



دائرة البلديات والنقل  
DEPARTMENT OF MUNICIPALITIES  
AND TRANSPORT  
بلدية مدينة أبوظبي  
ABU DHABI CITY MUNICIPALITY

**Department of Municipalities and Transport  
Abu Dhabi Municipality  
Municipal Infrastructure and Assets Sector**

BUILDING INFORMATION MODELLING (BIM) DOCUMENTATION

**BIM Object Catalogue**

**Version 2.0**

**May 2021**

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## **1. Introduction**

This document serves as a regulatory document regarding object naming, object related change management process and, a registry for the content of ADM's 'core library'.

It will aid the unification of infrastructure project content and with that it can enhance the review and approval process.

### **1.1. BIM Object Catalogue Definition and Benefits**

The BIM Object Catalogue is a list which contains BIM Components that will be important for use of the project team in any project will go on. It will help them to find their targeted component faster and easier. Also, this catalogue will not only contain the components of one discipline, on the contrary, it will contain the needed component for all disciplines to get all the facilities for a full BIM environment so the project team can work on any project with high productivity.

### **1.2. Applied Standards**

- BS 8541-1-2012 — Library object for Architectural, engineering and construction — Part 1: Identification and classification — code of practice
- BS 8541-2-2011 — Library object for Architectural, engineering and construction — Part 2: Recommended 2D symbols of building elements for use in building information management
- BS EN 17412-1-2020 — Building Information Modelling — Level of Information Need — Part 1: Concepts and principles
- BS EN ISO 19650-1:2018 - Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling - Part 1: Concepts and principles
- BS EN ISO 19650-2:2018 - Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling - Part 2: Delivery phase of the assets

### **1.3. Structure of BIM Object Catalogue Document**

The BIM Object catalogue core content and requirements are split into three sections 3, 4 and 5. Which are the main objectives of this document. These sections will further detail the object naming convention, registry of ADM's core library and related change management process (governing rules).

## **2. Scope**

The catalogue contains information about available objects in ADM's core library for the disciplines listed in the LOD Matrix table (P18247.00\_Infrastructure LOD Matrix table \_ver.2).

A library catalogue is an essential tool and registry, especially when a library has a large collection of objects. It would become difficult to know what is available and where it can be located, hence there is a need for a catalogue broken down to disciplines and to object level details.

Library collections house a wide variety of objects on many different disciplines. The challenge in making these objects available for the use of library users is letting those users know what is in the library collection. This is the reason for having an object catalog and for taking the time to correctly register library objects and update and maintain it in the future.

The BIM Object Catalogue document assures compliance to ADM BIM Requirements as outlined in **Infrastructure LOD Matrix table** (P18247.00\_Infrastructure LOD Matrix table \_ver.2) and the referenced standards.

### **3. BIM Object Naming**

The object should be uniquely named and described to ensure the accuracy and efficiency for subsequent processes. Names should be composed using characters A to Z, a to z, 0 to 9, and the \_ underscore character. The following characters should not be used in names: • ! “ £ \$ % ^ & \* ( ) { } [ ] + = < > ? | \ / @ ' ~ # ` . The BIM object shall be named systematically and logically for the understanding of users and for easy BIM object management. the object should be named to identify the role (discipline), type (category), sub type (first level of specialization), size and differentiator (additional specialization information), see **Figure 1** and below.



Figure 1 – File and object naming convention

<b>Role</b> (Mandatory)	Objects discipline as per the LOD matrix
<b>Type</b> (Mandatory)	Objects category as per the LOD matrix
<b>Sub Type</b> (Mandatory)	Objects according to their types and first level of specialization.
<b>Size</b> (Optional)	Object's size
<b>Differentiator</b> (Optional)	Any additional specialization information

Table No. 1 – Definitions of object naming convention fields

#### **3.1. Role**

This field should be created from maximum 2 digits and capitalize each letter. Please refer to ‘Appendix A – List of ’ as a reference for this field.

#### **3.2. Type**

This field will be 4 digits (capital letters) and this abbreviation is for the object main type and will be taken from Object Type Table. Please refer to ‘Appendix B – List of type codes’.

#### **3.3. Sub type**

This section will be generic and have no limited digits. The use of this section is to understand the object’s first level of specialization.

#### **3.4. Size**

This section will be optional, and the use of this section is to provide the size of the object.

#### **3.5. Differentiator**

This section will be generic, no limited digits and optional. The use of this section is to convey additional specialization information to understand the object more.

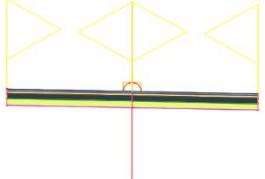
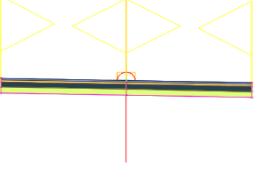
#### **4. BIM Components Catalogue**

The purpose is to register all objects included in ADM's core library as per LOD matrix table (P18247.00\_Infrastructure LOD Matrix table \_ver.2), assist project team to define the content to be included in BIM delivery and unify the BIM delivery content.

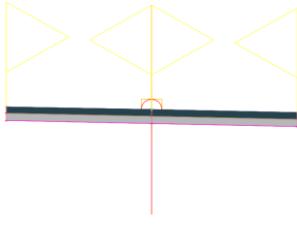
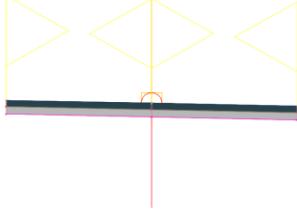
##### **4.1 Roadway**

###### **4.1.1 Roads and Highways**

###### **4.1.1.1 RG\_RDHW\_PaveRoad**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (width & slope), Pavement 1 <sup>st</sup> layer (Material and thickness)
300	300		Lane's width, Lane's slope, All Pavement layers (Material & Thickness), Base and Subbase layers (Material & Thickness)

###### **4.1.1.2 RG\_RDHW\_Gatchroad**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (width, slope, and thickness)
300	300		Travel lanes (width, slope, and thickness)), Base and Subbase layers (Material & Thickness) – in case -

#### 4.1.1.3 RG\_RDHW\_PavedShoulder

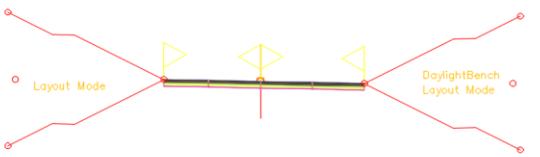
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (Width & slope), shoulder width & slope), pavement 1 <sup>st</sup> layer (Material and thickness)
300	300		Travel lanes (Width & slope), shoulder (width & slope), all Pavement layers (Material & Thickness), Base and Subbase layers (Material & Thickness)

#### 4.1.1.4 RG\_RDHW\_UnpavedShoulder

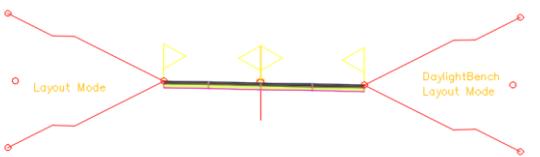
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness)
300	300		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), Base and Subbase layers (Material & Thickness)

#### 4.1.1.5 RG\_RDHW\_Verge

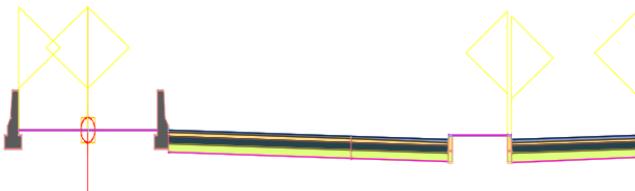
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness) and verge slope (cut and fill)

300	300		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), Base and Subbase layers (Material & Thickness) verge slope (cut and fill)
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#### 4.1.1.6 RG\_RDHW\_SideSlope

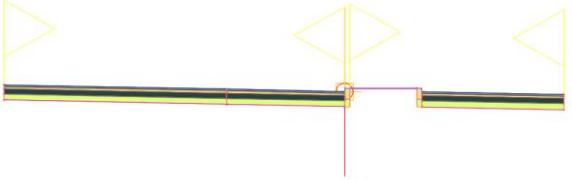
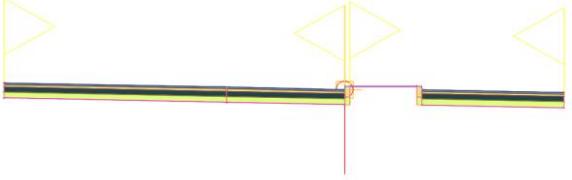
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness) and side slope (cut and fill)
300	300		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), Base and Subbase layers (Material & Thickness) side slope (cut and fill)

#### 4.1.1.7 RG\_RDHW\_CentralMedian

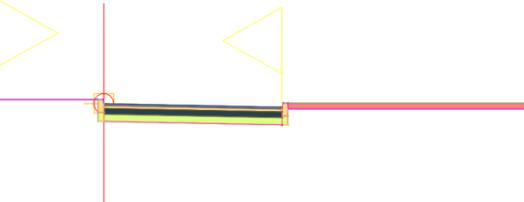
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), Barrier Type, kerbs with Kerb Lane and central median (width)

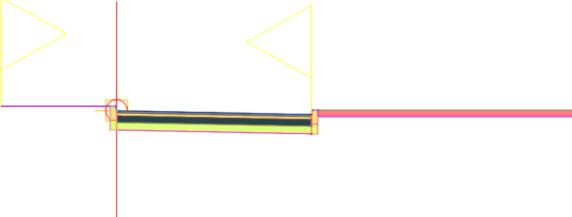
300	300		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), Barrier Type, kerbs with Kerb Lane, subbase, and base layers (Material and thickness) and central median (width)
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#### 4.1.1.8 RG\_RDHW\_SideMedian

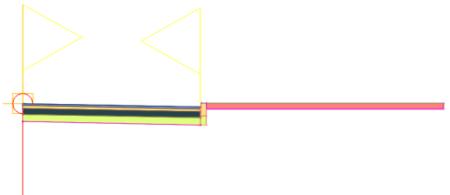
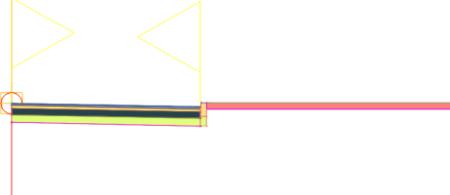
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), kerbs with Kerb Lane and Side Median.
300	300		Travel lanes (Width, slope, and thickness), shoulder (width, slope, and thickness), kerbs with Kerb Lane, subbase, and base layers (Material and thickness) and side median (width)

#### 4.1.1.9 RG\_RDHW\_FreeRightTurn(FRT)Island

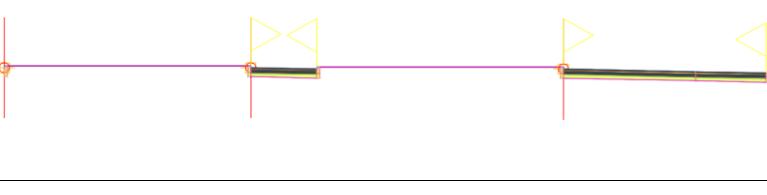
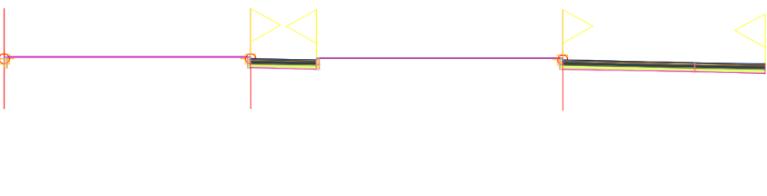
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Side median (Width), kerbs with Kerb Lane and sidewalk (width)

300	300		Side median (width), kerb with Kerb Lane, subbase, and base layers (Material and thickness) and sidewalk (width)
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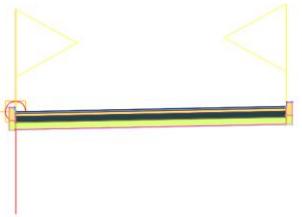
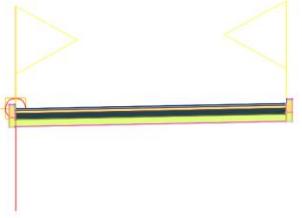
#### 4.1.1.10 RG\_RDHW\_Right-in/Right-out(RIRO)Island

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Kerb Lane with right kerb and sidewalk (width)
300	300		Kerb Lane with right kerb and sidewalk (width), subbase and base layers (Material and thickness) and sidewalk (width)

#### 4.1.1.11 RG\_RDHW\_Lead-lagIsland

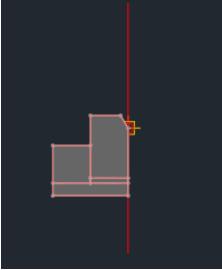
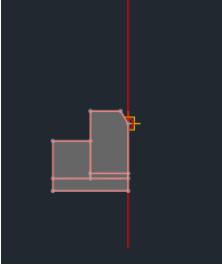
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Central median and side island median (width), travel lanes, Kerb Lane
300	300		Central median and side island median (width), travel lanes, Kerb Lane, subbase and base layers (Material and thickness) and sidewalk (width)

#### 4.1.1.12 RG\_RDHW\_Roundabout

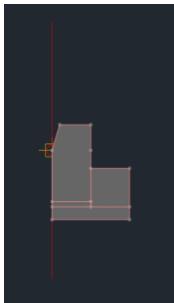
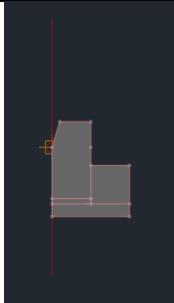
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Median kerb, Travel's lanes (slope, layers, material, and width) and kerb
300	300		Median kerb, Travel's lanes (slope, layers, material, and width) and kerb, subbase, and base layers (Material and thickness) and sidewalk (width)

#### 4.1.2 Kerb / Barrier / Haunching / Foundation

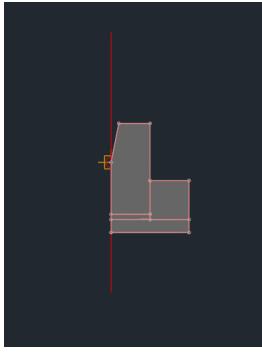
##### 4.1.2.1 RG\_KBHF\_UpstandKerb\_Type-A

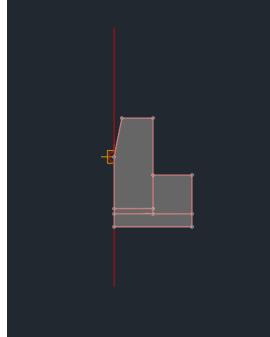
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each kerb element

#### 4.1.2.2 RG\_KBHF\_UpstandKerb\_Type-B

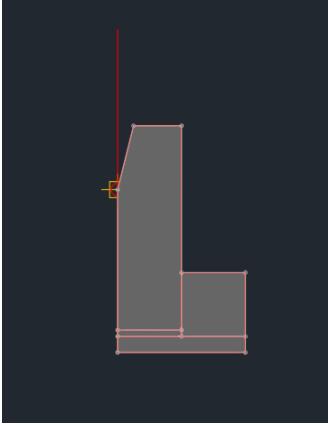
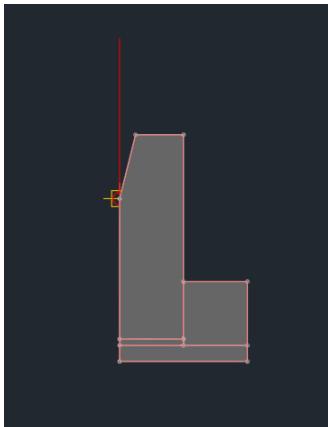
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each curb element

#### 4.1.2.3 RG\_KBHF\_UpstandKerb\_Type-B1

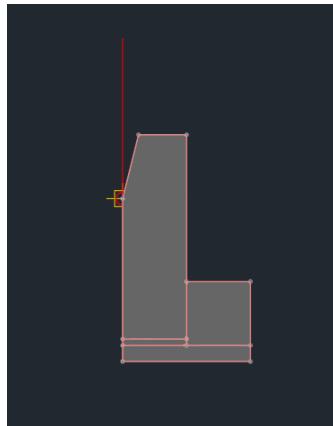
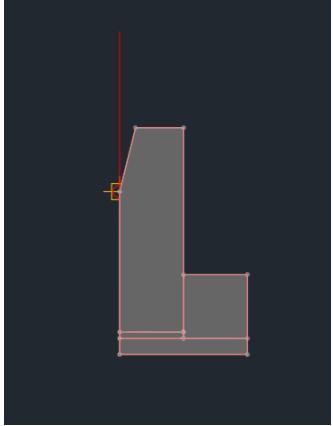
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type

300	300		Assembly Kerb type & colour code adding for each curb element
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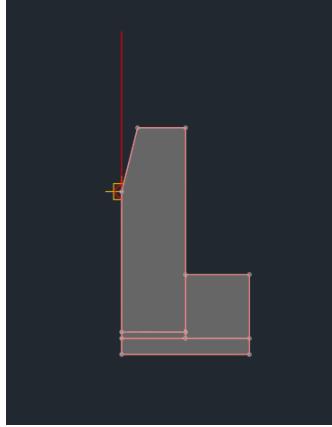
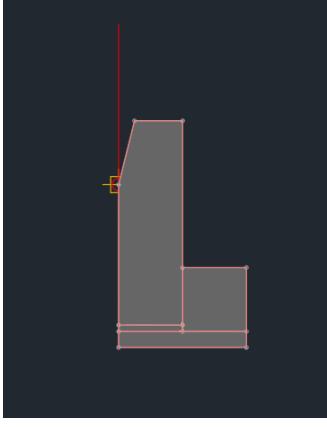
#### 4.1.2.4 RG\_KBHF\_UpstandKerb\_Type-G

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each curb element

4.1.2.5 RG\_KBHF\_UpstandKerb\_Type-H

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each kerb element

4.1.2.6 RG\_KBHF\_UpstandKerb\_Type-I

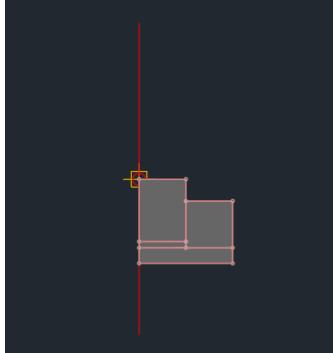
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each kerb element

#### 4.1.2.7 RG\_KBHF\_FlushKerb\_Type-C

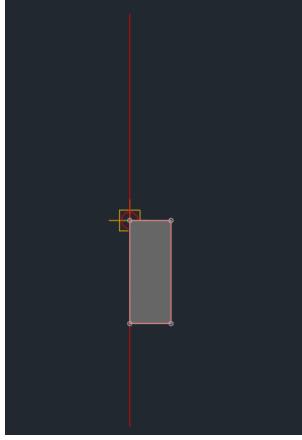
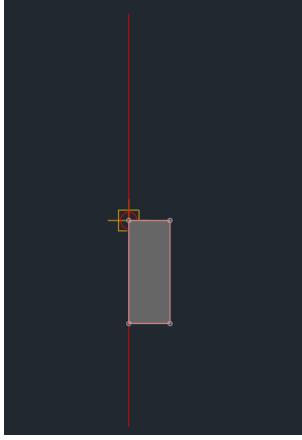
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each kerb element

#### 4.1.2.8 RG\_KBHF\_FlushKerb\_Type-D

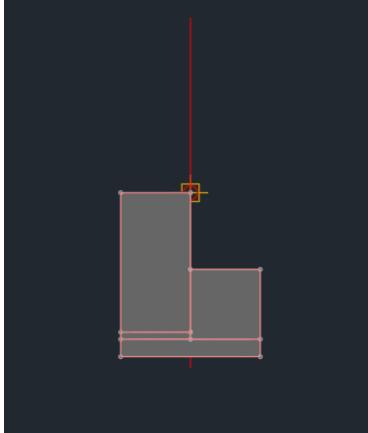
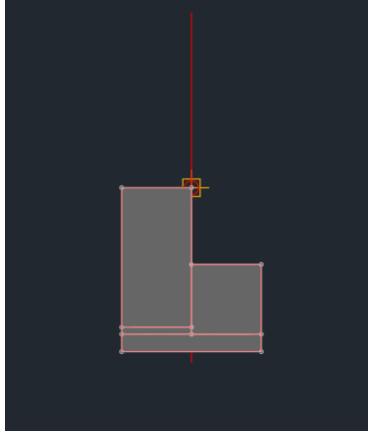
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type

300	300		Assembly Kerb type & colour code adding for each curb element
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#### 4.1.2.9 RG\_KBHF\_FlushKerb\_Type-E

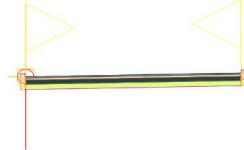
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each curb element

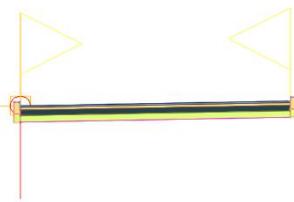
#### 4.1.2.10 RG\_KBHF\_FlushKerb\_Type-F

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Assembly Kerb type
300	300		Assembly Kerb type & colour code adding for each kerb element

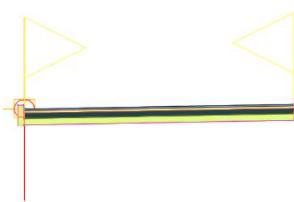
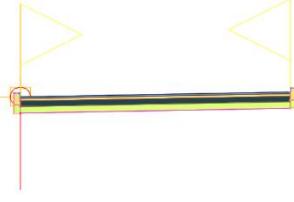
#### 4.1.3 Footways and Cycle tracks

##### 4.1.3.1 RG\_FWCT\_BicycleTrack

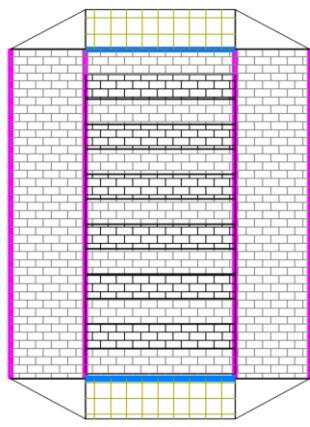
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		kerb, Bicycle lanes (slope, layers, material, and width) and kerb

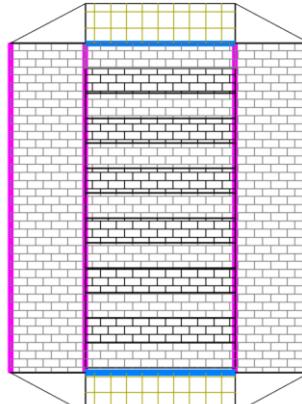
300	300		kerb, Bicycle lanes (slope, layers, material, and width) and kerb, subbase, and base layers (Material and thickness) and sidewalk (width)
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#### 4.1.3.2 RG\_FWCT\_JoggingTrack

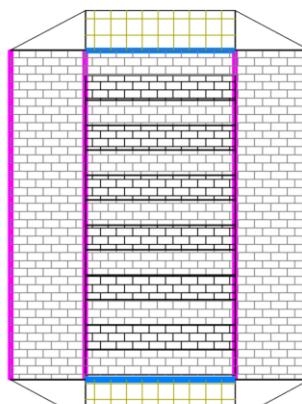
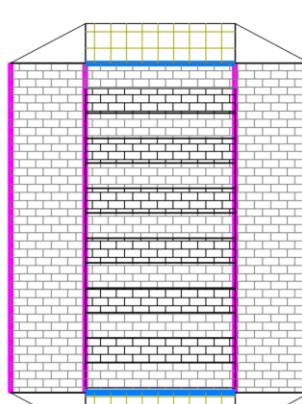
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		kerb, Jogging lanes (slope, layers, material, and width) and kerb
300	300		kerb, Jogging lanes (slope, layers, material, and width) and kerb, subbase, and base layers (Material and thickness) and sidewalk (width)

#### 4.1.3.3 RG\_FWCT\_PedestrianRamps

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Kerbs (Raised, flush, transition, and type D), pavers layers, pedestrians' lines

300	300		Kerbs (flush, transition, and type D), pavers layers, pedestrians' lines
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#### 4.1.3.4 RG\_FWCT\_RaisedPedestrianCrossing

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		<u>Including in pervious block</u>  Kerbs (Raised, flush, transition, and type D), pavers layers, pedestrians' lines
300	300		<u>Including in pervious block</u>  Kerbs (flush, transition, and type D), pavers layers, pedestrians' lines

## 4.2 Lighting

### 4.2.1 Street Lighting

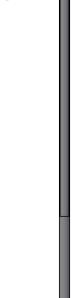
#### 4.2.1.1 L\_STLT\_LightingControlCabinet\_ST-LT C-C

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Type, System, location coordinates, rotation angle
300	300		Type, System, Power, Foundation and Cabinet dimensions, Cabinet colour, location coordinates, rotation angle

#### 4.2.1.2 L\_STLT\_LightingControlCabinet\_ST-LT C-C

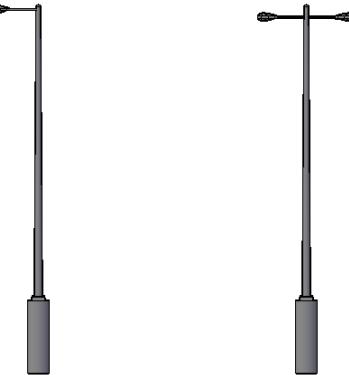
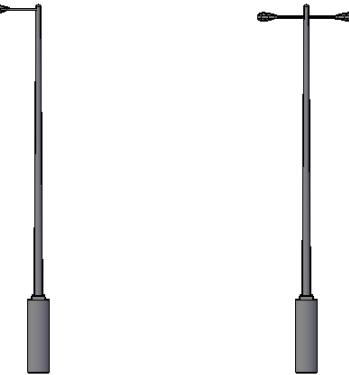
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

#### 4.2.1.3 L\_STLT\_8mMultifunctionPole-Hinged

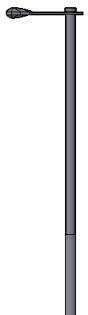
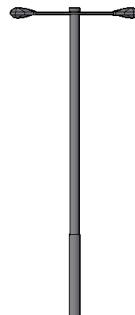
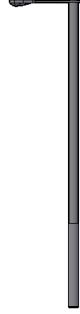
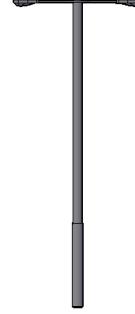
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle

300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle
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#### 4.2.1.4 L\_STLT\_10LightPole

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

#### 4.2.1.5 L\_STLT\_10mMultifunctionPole-Hinged

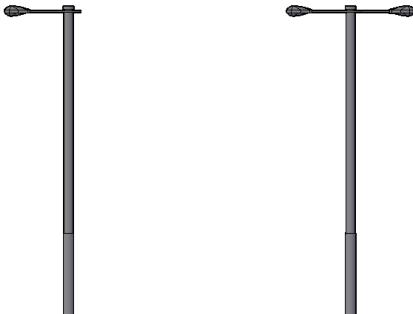
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		 Name, System and Height, location coordinates, rotation angle
300	300		 Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

#### 4.2.1.6 L\_STLT\_14mLightPole

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		 Name, System and Height, location coordinates, rotation angle

300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle
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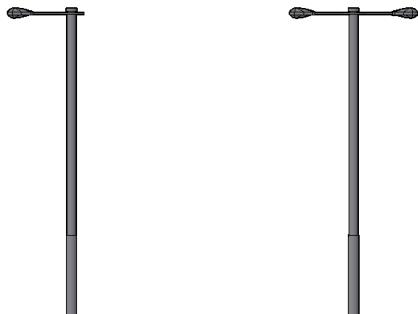
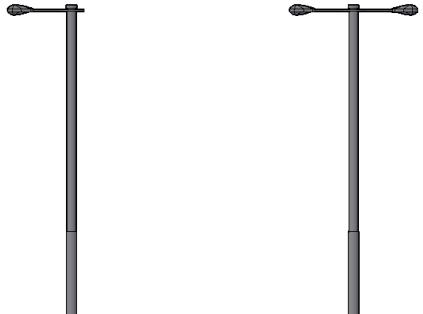
#### 4.2.1.7 L\_STLT\_14mMultifunctionPole-Hinged

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

**4.2.1.8 L\_STLT\_18mLightPole**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

#### 4.2.1.9 L\_STLT\_18mLightPole-Hinged

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable

#### 4.2.1.10 L\_STLT\_20mLightPole

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle

300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle
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#### 4.2.1.11 L\_STLT\_20mLightPole-Hinged

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

**4.2.1.12 L\_STLT\_30.5mLightPole**

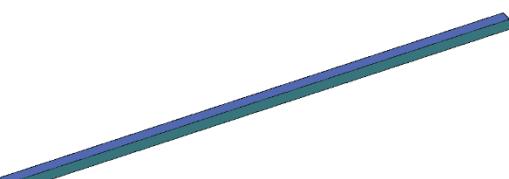
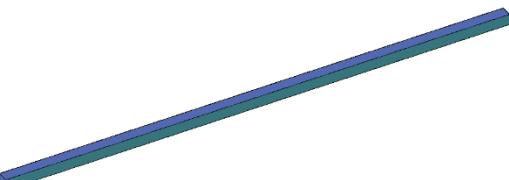
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle
300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle

**4.2.1.13 L\_STLT\_30.5mLightPole-Hinged**

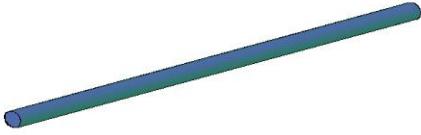
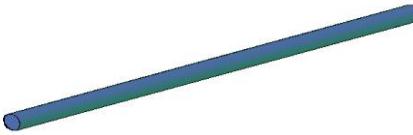
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, System and Height, location coordinates, rotation angle

300	300		Name, System, Height, Function, Foundation dimension, Material Type, Power, color and connections cable, location coordinates, rotation angle
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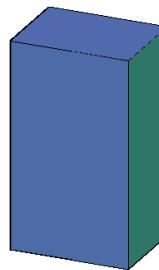
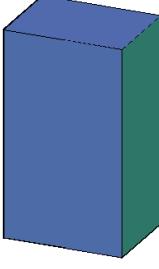
#### 4.2.1.14 L\_STLT\_Ducts

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Duct size, dimension
300	300		Duct size, dimension, inert start, and end levels, start and end cover depth, duct (pipe) slope and duct material.

#### 4.2.1.15 L\_STLT\_Conduit

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Conduit indication path and type
300	300		Conduit size, dimension, inert start, and end levels, start and end cover depth, conduit (pipe) slope and conduit material.

#### 4.2.1.16 L\_STLT\_MainJunctionBox

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Junction box location
300	300		Junction box location, dimensions, material, foundation dimensions, ground level connection

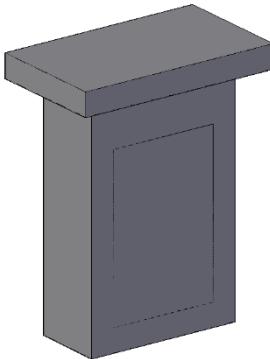
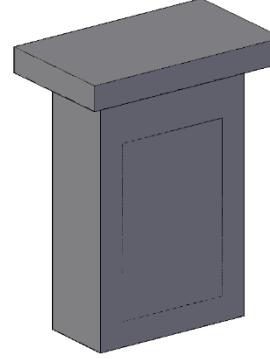
#### 4.2.1.17 L\_STLT\_DistributionJunctionBox

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Junction box location
300	300		Junction box location, dimensions, material, foundation dimensions, ground level connection

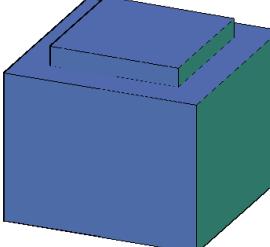
#### 4.2.1.18 L\_STLT\_JunctionBox

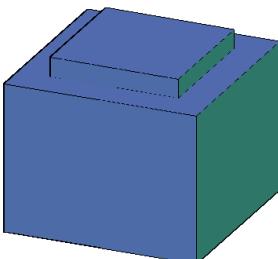
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Junction box location
300	300		Junction box location, dimensions, material, foundation dimensions, ground level connection

#### 4.2.1.19 L\_STLT\_DBControlCabinet

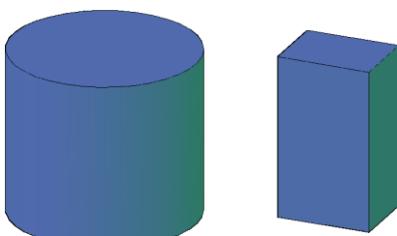
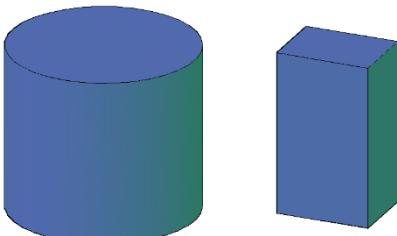
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name and location
300	300		Name, location coordinates, rotation angle, system, color material and power

#### 4.2.1.20 L\_STLT\_EarthRod

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Earth pod location

300	300		Earth pod location, coordinates and rotation angle, material, and foundation
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#### 4.2.1.21 L\_STLT\_EarthPit

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Earth pit location and type
300	300		Earth pod location, type, coordinates and rotation angle, material, and foundation

#### 4.2.1.22 L\_STLT\_ServiceChamber

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Service chamber location and type
300	300		Service chamber location, type, coordinates and rotation angle, material, and foundation

#### 4.2.1.23 L\_STLT\_PullBox

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pull box location and type
300	300		Pull box location, type, coordinates and rotation angle, material, and foundation

#### 4.2.1.24 L\_STLT\_PolycarbonatePullbox

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		PB Pull box location and type
300	300		PB Pull box location, type, coordinates and rotation angle, material, and foundation

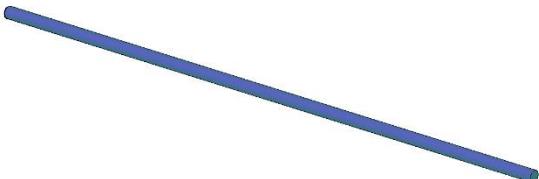
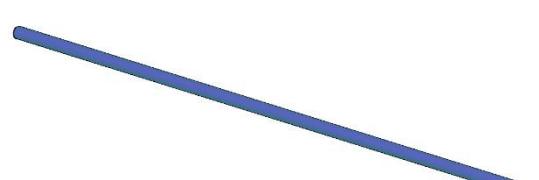
### 4.3 Storm Water and Subsoil Drainage

#### 4.3.1 Road Storm Water Drainage System

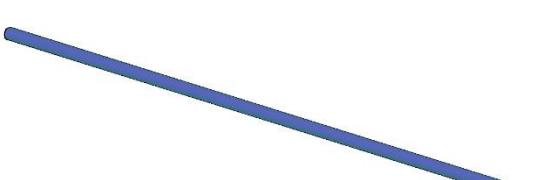
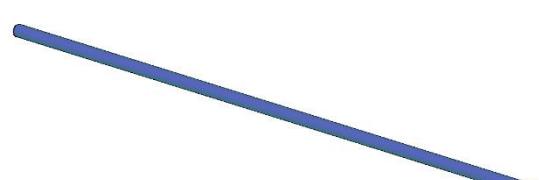
##### 4.3.1.1 SW\_SWDS\_BuriedPipelines\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe size and coordinates.
300	300		Pipe size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

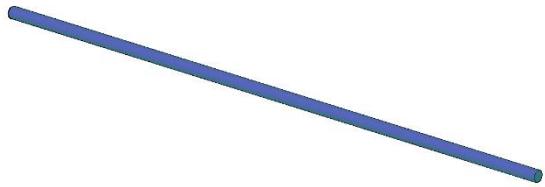
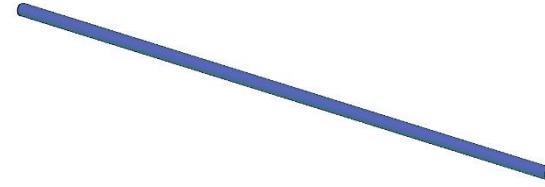
#### 4.3.1.2 SW\_SWDS\_BuriedPipelines\_ConcretePipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe size and coordinates.
300	300		Pipe size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

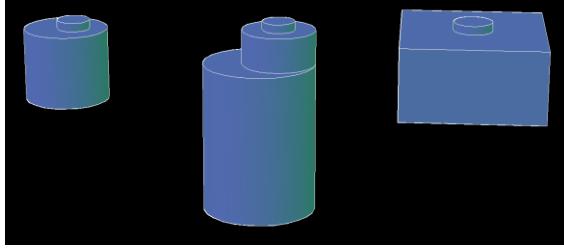
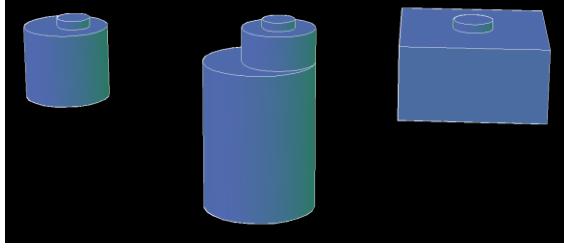
#### 4.3.1.3 SW\_SWDS\_BuriedPipelines\_HDPE

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe size and coordinates.
300	300		Pipe size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

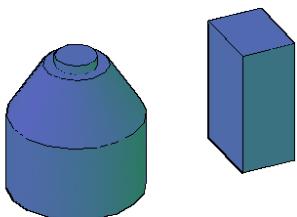
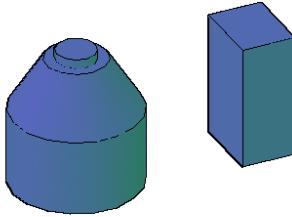
#### 4.3.1.4 SW\_SWDS\_ManholeChamber\_uPVC

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe size and coordinates.
300	300		Pipe size, coordinates, material, invert start, invert end, Cover level start, Cover level end, depth start, depth end, pipe slope and Peak flow, HGL, hydraulic data

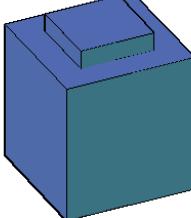
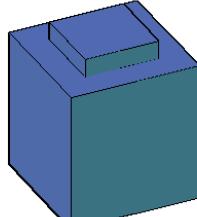
#### 4.3.1.5 SW\_SWDS\_ManholeChamber\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Manhole Type, coordinates. And size.
300	300		Manhole Type, Size, Coordinates, Rim level, inverts levels, sump depth, rotations angles, material, and frame dimensions

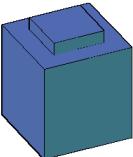
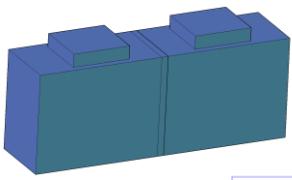
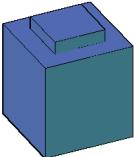
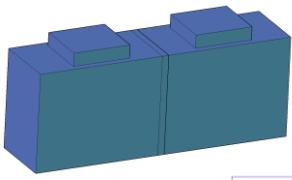
#### 4.3.1.6 SW\_SWDS\_ManholeChamber\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Manhole Type, coordinates. And size.
300	300		Manhole Type, Size, Coordinates, Rim level, inverts levels, sump depth, rotations angles, material, frame dimensions

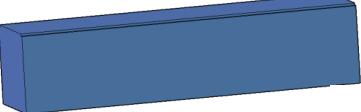
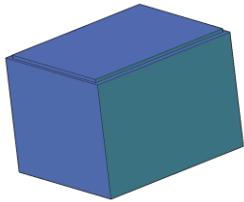
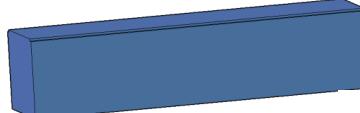
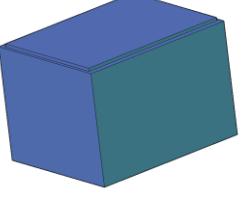
#### 4.3.1.7 SW\_SWDS\_Inlet

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Inlet Type, coordinates. And size.
300	300		Inlet Type, Size, Coordinates, Rim level, inverts levels, sump depth, rotations angles, material, and frame dimensions.

