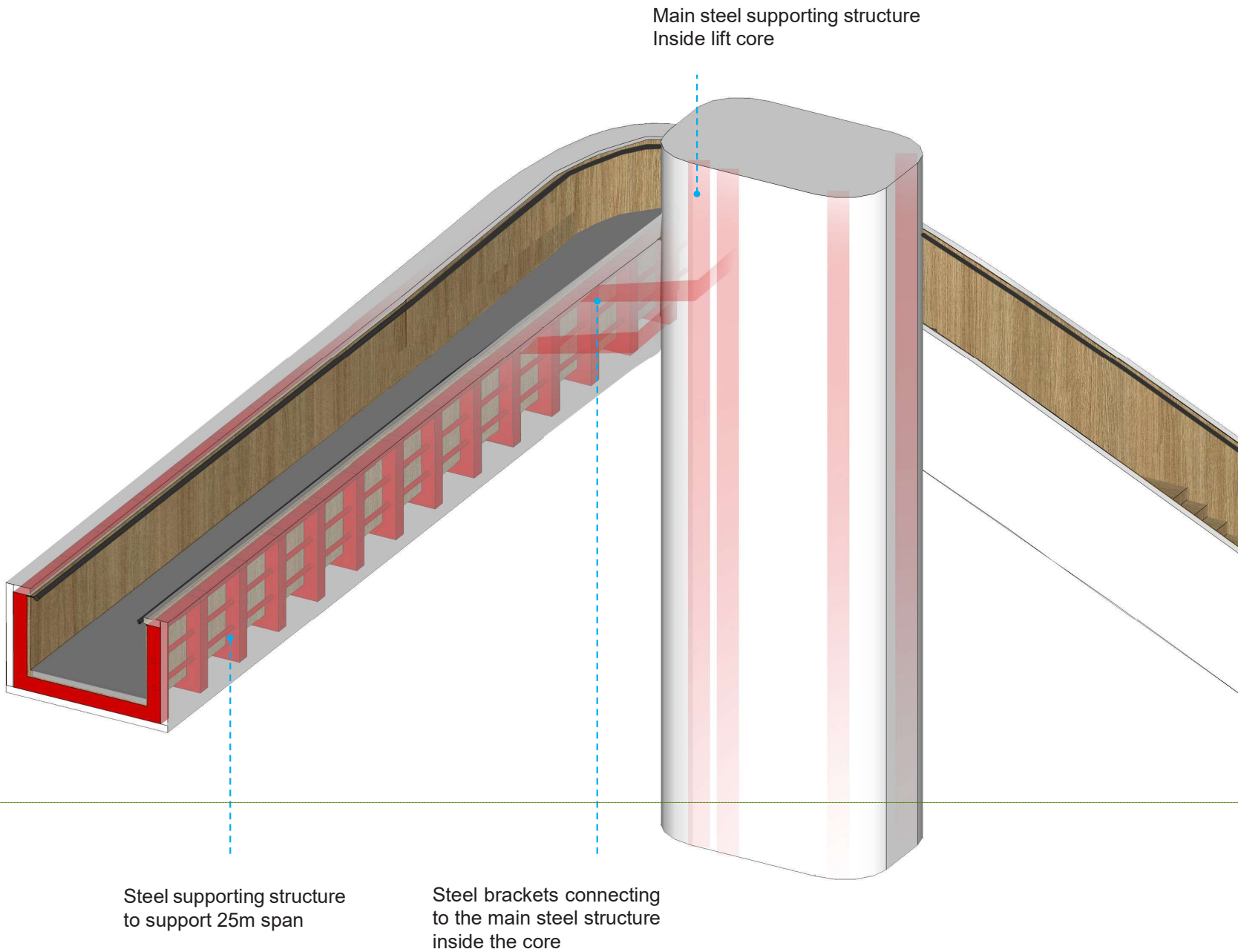
General Layout



Note:
The general concept of materials and dimensions is indicative. Detailing shall be carried out during the design process and agreed with the Client.