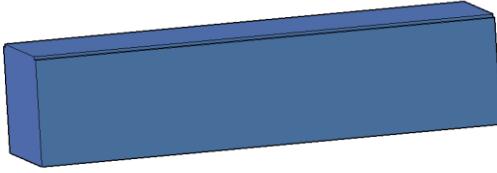
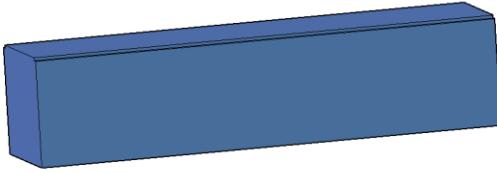
#### 4.3.1.8 SW\_SWDS\_CatchBasin

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	  	Catch Basin Type, coordinates. And size.
300	300	  	Catch Basin Type, Size, Coordinates, Rim level, inverts levels, sump depth, rotations angles, material, and frame dimensions.

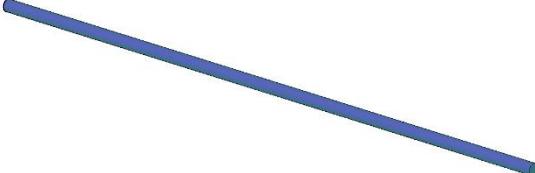
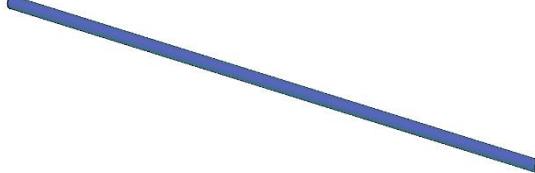
#### 4.3.1.9 SW\_SWDS\_OilSeparator\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 	Oil separator Type, coordinates. And size.
300	300	 	Oil separator Type, Size, Coordinates, Rim level, inverts levels, sump depth, rotations angles, material, and frame dimensions.

#### 4.3.1.10 SW\_SWDS\_OilSeparator\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Oil separator Type, coordinates. And size.
300	300		Oil separator Type, Size, Coordinates, Rim level, invert levels, sump depth, rotations angles, material, and frame dimensions.

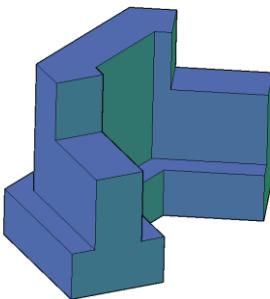
#### 4.3.1.11 SW\_SWDS\_PressurizedMainPipe

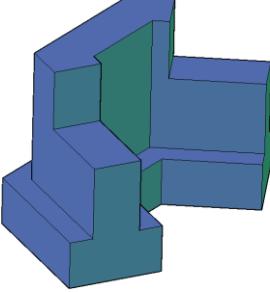
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pressurized Pipe size and coordinates.
300	300		Pipe size, coordinates, material, invert start, invert end, Cover level start, Cover level end, depth start, depth end, pipe slope and Peak flow, HGL, hydraulic data

#### 4.3.1.12 SW\_SWDS\_FlapValve

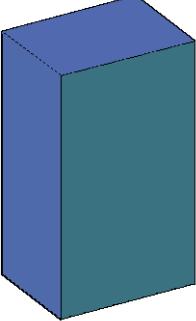
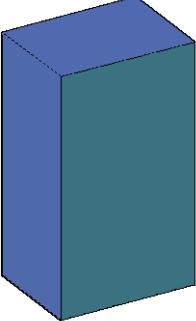
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		General Flap valve, coordinates. And size.
300	300		General Flap valve, Size, Coordinates, Rim level, inverts levels, depth, rotations angles, material.

#### 4.3.1.13 SW\_SWDS\_Outfalls

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Outfalls Wing wall , coordinates and size.

300	300		Outfalls Wing wall, coordinates, size, base width, thickness, height and material
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#### 4.3.1.14 SW\_SWDS\_RetentionBasin

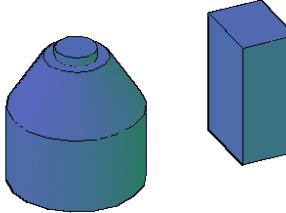
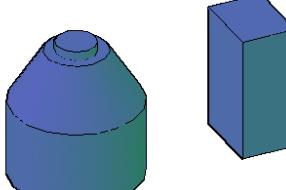
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Retention basin type and template surface, coordinates. And size.
300	300		Retention basin type and template surface, Size, Coordinates, Rim level, inverts levels, depth, rotations angles, material.

#### 4.3.1.15 SW\_SWDS\_Ponds

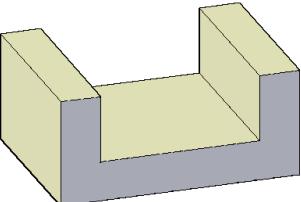
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	Template surface	Pond template surface

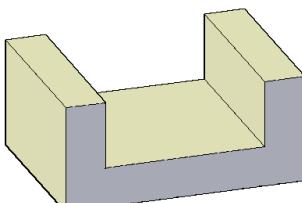
300	300	Template surface	Pond template surface with all data required can be obtained (levels and water quantities)
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#### 4.3.1.16 SW\_SWDS\_Soakaway

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Soakaway Type, coordinates. And size.
300	300		Soakway Type, Size, Coordinates, Rim level, inverts levels, sump depth, rotations angles, material, frame dimensions

#### 4.3.1.17 SW\_SWDS\_Spillway

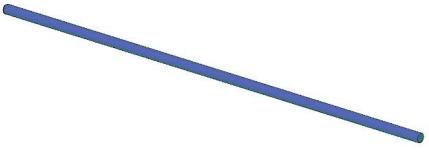
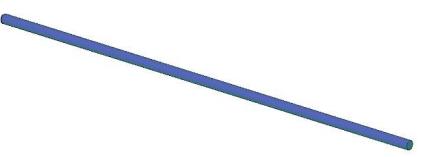
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 +Template surface	Spillway structure dimensions and template surface

300	300		+Template surface	Spillway structure dimensions and template surface with all data required can be obtained (levels and water quantities)
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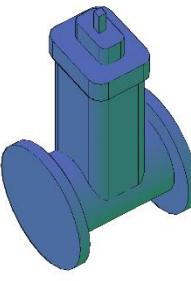
#### 4.4 Irrigation

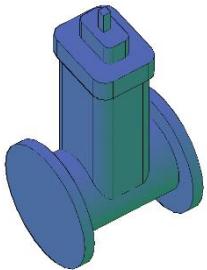
##### 4.4.1 Main Irrigation System

###### 4.4.1.1 IR\_MNIR\_Irrigation Pipe

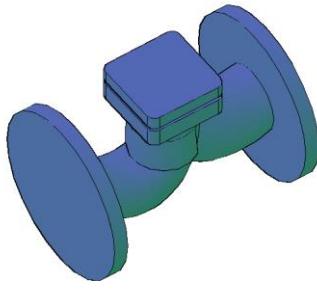
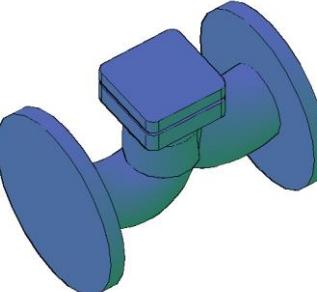
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Main Pressurized Pipe type, size, and coordinates.
300	300		Main Pressurized Pipe type, size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

###### 4.4.1.2 IR\_MNIR\_GateValve

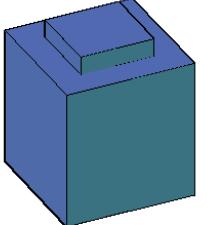
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.

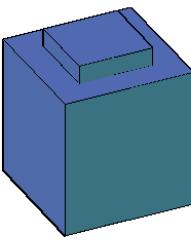
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.
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#### 4.4.1.3 IR\_MNIR\_NonReturnValve

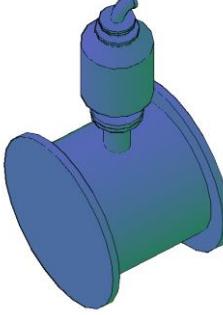
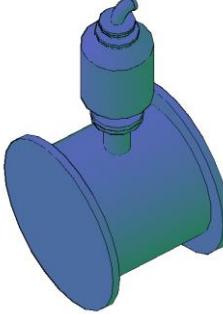
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

#### 4.4.1.4 IR\_MNIR\_ValveChamber\_Non ReturnValve

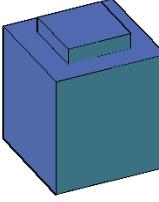
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve chamber Type, coordinates, and size.

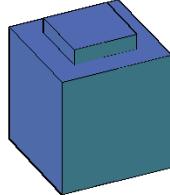
300	300		Valve chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.
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#### 4.4.1.5 IR\_MNIR\_AirReleaseValve

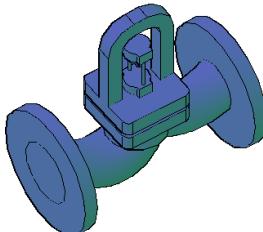
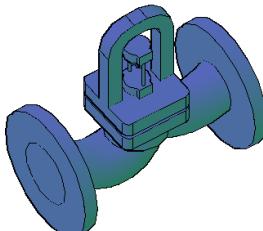
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

#### 4.4.1.6 IR\_MNIR\_ValveChamber\_AirReleaseValve

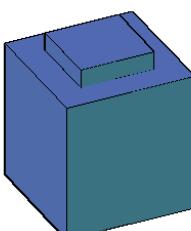
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve chamber Type, coordinates, and size.

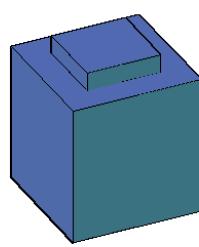
300	300		Valve chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.
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#### 4.4.1.7 IR\_MNIR\_WashoutValve

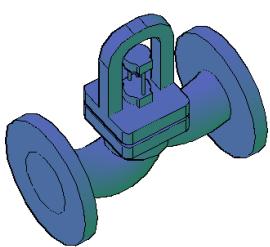
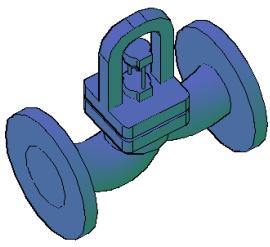
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

#### 4.4.1.8 IR\_MNIR\_ValveChamber\_WashoutValve

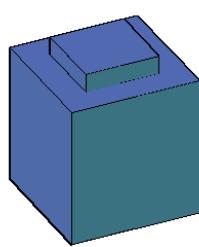
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve chamber Type, coordinates, and size.

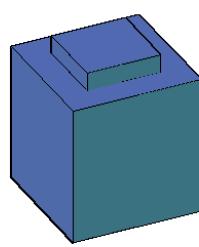
300	300		Valve chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.
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#### 4.4.1.9 IR\_MNIR\_FlowMeter

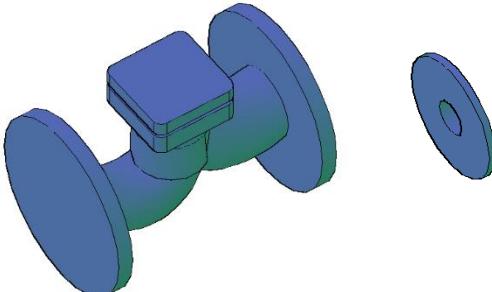
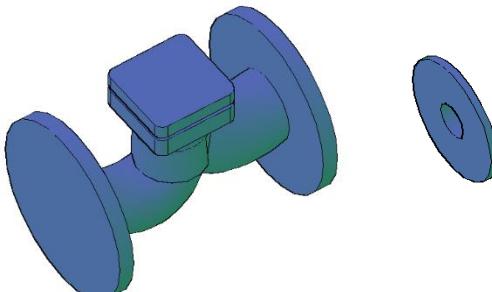
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

#### 4.4.1.10 IR\_MNIR\_ValveChamber\_FlowMeter

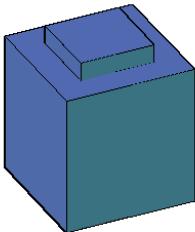
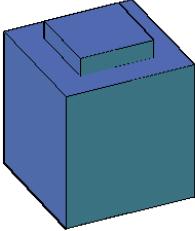
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve chamber Type, coordinates, and size.

300	300		Valve chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.
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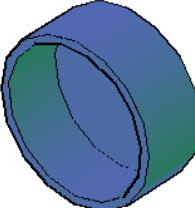
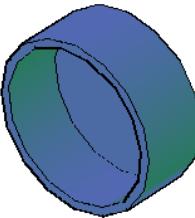
#### 4.4.1.11 IR\_MNIR\_QuickCouplingValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

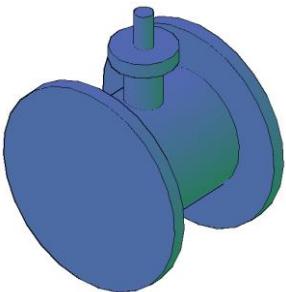
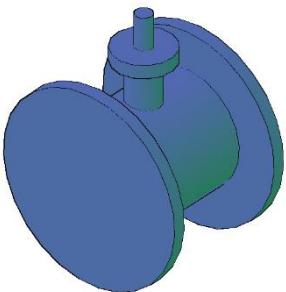
#### 4.4.1.12 IR\_MNIR\_ValveBox\_QuickCouplingValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve chamber Type, coordinates, and size.
300	300		Valve chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

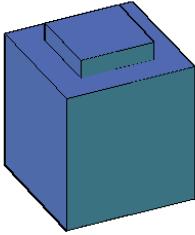
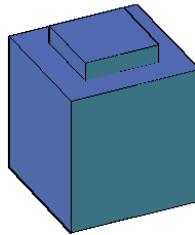
#### 4.4.1.13 IR\_MNIR\_EndCap

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		End cap coordinates.
300	300		End cap type, material, size, coordinates, level, connections pipes data and manufacture.

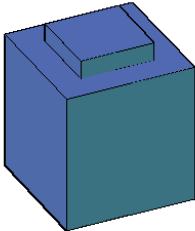
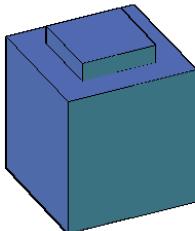
#### 4.4.1.14 IR\_MNIR\_ButterflyValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

#### 4.4.1.15 IR\_MNIR\_ValveChamber\_ButterflyValve

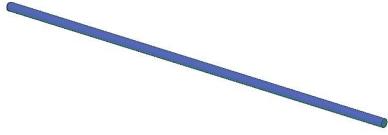
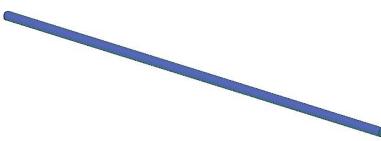
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve chamber Type, coordinates, and size.
300	300		Valve chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

#### 4.4.1.16 IR\_MNIR\_InletChamber

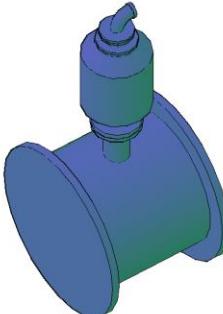
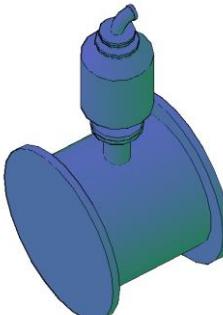
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Inlet Chamber coordinates, and size.
300	300		Inlet Chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

#### 4.4.2 Drip Irrigation System

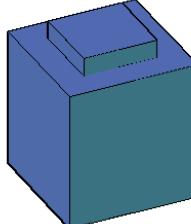
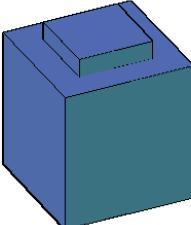
##### 4.4.2.1 IR\_DRIR\_IrrigationPipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe type, size, and coordinates.
300	300		Pipe type, size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

#### 4.4.2.2 IR\_DRIR\_SolenoidValveAssembly

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

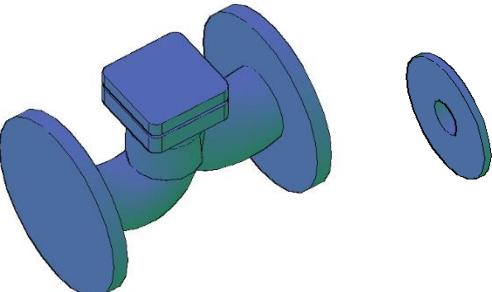
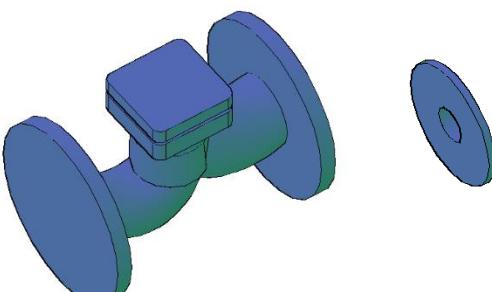
#### 4.4.2.3 IR\_DRIR\_ValveBox-SolenoidValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve Box Type, coordinates, and size.
300	300		Valve Box type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

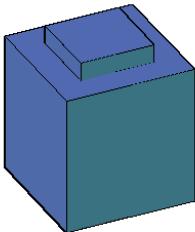
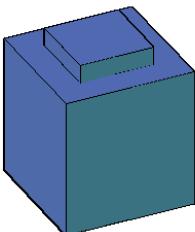
#### 4.4.2.4 IR\_DRIR\_InlineDripTube

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Inline tube pipe coordinates
300	300		Inline tube pipe type, size, coordinates, connections levels and material.

#### 4.4.2.5 IR\_DRIR\_EndFlushValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

#### 4.4.2.6 IR\_DRIR\_ValveBox\_FlushValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve Box Type, coordinates, and size.
300	300		Valve Box type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

#### 4.4.2.7 IR\_DRIR\_LLDPEPipe

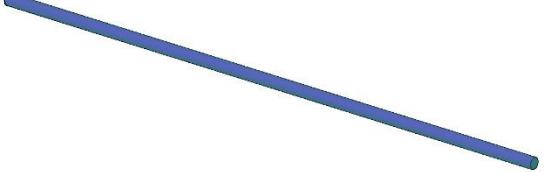
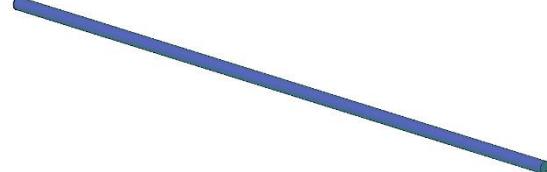
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		LLDPE pipe coordinates
300	300		LLDPE pipe type, size, coordinates, connections levels and material.

#### 4.4.2.8 IR\_DRIR\_DripTubeStake

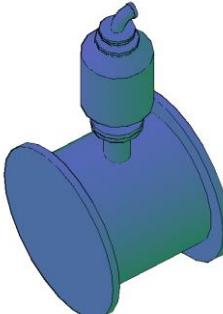
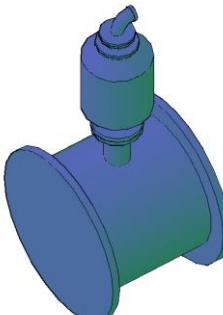
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Stake coordinates.
300	300		Stake coordinates, size, dimensions, material, and depth.

#### 4.4.3 Bubbler Irrigation System

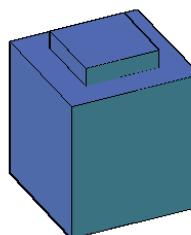
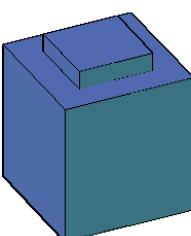
##### 4.4.3.1 IR\_BBIR\_IrrigationPipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe type, size, and coordinates.
300	300		Pipe type, size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

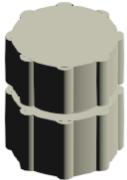
#### 4.4.3.2 IR\_BBIR\_SolenoidValveAssembly

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve type, material, and coordinates.
300	300		Valve type, material, size, coordinates, level, connections pipes data and manufacture.

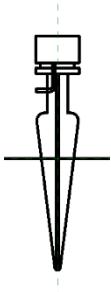
#### 4.4.3.3 IR\_BBIR\_ValveBox\_SolenoidValve

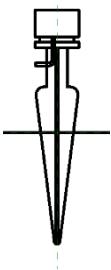
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Valve Box Type, coordinates, and size.
300	300		Valve Box type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

#### 4.4.3.4 IR\_BBIR\_BubblerRiser

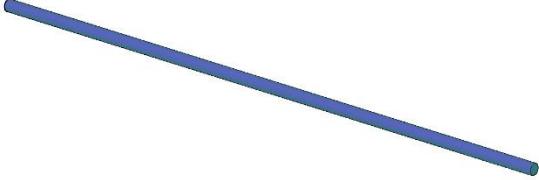
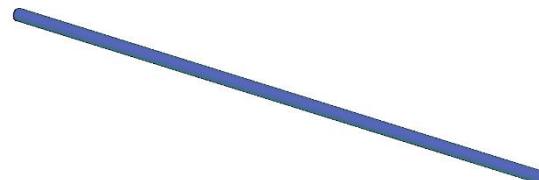
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Riser coordinates
300	300		Riser coordinates, size, material, and coverage area.

#### 4.4.3.5 IR\_BBIR\_BubblerStake

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Stake coordinates.

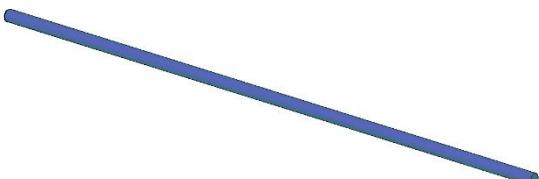
300	300		Stake coordinates, size, dimensions, material, and depth.
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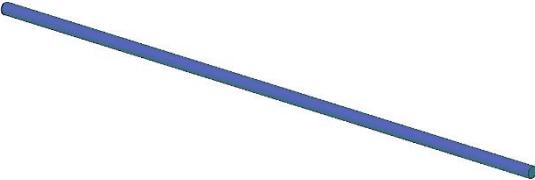
#### 4.4.3.6 IR\_BBIR\_Pipe\_BubblerAssembly

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe type, size, and coordinates.
300	300		Pipe type, size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,

#### 4.4.4 Sprinkler Irrigation System

##### 4.4.4.1 IR\_SPIR\_IrrigationPipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pipe type, size, and coordinates.

300	300		Pipe type, size, coordinates, material, invert start, end levels, start, end cover depth and pipe slope and hydraulic data,
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#### 4.4.4.2 IR\_SPIR\_Sprinkler

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sprinkler coordinates
300	300		Sprinkler coordinates, size, material, coverage area.

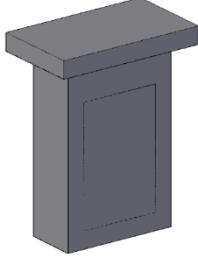
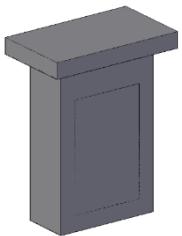
#### 4.4.4.3 IR\_SPIR\_Sprinkler Riser

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Riser coordinates

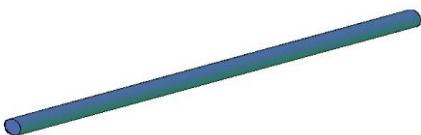
300	300		Riser coordinates, size, material, and coverage area.
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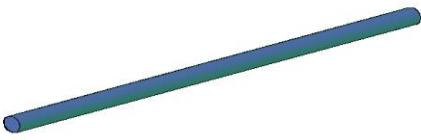
#### 4.4.5 Control System

##### 4.4.5.1 IR\_CNTL\_Controller

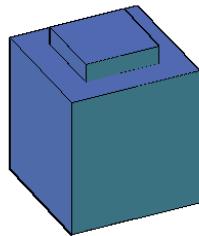
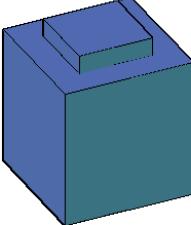
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name and location
300	300		Name, location coordinates, rotation angle, system, color material and power

##### 4.4.5.2 IR\_CNTL\_ControlCableConduit

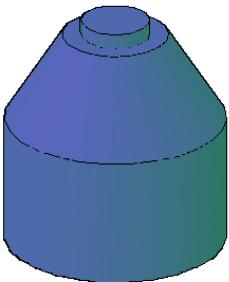
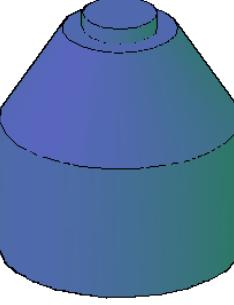
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Conduit indication path and type

300	300		Conduit size, dimension, inert start, and end levels, start and end cover depth, conduit (pipe) slope and conduit material.
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#### 4.4.5.3 IR\_CNTL\_PullBoxChamber

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		PB chamber Type, coordinates, and size.
300	300		PB chamber type, coordinates, rotation angle, material, pipes data levels, RIM level and Material.

4.4.5.4 IR\_CNTL\_RoundPullBox\_Plastic

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pb box Type, coordinates.
300	300		Pb Box Type, Size, Coordinates, Rim level, depth, rotations angles, material, frame dimensions

## 4.5 Landscape Components

### 4.5.1 Softscape

#### 4.5.1.1 LS\_SFSC\_Trees\_Palm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.2 LS\_SFSC\_Trees\_Fruits

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.3 LS\_SFSC\_Trees\_Ornament

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.4 LS\_SFSC\_Trees\_ArabicAcacia

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.5 LS\_SFSC\_Trees\_IndianCork

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.6 LS\_SFSC\_Trees\_NeemTree

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.7 LS\_SFSC\_Trees\_PongamTree

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.8 LS\_SFSC\_Trees\_RoyalPoincianaFlamboyant

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

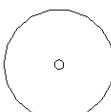
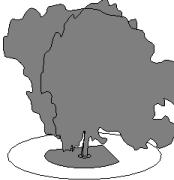
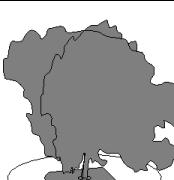
#### 4.5.1.9 LS\_SFSC\_Trees\_SidrTree

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

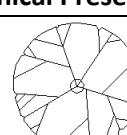
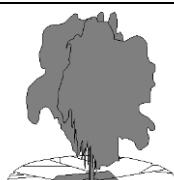
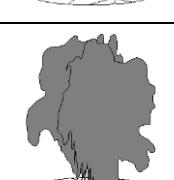
#### 4.5.1.10 LS\_SFSC\_Trees\_WhiteFrangipani

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

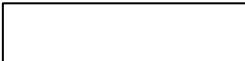
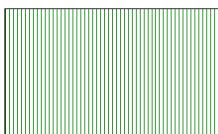
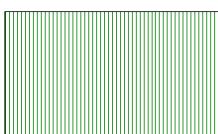
#### 4.5.1.11 LS\_SFSC\_Trees\_Women'sTongue

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

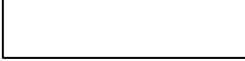
#### 4.5.1.12 LS\_SFSC\_Trees\_YellowPoinciana

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type and Height
300	300		Type, Image, Height, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

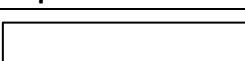
#### 4.5.1.13 LS\_SFSC\_Hedge

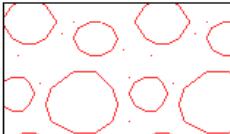
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.14 LS\_SFSC\_Shrubs

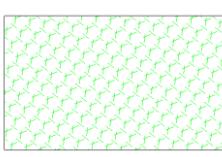
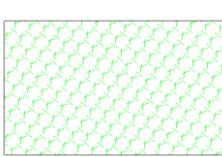
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.15 LS\_SFSC\_Groundcovers

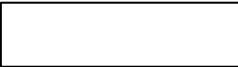
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.16 LS\_SFSC\_Grass

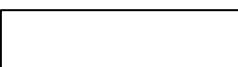
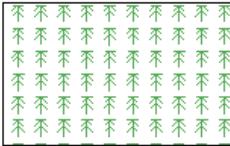
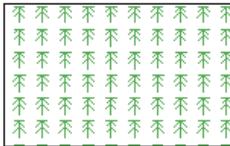
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.17 LS\_SFSC\_CactusAndSucculent

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance
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#### 4.5.1.18 LS\_SFSC\_Lawn

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.19 LS\_SFSC\_SeasonalFlower

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Density, Image, Height, Quantity Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.1.20 LS\_SFSC\_Climbers

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Density, Image, Height, Quantity, Common Name, Botanical Name, Native/Adaptive, Uniclass Classification, Irrigation Demand, Shape, Coastal Suitability, Drought Tolerance, Hazards, Inland Suitability, Salinity Tolerance

#### 4.5.2 Hardscape

##### 4.5.2.1 LS\_HRSC\_Mulches\_Small\_Gravel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

##### 4.5.2.2 LS\_HRSC\_Mulches\_Medium\_Gravel

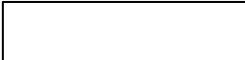
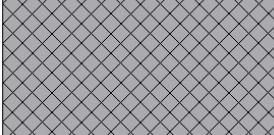
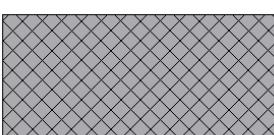
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Uniclass Classification
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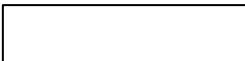
#### 4.5.2.3 LS\_HRSC\_Mulches\_Big\_Gravel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.4 LS\_HRSC\_Mulches\_RecycledGlass

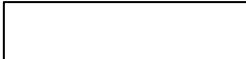
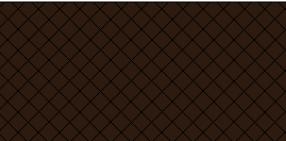
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.5 LS\_HRSC\_Mulches\_WoodChip

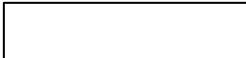
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.6 LS\_HRSC\_Mulches\_ShreddedBark

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.7 LS\_HRSC\_Mulches\_Small\_Pebbles

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.8 LS\_HRSC\_Mulches\_Medium\_Pebbles

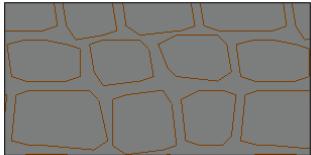
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.9 LS\_HRSC\_Mulches\_Big\_Pebbles

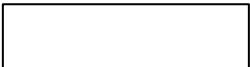
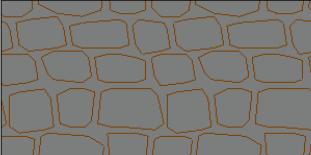
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.10 L LS\_HRSC\_StoneBoulders\_Big

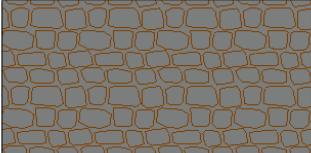
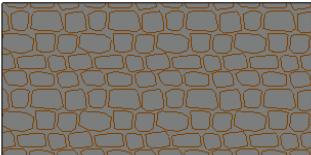
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Uniclass Classification
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#### 4.5.2.11 LS\_HRSC\_StoneBoulders\_Medium

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.12 LS\_HRSC\_StoneBoulders\_Small

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Uniclass Classification

#### 4.5.2.13 LS\_HRSC\_PrecastConcretePavers\_10x20x6cm\_DarkGrey

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.14 LS\_HRSC\_PrecastConcretePavers\_10x20x6cm\_DarkGrey

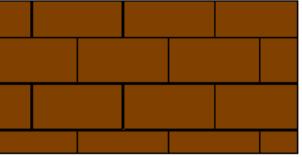
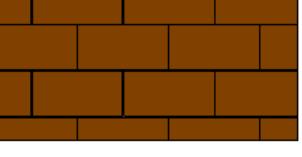
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.15 LS\_HRSC\_PrecastConcretePavers\_30x60x6cm\_DarkGrey

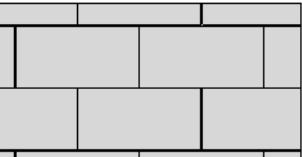
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

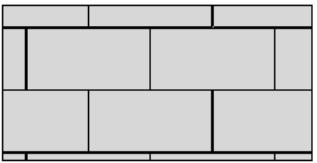
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.16 LS\_HRSC\_PrecastConcretePavers\_30x60x6cm\_Brown

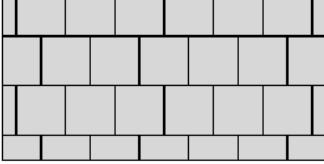
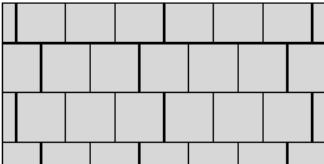
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.17 LS\_HRSC\_PrecastConcretePavers\_40x80x6cm\_LightGrey

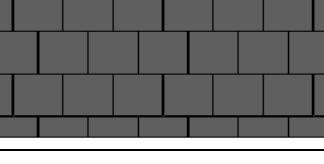
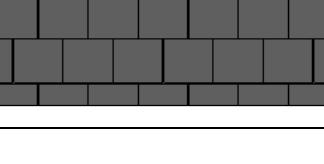
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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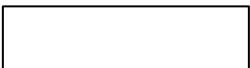
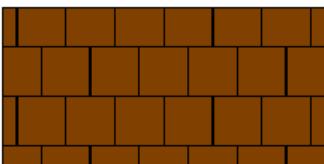
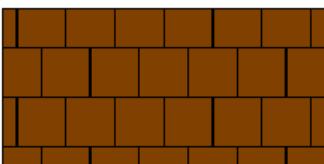
#### 4.5.2.18 LS\_HRSC\_PrecastConcretePavers\_30x30x6cm\_LightGrey

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.19 LS\_HRSC\_PrecastConcretePavers\_30x30x6cm\_DarkGrey

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.20 LS\_HRSC\_PrecastConcretePavers\_30x30x6cm\_Brown

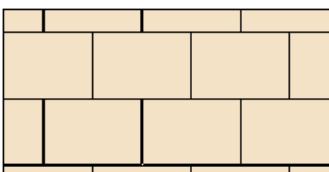
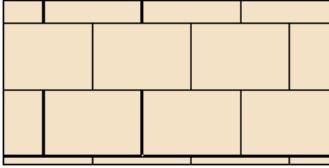
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.21 ADM-Pr25936017-HRSC-PrecastConcretePavers-40x60x6cm-DarkGrey

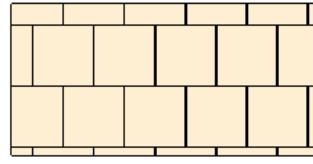
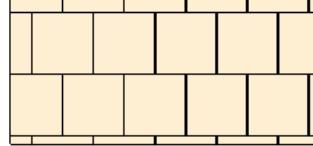
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.22 LS\_HRSC\_PrecastConcretePavers\_40x60x6cm\_Beige

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

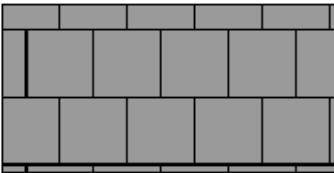
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.23 LS\_HRSC\_PrecastConcretePavers\_40x40x6cm\_Beige

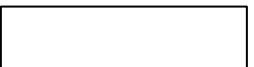
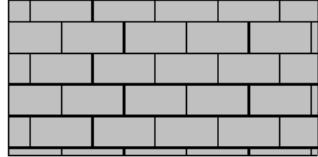
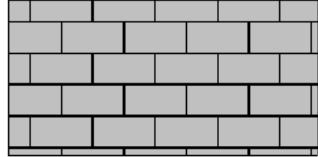
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.24 ALS\_HRSC\_PrecastConcretePavers\_40x40x6cm\_MidGrey

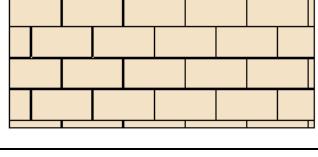
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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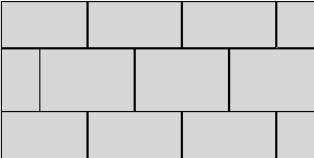
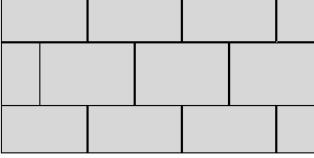
#### 4.5.2.25 LS\_HRSC\_PrecastConcretePavers\_20x40x6cm\_SilverLightGrey

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

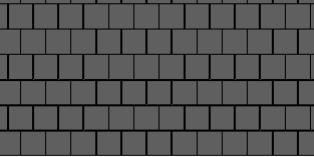
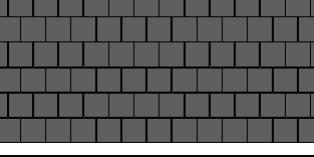
#### 4.5.2.26 LS\_HRSC\_PrecastConcretePavers\_20x40x6cm\_Beige

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.5.2.27 LS\_HRSC\_PrecastConcretePavers\_40x60x6cm\_LightGrey**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.5.2.28 LS\_HRSC\_PrecastConcretePavers\_15x15x6cm\_DarkGrey**

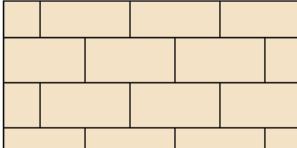
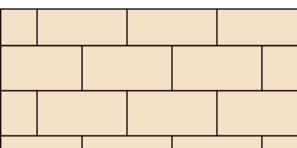
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.5.2.29 LS\_HRSC\_PrecastConcretePavers\_60x15x6cm\_Red**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

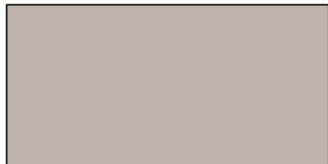
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.30 LS\_HRSC\_PrecastConcretePavers\_30x30x6cm\_Beige

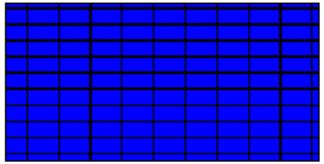
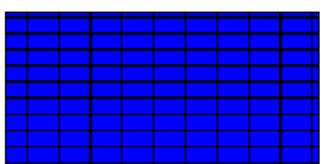
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.31 LS\_HRSC\_ConcretePaving\_Cast-in-Situ

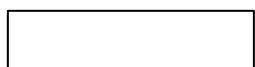
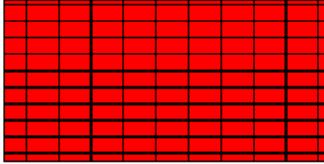
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Reference Specification, Uniclass Classification
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#### 4.5.2.32 LS\_HRSC\_CeramicTile\_10x20cm\_Blue

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.33 LS\_HRSC\_CeramicTile\_10x20cm\_Red

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.5.2.34 ALS\_HRSC\_CeramicTile\_10x20cm\_Brown**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.5.2.35 LS\_HRSC\_CeramicTile\_10x20cm\_Beige**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.5.2.36 LS\_HRSC\_CeramicTile\_20x40cm\_Blue**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

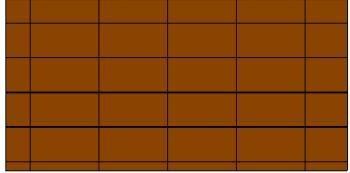
300	300		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.37 LS\_HRSC\_CeramicTile\_20x40cm\_Red

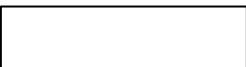
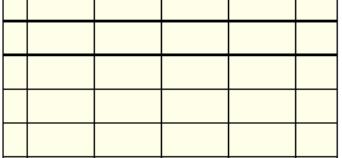
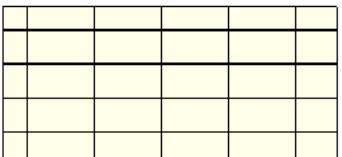
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.38 LS\_HRSC\_CeramicTile\_20x40cm\_Brown

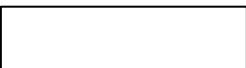
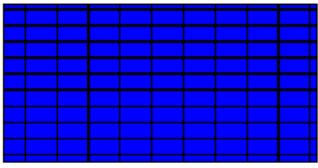
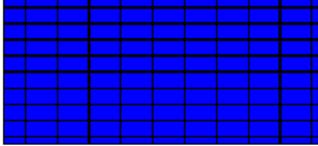
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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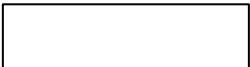
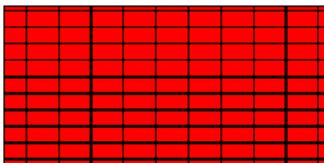
#### 4.5.2.39 LS\_HRSC\_CeramicTile\_20x40cm\_Beige

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

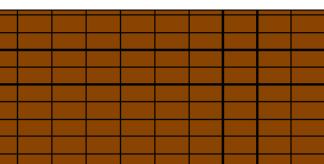
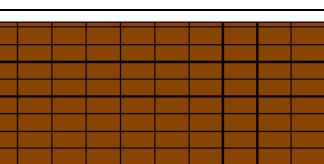
#### 4.5.2.40 LS\_HRSC\_PorcelainTiles\_10x20cm\_Blue

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

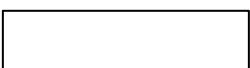
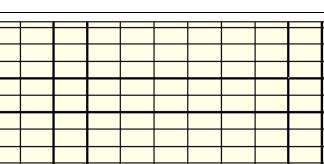
#### 4.5.2.41 LS\_HRSC\_PorcelainTiles\_10x20cm\_Red

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.42 LS\_HRSC\_PorcelainTiles\_10x20cm\_Brown

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.43 LS\_HRSC\_PorcelainTiles\_10x20cm\_Beige

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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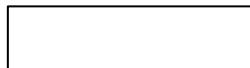
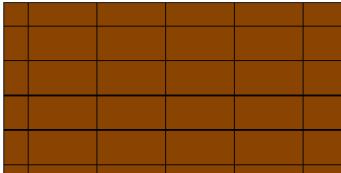
#### 4.5.2.44 LS\_HRSC\_PorcelainTiles\_20x40cm\_Blue

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

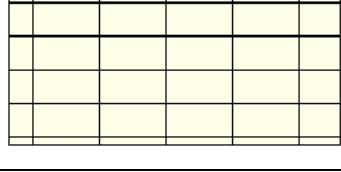
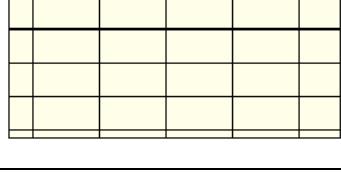
#### 4.5.2.45 LS\_HRSC\_PorcelainTiles\_20x40cm\_Red

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

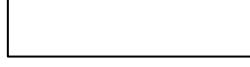
#### 4.5.2.46 LS\_HRSC\_PorcelainTiles\_20x40cm\_Brown

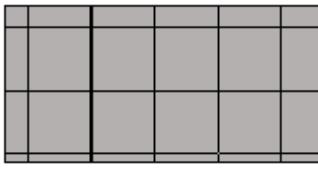
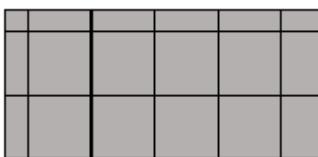
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.47 LS\_HRSC\_PorcelainTiles\_20x40cm\_Beige

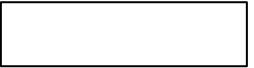
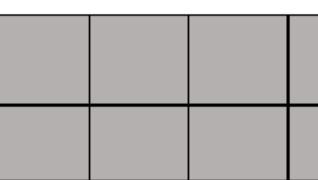
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.48 LS\_HRSC\_GraniteTile\_40x40cm

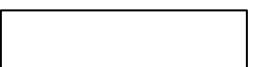
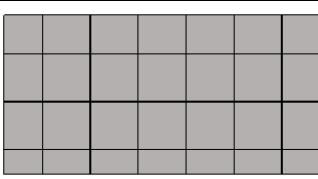
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.49 LS\_HRSC\_GraniteTile\_60x60cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.50 LS\_HRSC\_GraniteTile\_30x30cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	300		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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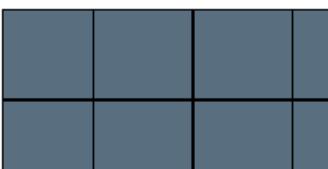
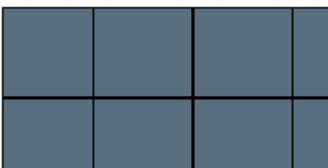
#### 4.5.2.51 LS\_HRSC\_GraniteTile\_15x15cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

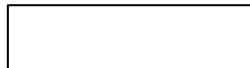
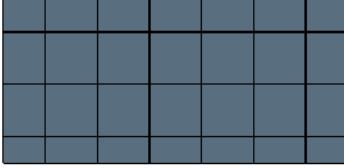
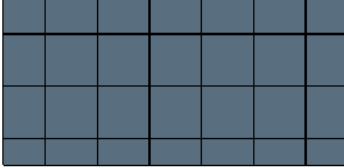
#### 4.5.2.52 LS\_HRSC\_MarbleTile\_40x40cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.53 LS\_HRSC\_MarbleTile\_60x60cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.54 LS\_HRSC\_MarbleTile\_30x30cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.55 LS\_HRSC\_MarbleTile\_15x15cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.56 LS\_HRSC\_Sandstone\_40x40cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.57 LS\_HRSC\_Sandstone\_60x60cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.2.58 LS\_HRSC\_Sandstone\_30x30cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.59 LS\_HRSC\_Sandstone\_15x15cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.60 LS\_HRSC\_Limestone\_40x40cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.61 LS\_HRSC\_Limestone\_60x60cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.62 LS\_HRSC\_Limestone\_30x30cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

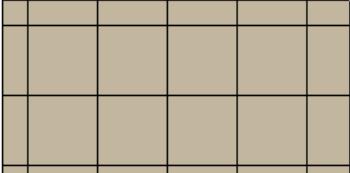
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.63 LS\_HRSC\_Limestone\_15x15cm

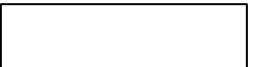
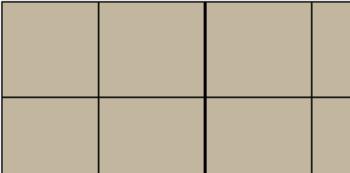
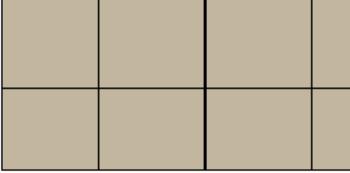
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.64 LS\_HRSC\_Travertine\_40x40cm

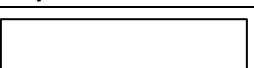
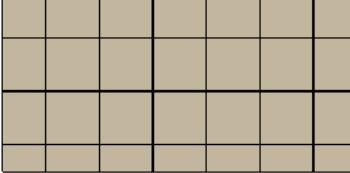
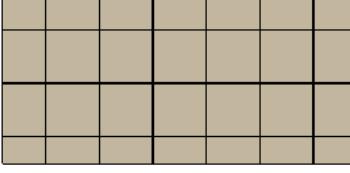
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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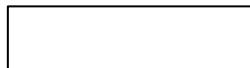
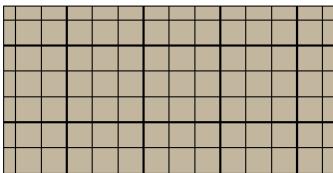
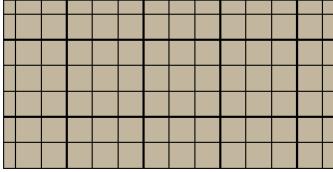
#### 4.5.2.65 LS\_HRSC\_Travertine\_60x60cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

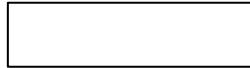
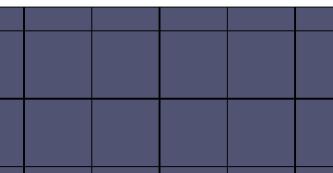
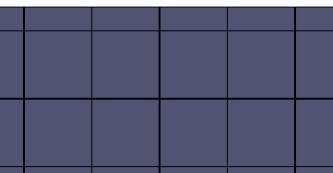
#### 4.5.2.66 LS\_HRSC\_Travertine\_30x30cm

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.67 LS\_HRSC\_Travertine\_15x15cm

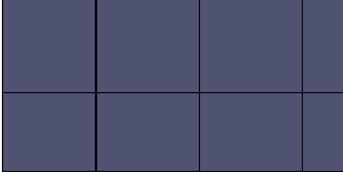
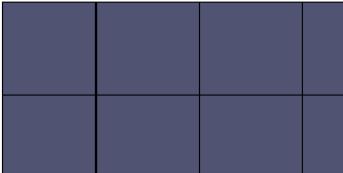
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.68 LS\_HRSC\_Slate\_40x40cm

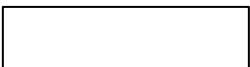
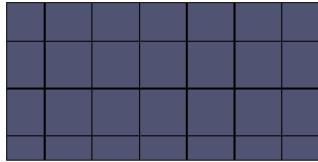
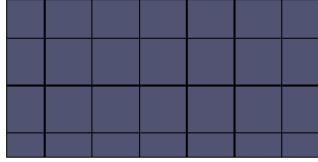
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.69 LS\_HRSC\_Slate\_60x60cm

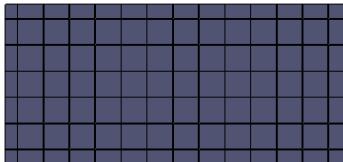
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

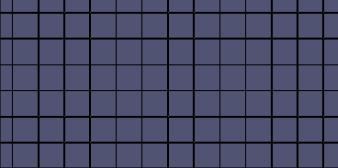
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.70 LS\_HRSC\_Slate\_30x30cm

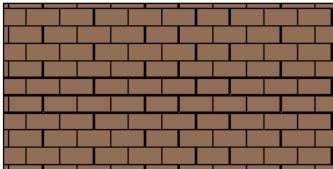
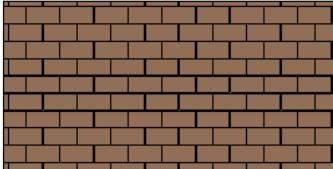
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.71 LS\_HRSC\_Slate\_15x15cm

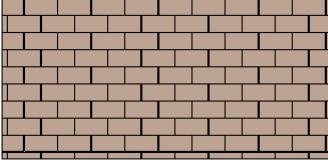
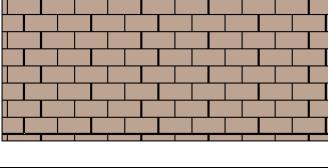
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.2.72 LS\_HRSC\_BrickPavers

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.73 LS\_HRSC\_ClayPavingBlocks

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.74 LS\_HRSC\_TimberDeckPaving

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.2.75 LS\_HRSC\_CompositeWood

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.2.76 LS\_HRSC\_CeramicTactileHazard

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.77 LS\_HRSC\_CeramicTactileDirectional

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.78 LS\_HRSC\_PrecastConcreteTactileHazard

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.79 LS\_HRSC\_PrecastConcreteTactileDirectional

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.80 LS\_HRSC\_NaturalStoneTactileHazard

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

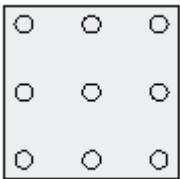
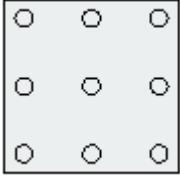
300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.81 LS\_HRSC\_NaturalStoneTactileDirectional

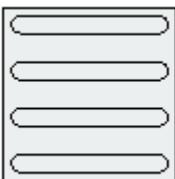
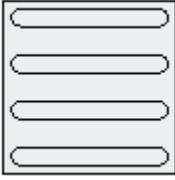
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.82 LS\_HRSC\_MetalTactileHazard

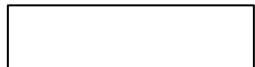
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.83 LS\_HRSC\_MetalTactileDirectional

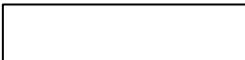
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.84 LS\_HRSC\_Poured-in-PlaceRubber

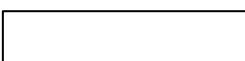
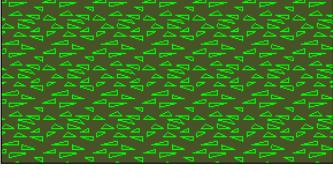
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.85 LS\_HRSC\_RubberTiles

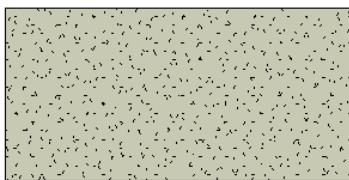
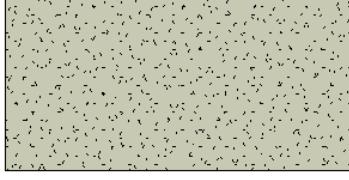
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.86 LS\_HRSC\_ArtificialGrass

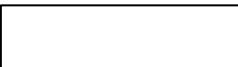
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Color, Reference Specification, Uniclass Classification
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#### 4.5.2.87 LS\_HRSC\_BeachSand

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
200	300		Type
300	300		Type, Material, Color, Reference Specification, Uniclass Classification

#### 4.5.2.88 LS\_HRSC\_AsphaltCycleTrack\_Green

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	300		Type
300	300		Type, Material, Color, Thickness, Reference Specification, Uniclass Classification

#### 4.5.2.89 LS\_HRSC\_RubberJoggingTrack\_Red

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Color, Thickness, Reference Specification, Uniclass Classification

#### 4.5.2.90 LS\_HRSC\_Wall\_Concrete-in-Situ

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

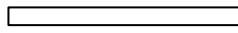
#### 4.5.2.91 LS\_HRSC\_Wall\_ConcreteBlocks

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

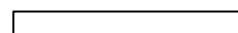
#### 4.5.2.92 LS\_HRSC\_Wall\_PaintFinish

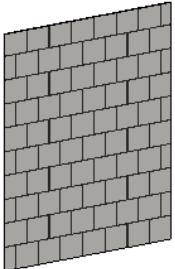
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.93 LS\_HRSC\_Wall\_Fair-FaceFinish

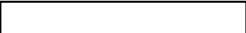
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.94 LS\_HRSC\_Wall\_NaturalStone

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	300		Material Type, Dimension

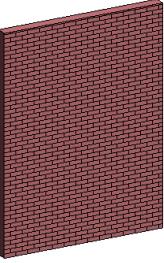
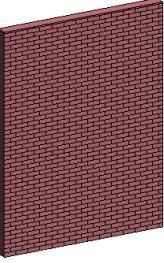
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.2.95 LS\_HRSC\_Wall\_Cladding

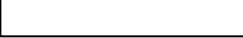
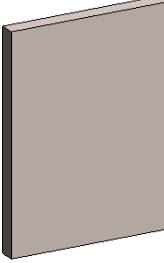
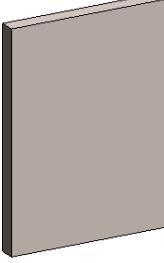
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	300		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.96 LS\_HRSC\_Wall\_Brick

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	300		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.97 LS\_HRSC\_Wall\_Retaining

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	300		Material Type, Dimension
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.98 LS\_HRSC\_Fence\_Aluminum

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.99 LS\_HRSC\_Fence\_GalvanizedSteel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	300		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.100 LS\_HRSC\_Fence\_Iron

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.101 LS\_HRSC\_Fence\_Wooden

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.102 LS\_HRSC\_Fence\_WireMesh

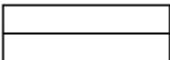
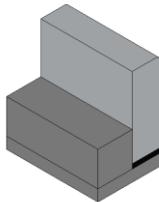
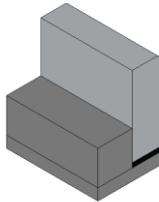
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.103 LS\_HRSC\_Kerb\_TypeA

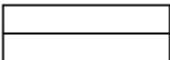
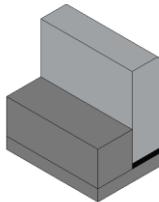
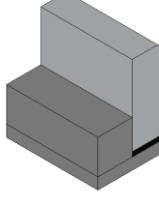
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.104 LS\_HRSC\_Kerb\_TypeB

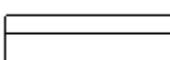
LOD	LOI	Graphical Presentation	Non-Graphical Information

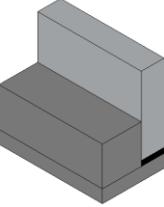
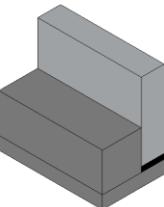
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.105 LS\_HRSC\_Kerb\_TypeB1

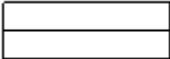
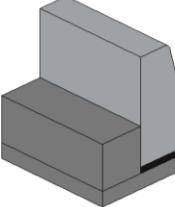
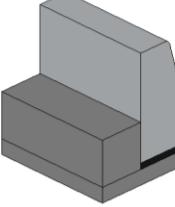
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.106 LS\_HRSC\_Kerb\_TypeC

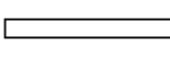
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

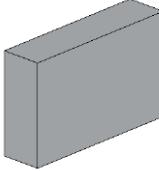
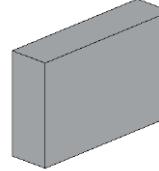
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.107 LS\_HRSC\_FlushKerb\_TypeD

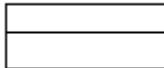
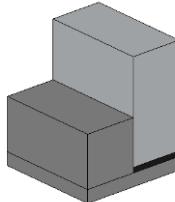
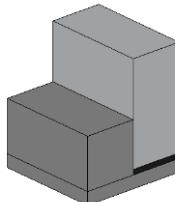
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.108 LS\_HRSC\_FlushKerb\_TypeE

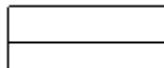
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

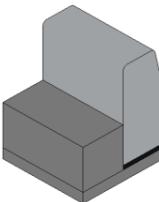
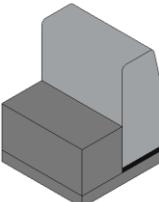
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.109 LS\_HRSC\_FlushKerb\_TypeF

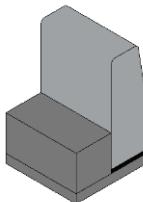
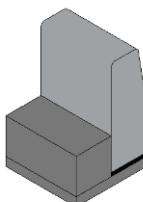
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.110 LS\_HRSC\_Kerb\_TypeG

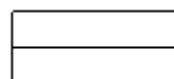
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

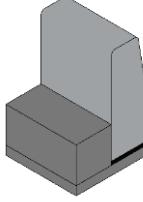
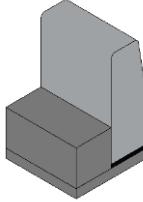
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.111 LS\_HRSC\_Kerb\_TypeH

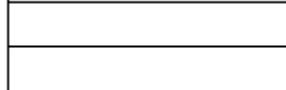
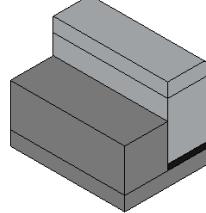
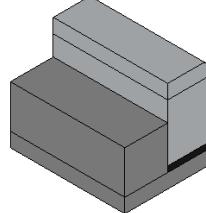
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.112 LS\_HRSC\_Kerb\_Typel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

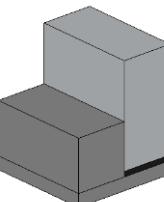
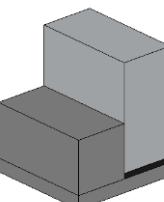
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.113 LS\_HRSC\_UpstandKerb

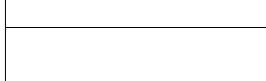
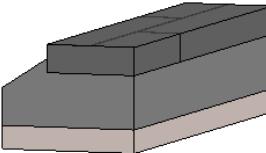
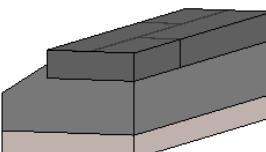
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.114 LS\_HRSC\_FlushKerb

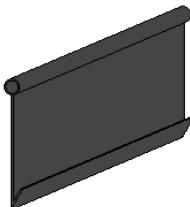
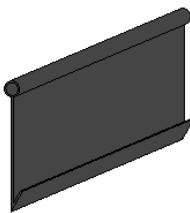
LOD	LOI	Graphical Presentation	Non-Graphical Information

100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

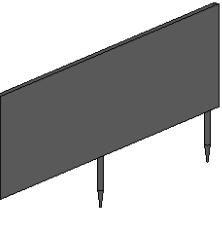
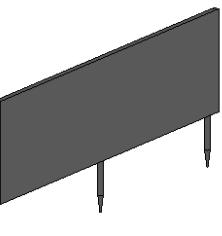
#### 4.5.2.115 LS\_HRSC\_Edging

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

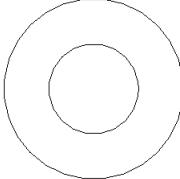
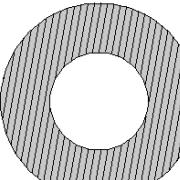
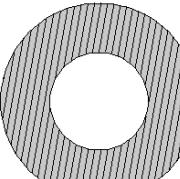
#### 4.5.2.116 LS\_HRSC\_Edging\_PVC

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

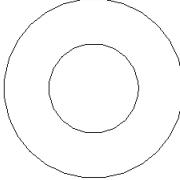
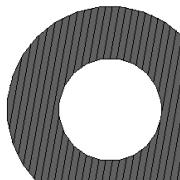
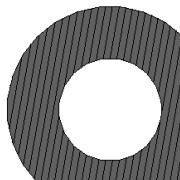
#### 4.5.2.117 LS\_HRSC\_Edging\_Aluminum

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.118 LS\_HRSC\_TreeGrate\_CastIron

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.119 LS\_HRSC\_TreeGate\_CastAluminum

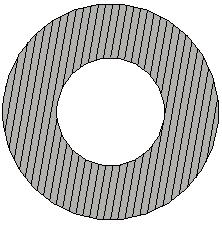
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

**4.5.2.120 LS\_HRSC\_TreeGrate\_GalvanizedSteel**

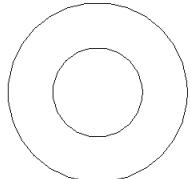
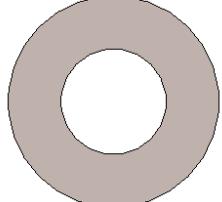
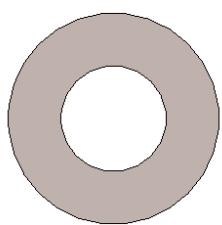
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

**4.5.2.121 LS\_HRSC\_TreeGrate\_NaturalStone**

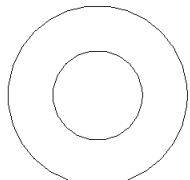
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type

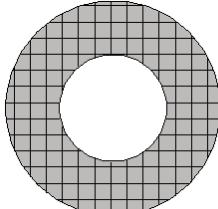
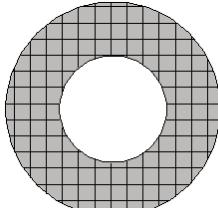
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.2.122 LS\_HRSC\_TreeGrate\_Concrete

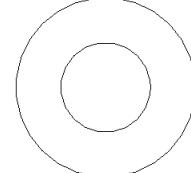
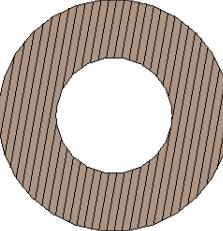
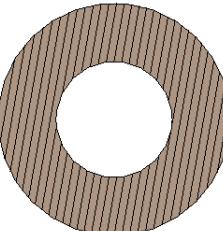
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.123 LS\_HRSC\_TreeGrate\_Channel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

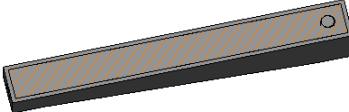
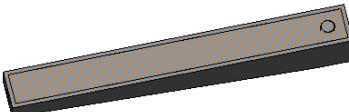
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.124 LS\_HRSC\_TreeGrate\_Cladding

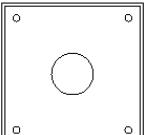
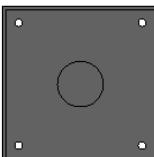
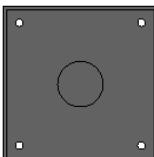
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.125 LS\_HRSC\_GratingChannel

LOD	LOI	Graphical Presentation	Non-Graphical Information
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100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.126 LS\_HRSC\_Manhole\_Rectangular

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.127 LS\_HRSC\_Manhole\_Round

LOD	LOI	Graphical Presentation	Non-Graphical Information

100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.128 LS\_HRSC\_FloorDrain\_Rectangular

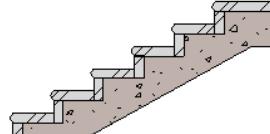
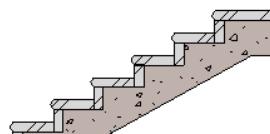
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.129 LS\_HRSC\_FloorDrain\_Round

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.130 LS\_HRSC\_Steps

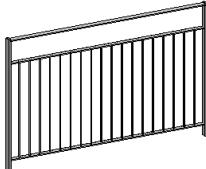
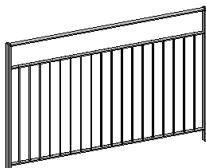
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.131 LS\_HRSC\_Ramp

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.132 LS\_HRSC\_Railings\_SafetyGuardRails

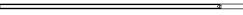
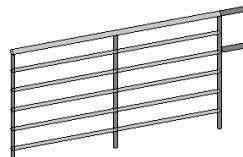
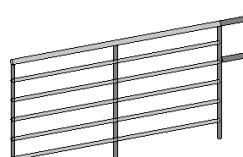
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.2.133 LS\_HRSC\_Railings\_CastIron

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type

300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.2.134 LS\_HRSC\_Railings\_Pipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

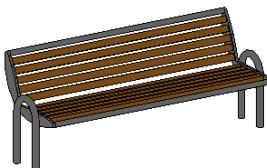
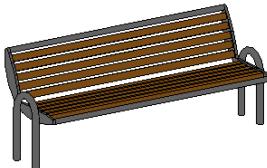
#### 4.5.3 Public Realm Furniture

##### 4.5.3.1 LS\_PRFR\_Bench\_Timber&Wood

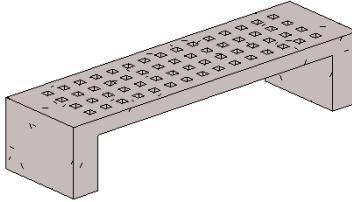
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

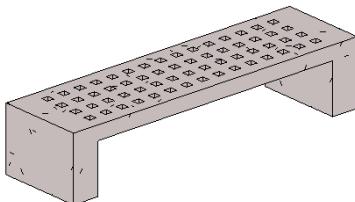
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.2 LS\_PRFR\_Bench\_WoodWithBackrest

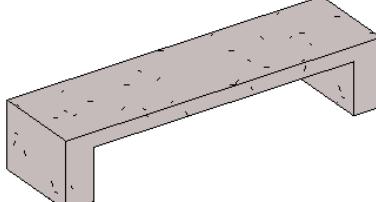
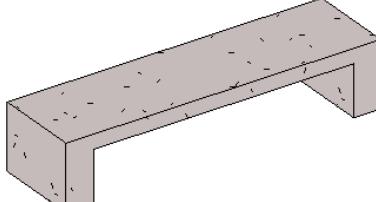
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.3 LS\_PRFR\_Bench\_Concrete

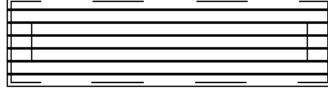
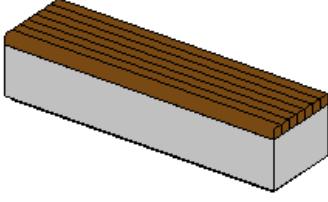
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

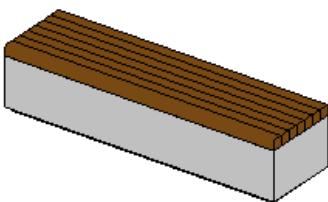
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.4 LS\_PRFR\_Bench\_Granite

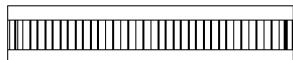
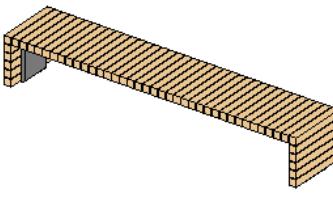
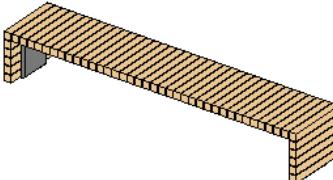
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.5 LS\_PRFR\_Bench\_Type1-Wood

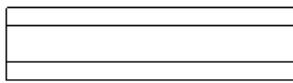
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.6 LS\_PRFR\_Bench\_Type2-Wood

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.7 LS\_PRFR\_Bench\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

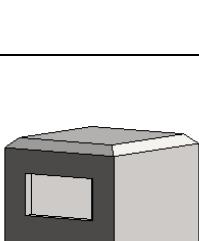
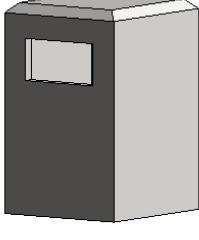
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.8 LS\_PRFR\_LiterBin\_Round\_GalvanizedSteel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.9 LS\_PRFR\_LiterBin\_Square\_Steel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

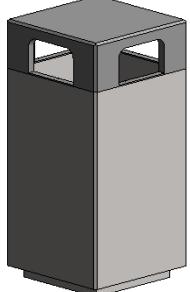
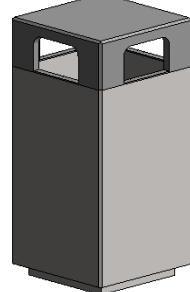
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.10 LS\_PRFR\_LiterBin\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Reference Specification, Uniclass Classification
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#### 4.5.3.11 LS\_PRFR\_LiterBin\_Granite

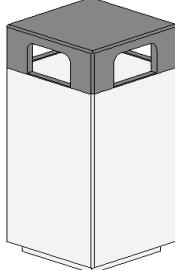
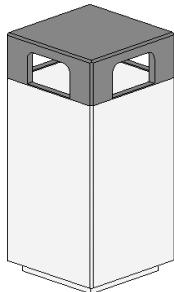
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.12 LS\_PRFR\_LiterBin\_AshtrayTop

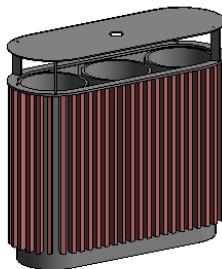
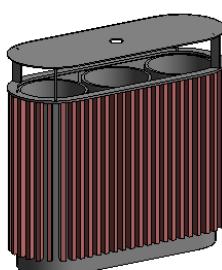
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.13 LS\_PRFR\_RecyclingBin

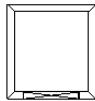
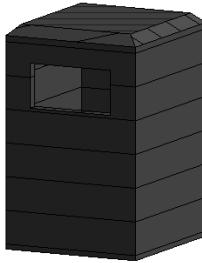
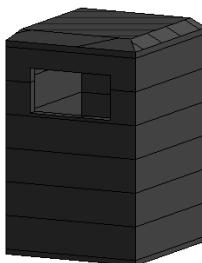
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.14 LS\_PRFR\_RecyclingBin\_3Bins

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.15 LS\_PRFR\_LitterBin\_Square\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.16 LS\_PRFR\_BikeRacks\_GalvanizedSteel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

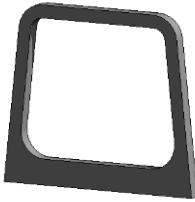
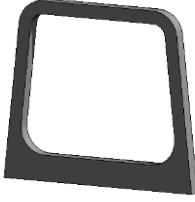
#### 4.5.3.17 LS\_PRFR\_LiterBin\_StainlessSteel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.18 LS\_PRFR\_BikeRacks\_Wooden

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.19 LS\_PRFR\_BikeRacks\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.20 LS\_PRFR\_BikeRacks\_GRP

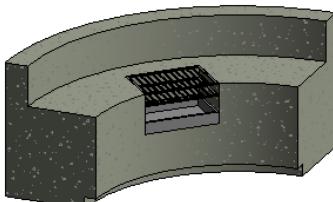
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Reference Specification, Uniclass Classification

#### 4.5.3.21 LS\_PRFR\_BBQStands&HotCoalWasteBin

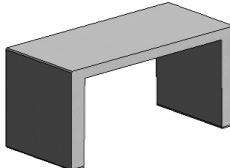
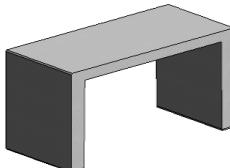
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.22 LS\_PRFR\_BarbbecueCounter

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

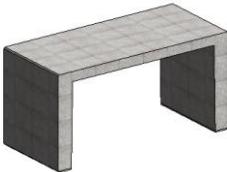
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.23 LS\_PRFR\_PicnicTable\_Concrete

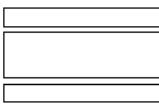
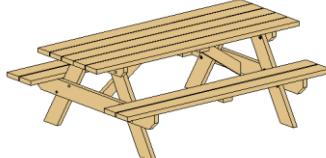
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.24 LS\_PRFR\_PicnicTable\_Granite

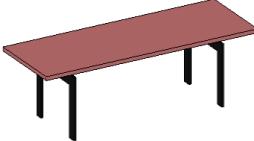
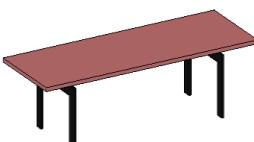
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.25 LS\_PRFR\_PicnicTable\_CompositeWood

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.26 LS\_PRFR\_PicnicTable\_TimberandMetal

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

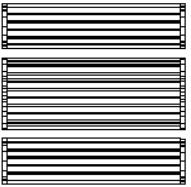
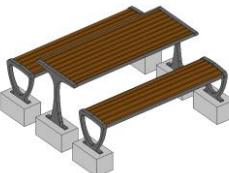
**4.5.3.27 LS\_PRFR\_PicnicTable\_Set01**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