Legend

- Elevator
- Light Grey Concrete (tactile)
- Dark Grey Concrete



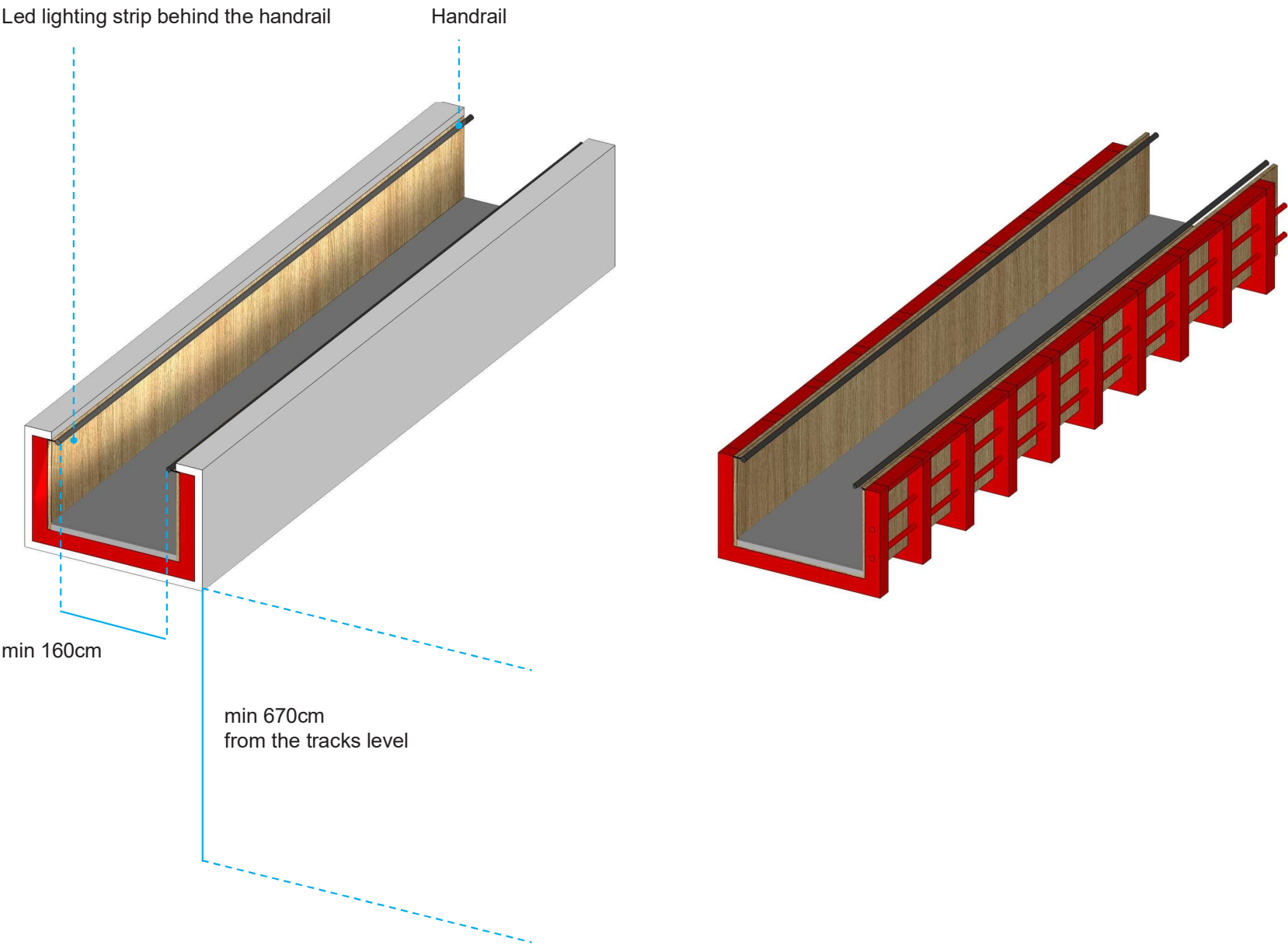
Note

The indicated concept of overpass is informative.

Detailing shall be carried out during the design process and Client shall make the final decision considering the site-specific aspects for applicable architectural elements.

Commented [JK45]: Previously the triangle was "May" not it is "Should". Why more harsh conditions?

Structure



Note
The indicated concept of overpass is informative. Detailing shall be carried out during the design process and Client shall make the final decision considering the site-specific aspects for applicable architectural elements.



Rail Baltica Station Elements

ARCHITECTURAL, LANDSCAPING AND VISUAL IDENTITY DESIGN GUIDELINES FOR RAIL BALTICA

RB Rail AS



SBS ENGINEERING
GROUP