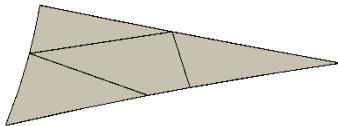
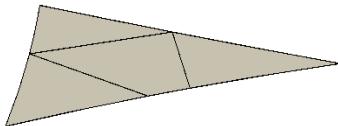
**4.5.3.28 LS\_PRFR\_PicnicTable\_Set02**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.29 LS\_PRFR\_PicnicTable\_Set03

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.30 LS\_PRFR\_RoofShade\_Fabric

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

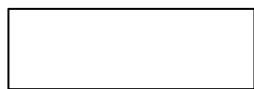
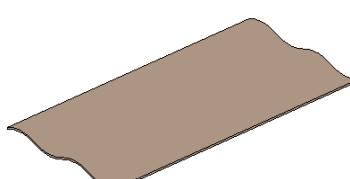
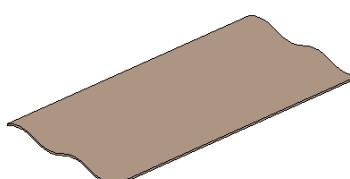
#### 4.5.3.31 LS\_PRFR\_RoofShade\_Wooden

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

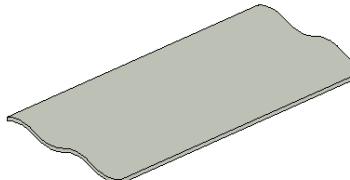
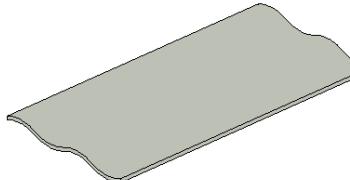
#### 4.5.3.32 LS\_PRFR\_RoofShade\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.33 LS\_PRFR\_RoofShade\_Metal

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Material Color, Dimension, Reference Specification
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.34 LS\_PRFR\_RoofShade\_GRC

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

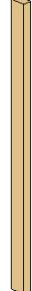
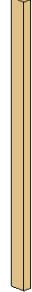
#### 4.5.3.35 LS\_PRFR\_RoofShade\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.36 LS\_PRFR\_RoofShade\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.37 LS\_PRFR\_Post\_Timber

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.38 LS\_PRFR\_ConcreteColumn\_Rectangular

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type

300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.39 LS\_PRFR\_ConcreteColumn\_Square

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.40 LS\_PRFR\_ConcreteColumn\_Round

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.41 LS\_PRFR\_UniversalColumn

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type

300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.42 LS\_PRFR\_Post\_Steel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

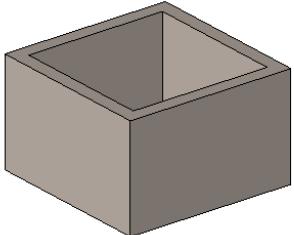
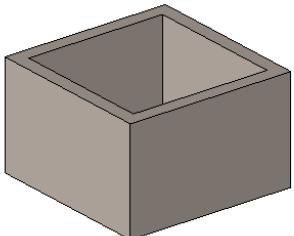
#### 4.5.3.43 LS\_PRFR\_PlanterBox\_StoneCladding

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

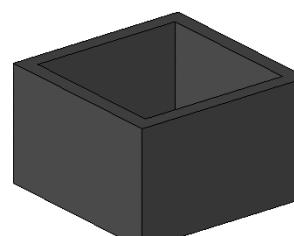
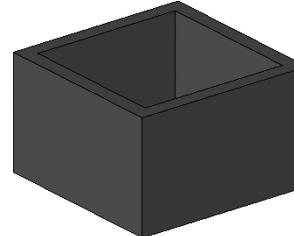
#### 4.5.3.44 LS\_PRFR\_PlanterBox\_ConcretePaintFinish

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

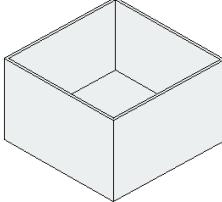
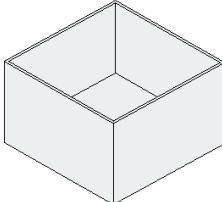
#### 4.5.3.45 LS\_PRFR\_PlanterBox\_GRC

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

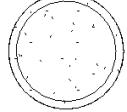
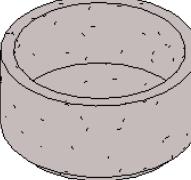
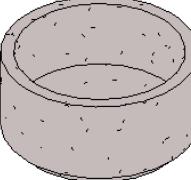
#### 4.5.3.46 LS\_PRFR\_PlantBox\_GRP

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.47 LS\_PRFR\_PlantBox\_Steel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.48 LS\_PRFR\_PlantBox\_Circular

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.49 LS\_PRFR\_PlantBox\_Wooden

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.50 LS\_PRFR\_ElectricalSignBoards

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.51 LS\_PRFR\_CrashworthyEndTerminals\_Guardrail

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.52 LS\_PRFR\_CamelFenceDetail

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.53 LS\_PRFR\_HighEndFencePanel\_Type1

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

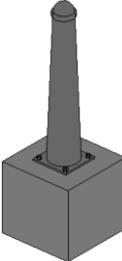
#### 4.5.3.54 LS\_PRFR\_HighEndFencePanel\_Type2

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

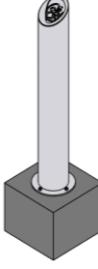
#### 4.5.3.55 LS\_PRFR\_Bollard\_Type1

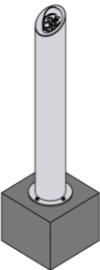
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.56 LS\_PRFR\_Bollard\_Type2

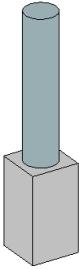
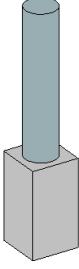
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.57 LS\_PRFR\_Bollard\_Type3

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type

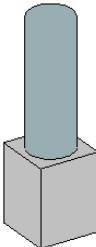
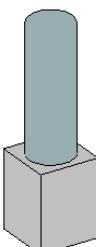
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification
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#### 4.5.3.58 LS\_PRFR\_Bollard\_PASSecurity

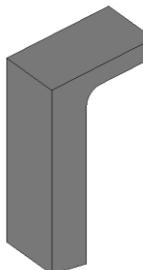
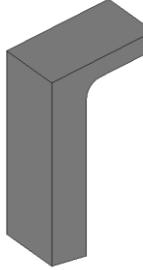
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.59 LS\_PRFR\_Bollard\_PowerBollard

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.60 LS\_PRFR\_DrinkingFountain

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Dimension, Reference Specification, Uniclass Classification

#### 4.5.3.61 LS\_PRFR\_Wayfinding\_DirectionalSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Material Color, Reference Specification, Uniclass Classification

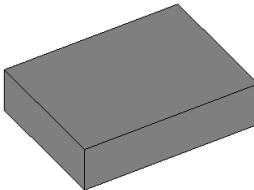
#### 4.5.3.62 LS\_PRFR\_Wayfinding\_EntranceSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

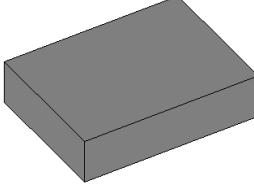
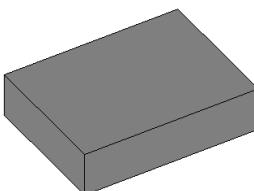
300	200		Material Type
300	300		Material Type, Material Color, Reference Specification, Uniclass Classification

#### 4.5.3.63 LS\_PRFR\_SculpturePlaceholder

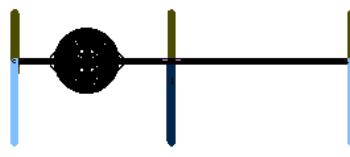
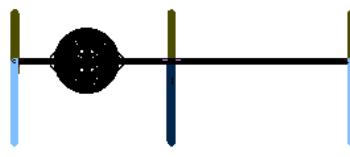
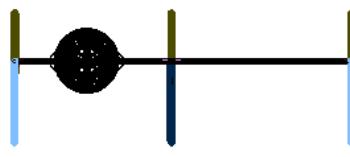
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Material Type

100	300		Material Type, Material Color, Reference Specification, Uniclass Classification
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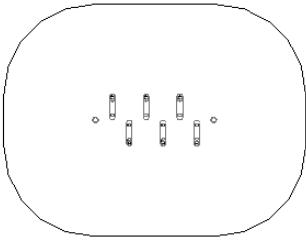
#### 4.5.3.64 LS\_PRFR\_ArtworkPlaceholder

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Material Type
100	300		Material Type, Material Color, Reference Specification, Uniclass Classification

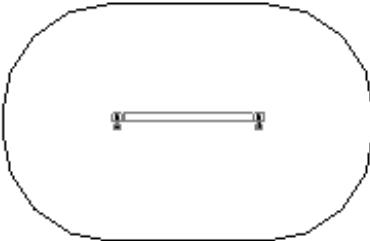
#### 4.5.3.65 LS\_PRFR\_Play\_2bayJuniorSwingA

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

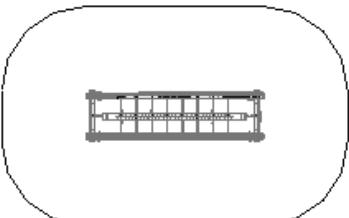
**4.5.3.66 LS\_PRFR\_Play\_AngledAssaultPost**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

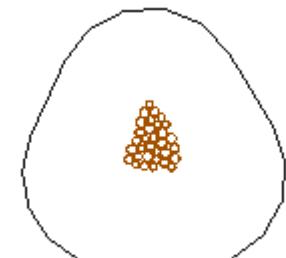
**4.5.3.67 LS\_PRFR\_Play\_BalanceBeam**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

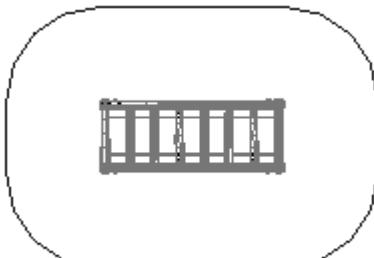
**4.5.3.68 LS\_PRFR\_Play\_BalanciaNetBridge**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

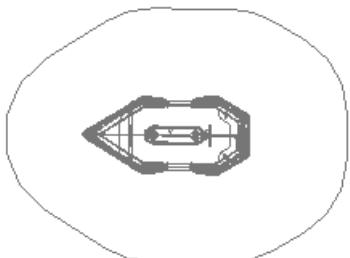
#### 4.5.3.69 LS\_PRFR\_Play\_Bolger

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

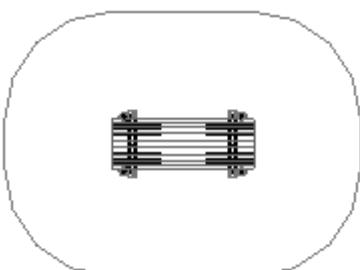
#### 4.5.3.70 LS\_PRFR\_Play\_BolveWoodenBridge

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.71 LS\_PRFR\_Play\_Bonnie

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

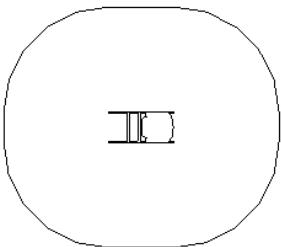
#### 4.5.3.72 LS\_PRFR\_Play\_BroorTunnel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.73 LS\_PRFR\_Play\_ClatterBridge

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.74 LS\_PRFR\_Play\_DarioSpringToy

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.75 LS\_PRFR\_Play\_Dragonfly

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

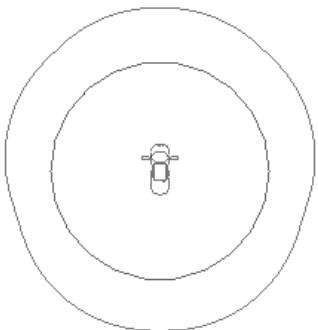
#### 4.5.3.76 LS\_PRFR\_Play\_ElorClimbingUnit

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

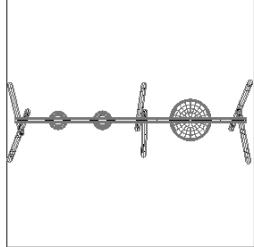
#### 4.5.3.77 LS\_PRFR\_Play\_EPDMBalls

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

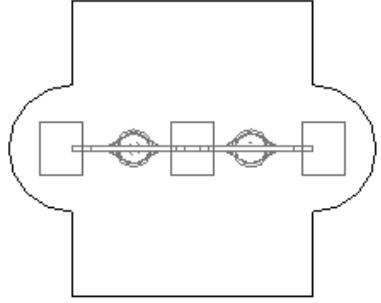
#### 4.5.3.78 LS\_PRFR\_Play\_FlippiOffspringRider

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

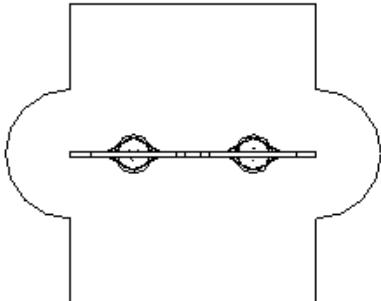
#### 4.5.3.79 LS\_PRFR\_Play\_GeliegaGroupSwing

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

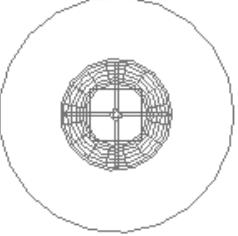
#### 4.5.3.80 LS\_PRFR\_Play\_GS-R3200

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

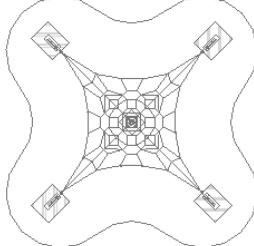
#### 4.5.3.81 LS\_PRFR\_Play\_GS-RS3200

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

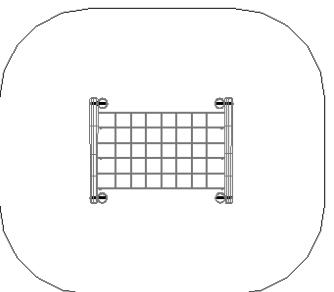
#### 4.5.3.82 LS\_PRFR\_Play\_GS-SC2200

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

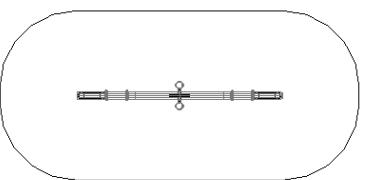
#### 4.5.3.83 LS\_PRFR\_Play\_GS-W-1001-1

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

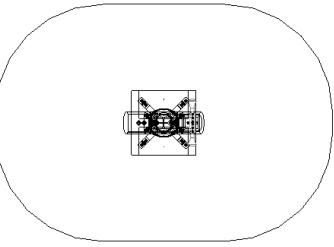
#### 4.5.3.84 LS\_PRFR\_Play\_ImpedioClimbingUnit

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.85 LS\_PRFR\_Play\_MadriSeeSaw

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.86 LS\_PRFR\_Play\_MuleSpringer

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.87 LS\_PRFR\_Play\_RopeBalance

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

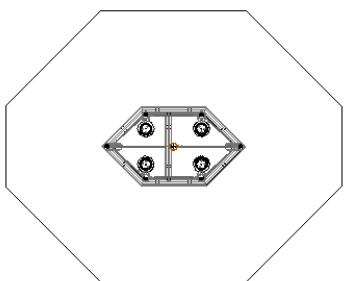
#### 4.5.3.88 LS\_PRFR\_Play\_Seal

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

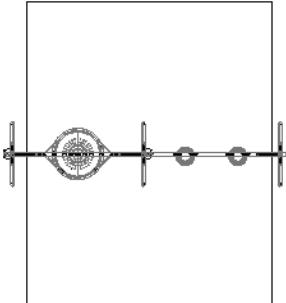
#### 4.5.3.89 LS\_PRFR\_Play\_SeaSwellZigzagBalanceBeam

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

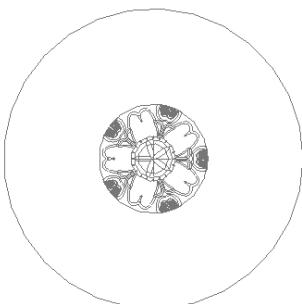
#### 4.5.3.90 LS\_PRFR\_Play\_SeeSawShip

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

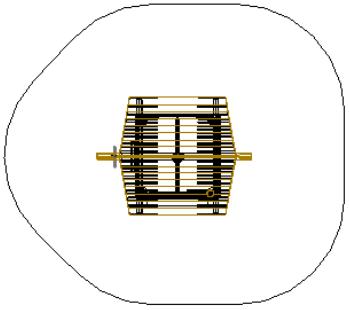
#### 4.5.3.91 LS\_PRFR\_Play\_StratusSwing

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.92 LS\_PRFR\_Play\_TenSpin

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

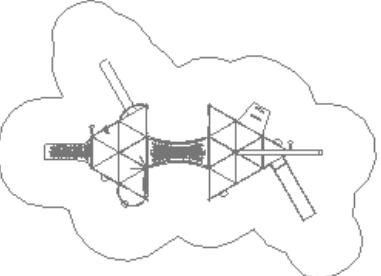
#### 4.5.3.93 LS\_PRFR\_Play\_TillboNaturell

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.94 LS\_PRFR\_Play\_TunnelNet

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

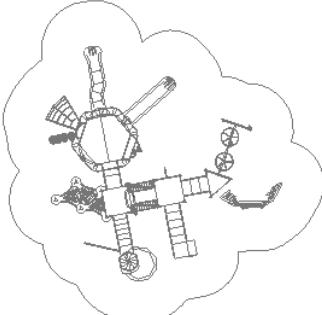
#### 4.5.3.95 LS\_PRFR\_Play\_UniplayAgir

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

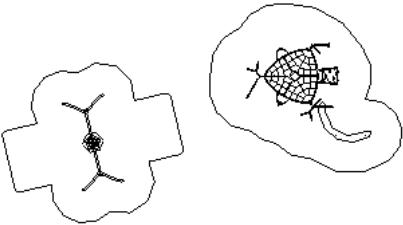
#### 4.5.3.96 LS\_PRFR\_Play\_ZiplineMantis

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

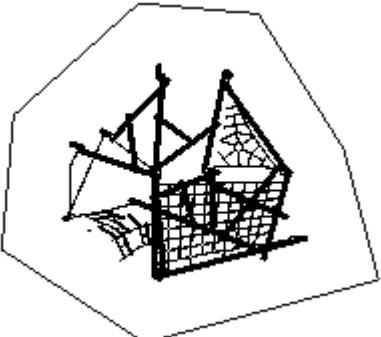
#### 4.5.3.97 LS\_PRFR\_Play\_714-S629

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

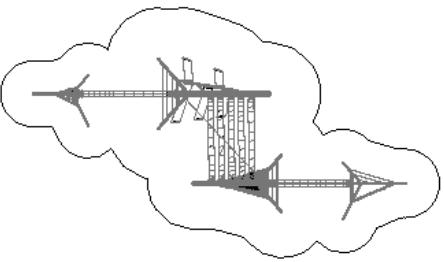
#### 4.5.3.98 LS\_PRFR\_Play\_AgitoVoxAura

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

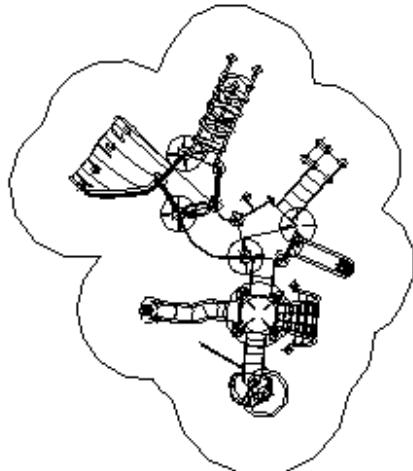
#### 4.5.3.99 LS\_PRFR\_Play\_Amazon

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.100 LS\_PRFR\_Play\_Form7ClimbingUnit

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.101 LS\_PRFR\_Play\_KidsChoice714-S475

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.102 LS\_PRFR\_Play\_MoruniaZipLine

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.103 LS\_PRFR\_Play\_Caterpillar

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.104 LS\_PRFR\_Play\_CoralReef

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

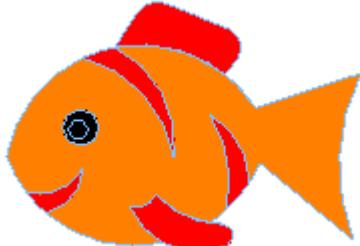
#### 4.5.3.105 LS\_PRFR\_Play\_Crab

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

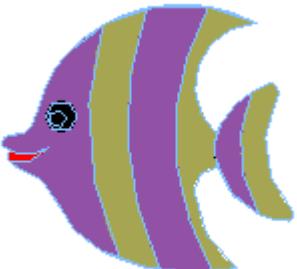
#### 4.5.3.106 LS\_PRFR\_Play\_Crocodile

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

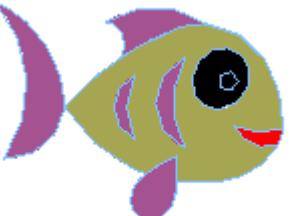
#### 4.5.3.107 LS\_PRFR\_Play\_Fish4

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

**4.5.3.108 LS\_PRFR\_Play\_Fish5**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

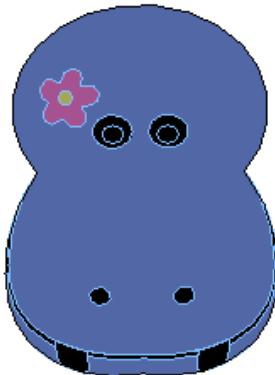
**4.5.3.109 LS\_PRFR\_Play\_Fish5**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

**4.5.3.110 LS\_PRFR\_Play\_HeadCrocodile**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.111 LS\_PRFR\_Play\_HeadHippo

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

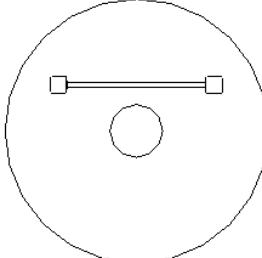
#### 4.5.3.112 LS\_PRFR\_Play\_HeadShark

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

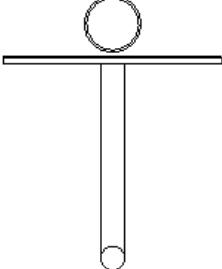
#### 4.5.3.113 LS\_PRFR\_Play\_PalmTree

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

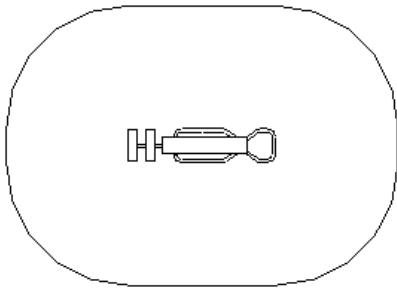
#### 4.5.3.114 LS\_PRFR\_Fitness\_BalanceSpring

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

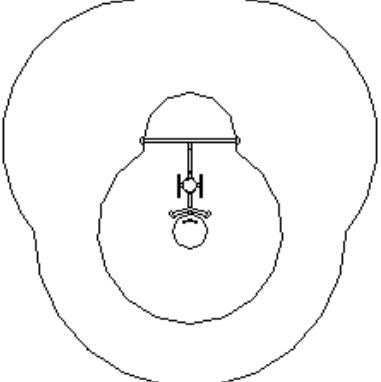
#### 4.5.3.115 LS\_PRFR\_Fitness\_BasketballPost

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

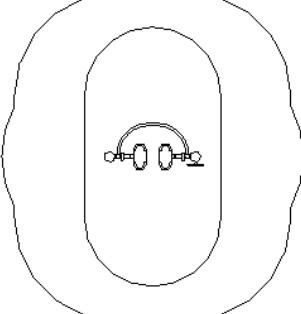
#### 4.5.3.116 LS\_PRFR\_Fitness\_Bench

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

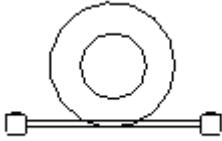
#### 4.5.3.117 LS\_PRFR\_Fitness\_BodyFlexerUpperBodyTrainer

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.118 LS\_PRFR\_Fitness\_CrossTrainer

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.119 LS\_PRFR\_Fitness\_HipSpring

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

**4.5.3.120 LS\_PRFR\_Fitness\_KidsFootballGoalPost**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

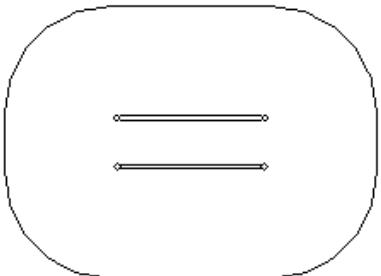
**4.5.3.121 LS\_PRFR\_Fitness\_MagneticBalls**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

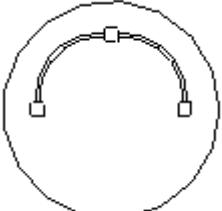
**4.5.3.122 LS\_PRFR\_Fitness\_OverheadLadder**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

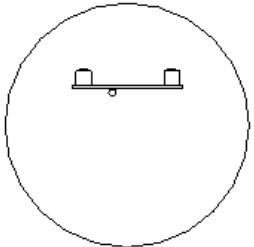
#### 4.5.3.123 LS\_PRFR\_Fitness\_ParallelBars

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

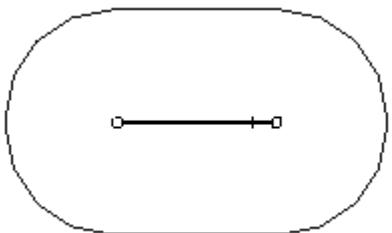
#### 4.5.3.124 LS\_PRFR\_Fitness\_ShoulderArches

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

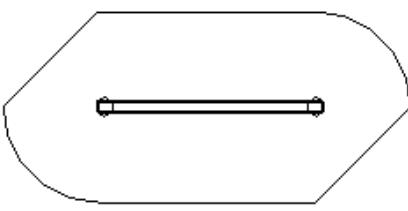
#### 4.5.3.125 LS\_PRFR\_Fitness\_ShoulderWheel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

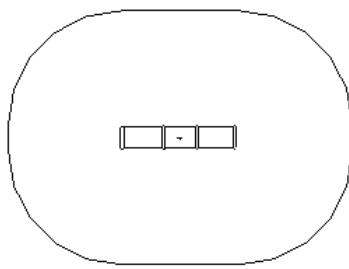
#### 4.5.3.126 LS\_PRFR\_Fitness\_SnakeBar

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

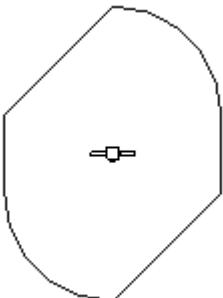
#### 4.5.3.127 LS\_PRFR\_Fitness\_SnakeBeam

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

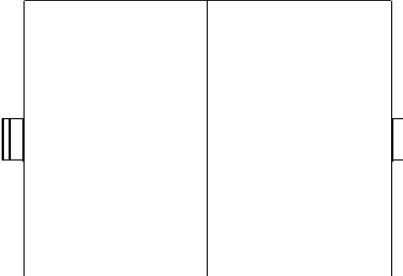
#### 4.5.3.128 LS\_PRFR\_Fitness\_TripleStepUp

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

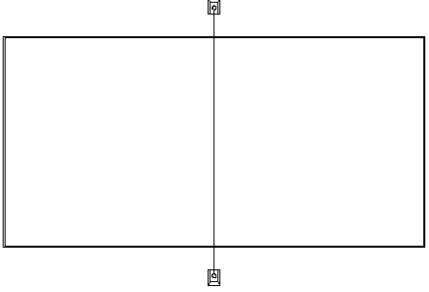
#### 4.5.3.129 LS\_PRFR\_Fitness\_WristWorkout

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

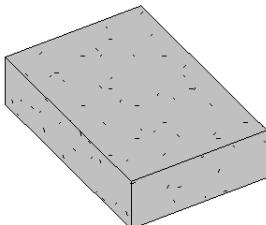
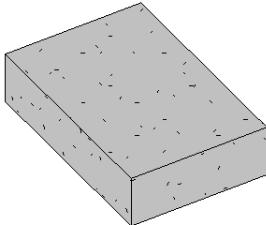
#### 4.5.3.130 LS\_PRFR\_Fitness\_FootballCourt

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

#### 4.5.3.131 LS\_PRFR\_Fitness\_VolleyballCourt

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Reference Specification, Uniclass Classification

**4.5.3.132 LS\_PRFR\_Foundation\_Generic**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
100	200		Type
100	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

**4.6 Electromechanical**

**4.6.1 Gravity Network**

**4.6.1.1 EM\_GRNT\_OilSeparator**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2 Pump Station (Electromechanical)

##### 4.6.2.1 EM\_PMST\_InletPenstock

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

##### 4.6.2.2 EM\_PMST\_GratingChannel\_SlottedDrainPipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
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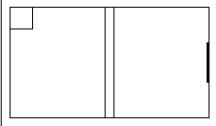
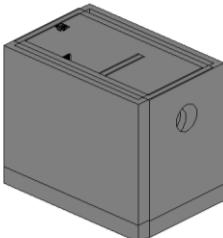
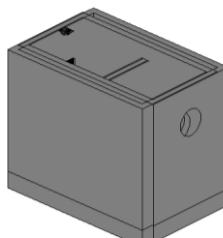
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.1.3 EM\_PMST\_GratingChannel\_StainlessSteel

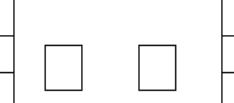
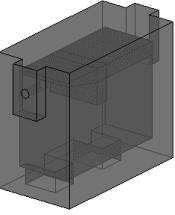
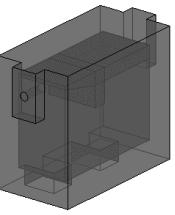
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2.4 EM\_PMST\_TrashRackChamber

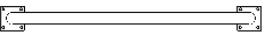
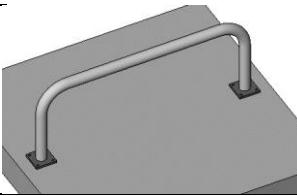
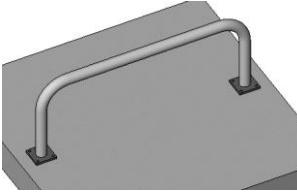
LOD	LOI	Graphical Presentation	Non-Graphical Information
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100	100		N/A
300	200		Type, Material
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

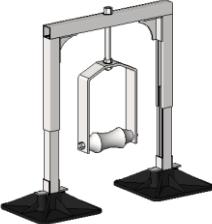
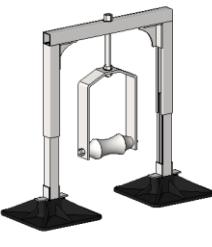
#### 4.6.2.5 EM\_PMST\_DischargeValveChamber

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

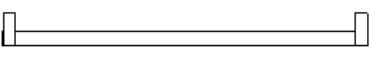
#### 4.6.2.6 EM\_PMST\_SteelWorks\_Handrails

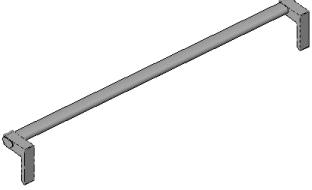
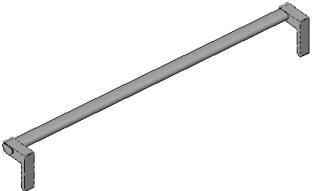
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2.7 EM\_PMST\_SteelWorks\_PipeSupport

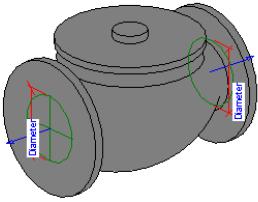
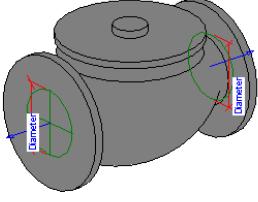
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Loss Method, K Coefficient Table, K Coefficient, Uniclass Classification

#### 4.6.2.8 EM\_PMST\_SteelWorks\_GuideRail

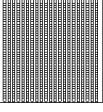
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

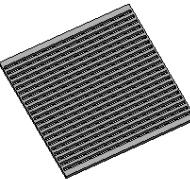
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2.9 EM\_PMST\_Instrumentations\_FlowMeter

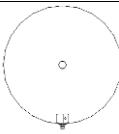
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Loss Method, K Coefficient Table, K Coefficient, Uniclass Classification

#### 4.6.2.10 EM\_PMST\_ScreenPlant\_MechanicalScreen

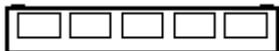
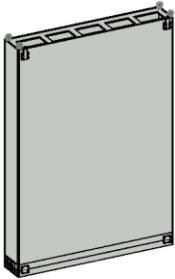
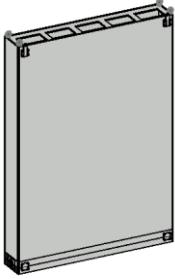
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

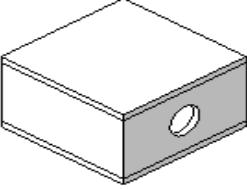
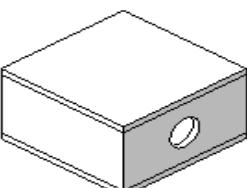
#### 4.6.2.11 EM\_PMST\_FuelOITank

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Hand Hole Cleanout, Uniclass Classification

#### 4.6.2.12 EM\_PMST\_MCCControlPanel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Voltage, Wattage, Power, Uniclass Classification

#### 4.6.2.13 EM\_PMST\_JunctionBoxes\_PumpCables

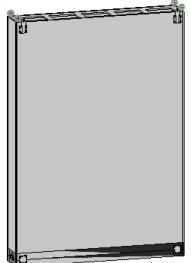
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2.14 EM\_PMST\_JunctionBoxes\_MobileGenerator

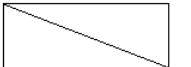
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2.15 EM\_PMST\_DB\_ControlCabinet

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Voltage, Wattage, Power, Uniclass Classification
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#### 4.6.2.16 EM\_PMST\_LightinFixtures\_EmergencyExit

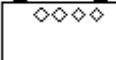
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Voltage, Lamp, Wattage, Coefficient of Utilization, Uniclass Classification

#### 4.6.2.17 EM\_PMST\_Smoke\_FireDetectors

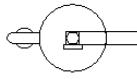
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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#### 4.6.2.18 EM\_PMST\_FACP\_FireAlarmcontrolPanel

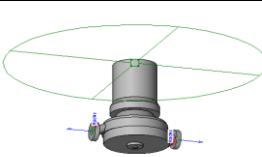
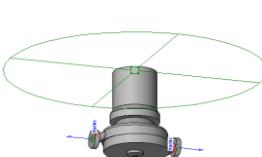
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Voltage, Wattage, Uniclass Classification

#### 4.6.2.19 EM\_PMST\_FirefightingSystem\_FireExtinguisher

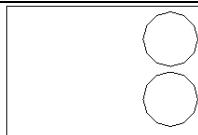
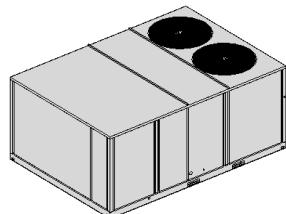
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

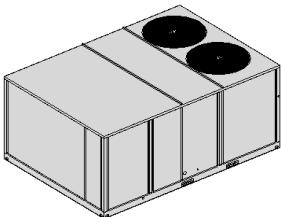
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.2.20 EM\_PMST\_PumpSet\_AxialFlowPump

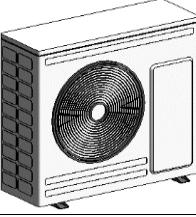
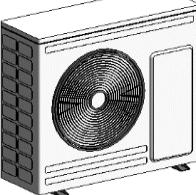
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Voltage, Load Classification, Apparent Load, Uniclass Classification

#### 4.6.2.21 EM\_PMST\_HVACSystems\_PackageUnitA/CPlant

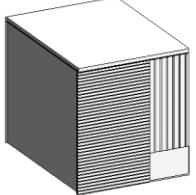
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

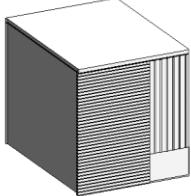
300	300		Type, Material, Dimension, Reference Specification, Actual Return Air Flow, Actual Supply Air Flow, Uniclass Classification
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#### 4.6.2.22 EM\_PMST\_HVACSystems\_SplitUnitsA/CPlants

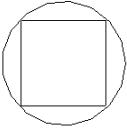
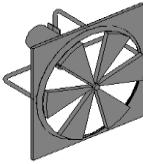
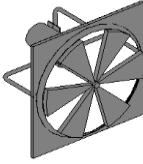
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, External Static Pressure, Discharge Air Flow, Total Cooling Capacity, Total Heating Capacity, Uniclass Classification

#### 4.6.2.23 EM\_PMST\_HVACSystems\_WindowTypeA/CPlant

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, External Static Pressure, Discharge Air Flow, Total Cooling Capacity, Total Heating Capacity, Uniclass Classification
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#### 4.6.2.24 EM\_PMST\_HVACSystems\_VentilationFans

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Total Exhaust Air Flow, Exhaust Static Pressure, Uniclass Classification

#### 4.6.3 Pressurized Main

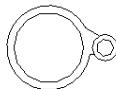
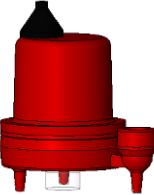
##### 4.6.3.1 EM\_PRMN\_PressurizedMain\_SurgeSuppressionEquipmentTank

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

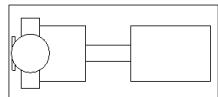
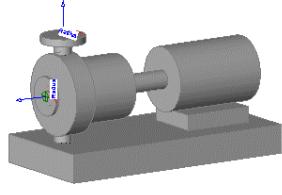
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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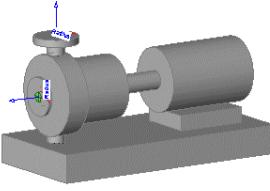
#### 4.6.4 Outfall

##### 4.6.4.1 EM\_OUTF\_SumpPump

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

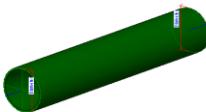
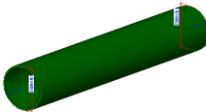
##### 4.6.4.2 EM\_OUTF\_CentrifugalPump

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

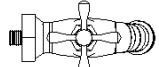
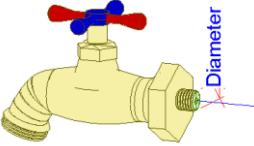
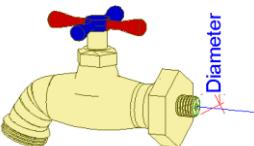
300	300		Type, Material, Dimension, Reference Specification, Voltage, Load Classification, Uniclass Classification
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#### 4.6.5 Main Irrigation System

##### 4.6.5.1 EM\_IRRI\_IrrigationPipe

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

##### 4.6.5.2 EM\_IRRI\_EndFlushValveAssembly

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.3 EM\_IRRI\_QuickCouplingValveAssembly

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.4 EM\_IRRI\_ControlPanel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Voltage, Wattage, Uniclass Classification

#### 4.6.5.5 EM\_IRRI\_FlowMeter

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.6 EM\_IRRI\_AirValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.7 EM\_IRRI\_PressureRegulatingValve

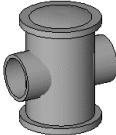
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.8 EM\_IRRI\_CheckValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.9 EM\_IRRI\_Strainer

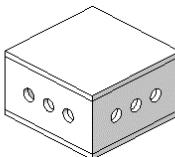
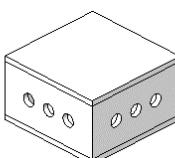
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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#### 4.6.5.10 EM\_IRRI\_MotorizedValveAssembly

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.11 EM\_IRRI\_Pullbox

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.12 EM\_IRRI\_StorageTank

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.13 EM\_IRRI\_IsolatingValve

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.5.14 EM\_IRRI\_Actuator

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

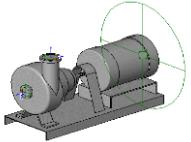
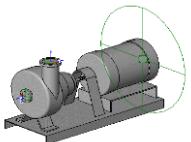
#### 4.6.6 Water Features “Category Five”

##### 4.6.6.1 EM\_WFCF\_Fountain

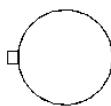
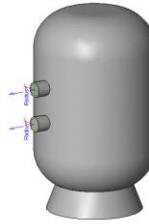
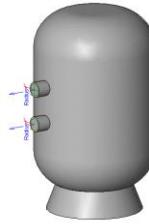
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

##### 4.6.6.2 EM\_WFCF\_FountainPump

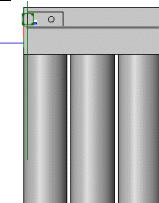
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

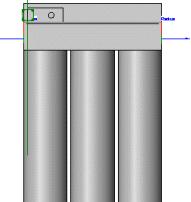
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.6.3 EM\_WFCF\_SandFilter

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

#### 4.6.6.4 EM\_WFCF\_FiltrationPump

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification
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#### 4.6.6.5 EM\_WFCF\_PublicAddressSystem&Speakers

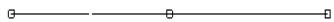
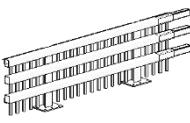
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Type, Material, Dimension, Reference Specification, Uniclass Classification

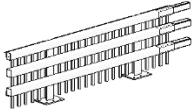
### 4.7 Structural Components

The graphical representation shown is indicative only and actual shape & their details shall be subject to approved design drawings of a project on a case-by-case basis.

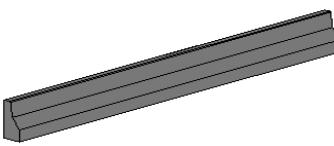
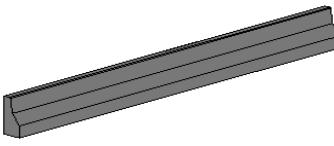
#### 4.7.1 Railings

##### 4.7.1.1 ST\_RLNG\_Vehicular\_Steel

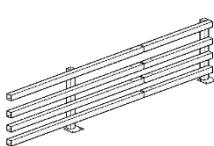
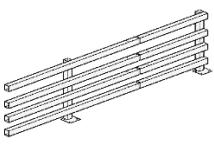
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

300	300		Material Type, Material Color, Dimensions, Steel Grade, Uniclass Classification
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#### 4.7.1.2 ST\_RLNG\_Vehicular\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Material Color, Dimensions, Steel Grade, Uniclass Classification

#### 4.7.1.3 ST\_RLNG\_Pedestrian\_Steel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Material Color, Dimensions, Steel Grade, Uniclass Classification

#### 4.7.1.3 ST\_RLNG\_Pedestrian\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100	_____	N/A
300	200		Material Type, Dimensions
300	300		Material Type, Material Color, Dimensions, Steel Grade, Uniclass Classification

#### 4.7.2 Furniture

##### 4.7.2.1 ST\_FURN\_DeckWearingCourse

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, and Steel Strength, Uniclass Classification

#### 4.7.3 Expansion Joints

##### 4.7.3.1 ST\_EXPJ\_AsphalticPlug

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Dimensions, Uniclass Classification

##### 4.7.3.2 ST\_EXPJ\_CompressionSealJoint

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Dimensions, Uniclass Classification

##### 4.7.3.3 ST\_EXPJ\_StripSealJoint

LOD	LOI	Graphical Presentation	Non-Graphical Information

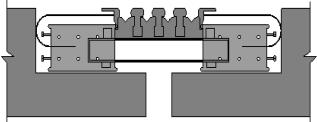
100	100		N/A
300	200		Material Type
300	300		Material Type, Dimensions

#### 4.7.3.4 ST\_EXPJ\_SteelSlidingPlateJoint

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type
300	300		Material Type, Dimensions, Uniclass Classification

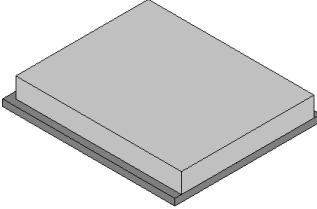
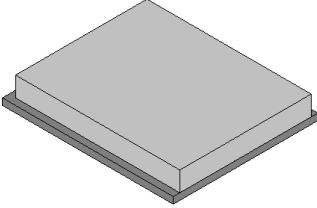
#### 4.7.3.5 ST\_EXPJ\_ModularExpansionJoint

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type

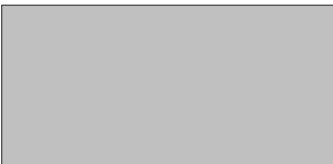
300	300		Material Type, Dimensions, Uniclass Classification
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#### 4.7.4 Superstructure

##### 4.7.4.1 ST\_SPST\_ApproachSlab

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

##### 4.7.4.2 ST\_SPST\_DeckSlab\_Concrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification
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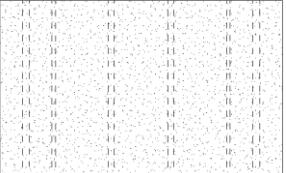
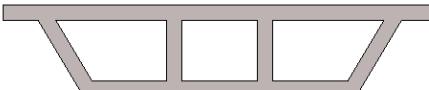
#### 4.7.4.3 ST\_SPST\_ClosedBox\_PrecastConcrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

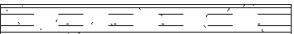
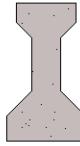
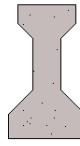
#### 4.7.4.4 ST\_SPST\_OpenBox\_PrecastConcrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

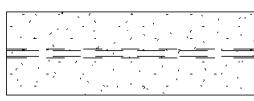
#### 4.7.4.5 ST\_SPST\_MulticellBox\_CIPConcrete

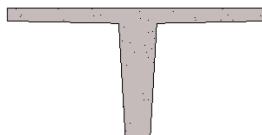
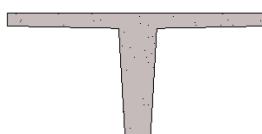
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.4.6 ST\_SPST\_BulbBeams\_CIPConcrete

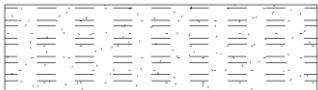
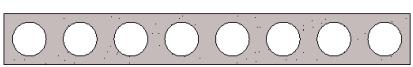
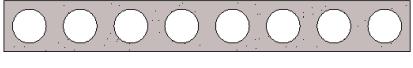
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.4.7 ST\_SPST\_T-Beams\_CIPConcrete

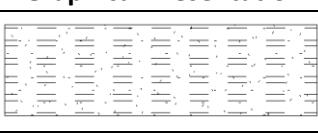
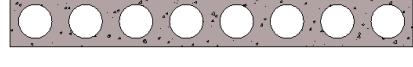
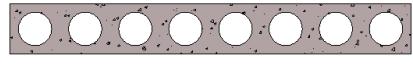
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

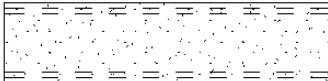
#### 4.7.4.8 ST\_SPST\_VoidedSlab\_CIPConcrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100 (2d)	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.4.9 ST\_SPST\_VoidedConcreteBoxes\_PrecastConcrete

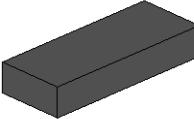
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.4.10 ST\_SPST\_ChannelSections\_PrecastConcrete

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.5 Bearings

##### 4.7.5.1 ST\_BRNG\_PlainElastomericPad

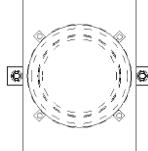
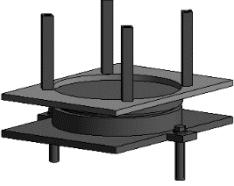
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

##### 4.7.5.2 ST\_BRNG\_ElastomericBearing\_Steel-Reinforced

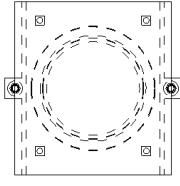
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

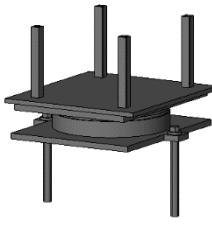
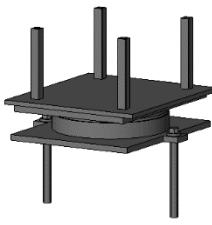
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.5.3 ST\_BRNG\_POTBearing\_Fixed

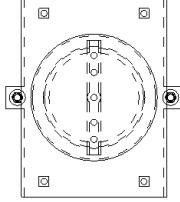
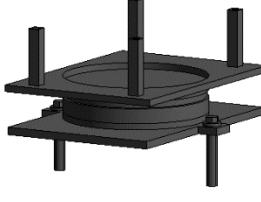
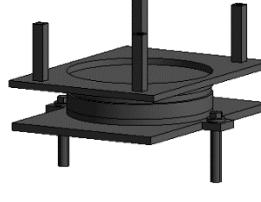
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.5.4 ST\_BRNG\_POTBearing\_Free

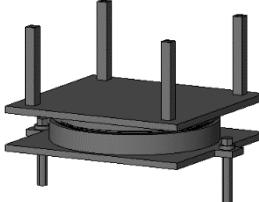
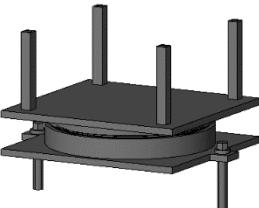
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

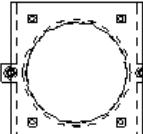
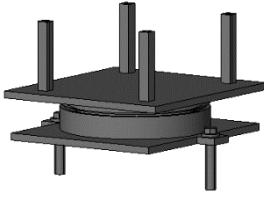
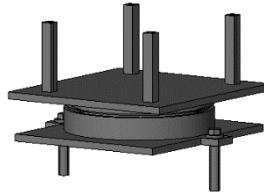
#### 4.7.5.5 ST\_BRNG\_POTBearing\_Guided

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

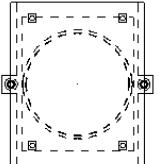
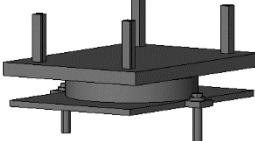
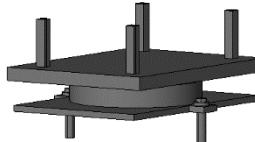
#### 4.7.5.6 ST\_BRNG\_SphericalBearing\_Fixed

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

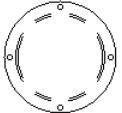
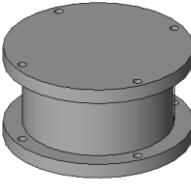
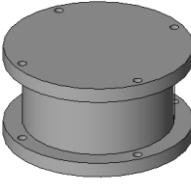
#### 4.7.5.7 ST\_BRNG\_SphericalBearing\_Free

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.5.8 ST\_BRNG\_SphericalBearing\_Guided

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.5.9 ST\_BRNG\_Elastomericbearing\_Circular

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.5.10 ST\_BRNG\_ElastomericBearing\_Rectangular

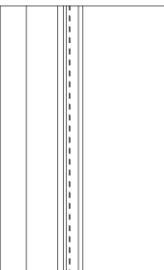
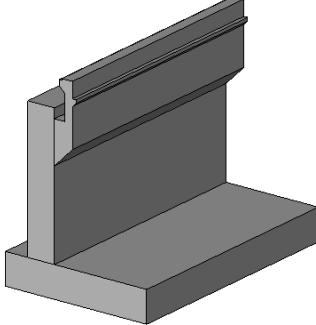
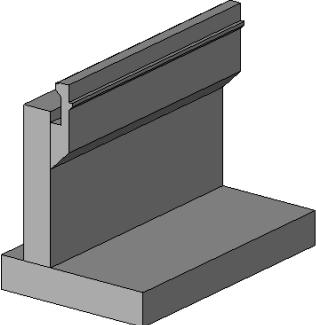
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.6 Sub-Structure

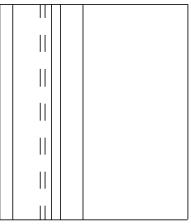
##### 4.7.6.1 ST\_SBST\_SeatAbutment

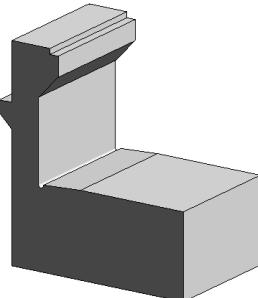
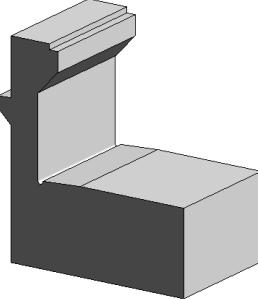
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.6.2 ST\_SBST\_Abutment\_WallType

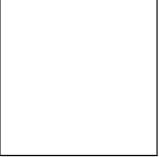
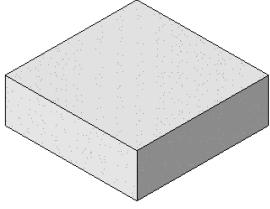
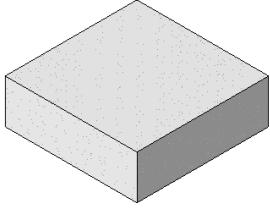
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.6.3 ST\_SBST\_Abutment\_BentType

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.6.4 ST\_SBST\_AbutmentCap

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.6.5 ST\_SBST\_Pier\_Column

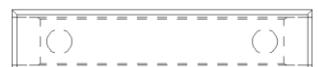
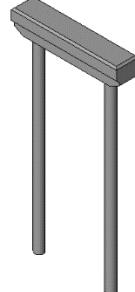
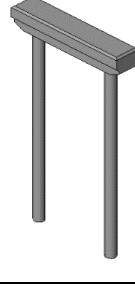
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.6.6 ST\_SBST\_Pier\_Walltype

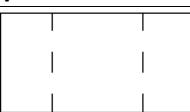
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

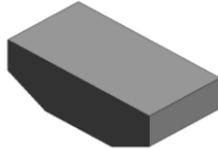
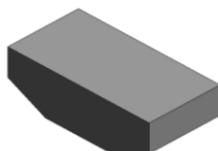
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Reference Specification, Steel Strength, Uniclass Classification
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#### 4.7.6.7 ST\_SBST\_Pier\_Portal

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Reference Specification, Steel Strength, Uniclass Classification

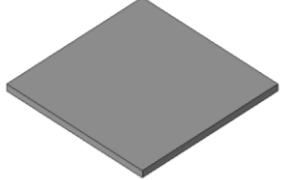
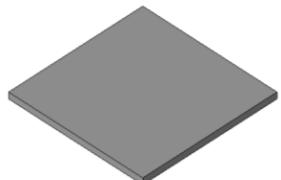
#### 4.7.6.8 ST\_SBST\_PierCap\_Tapered

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

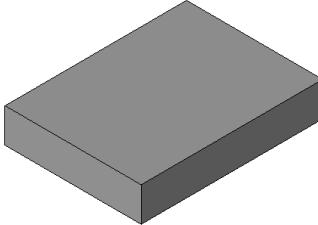
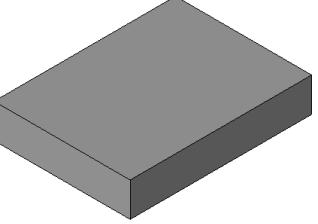
#### 4.7.7 Foundation

##### 4.7.7.1 ST\_FNDN\_RaftFoundations

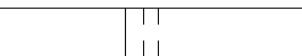
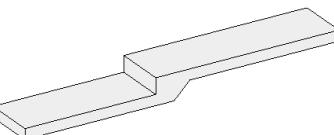
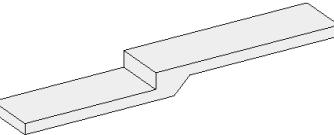
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

##### 4.7.7.2 A ST\_FNDN\_SpreadFootings

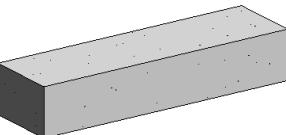
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

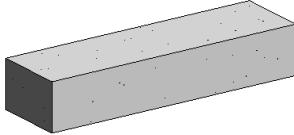
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.7.3 ST\_FNDN\_SteppedStripFooting

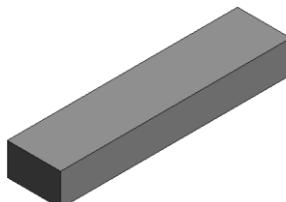
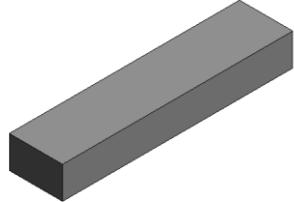
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.7.4 ST\_FNDN\_GradeBeams

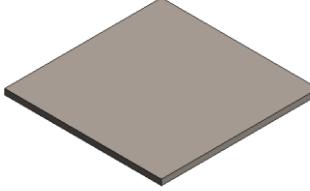
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification
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#### 4.7.7.5 ST\_FNDN\_TieBeams

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.7.6 ST\_FNDN\_StructuralSlab-on-Grade

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification
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#### 4.7.7.7a ST\_FNDN\_FoundationAnchors\_AnchorRod

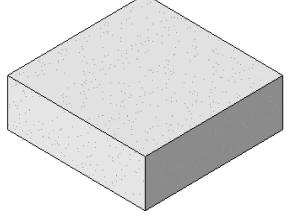
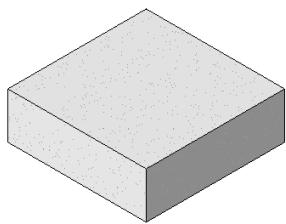
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Steel Strength, Uniclass Classification

#### 4.7.7.7b ST\_FNDN\_FoundationAnchors\_AnchorRodHook

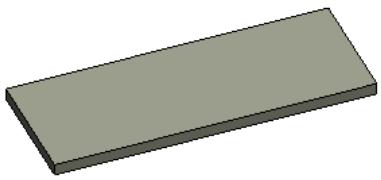
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

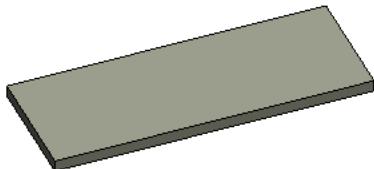
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Steel Strength, Uniclass Classification
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#### 4.7.7.8 ST\_FNDN\_PileCaps

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Steel Strength, Uniclass Classification

#### 4.7.7.9 ST\_FNDN\_Underpass\_BaseSlab

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

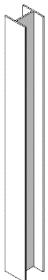
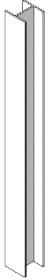
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification
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#### 4.7.7.10 ST\_FNDN\_DrilledShaft

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.7.11 ST\_FNDN\_H-Piles

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification

#### 4.7.7. ST\_FNDN\_Piles\_Cast-in-Place

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.7.13 ST\_FNDN\_Piles\_Precast

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

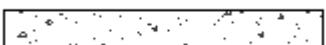
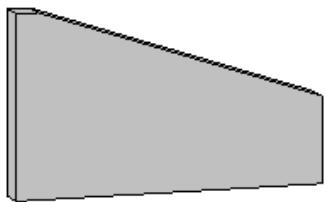
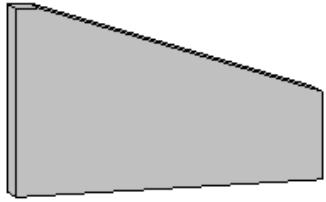
#### 4.7.7.14 ST\_FNDN\_Piles\_Steel

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions

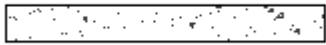
300	300		Material Type, Dimensions, Material Color, Material Grade, Reference Specification, Uniclass Classification
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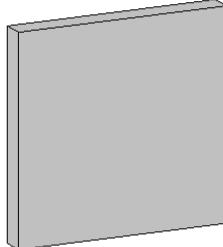
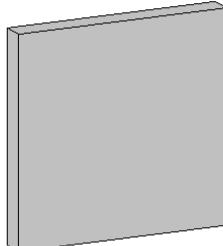
#### 4.7.8 Walls

##### 4.7.8.1 ST\_WALL\_Wingwall

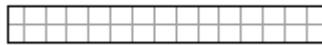
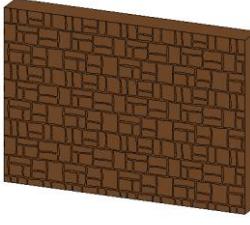
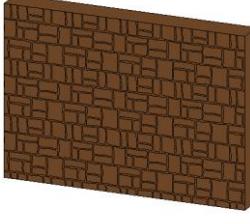
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

##### 4.7.8.2 ST\_WALL\_RetainingWall

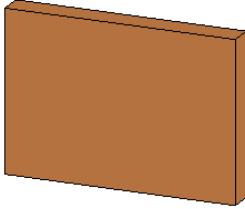
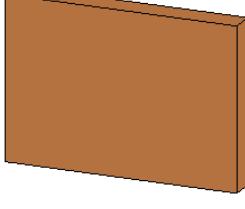
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

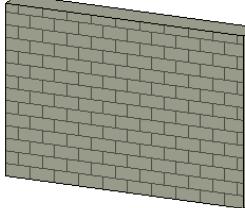
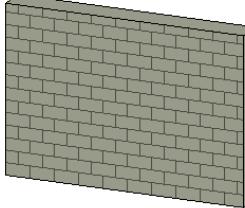
#### 4.7.8.3 ST\_WALL\_MSEWall

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.8.4 ST\_WALL\_GRSWalls

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

#### 4.7.8.5 ST\_WALL\_BlockWalls

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

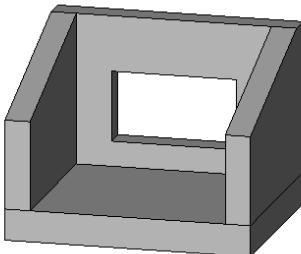
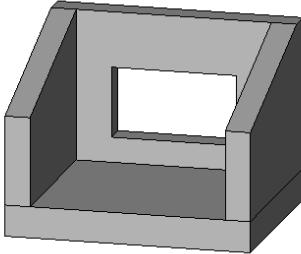
#### 4.7.9 Culverts

##### 4.7.9.1 ST\_CULV\_ConcreteCulverts\_Circular

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

##### 4.7.9.2 ST\_CULV\_ConcreteCulverts\_Rectangular

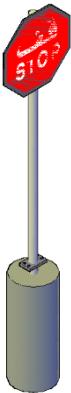
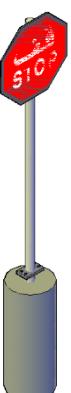
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Material Type, Dimensions
300	300		Material Type, Dimensions, Material Color, Material Grade, Reinforcement Rate/Ratio, Steel Strength, Uniclass Classification

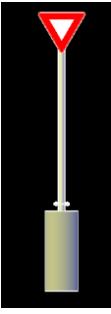
#### 4.8 Signage and Marking

##### 4.8.1 Control Signs at Intersection and Pedestrian Crossings

###### 4.8.1.1 SM\_CSSG\_StopSign\_(S301)

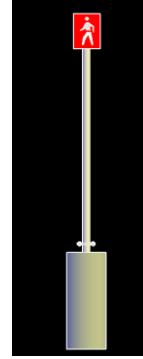
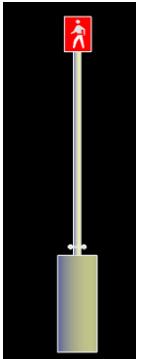
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

###### 4.8.1.2 SM\_CSSG\_GiveWaySign\_(S302)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

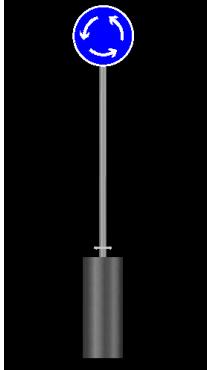
300	300		Sign name, rotation angle and coordinates.
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#### 4.8.1.3 SM\_CSSG\_PedestrianSupplementalPlate\_(S303)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.1.4 SM\_CSSG\_Roundabout\_(S329)

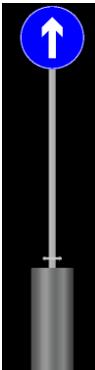
LOD	LOI	Graphical Presentation	Non-Graphical Information
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300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.2 Movement Control, Mandatory and Prohibitory Signage

##### 4.8.2.1 SM\_MCSG\_AheadOnly\_(S321)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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#### 4.8.2.2 SM\_MCSG\_RightOnly\_(S322)

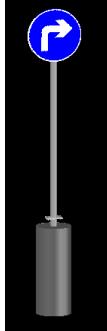
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.3 SM\_MCSG\_LeftOnly\_(S323)**

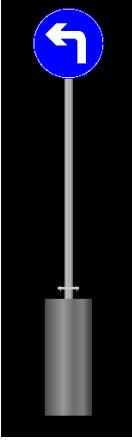
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.4 SM\_MCSG\_TurnRightAheadOnly\_(S324)**

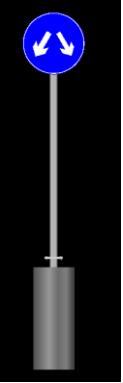
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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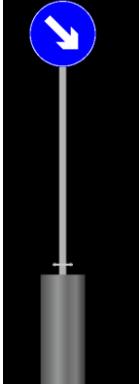
#### 4.8.2.5 SM\_MCSG\_TurnLeftAheadOnly\_(S325)

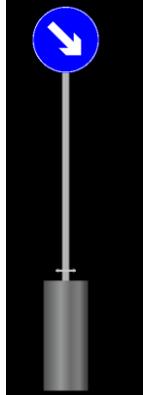
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.2.6 SM\_MCSG\_PassEitherSide\_(S326)

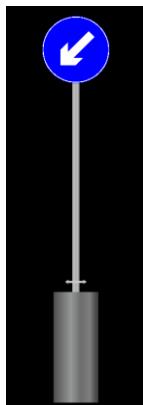
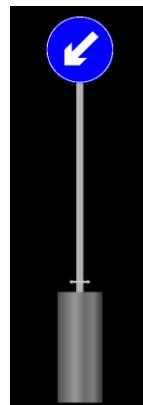
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.2.7 SM\_MCSG\_KeepRight\_(S327)

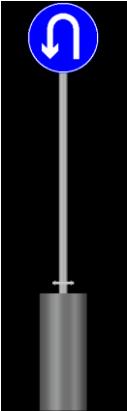
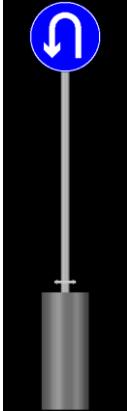
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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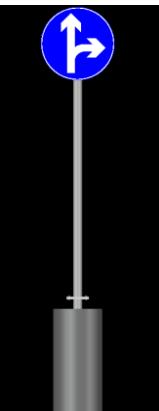
#### 4.8.2.8 SM\_MCSG\_KeepLeft\_(S328)

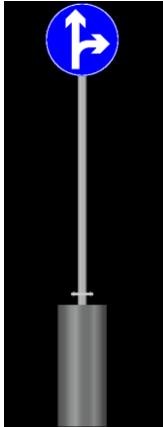
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.9 SM\_MCSG\_UTurn\_(S330)**

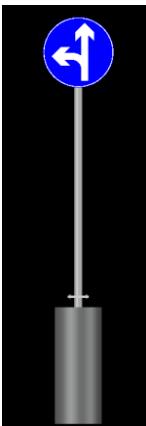
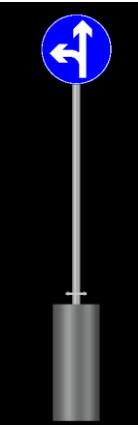
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.10 SM\_MCSG\_ThruorRightOnly\_(S331.1)**

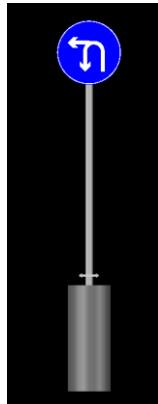
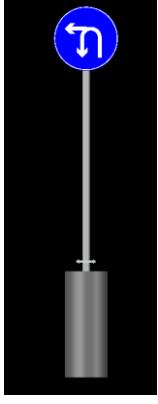
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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#### 4.8.2.11 SM\_MCSG\_ThruorLeftOnly\_(S331.2)

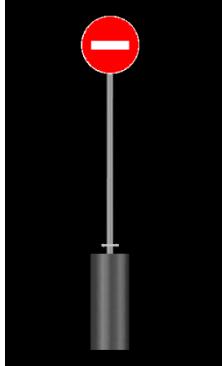
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.12 SM\_MCSG\_LeftorU-TurnOnly\_(S331.3)**

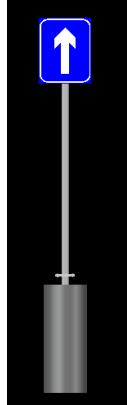
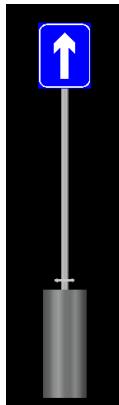
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.13 SM\_MCSG\_NoEntrySign\_(S304)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

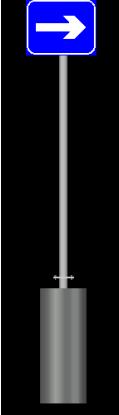
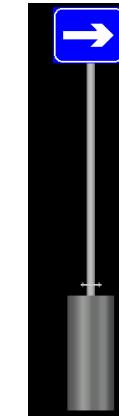
300	300		Sign name, rotation angle and coordinates.
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#### 4.8.2.14 SM\_MCSG\_OneWay\_(S305)

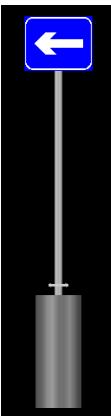
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

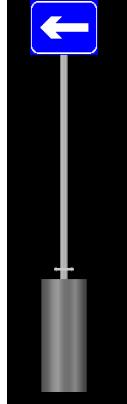
#### 4.8.2.15 SM\_MCSG\_OneWay\_(S306)

LOD	LOI	Graphical Presentation	Non-Graphical Information
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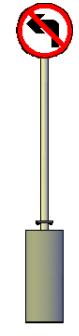
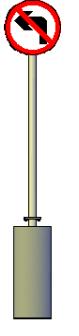
300	200	 A blue rectangular sign with a white arrow pointing to the right, mounted on a vertical pole with a grey base.	Sign coordinates
300	300	 A blue rectangular sign with a white arrow pointing to the right, mounted on a vertical pole with a grey base.	Sign name, rotation angle and coordinates.

#### 4.8.2.16 SM\_MCSG\_OneWay\_(S307)

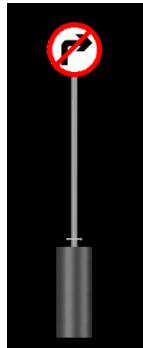
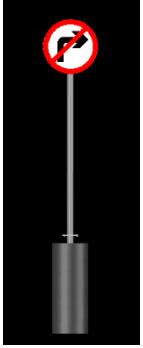
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A blue rectangular sign with a white arrow pointing to the left, mounted on a vertical pole with a grey base.	Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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**4.8.2.17 SM\_MCSG\_NoLeftTurn\_(S346)**

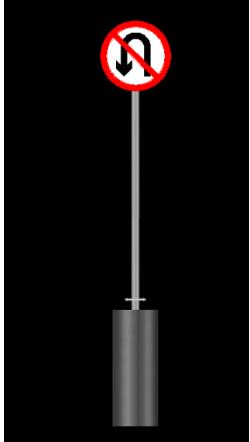
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.2.18 SM\_MCSG\_NoRightTurnSign\_(S347)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A black rectangular sign with a red circle containing a white diagonal slash over a right-pointing arrow. A vertical white line extends from the bottom of the sign to a grey rectangular base.	Sign coordinates
300	300	 A black rectangular sign with a red circle containing a white diagonal slash over a right-pointing arrow. A vertical white line extends from the bottom of the sign to a grey rectangular base.	Sign name, rotation angle and coordinates.

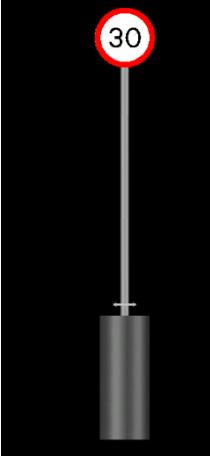
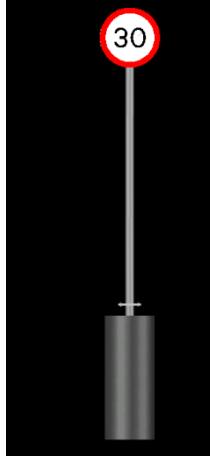
**4.8.2.19 SM\_MCSG\_NoU-TurnSign\_(S348)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A black rectangular sign with a red circle containing a white diagonal slash over a U-turn symbol. A vertical white line extends from the bottom of the sign to a grey rectangular base.	Sign coordinates

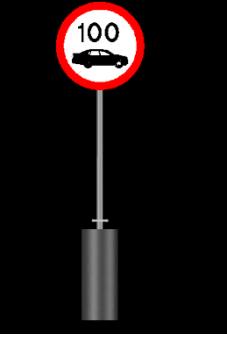
300	300	 A 3D rendering of a 'No U-turn' road sign mounted on a vertical pole. The sign features a red circle with a white 'U' symbol and a diagonal slash through it.	Sign name, rotation angle and coordinates.
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#### 4.8.3 Speed Limit Signage

##### 4.8.3.1 SM\_SLSG\_GeneralSpeedLimit\_(S344)

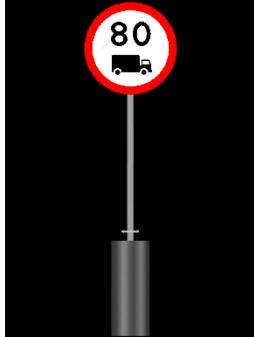
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a speed limit sign '30' mounted on a vertical pole. The sign is circular with a red border and the number '30' in the center.	Sign coordinates
300	300	 A 3D rendering of a speed limit sign '30' mounted on a vertical pole. The sign is circular with a red border and the number '30' in the center.	Sign name, rotation angle and coordinates.

**4.8.3.2 SM\_SLSG\_MaximumSpeedLimitforAutos\_(S345A)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.3.3 SM\_SLSG\_MaximumSpeedLimitforGoodsvehicles\_(S345B)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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#### 4.8.3.4 SM\_SLSG\_MaximumSpeedLimitforBus\_(S345C)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.3.5 SM\_SLSG\_MinimumSpeedLimit\_(S344M)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.3.6 SM\_SLSG\_NightSpeedLimit\_(S344N)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

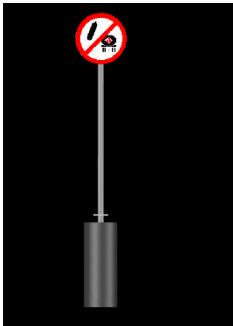
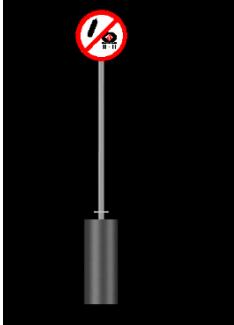
300	300		Sign name, rotation angle and coordinates.
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#### 4.8.4 General Prohibitory Traffic Restrictions Signage

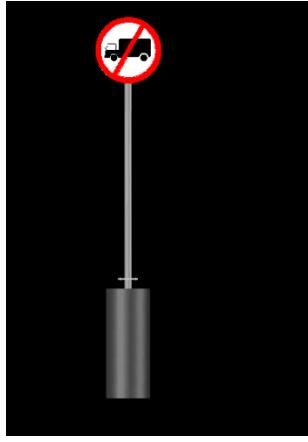
##### 4.8.4.1 SM\_GPSG\_NoOvertaking\_(S349)

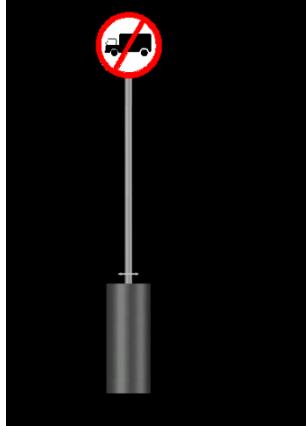
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.4.2 SM\_GPSG\_NoFlammableGoods\_(S350)**

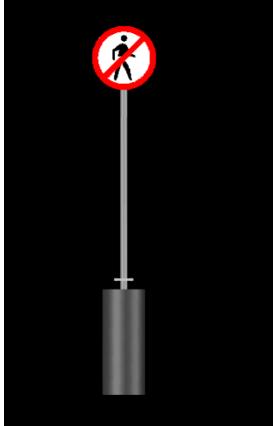
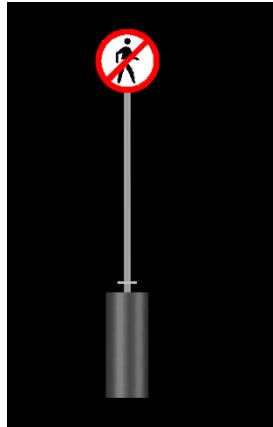
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.4.3 SM\_GPSG\_NoGoodsVehicle\_(S351)**

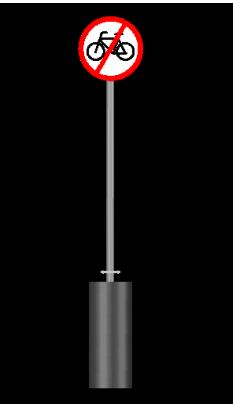
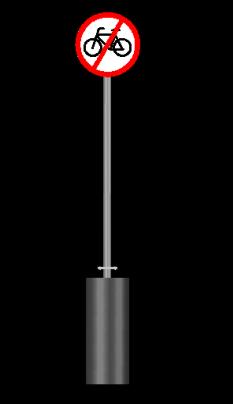
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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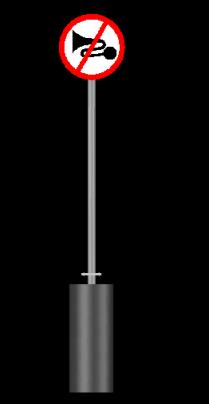
#### 4.8.4.4 SM\_GPSG\_NoPedestrians\_(S352)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.4.5 SM\_GPSG\_NoCyclists\_(S353)**

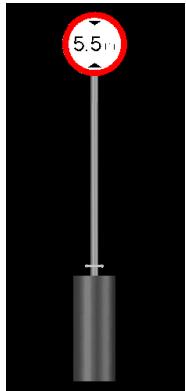
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.4.6 SM\_GPSG\_NoHorns\_(S354)**

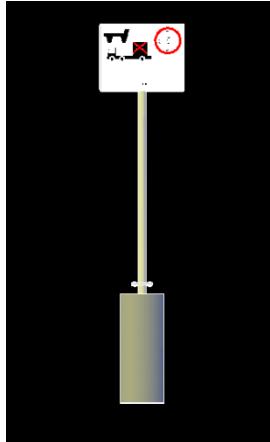
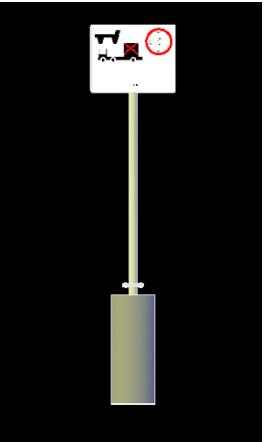
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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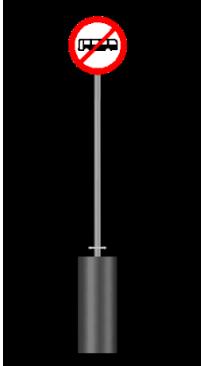
#### 4.8.4.7 SM\_GPSG\_MaximumHeightLimit\_(S355)

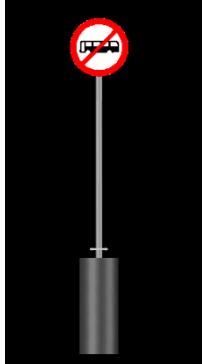
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.4.8 SM\_GPSG\_MaximumHeightLimit\_(S356)

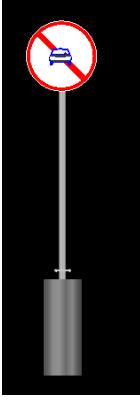
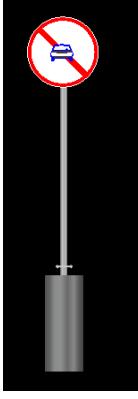
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.4.9 SM\_GPSG\_NoBuses\_(S357)

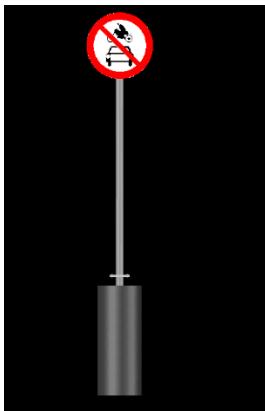
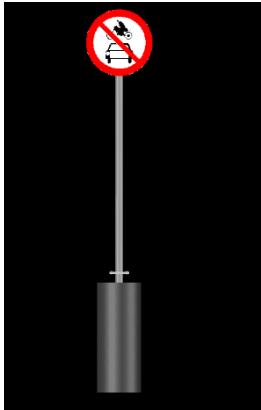
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300	 A 3D rendering of a cylindrical street sign mounted on a post. The sign features a red circular border with a diagonal slash over a blue silhouette of a taxi. A small vertical arrow points downwards from the sign.	Sign name, rotation angle and coordinates.
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#### 4.8.4.10 SM\_GPSG\_NoTaxis\_(S358)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a cylindrical street sign mounted on a post. The sign features a red circular border with a diagonal slash over a blue silhouette of a taxi. A small vertical arrow points downwards from the sign.	Sign coordinates
300	300	 A 3D rendering of a cylindrical street sign mounted on a post. The sign features a red circular border with a diagonal slash over a blue silhouette of a taxi. A small vertical arrow points downwards from the sign.	Sign name, rotation angle and coordinates.

**4.8.4.11 SM\_GPSG\_NoMotorVehicles\_(S359)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.4.12 SM\_GPSG\_QualificationPlate\_(S365)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

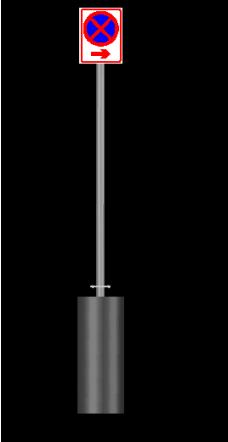
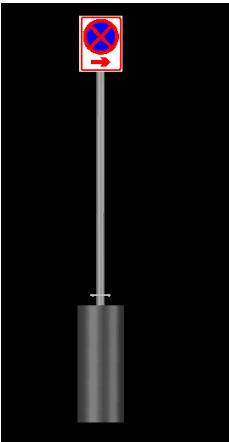
300	300		Sign name, rotation angle and coordinates.
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#### 4.8.5 Parking Control and Reservation Signage

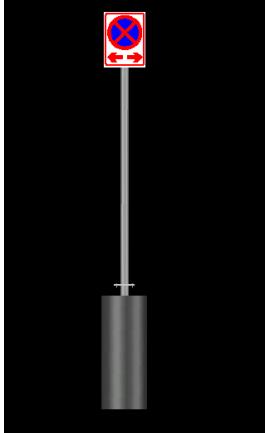
##### 4.8.5.1 SM\_PCSG\_NoStoppingSign\_(S370)

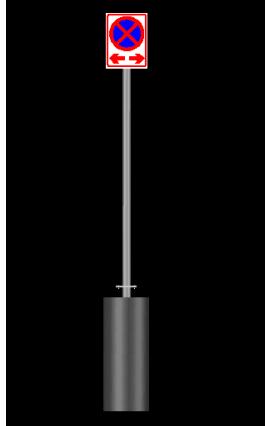
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.5.2 SM\_PCSG\_NoStoppingZoneSigns\_(S371)

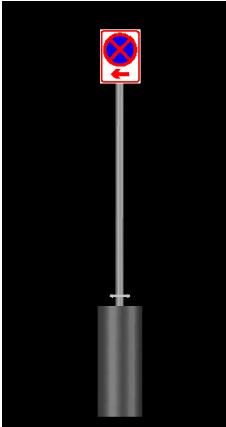
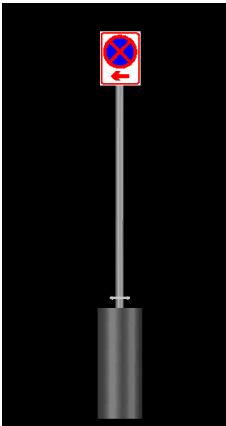
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.5.3 SM\_PCSG\_NoStoppingZoneSigns\_(S372)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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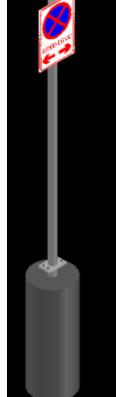
#### 4.8.5.4 SM\_PCSG\_NoStoppingZoneSigns\_(S373)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.5 SM\_PCSG\_NoStoppingZoneSigns\_(S374)**

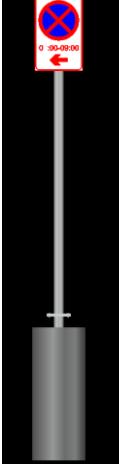
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.5 SM\_PCSG\_NoStoppingZoneSigns\_(S375)**

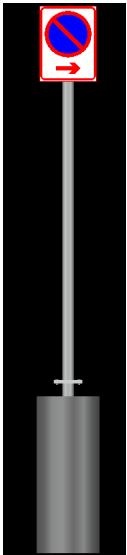
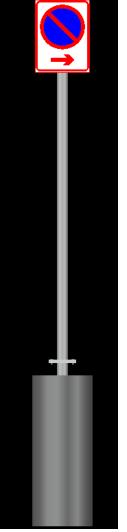
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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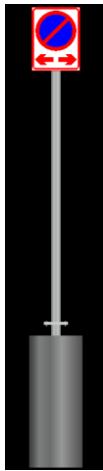
#### 4.8.5.6 SM\_PCSG\_NoStoppingZoneSigns\_(S376)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

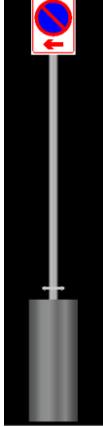
4.8.5.7 SM\_PCSG\_NoParkingSigns\_(S377)

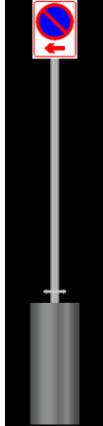
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a rectangular no-parking sign. The sign is white with a red border and features a blue circle with a diagonal red line through it, indicating that parking is prohibited. It is mounted on a vertical pole. The background is a dark gray ground plane.	Sign coordinates
300	300	 A 3D rendering of a rectangular no-parking sign. The sign is white with a red border and features a blue circle with a diagonal red line through it, indicating that parking is prohibited. It is mounted on a vertical pole. The background is a dark gray ground plane.	Sign name, rotation angle and coordinates.

**4.8.5.8 SM\_PCSG\_NoParkingSigns\_(S378)**

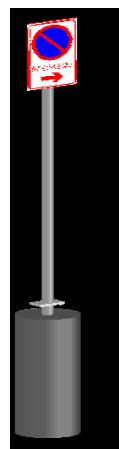
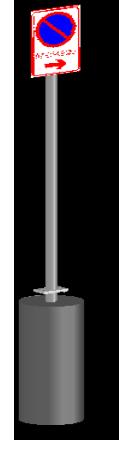
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a rectangular no-parking sign mounted on a vertical pole. The sign features a red border and a blue circle containing a white diagonal cross. A small grey base is at the bottom.	Sign coordinates
300	300	 A 3D rendering of a rectangular no-parking sign mounted on a vertical pole. The sign features a red border and a blue circle containing a white diagonal cross. A small grey base is at the bottom.	Sign name, rotation angle and coordinates.

**4.8.5.9 SM\_PCSG\_NoParkingSigns\_(S379)**

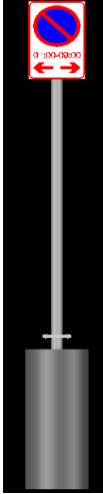
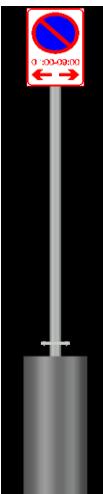
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a rectangular no-parking sign mounted on a vertical pole. The sign has a red border and a white background with a blue circle containing a white diagonal cross. A small grey base is at the bottom.	Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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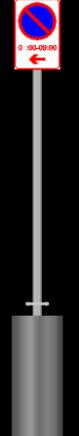
#### 4.8.5.10 SM\_PCSG\_NoParkingTimeRestrictedSign\_(S380)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.11 SM\_PCSG\_NoParkingTimeRestrictedSign\_(S381)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

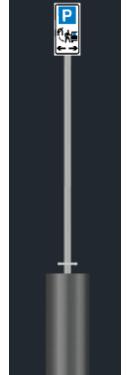
4.8.5.12 SM\_PCSG\_NoParkingTimeRestrictedSign\_(S382)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.13 SM\_PCSG\_Pay-And-DisplayParkingSigns\_(S383)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.14 SM\_PCSG\_Pay-And-DisplayParkingSigns\_(S384)**

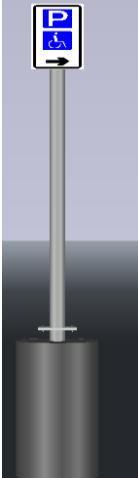
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, rotation angle and coordinates.
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#### 4.8.5.15 SM\_PCSG\_Pay-And-DisplayParkingSigns\_(S385)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.16 SM\_PCSG\_ParkingForDisabledPersons\_(S386)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

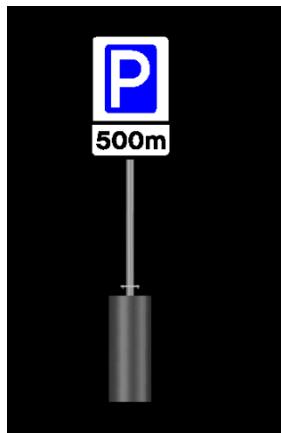
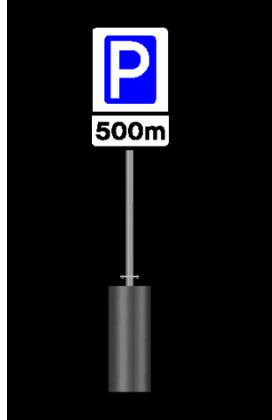
**4.8.5.17 SM\_PCSG\_ParkingForDisabledPersons\_(S387)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

4.8.5.18 SM\_PCSG\_ParkingForDisabledPersons\_(S388)

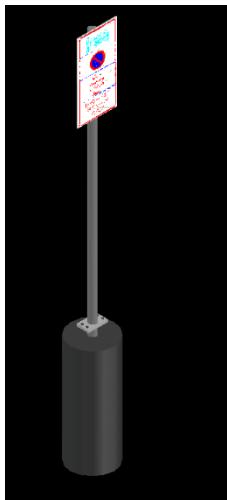
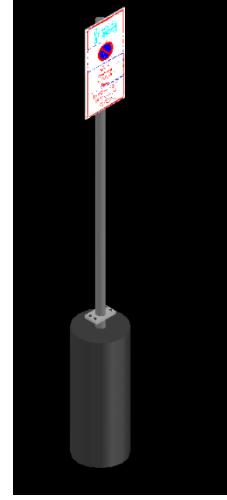
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

**4.8.5.19 SM\_PCSG\_ParkingFacility\_(S515.5)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.6 Vehicle-Specific Reservation Signing

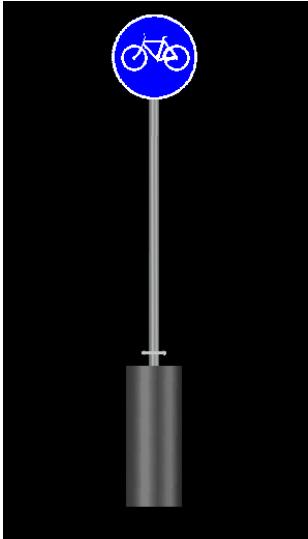
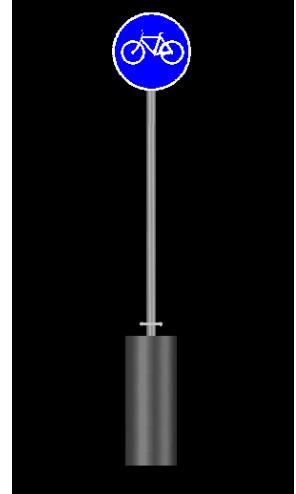
##### 4.8.6.1 SM\_VRSG\_PickUp&DropOffSign\_(S391)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

4.8.6.2 SM\_VRSG\_TaxiStandSign\_(S393)

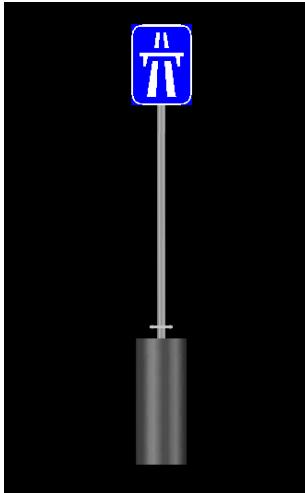
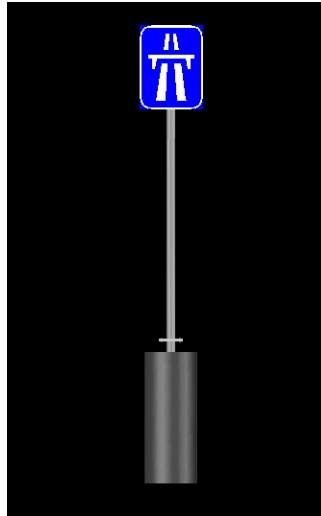
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

4.8.6.3 SM\_VRSG\_BicycleLaneSign\_(S396)

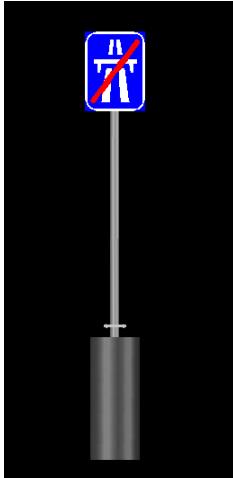
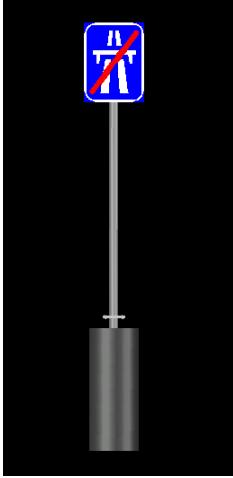
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

#### 4.8.7 Comprehensive Signage

##### 4.8.7.1 SM\_CMSG\_FreewayStart\_(S398.1)

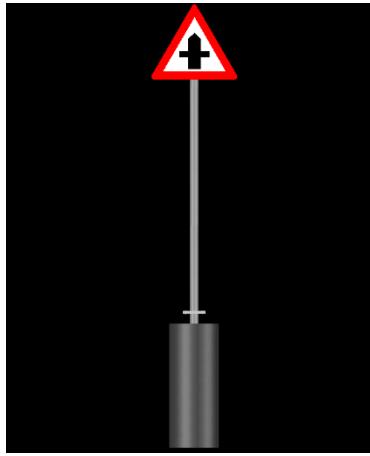
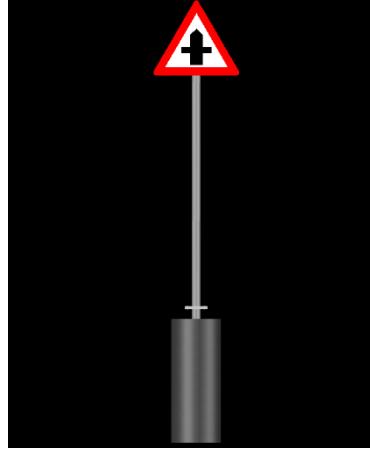
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

4.8.7.2 ADM-Pr40107772-CMSG-EndSigns(S398.2)

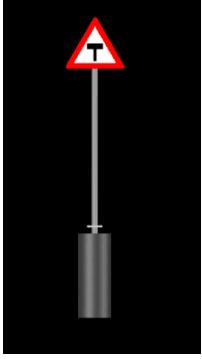
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

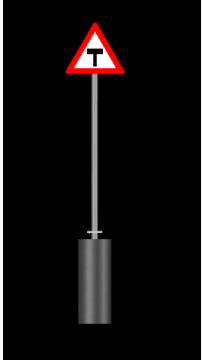
#### 4.8.8 Advanced Warning Signs

##### 4.8.8.1 SM\_AWSG\_CrossRoadAhead\_(S401)

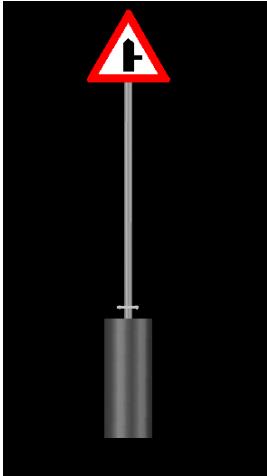
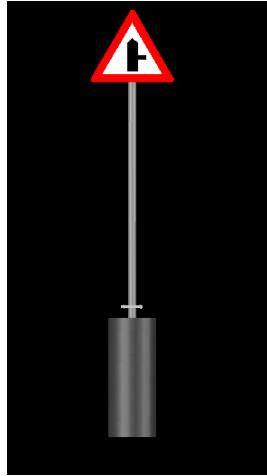
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, rotation angle and coordinates.

##### 4.8.8.2 SM\_AWSG\_JunctionAhead\_(S402)

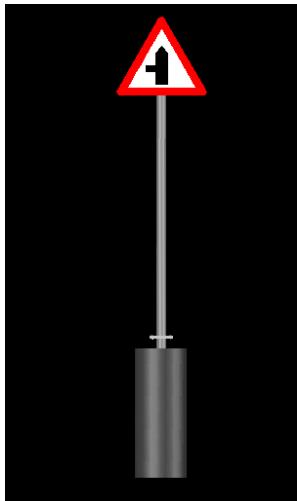
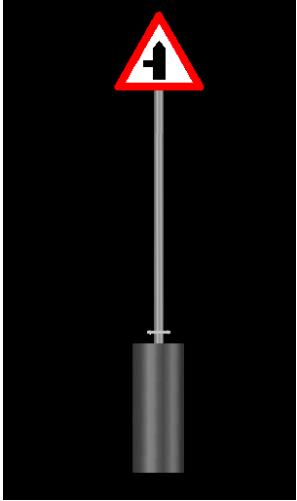
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300	 A triangular warning sign with a red border and a black background, containing a white letter 'T' at the top. It is mounted on a vertical grey post with a small horizontal bracket at the bottom.	Sign name, rotation angle and coordinates.
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#### 4.8.8.3 SM\_AWSG\_SideRoadRightAhead\_(S403)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a black background, containing a white letter 'F' at the top. It is mounted on a vertical grey post with a small horizontal bracket at the bottom.	Sign coordinates
300	300	 A triangular warning sign with a red border and a black background, containing a white letter 'F' at the top. It is mounted on a vertical grey post with a small horizontal bracket at the bottom.	Sign name, rotation angle and coordinates.

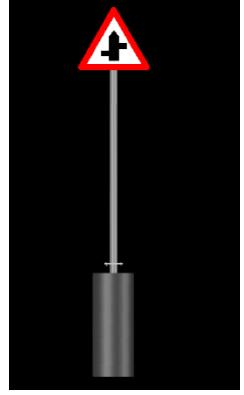
4.8.8.4 SM\_AWSG\_SideRoadLeftAhead\_(S404)

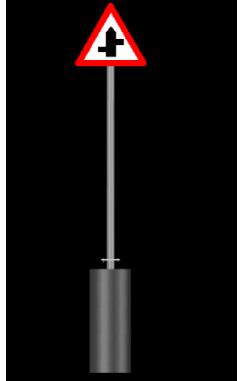
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.8.5 SM\_AWSG\_StaggeredSideRoadAhead\_(S405)**

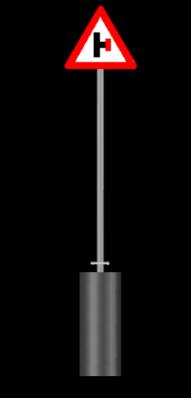
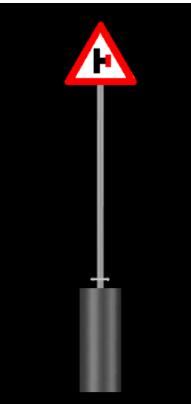
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a black arrow pointing upwards, mounted on a vertical pole.	Sign coordinates
300	300	 A triangular warning sign with a red border and a black arrow pointing upwards, mounted on a vertical pole.	Sign name, Material, rotation angle and coordinates.

**4.8.8.6 SM\_AWSG\_StaggeredSideRoadAhead\_(S406)**

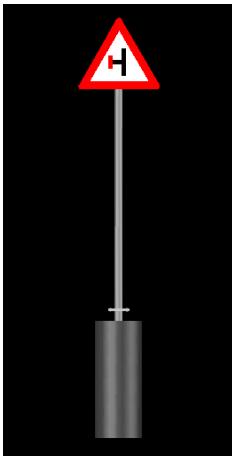
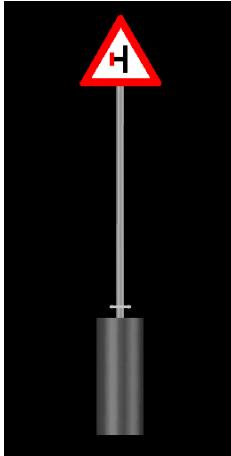
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a black arrow pointing upwards, mounted on a vertical pole.	Sign coordinates

300	300		Sign name, Material, rotation angle and coordinates.
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#### 4.8.8.7 SM\_AWSG\_NoThroughRoadRight\_(S407)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

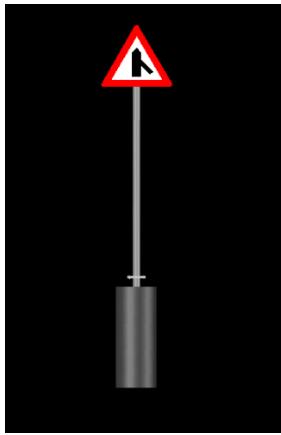
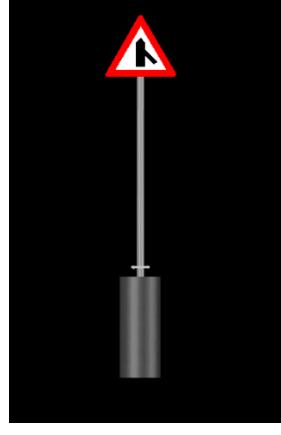
4.8.8.8 SM\_AWSG\_NoThroughRoadLeft\_(S408)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

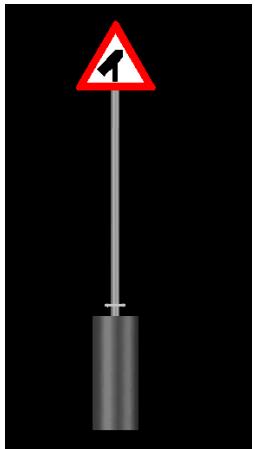
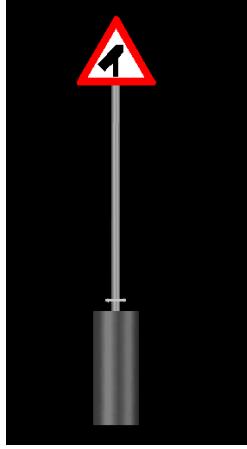
**4.8.8.9 SM\_AWSG\_NoThroughRoadAhead\_(S409)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.8.10 SM\_AWSG\_MergingTrafficSign(Right)\_ (S410)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

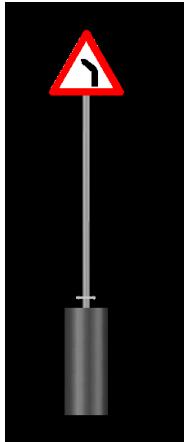
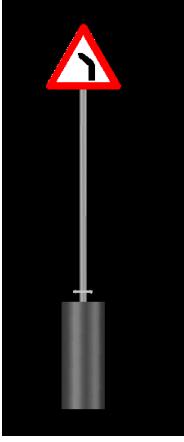
4.8.8.11 SM\_AWSG\_MergingTrafficSign(Left)\_(S411)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

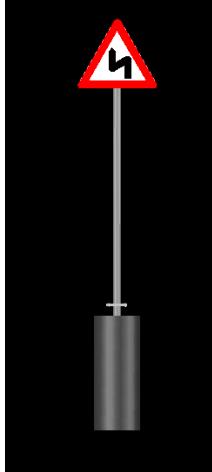
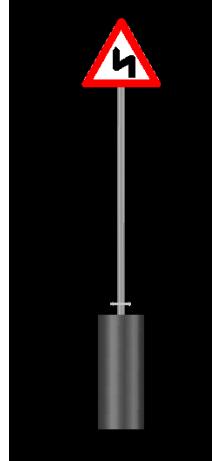
**4.8.8.12 SM\_AWSG\_CurveSignSign(Right)\_ (S412)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

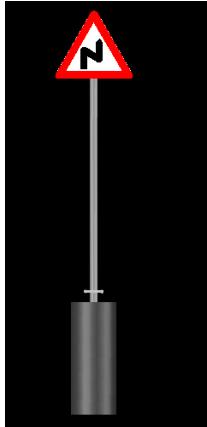
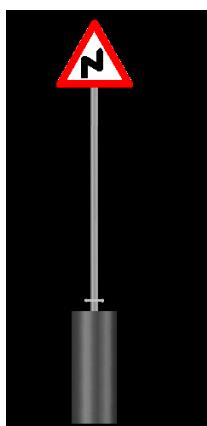
**4.8.8.13 SM\_AWSG\_CurveSignSign(Left)\_(S413)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

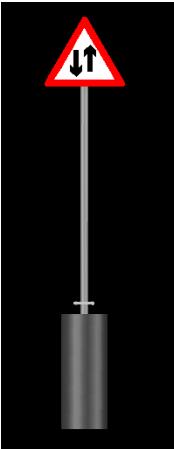
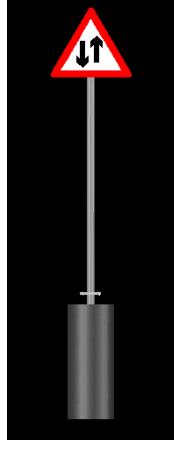
**4.8.8.14 SM\_AWSG\_BendsAheadSign(right)\_ (S414)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

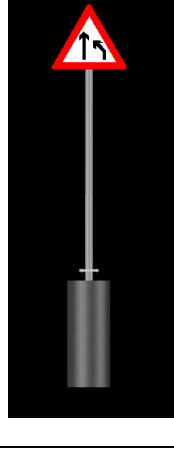
4.8.8.15 SM\_AWSG\_BendsAheadSign(left)\_(S415)

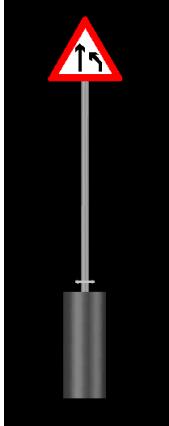
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a white background, featuring a black stylized letter 'N' inside. It is mounted on a vertical pole with a grey base.	Sign coordinates
300	300	 A triangular warning sign with a red border and a white background, featuring a black stylized letter 'N' inside. It is mounted on a vertical pole with a grey base.	Sign name, Material, rotation angle and coordinates.

**4.8.8.16 SM\_AWSG\_Two-WayTrafficSign\_(S416)**

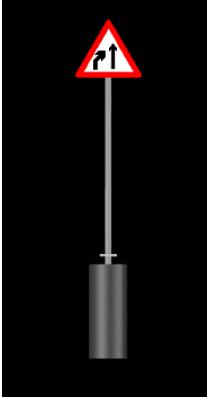
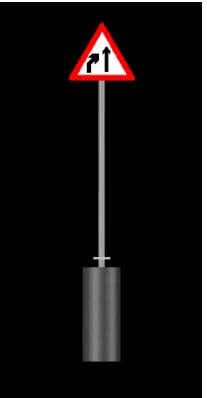
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.8.17 SM\_AWSG\_LaneEndsSign(right)\_ (S417)**

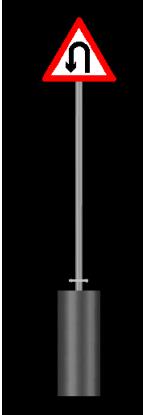
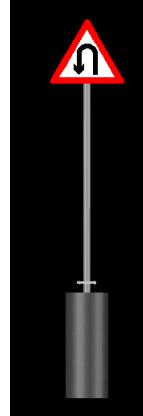
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300	 A triangular warning sign with a red border and a black background, containing a white arrow pointing upwards and to the left. It is mounted on a vertical pole with a grey base.	Sign name, Material, rotation angle and coordinates.
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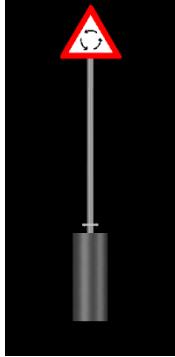
#### 4.8.8.18 SM\_AWSG\_LaneEndsSign(left)\_ (S418)

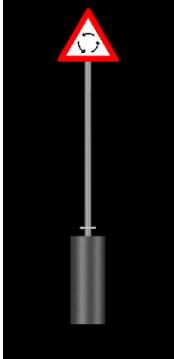
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a black background, containing a white arrow pointing upwards and to the left. It is mounted on a vertical pole with a grey base.	Sign coordinates
300	300	 A triangular warning sign with a red border and a black background, containing a white arrow pointing upwards and to the left. It is mounted on a vertical pole with a grey base.	Sign name, Material, rotation angle and coordinates.

#### 4.8.8.19 SM\_AWSG\_U-TurnAheadSign\_ (S419)

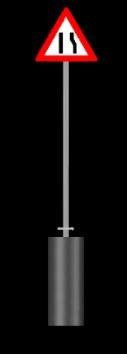
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

#### 4.8.8.20 SM\_AWSG\_RoundaboutAheadSign\_(S420)

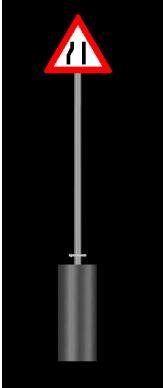
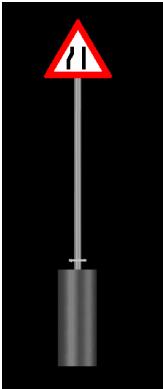
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates

300	300		Sign name, Material, rotation angle and coordinates.
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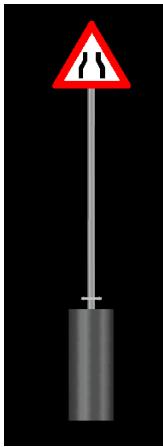
#### 4.8.8.21 SM\_AWSG\_RoadNarrowsAheadSign(right)\_S421

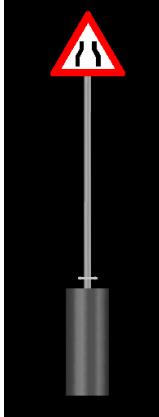
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.8.22 SM\_AWSG\_RoadNarrowsAheadSign(left)\_(S422)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular road sign with a red border and two diagonal lines pointing towards each other at the top, indicating narrow roads ahead. It is mounted on a vertical pole.	Sign coordinates
300	300	 A triangular road sign with a red border and two diagonal lines pointing towards each other at the top, indicating narrow roads ahead. It is mounted on a vertical pole.	Sign name, Material, rotation angle and coordinates.

**4.8.8.23 SM\_AWSG\_RoadNarrowsAheadSign(bothsides)\_(S423)**

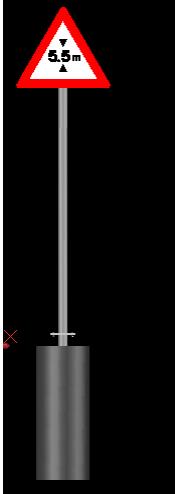
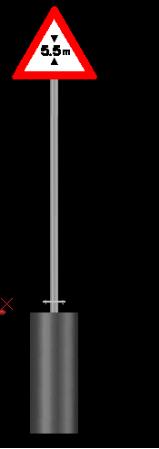
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular road sign with a red border and two diagonal lines pointing towards each other at the top, indicating narrow roads ahead. It is mounted on a vertical pole.	Sign coordinates

300	300		Sign name, Material, rotation angle and coordinates.
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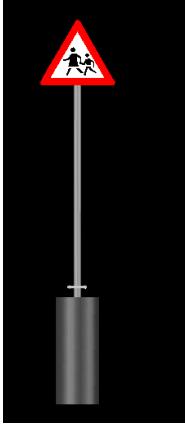
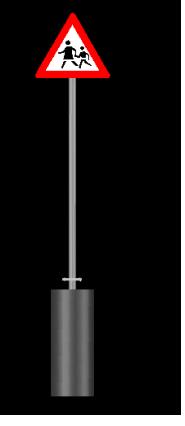
#### 4.8.8.24 SM\_AWSG\_DualCarriagewayEndsAheadSign\_(S424)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

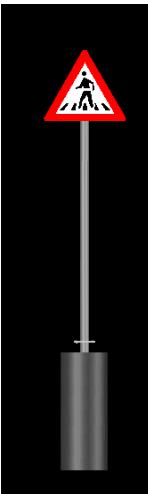
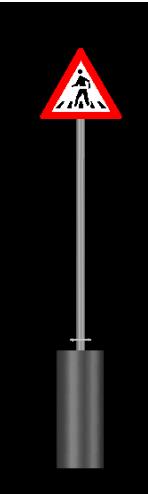
4.8.8.25 SM\_AWSG\_MaximumHeadroomSign\_(S425)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

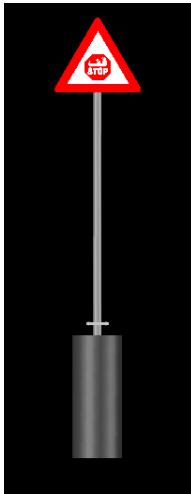
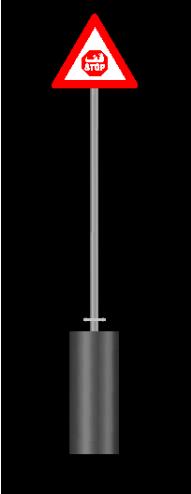
4.8.8.26 SM\_AWSG\_ChildrenSign\_(S426)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

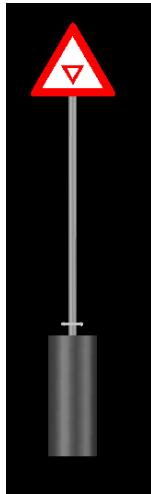
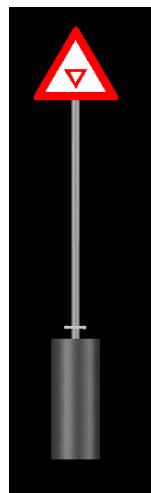
4.8.8.27 SM\_AWSG\_PedestrianCrossingAheadSignSign\_(S427)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

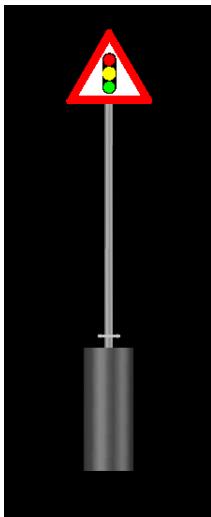
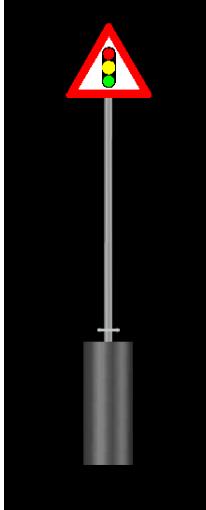
4.8.8.28 SM\_AWSG\_StopControlAheadSign\_(S428)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

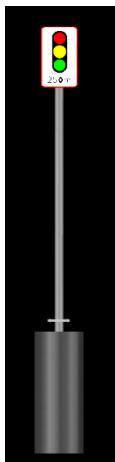
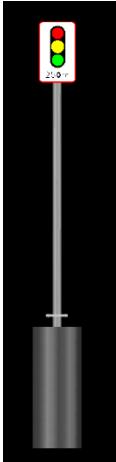
**4.8.8.29 SM\_AWSG\_Give-WayAheadSign\_(S429)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

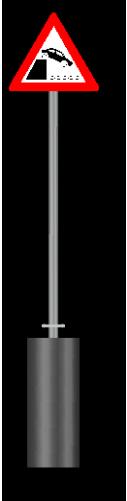
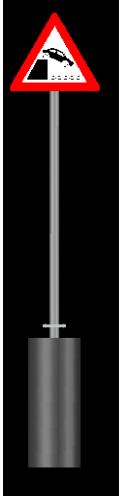
4.8.8.30 SM\_AWSG\_TrafficSignalsAheadSign\_(S430A)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

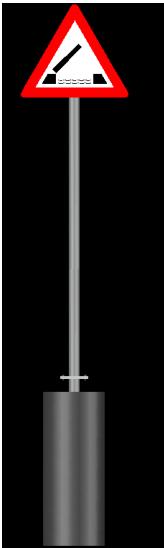
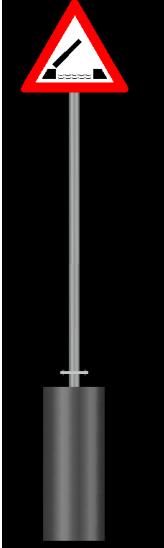
**4.8.8.31 SM\_AWSG\_TrafficSignalsAheadSign\_(S430B)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

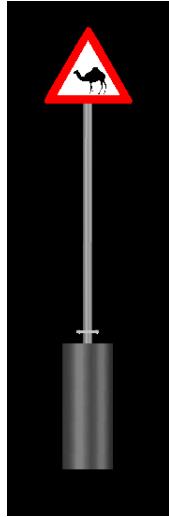
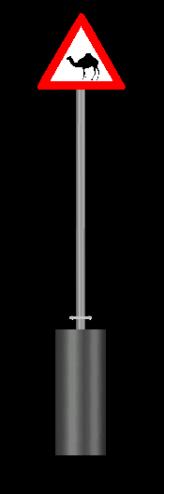
4.8.8.32 SM\_AWSG\_QuaysideSign\_(S431)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.8.33 SM\_AWSG\_DrawbridgeSign\_(S432)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

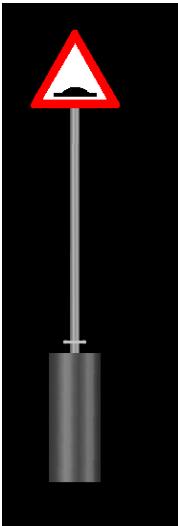
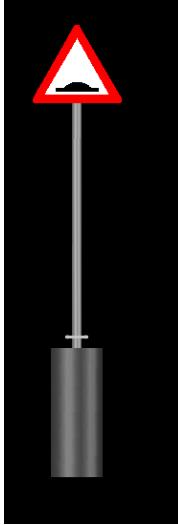
**4.8.8.34 SM\_AWSG\_AnimalAheadSign\_(S433)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

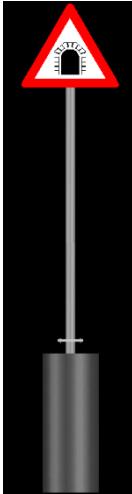
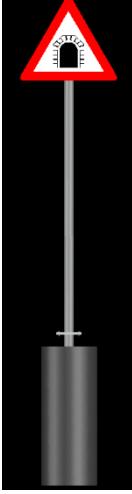
4.8.8.35 SM\_AWSG\_Low-FlyingAircraftSign\_(S434)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	A triangular warning sign with a red border and a black background. Inside the triangle is a white silhouette of an airplane flying low. The sign is mounted on a vertical grey pole, which sits on a grey rectangular base.	Sign coordinates
300	300	A triangular warning sign with a red border and a black background. Inside the triangle is a white silhouette of an airplane flying low. The sign is mounted on a vertical grey pole, which sits on a grey rectangular base.	Sign name, Material, rotation angle and coordinates.

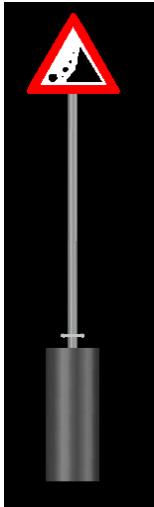
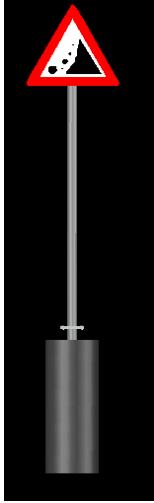
**4.8.8.36 SM\_AWSG\_SpeedHumpSign\_(S435)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

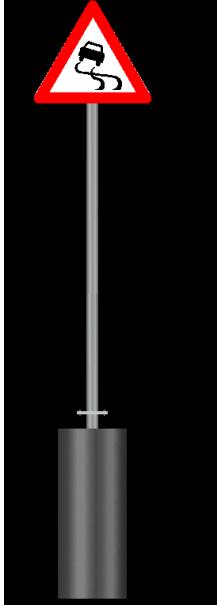
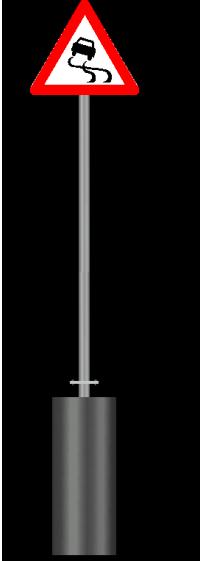
**4.8.8.37 SM\_AWSG\_TunnelSign\_(S436)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a white background. Inside the triangle is a black silhouette of a road tunnel entrance. The sign is mounted on a vertical pole, which is supported by a grey base.	Sign coordinates
300	300	 A triangular warning sign with a red border and a white background. Inside the triangle is a black silhouette of a road tunnel entrance. The sign is mounted on a vertical pole, which is supported by a grey base.	Sign name, Material, rotation angle and coordinates.

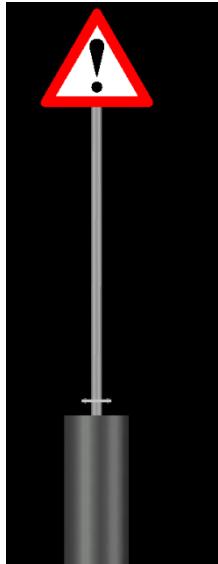
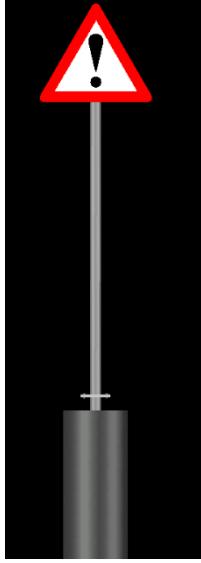
**4.8.8.38 SM\_AWSG\_FallingRocksSign\_(S437)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A triangular warning sign with a red border and a black background. Inside the triangle is a white silhouette of a mountain peak with three small black dots falling from its side. A vertical white line extends downwards from the base of the triangle, ending in a small grey rectangular base. There are two small white cross-hair marks near the bottom of this line.	Sign coordinates
300	300	 A triangular warning sign with a red border and a black background. Inside the triangle is a white silhouette of a mountain peak with three small black dots falling from its side. A vertical white line extends downwards from the base of the triangle, ending in a small grey rectangular base. There are two small white cross-hair marks near the bottom of this line.	Sign name, Material, rotation angle and coordinates.

4.8.8.39 SM\_AWSG\_SlipperySurfaceSign\_(S438)

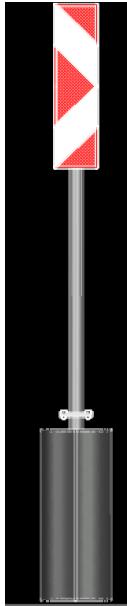
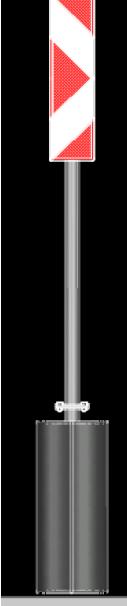
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.8.40 SM\_AWSG\_GeneralWarningSign\_(S450)

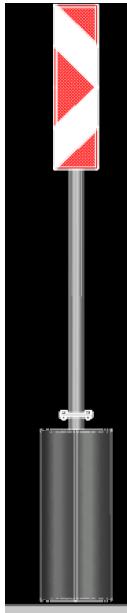
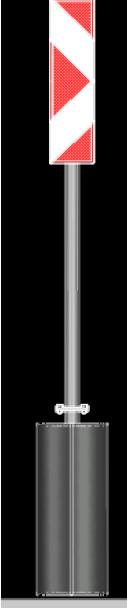
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

#### 4.8.9 Hazard Marker Signs

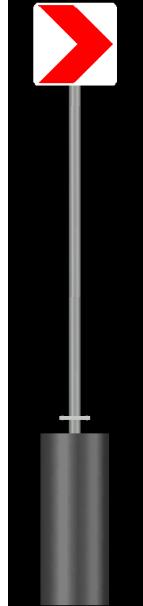
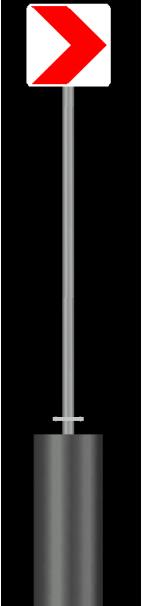
##### 4.8.9.1 SM\_HMSG\_HazardPlateSigns(right)\_(S451)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

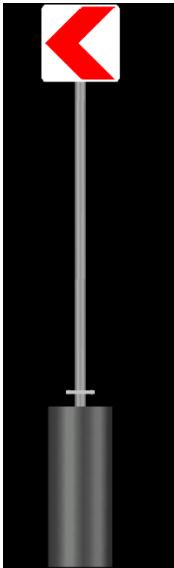
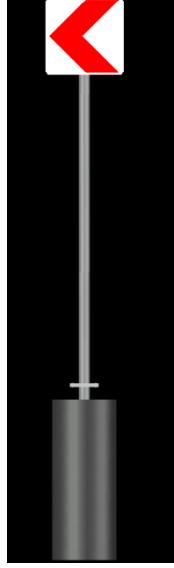
4.8.9.2 SM\_HMSG\_HazardPlateSigns(left)\_(S452)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

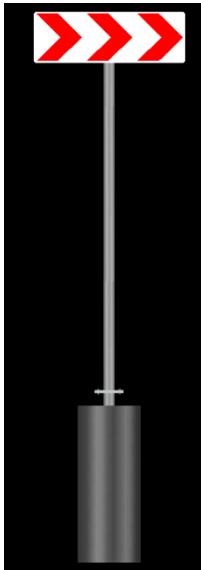
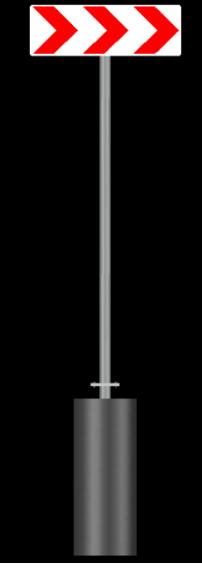
4.8.9.3 SM\_HMSG\_SingleChevronSign(right)\_(S454)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

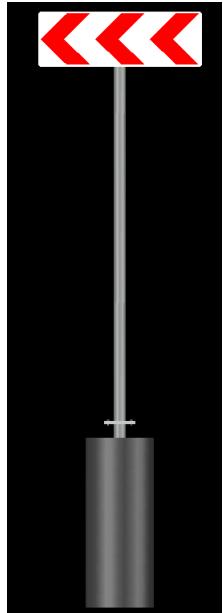
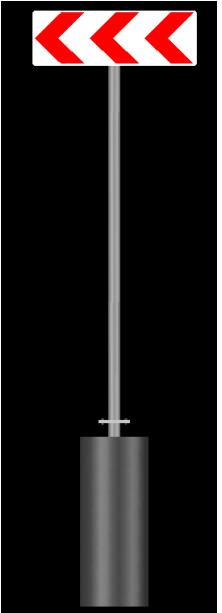
4.8.9.4 SM\_HMSG\_SingleChevronSign(left)\_S455

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

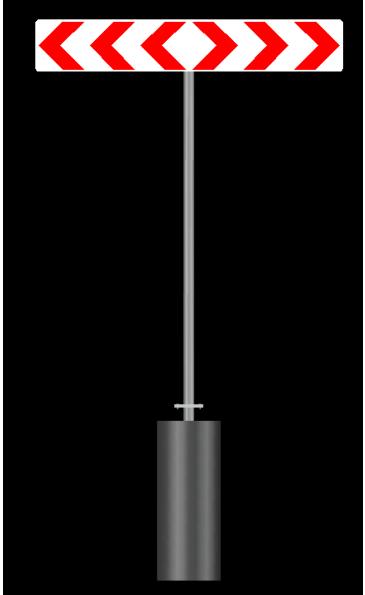
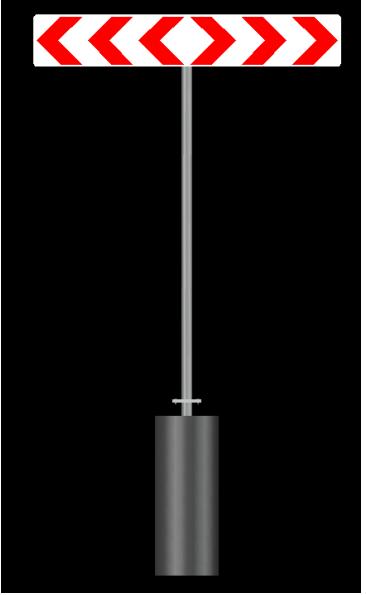
**4.8.9.5 SM\_HMSG\_MultipleChevronSign(right)\_(S456)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A graphic representation of a traffic sign. It features a black rectangular background with three red chevrons pointing to the right. A vertical white line extends downwards from the top of the sign. At the bottom, there is a grey rectangular base.	Sign coordinates
300	300	 A graphic representation of a traffic sign. It features a black rectangular background with three red chevrons pointing to the right. A vertical white line extends downwards from the top of the sign. At the bottom, there is a grey rectangular base.	Sign name, Material, rotation angle and coordinates.

4.8.9.6 SM\_HMSG\_MultipleChevronSign(left)\_(S457)

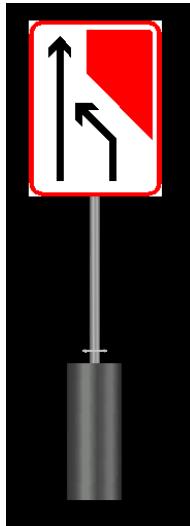
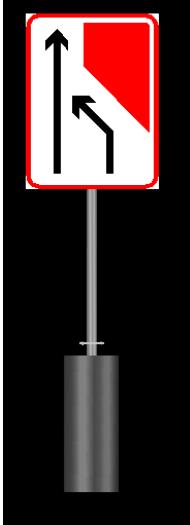
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a red and white multiple chevron sign mounted on a vertical pole. The sign has three red chevrons pointing to the left. The background is black.	Sign coordinates
300	300	 A 3D rendering of a red and white multiple chevron sign mounted on a vertical pole. The sign has three red chevrons pointing to the left. The background is black.	Sign name, Material, rotation angle and coordinates.

**4.8.9.7 SM\_HMSG\_T-JunctionChevronSign\_(S458)**

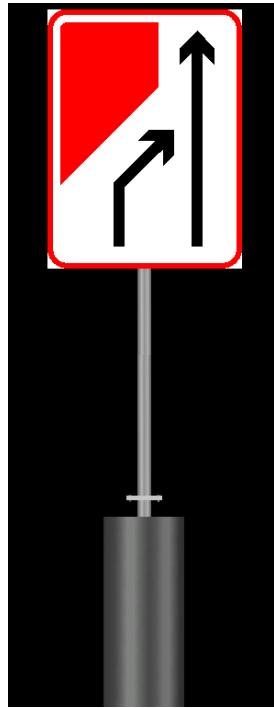
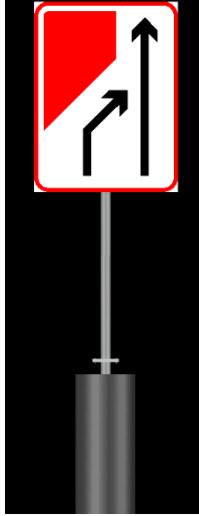
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

#### 4.8.10 Diagrammatic Signs

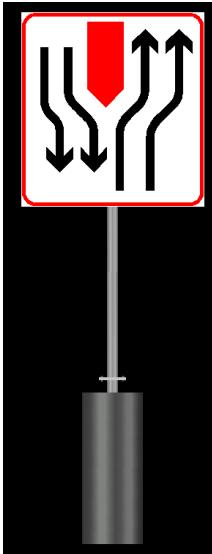
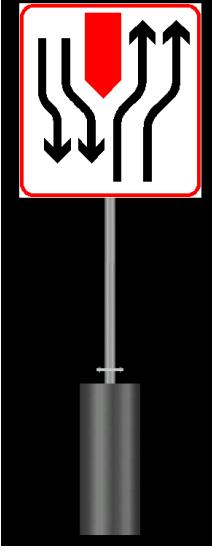
##### 4.8.10.1 SM\_DGSG\_LaneDropSigns(fromright)\_(S465)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

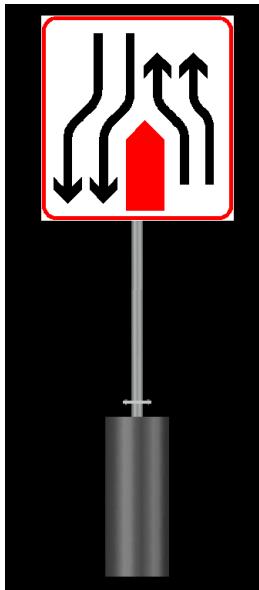
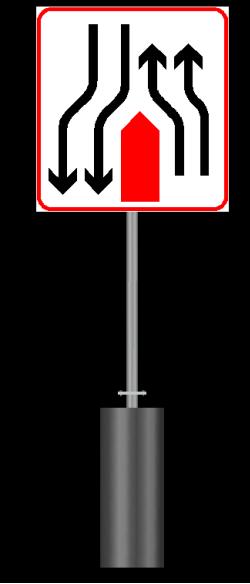
4.8.10.2 SM\_DGSG\_LaneDropSigns(fromleft)\_(S466)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A graphic of a road sign mounted on a pole. The sign is white with a red diagonal band on the left side. It features a black arrow pointing straight up and another black arrow pointing diagonally up and to the right, indicating a lane drop or merge ahead.	Sign coordinates
300	300	 A graphic of a road sign mounted on a pole. The sign is white with a red diagonal band on the left side. It features a black arrow pointing straight up and another black arrow pointing diagonally up and to the right, indicating a lane drop or merge ahead. This version includes more detailed sign name, material, rotation angle, and coordinates information.	Sign name, Material, rotation angle and coordinates.

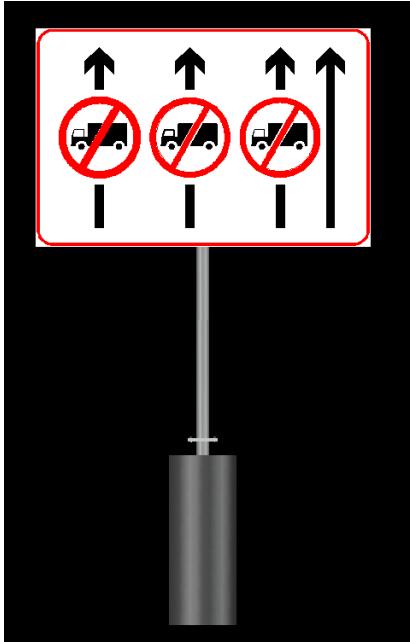
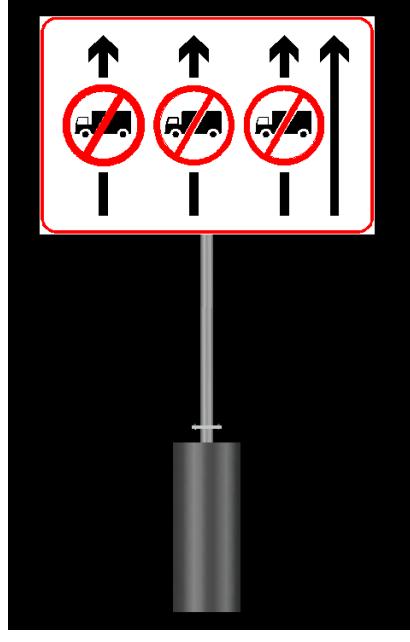
**4.8.10.3 SM\_DGSG\_Beginning/EndofMedianSigns\_(S472)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.10.4 SM\_DGSG\_Beginning/EndofMedianSign\_(S473)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.10.5 SM\_DGSG\_TrucksandBussesSign\_(S485)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.10.6 SM\_DGSG\_DirectionalRestrictionSign\_(S486)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.10.7 SM\_DGSG\_HighVehicleWarningSign\_(S495)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.11 Other Supplemental Plaques**

**4.8.11.1 SM\_OSPL\_SupplementalPlaquesSign\_(S589)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

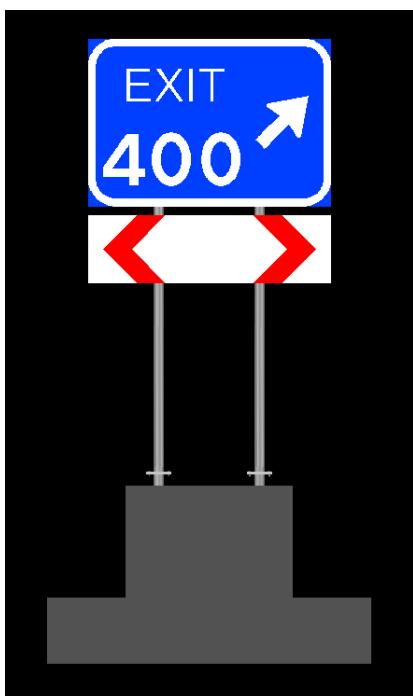
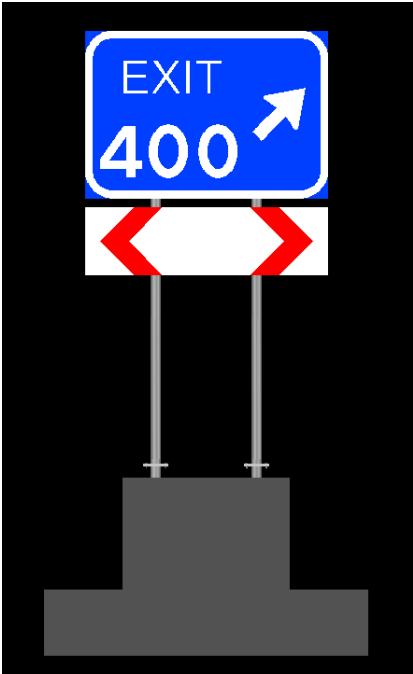
#### 4.8.12 Arterials and At-Grade Junctions

##### 4.8.12.1 SM\_AAGJ\_Chevron Direction Sign\_(S515)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A 3D rendering of a directional sign mounted on a single vertical post. The sign is a light gray rectangle with a dark gray chevron symbol pointing upwards and to the right. It is set against a solid black background.	Sign coordinates
300	300	 A 3D rendering of a directional sign mounted on a single vertical post. The sign is a light gray rectangle with a dark gray chevron symbol pointing upwards and to the right. It is set against a solid black background.	Sign name, Material, rotation angle and coordinates.

#### 4.8.13 Freeways, Highways, and Grade-Separated Junctions

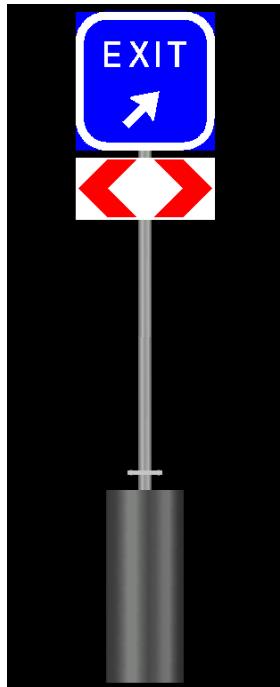
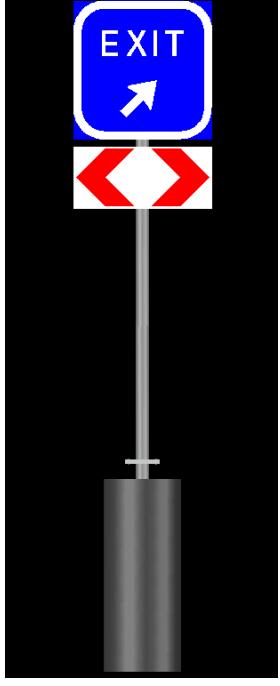
##### 4.8.13.1 SM\_FHGJ\_ExitDirectionSign\_(S552)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 A blue rectangular sign with a white border and rounded corners, mounted on a grey concrete base. The sign displays the word "EXIT" at the top and the number "400" below it. A white arrow pointing upwards and to the right is positioned to the right of the number. Below the sign is a red and white diagonal bollard sign indicating a sharp turn.	Sign coordinates
300	300	 A blue rectangular sign with a white border and rounded corners, mounted on a grey concrete base. The sign displays the word "EXIT" at the top and the number "400" below it. A white arrow pointing upwards and to the right is positioned to the right of the number. Below the sign is a red and white diagonal bollard sign indicating a sharp turn.	Sign name, Material, rotation angle and coordinates.

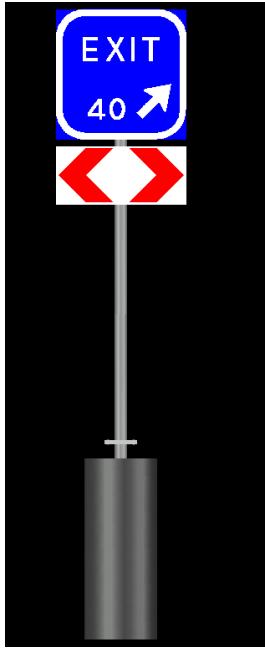
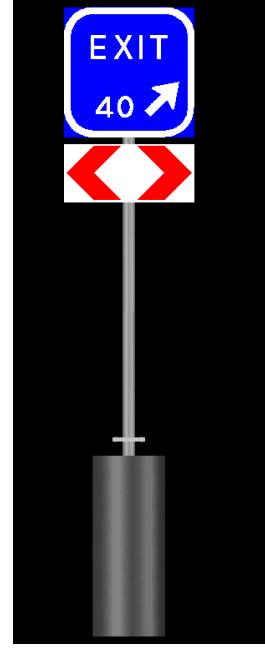
**4.8.13.2 SM\_FHGJ\_OngoingDirectionSign\_(S553)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

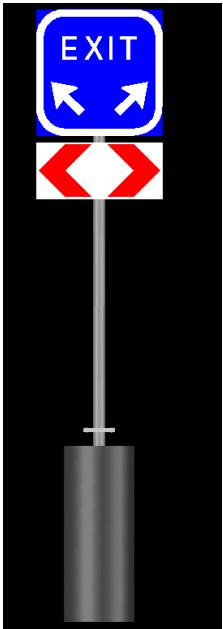
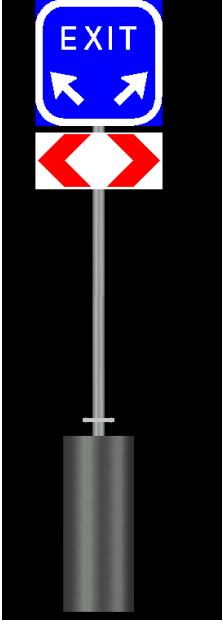
4.8.13.3 SM\_FHGJ\_GoreExitSigns\_(S554)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

4.8.13.4 SM\_FHGJ\_GoreExitSigns\_(S555)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.13.5 SM\_FHGJ\_GoreExitSigns\_(S556)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.14 Supplemental Guide Signing**

**4.8.14.1 SM\_SGSG\_SupplementalExitSign\_(S557)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

#### 4.8.15 Trailblazing Signs

##### 4.8.15.1 SM\_TRSG\_EmirateRouteTrailblazerSign\_(S505)

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

**4.8.16 Street Name Signs**

**4.8.16.1 SM\_SNSG\_FireHydrantSupplementaryPlateSign\_(S590)**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Sign coordinates
300	300		Sign name, Material, rotation angle and coordinates.

#### 4.8.17 Regulatory Markings

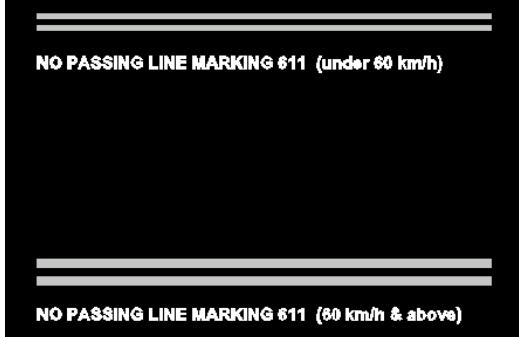
##### 4.8.17.1 SM\_RGMR\_StopLineMarking\_601

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates
300	300		Line marking type and thickness

#### 4.8.17.2 SM\_RGMR\_GiveWayLineMarking\_602

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates
300	300		Line marking type and thickness

#### 4.8.17.3 SM\_RGMR\_NoPassingLineMarking\_611

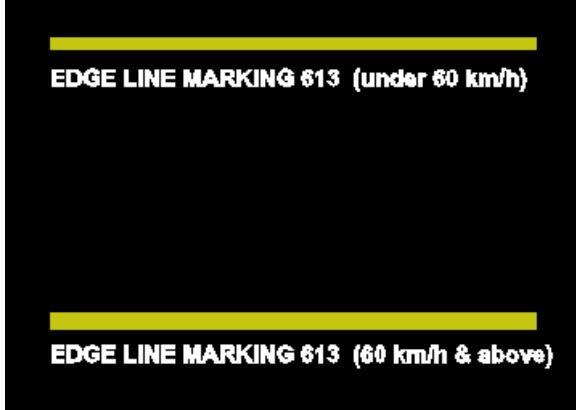
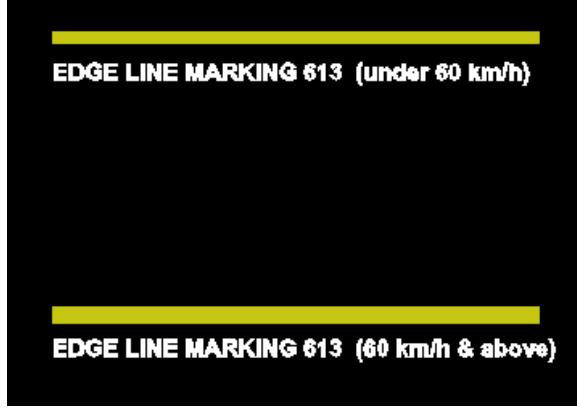
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates

300	300	<p><b>NO PASSING LINE MARKING 611 (under 60 km/h)</b></p> <p><b>NO PASSING LINE MARKING 611 (60 km/h &amp; above)</b></p>	Line marking type and thickness
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#### 4.8.17.4 SM\_RGMR\_ChannelizingLineMarking\_612

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	<p><b>CHANNELIZING LINE MARKING 612 (under 60 km/h)</b></p> <p><b>CHANNELIZING LINE MARKING 612 (60 km/h &amp; above)</b></p>	Line marking coordinates
300	300	<p><b>CHANNELIZING LINE MARKING 612 (under 60 km/h)</b></p> <p><b>CHANNELIZING LINE MARKING 612 (60 km/h &amp; above)</b></p>	Line marking type and thickness

#### 4.8.17.5 SM\_RGMR\_EdgeLineMarking\_613

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates
300	300		Line marking type and thickness

#### 4.8.17.6 SM\_RGMR\_LaneDirectionArrowMarkings\_614

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates

300	300	 <p><b>STRAIGHT ARROW 614</b></p>	Line marking type and thickness
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#### 4.8.17.7 SM\_RGMR\_LaneDirectionArrowMarkings\_615

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p><b>RIGHT TURN ARROW 615</b></p>	Line marking coordinates
300	300	 <p><b>RIGHT TURN ARROW 615</b></p>	Line marking type and thickness

#### 4.8.17.8 SM\_RGMR\_LaneDirectionArrowMarkings\_616

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p>LEFT TURN ARROW 616</p>	Line marking coordinates
300	300	 <p>LEFT TURN ARROW 616</p>	Line marking type and thickness

#### 4.8.17.9 SM\_RGMR\_LaneDirectionArrowMarkings\_617

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p>STRAIGHT / RIGHT ARROW 617</p>	Line marking coordinates

300	300	 <b>STRAIGHT / RIGHT ARROW 617</b>	Line marking type and thickness
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#### **4.8.17.10 SM\_RGMR\_LaneDirectionArrowMarkings\_618**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <b>STRAIGHT / LEFT ARROW 618</b>	Line marking coordinates
300	300	 <b>STRAIGHT / LEFT ARROW 618</b>	Line marking type and thickness

**4.8.17.11 SM\_RGMR\_LaneDirectionArrowMarkings\_619**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p>LEFT / RIGHT ARROW 619</p>	Line marking coordinates
300	300	 <p>LEFT / RIGHT ARROW 619</p>	Line marking type and thickness

**4.8.17.12 SM\_RGMR\_ParkingEnvelopeLineMarking\_620**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p>PARKING ENVELOPE LINE MARKING 620</p>	Line marking coordinates

300	300		Line marking type and thickness
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#### 4.8.17.13 SM\_RGMR\_ParkingSpaceLineMarking\_621

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates
300	300		Line marking type and thickness

#### 4.8.18 Warning Markings

##### 4.8.18.1 SM\_WMMR\_RumbleStripsMarking\_650

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p>RUMBLE STRIPS MARKING 650 (for 80 km/h)</p>	Line marking coordinates
300	300	 <p>RUMBLE STRIPS MARKING 650 (for 80 km/h)</p>	Line marking type and thickness

##### 4.8.18.2 SM\_WMMR\_SpeedHumpMarking\_651

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p>SPEED HUMP MARKING 651</p>	Line marking coordinates

300	300		Line marking type and thickness
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#### 4.8.18.3 SM\_WMMR\_DividingLineMarking\_652

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates
300	300		Line marking type and thickness

#### 4.8.18.4 SM\_WMMR\_LaneLineMarking\_654

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	A black rectangular box containing the text "LANE LINE" and "MARKING 654 (under 60 km/h)" in white.	Line marking coordinates
300	300	A black rectangular box containing the text "LANE LINE" and "MARKING 654 (under 60 km/h)" in white.	Line marking type and thickness

#### 4.8.18.5 SM\_WMMR\_LaneEndArrowMarking\_656

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	A black rectangular box containing the text "LANE ENDS" and "ARROW 656". A vertical arrow points upwards from the text.	Line marking coordinates
300	300	A black rectangular box containing the text "LANE ENDS" and "ARROW 656". A vertical arrow points upwards from the text.	Line marking type and thickness

**4.8.18.6 SM\_WMMR\_ChevronMarking\_657**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	A black rectangular background featuring a yellow chevron symbol pointing left. Below the symbol, the words "CHEVRON MARKING 657" are printed in white capital letters.	Line marking coordinates
300	300	A black rectangular background featuring a yellow chevron symbol pointing left. Below the symbol, the words "CHEVRON MARKING 657" are printed in white capital letters.	Line marking type and thickness

**4.8.18.7 SM\_WMMR\_HatchMarking\_658**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	A black rectangular background featuring a crosshair icon in the top-left corner and a series of parallel diagonal lines sloping upwards from left to right. Below these lines, the words "HATCH MARKING 658" are printed in white capital letters.	Line marking coordinates

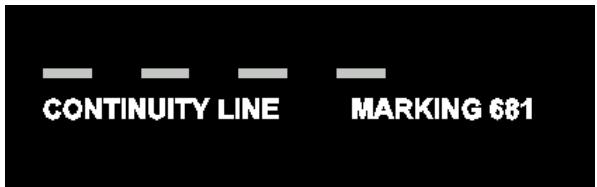
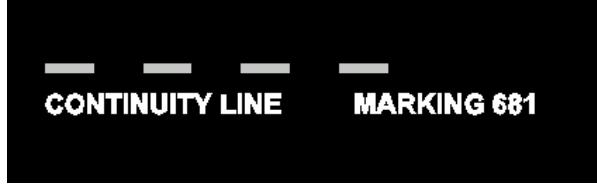
300	300	 <p><b>HATCH</b>      <b>MARKING 658</b></p>	Line marking type and thickness
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#### 4.8.19 Guidance Markings

##### 4.8.19.1 SM\_GDMR\_GuideLineMarking\_680

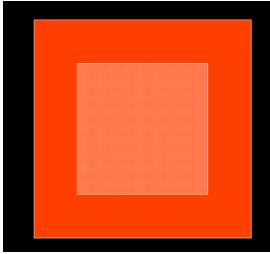
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200	 <p><b>GUIDE LINE</b>      <b>MARKING 680</b></p>	Line marking coordinates
300	300	 <p><b>GUIDE LINE</b>      <b>MARKING 680</b></p>	Line marking type and thickness

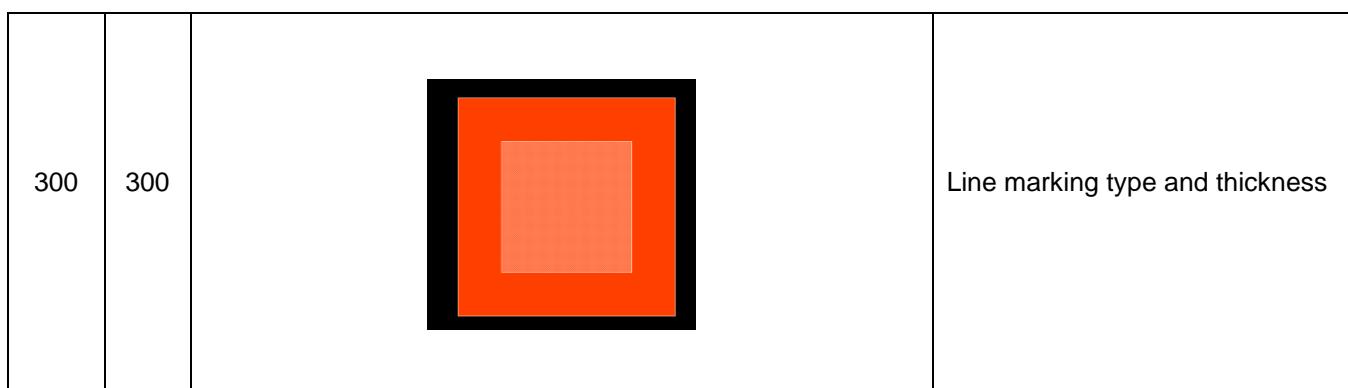
#### 4.8.19.2 SM\_GDMR\_ContinuityLineMarking\_681

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates
300	300		Line marking type and thickness

#### 4.8.20 Raised Pavement Markers (RPM)

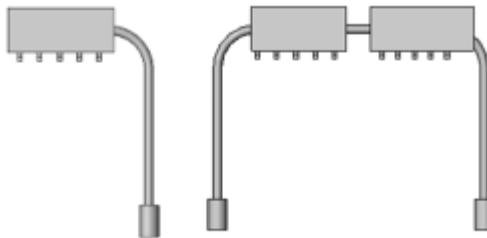
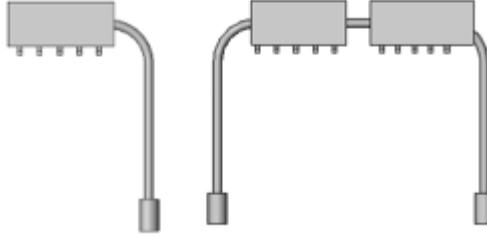
##### 4.8.20.1 SM\_RPMR\_NonretroreflectiveRPMMarkingN

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Line marking coordinates



#### 4.8.21 Traffic Signs - Gantry

##### 4.8.21.1 SM\_TFSG\_GantrySigns

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Type
300	300		Type, Dimension, Reference Specification

#### 4.9 Addressing

##### 4.9.1 Addressing Sign

###### 4.9.1.1 AD\_ADSG\_OverheadStreetSign \_Type1

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

###### 4.9.1.2 AD\_ADSG\_OverheadStreetSign \_Type2

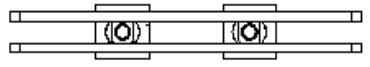
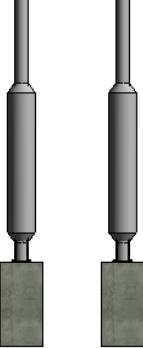
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

###### 4.9.3 AD\_ADSG\_OverheadStreetSign \_Type3

LOD	LOI	Graphical Presentation	Non-Graphical Information

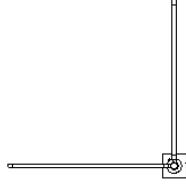
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.4 AD\_ADSG\_MainStreetSign\_Type1\_DoublePostColumnSign\_SingleCentralFixation

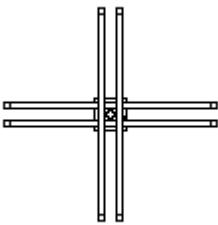
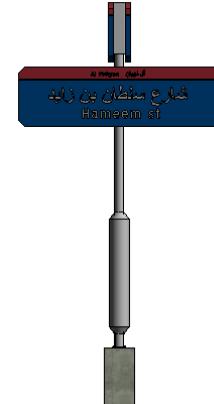
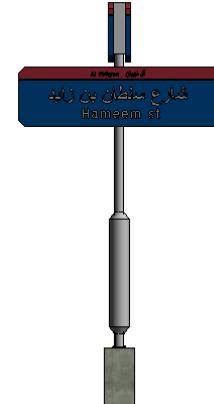
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.5 AD\_ADSG\_MainStreetSign\_Type1\_PostColumnSign\_DoubleCantilever

LOD	LOI	Graphical Presentation	Non-Graphical Information

100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.6 AD\_ADSG\_MainStreetSign\_Type1\_PostColumnSign\_DoubleCentralFixation

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.7 AD\_ADSG\_MainStreetSign\_Type1\_PostColumnSign\_SingleCantilever

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.8 AD\_ADSG\_MainStreetSign\_Type1\_PostColumnSign\_SingleCentralFixation

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.9 AD\_ADSG\_MainStreetSign\_Type2\_DoublePostColumnSign\_SingleCentralFixation

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.10 AD\_ADSG\_MainStreetSign\_Type2\_PostColumnSign\_DoubleCantilever

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.11 AD\_ADSG\_MainStreetSign\_Type2\_PostColumnSign\_DoubleCentralFixation**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

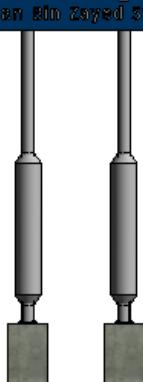
**4.9.1.12 AD\_ADSG\_MainStreetSign\_Type2\_PostColumnSign\_SingleCantilever**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.13 AD\_ADSG\_MainStreetSign\_Type2\_PostColumnSign\_SingleCentralFixation**

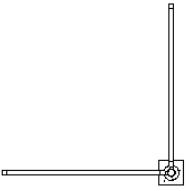
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.14 AD\_ADSG\_MainStreetSign\_Type3\_DoublePostColumnSign\_SingleCentralFixation**

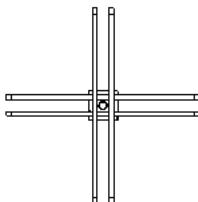
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.15 AD\_ADSG\_MainStreetSign\_Type3\_PostColumnSign\_DoubleCantilever**

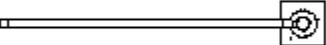
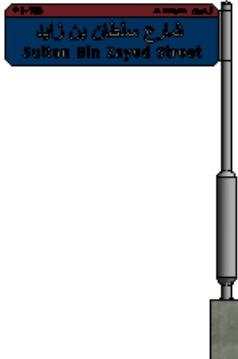
LOD	LOI	Graphical Presentation	Non-Graphical Information

100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.16 AD\_ADSG\_MainStreetSign\_Type3\_PostColumnSign\_DoubleCantilever

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

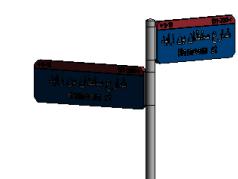
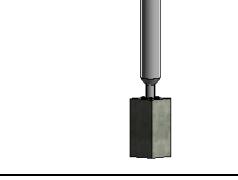
**4.9.1.17 AD\_ADSG\_MainStreetSign\_Type3\_PostColumnSign\_SingleCantilever**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

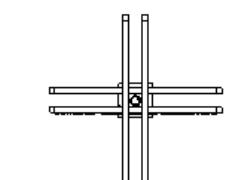
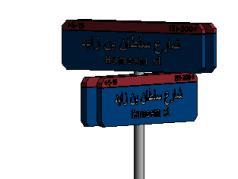
**4.9.1.18 AD\_ADSG\_MainStreetSign\_Type3\_PostColumnSign\_SingleCentralFixation**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.19 AD\_ADSG\_InternalStreetSign\_Type1\_PostColumnSign\_DoubleCantilever**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

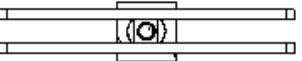
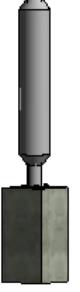
**4.9.1.20 AD\_ADSG\_InternalStreetSign\_Type2\_PostColumnSign\_DoubleCentralFixation**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.21 AD\_ADSG\_InternalStreetSign\_Type3\_PostColumnSign\_SingleCantilever**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.22 AD\_ADSG\_InternalStreetSign\_Type4\_PostColumnSign\_SingleCentralFixation**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.23 AD\_ADSG\_InternalStreetSign\_900x434mm\_Type5\_WallMounted**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.24 AD\_ADSG\_InternalStreetSign\_1200x434mm\_Type6\_WallMounted**

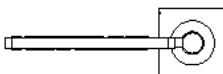
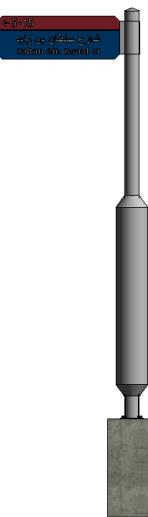
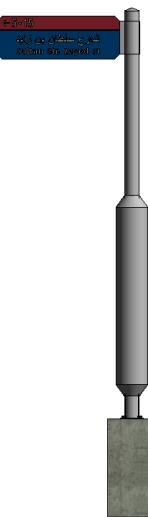
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.25 AD\_ADSG\_InternalStreetSign\_1500x434mm\_Type7\_WallMounted**

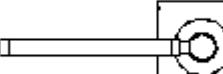
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

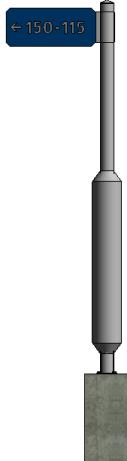
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.26 AD\_ADSG\_Cul-de-saceSign\_Type1\_PostColumnSign

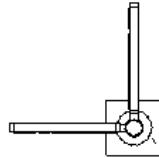
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.27 AD\_ADSG\_Cul-de-saceSign\_Type2\_PostColumnSign

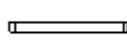
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.28 AD\_ADSG\_RuralStreetSign\_Type1\_PostColumnSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.29 AD\_ADSG\_RuralStreetSign\_450x217mm\_Type2\_WallMountedSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A

300	200	 شارع المصلى Al Mussalla st	Type
300	300	 شارع المصلى Al Mussalla st	Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.30 AD\_ADSG\_RuralStreetSign\_600x217mm\_Type3\_WallMountedSign

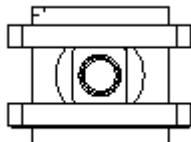
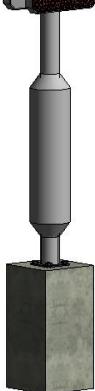
LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200	 شارع سلطان بن زايد Sultan Bin Zayed st	Type
300	300	 شارع سلطان بن زايد Sultan Bin Zayed st	Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.31 AD\_ADSG\_RuralStreetSign\_750x217mm\_Type4\_WallMountedSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200	 شارع سلطان بن زايد Sultan Bin Zayed st	Type

300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification
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#### 4.9.1.32 AD\_ADSG\_BuildingAddressSign\_Type1\_PostColumnSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.33 AD\_ADSG\_BuildingAddressSign\_250x239mm\_Type2\_WallMountedSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type

300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification
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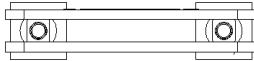
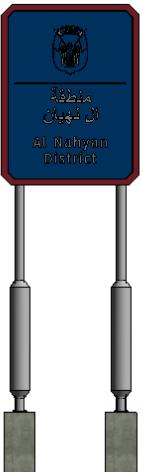
#### 4.9.1.34 AD\_ADSG\_BuildingAddressSign\_400x239mm\_Type3\_WallMountedSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.9.1.35 AD\_ADSG\_DistrictSigns\_Type1\_DoublePostColumnSign

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

**4.9.1.36 AD\_ADSG\_DistrictSigns\_Type1\_DoublePostColumnSign**

LOD	LOI	Graphical Presentation	Non-Graphical Information
100	100		N/A
300	200		Type
300	300		Material Type, Material Color, Material Grade, Steel strength, and Reference Specification, Classification

#### 4.10 Road Pavement

##### 4.10.1 Main Road Pavement (Asphalt Roads)

###### 4.1.1.1 RP\_MRPV\_RoadPavement\_Layer

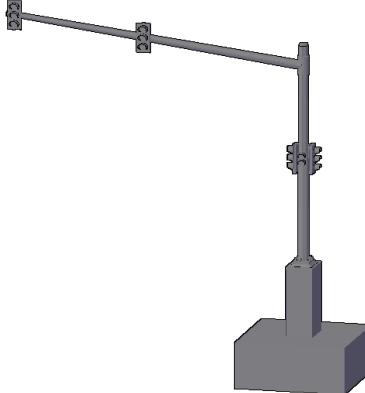
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Travel lanes (width & slope), Pavement 1st,layer (Material and thickness)
300	300		Lane width, Lanes slope, All Pavement layers (Material & Thickness), Base and Sub base layers (Material & Thickness)

#### 4.11 Traffic Control System

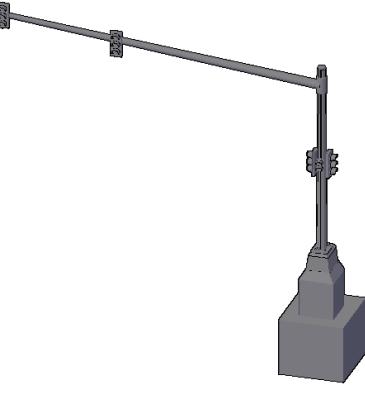
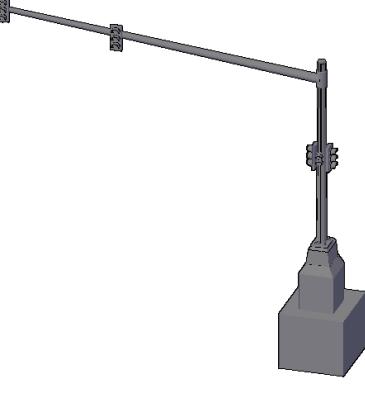
##### 4.11.1 Traffic Control System Component

###### 4.11.1.1 TC\_TCSC\_SignalPole(Single&DoubleMastArm)\_TypeA

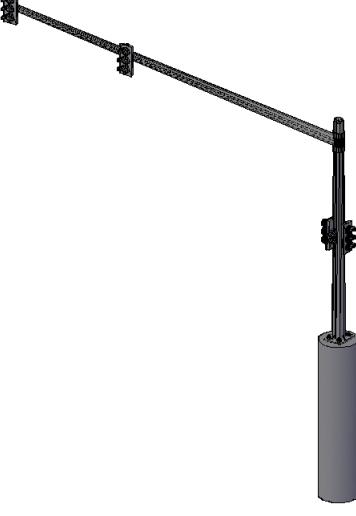
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, Coordinates

300	300		Name, Coordinates, type, height, system, and material.
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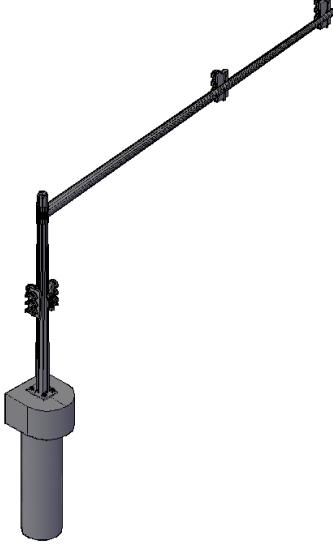
#### 4.11.1.2 TC\_TCSC\_SignalPole(Single&DoubleMastArm)\_TypeB

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, Coordinates
300	300		Name, Coordinates, type, height, system, and material.

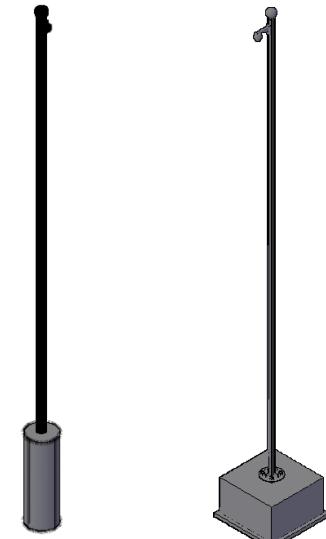
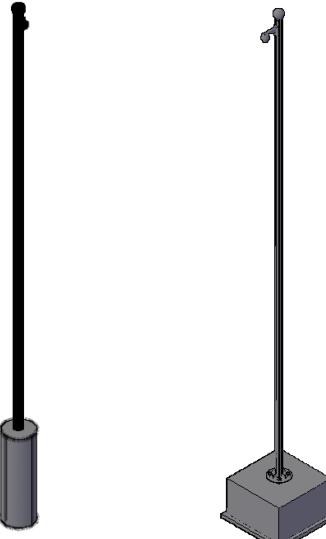
4.11.1.3 TC\_TCSC\_SignalPole(Single&DoubleMastArm)\_TypeC

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, Coordinates
300	300		Name, Coordinates, type, height, system, and material.

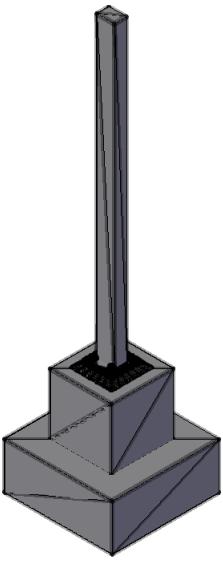
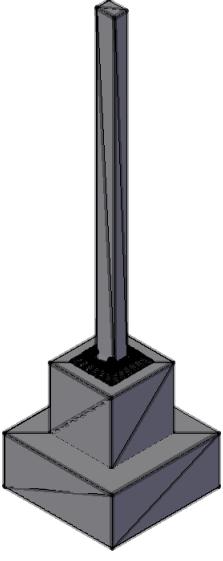
4.11.1.4 TC\_TCSC\_SignalPole(Single&DoubleMastArm)\_TypeD

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, Coordinates
300	300		Name, Coordinates, type, height, system, and material.

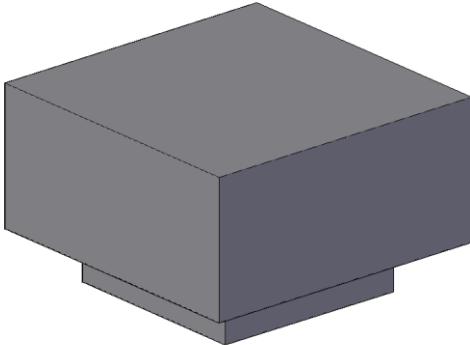
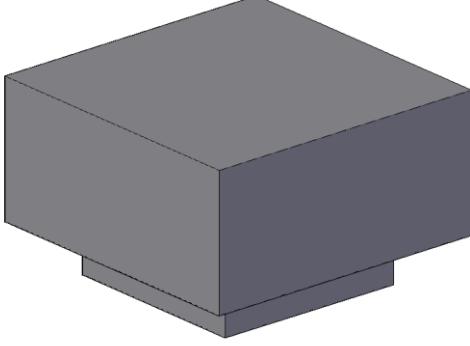
**4.11.1.5 TC\_TCSC\_CameraPole**

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, Coordinates
300	300		Name, Coordinates, type, height, system, and material.

4.11.1.6 TC\_TCSC\_RadarPole

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Name, Coordinates
300	300		Name, Coordinates, type, height, system, and material.

4.11.1.7 TC\_TCSC\_PullBox

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Pullbox type Name, Coordinates
300	300		Pullbox type Name, Coordinates, system, and material.

#### 4.12 Road Safety

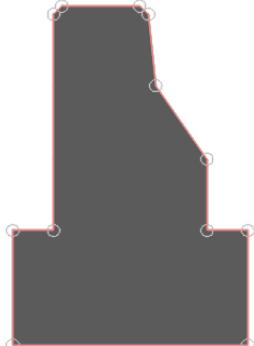
##### 4.12.1 Vehicle Restraint System

###### 4.12.1.1 RS\_VHRS\_ConcreteBarrier\_Type-1

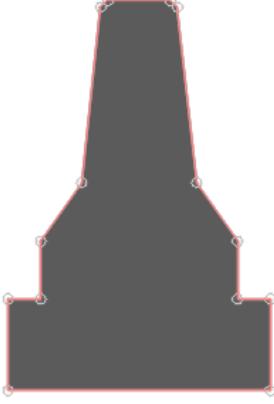
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Barrier type Assembly
300	300		Barrier type Assembly, material

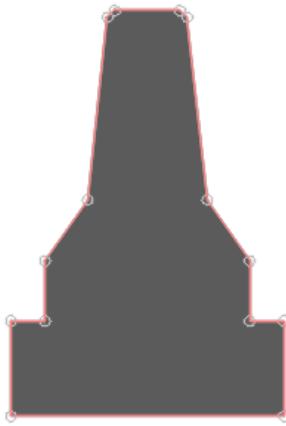
###### 4.12.1.2 RS\_VHRS\_ConcreteBarrier\_Type-2

LOD	LOI	Graphical Presentation	Non-Graphical Information
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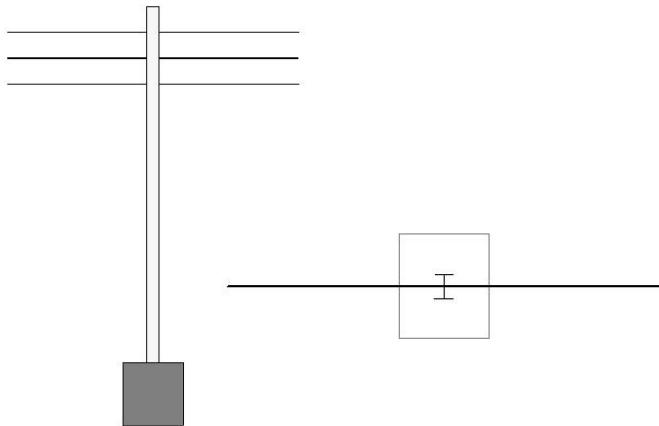
300	200		Barrier type Assembly
300	300		Barrier type Assembly, material

#### 4.12.1.3 RS\_VHRS\_DoublesidedMedianBarrier

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Barrier type Assembly

300	300		Barrier type Assembly, material
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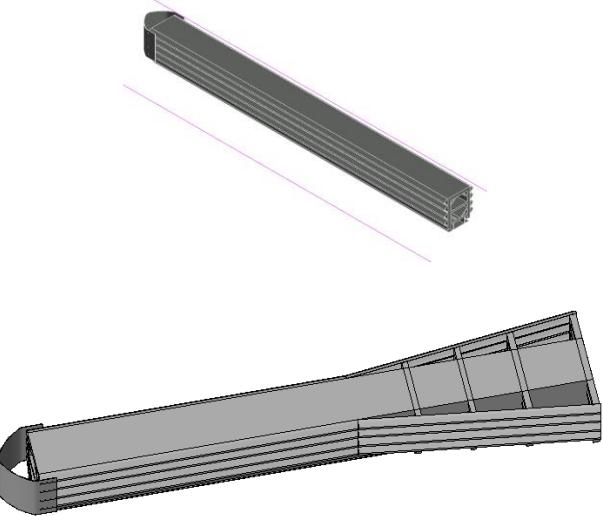
#### 4.12.1.4 RS\_VHRS\_WireRopeSystemBarrier

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Barrier type (Wire Rope) and coordinates

300	300		Barrier type (Wire Rope), coordinates, material, and dimensions.
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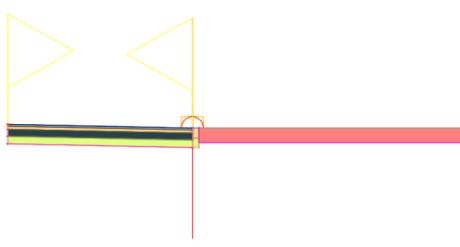
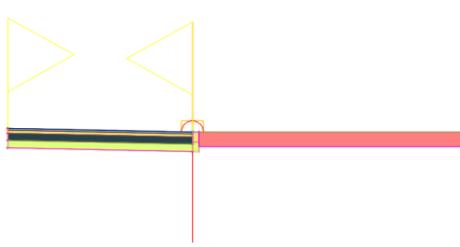
#### 4.12.1.5 RS\_VHRS\_CrushCushion

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Crush Cushion type and coordinates

300	300		Crush Cushion type, coordinates, material, and dimensions.
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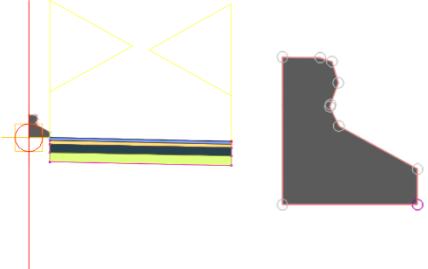
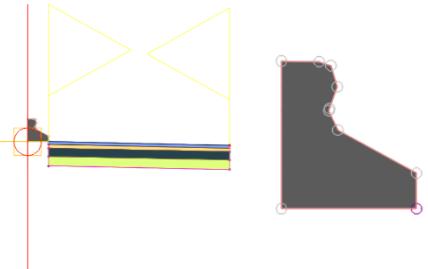
#### 4.12.2 Kerb

##### 4.12.2.1 RS\_KERB\_Kerb\_Drop

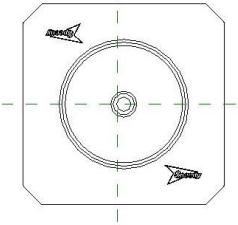
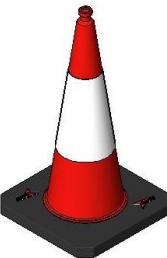
LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Kerb lane (Width & slope), drop kerb and sidewalk
300	300		Kerb lane (width & slope), drop kerb, sidewalk, all pavement layers with thickness.

##### 4.12.2.2 RS\_KERB\_Kerb\_Trief

LOD	LOI	Graphical Presentation	Non-Graphical Information
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300	200		Lane (Width & slope), drop kerb and sidewalk
300	300		Lane (width & slope), drop kerb, sidewalk, all pavement layers with thickness.

#### 4.12.3 RS\_MISC\_TrafficCone

LOD	LOI	Graphical Presentation	Non-Graphical Information
300	200		Traffic cone coordinates
300	300		Traffic cone coordinates, type, height and material

## 5. Change management of ADM's core library

This section is to clarify the governing rules which should be followed for modifying or updating any object in ADM's core library or adding any new object.

Governing rules set out the framework for who has the authority to make decisions and how decisions should be made.

### 7.1. Workflow and responsibilities

This section will set out the workflow and responsibilities (see **Figure 2**) for approving the modification/update in any object of ADM's core library or adding any new object.

In case the project team need to change or add objects to the ADM's core library, they should fill the Record form and get the confirmation/acceptance to proceed with changing or adding objects. Please refer to '**Appendix C – ADM BIM object – Record Form**'.

The object which will be created or updated should follow the object naming convention and library object requirements. Please refer to '**Section 3 - BIM Object Naming**' and '**Section Error! Reference source not found. – Error! Reference source not found.**'.

The below workflow in **Figure 2** is describing the steps and related responsibilities of this change management process.

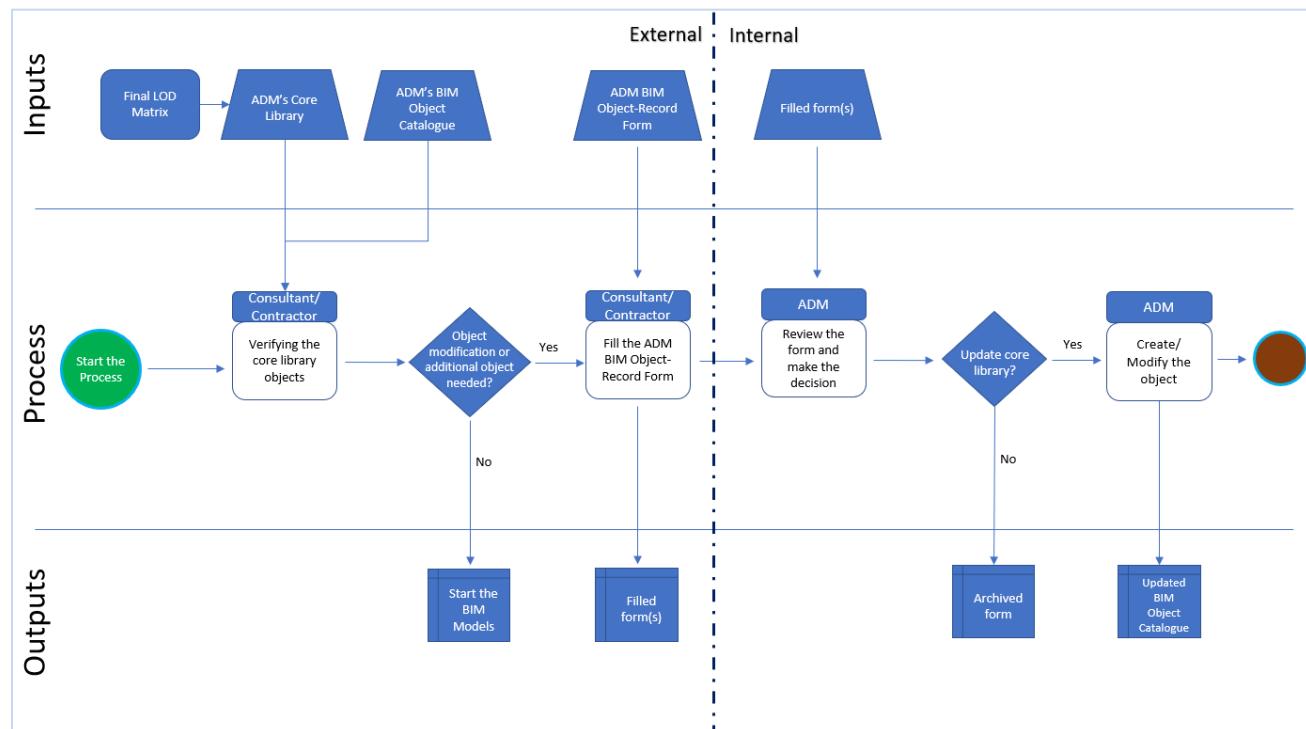


Figure 2 – Workflow and Responsibilities

## 7.2. Proposed Library Object requirements

In order to change the library objects or request to add new objects for the core library, the proposed object must comply to the below requirements for each format.

### 7.2.1. Revit

- The object should start with a correct category template.
- The object should have no warnings.
- The object should be cleaned and purged of anything unnecessary.
- The object should be placed under an appropriate category
- The object should be validated with its parameters.
- The object should have no invalid/unlogic values defined in its parameters.
- The object name should follow the BIM Object Naming in **section 3**.
- The object units are in mm.
- Not allowed to remove any reference lines located in any existing families.

### 7.2.2. Civil 3D

- The object should start with a correct category template.
- The object should follow the BIM Object Naming in **section 3**.
- The object should follow the creation steps through the part builder category.
- The object should be validated with the model parameters.
- The object should have no invalid data or unlogic values which defined in the model parameters.
- The object should have no warnings.
- The object should be placed under an appropriate category.
- Not allowed to remove any reference lines located in any existing objects.

## 7.3. ADM BIM object – Record Form

The record form is a template which must be used in case there is a need to modify/update any object from ADM's Core library or create a new needed object. The template records all required data which will help the ADM to know more information and decide the internal acceptance or rejection of this change. Please refer to '**Appendix C – ADM BIM object – Record Form**' for further details.

## 6. Appendices

### 6.1. Appendix A – List of role codes

Code	Description
RG	Roadway Geometry
L	Lighting
SW	Storm Water and Subsoil Drainage
IR	Irrigation
LS	Landscape
EM	Electro Mechanical
ST	Structural
SM	Signage and Marking
AD	Addressing
RP	Road Pavement
TC	Traffic Control System
RS	Road Safety

## 6.2. Appendix B – List of type codes

Category	Object Type Abbreviation
<b>Roadway</b>	
Roads and Highways	RDHW
Kerb / Barrier / Haunching / Foundation	KBHF
Footways and Cycle tracks	FTCT
Car Parking	CRPR
<b>Lighting</b>	
Street Lighting	STLT
<b>Storm Water and Subsoil Drainage</b>	
Road Storm Water Drainage System	
<b>Irrigation</b>	
Main Irrigation System	MNIR
Drip Irrigation System	DRIR
Bubbler Irrigation System	BBIR
Sprinkler Irrigation System	SPIR
Control System	CNTL
<b>Landscape</b>	
Soft Scape	SFSC
Hard Scape	HRSC
Public Realm Furniture	PRFR
<b>Electro Mechanical</b>	
Gravity Network	GRNT
Pump Station (Electro Mechanical)	PMST
Pressurized Main	PRMN
Outfalls	OUTF
Irrigation	IRRI

**Continuation of Appendix B – List of type codes**

Category	Object Type Abbreviation
<b>Structural</b>	
Railing	RLNG
Furniture	FURN
Expansion Joints	EXPJ
Superstructure	SPST
Bearings	BRNG
Sub Structure	SBST
Foundation	FNDN
Walls	WALL
Culverts	CULV
<b>Signage and Marking</b>	
Control Signs at Intersections and Pedestrian Crossings	CSSG
Movement Control, Mandatory and Prohibitory Signage	MCSG
Speed Limit Signage	SLSG
General Prohibitory Traffic Restrictions Signage	GPSG
Parking Control and Reservation Signage	PCSG
Vehicle-Specific Reservation Signing	VRSG
Comprehensive Signage	CMSG
Closure Signage, Barricades, and Gates	BGSG
Advanced Warning Signs	AWSG
Hazard Marker Signs	HMSG
Diagrammatic Signs	DGSG
Other Supplemental Plaques	OSPL
Arterials and At-Grade Junctions	AAGJ
Freeways, Highways, and Grade-Separated Junctions	FHGJ

**Continuation of Appendix B – List of type codes**

Category	Object Type Abbreviation
<b>Signage and Marking</b>	
Supplemental Guide Signing	SGSG
Trailblazing Signs	TRSG
Street Name Signs	SNSG
Regulatory Markings	RGMR
Warning Markings	WMMR
Guidance Markings	GDMR
Raised Pavement Markers (RPM)	RPMR
Curb Painting	CRPN
Traffic Sigs-Gantry	TFSG
<b>Addressing</b>	
Addressing signs	ADSG
<b>Road Pavement</b>	
Main Road Pavement (Asphalt Roads)	MRPV
<b>Traffic Control System</b>	
Traffic Control System Component	TCSC
<b>Road Safety</b>	
Vehicle Restraint System	VHRS
Kerb	KERB
Miscellaneous	MISCA

### 6.3. Appendix C – ADM BIM object – Record Form

 DEPARTMENT OF MUNICIPALITIES AND TRANSPORT بلدية مدينة أبوظبي ABU DHABI CITY MUNICIPALITY			
<b>ADM BIM Object-Record Form</b>			
<b>ADM BIM Object-Record Form</b>			
<b>Document ID</b>			
<b>Revision</b>			
<b>Date</b>			
<b>Object Description</b>			
<b>Object Name as per ADM naming convention</b>			
<b>Discipline</b>			
<b>Recorded by:</b>			
<b>Organization</b>		<b>Name</b>	
<b>Position</b>		<b>Signature</b>	
<b>Object Status</b>	<input type="checkbox"/> Modification/Update <input checked="" type="checkbox"/> New Object		
<b>Object Status Justification</b>			
<hr/> For ADM internal use only			
<b>Add the Object to ADM's Core Library</b>			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/>	No	
<b>Discipline Lead</b>			
<input type="checkbox"/> Approved	Name/Signature: _____		
<input type="checkbox"/> Rejected	Date: _____		
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		January 2021	

ADM BIM Object-Record Form

**Reason for Rejection (if applicable):**

**Head of Infrastructure**

Approved

Name/Signature:

Rejected

Date:

**Reason for Rejection (if applicable):**

## 7. Bibliography

- **BS 8541-1-2012-** BSI Standards Publication — Library object for Architectural, engineering and construction — Part 1: Identification and classification — code of practice
- **BS 8541-2-2011-** BSI Standards Publication — Library object for Architectural, engineering and construction — Part 2: Recommended 2D symbols of building elements for use in building information management
- **BS EN 17412-1-2020-** BSI Standards Publication — Building Information Modelling — Level of Information Need — Part 1: Concepts and principles