Vilniaus kongresų centro naujo pastato naujos statybos, teritorijos su prieigomis, krantinės ir lauko inžinierinių tinklų sutvarkymo projektas

EXCHANGE INFORMATION REQUIREMENTS FOR THE BUILDING INFORMATION MODELLING (BIM) AT THE STAGES OF PREPARATION AND DESIGN PROPOSALS

1 OBJECTIVE

The Exchange information Requirements for the Preparation of the Building Information Modelling (BIM) is the document that defines the Client's needs, expectations and requirements for the planning and preparation of an integrated digital information model for the current situation and at the stage of design proposals, taking into account the Client's needs, the specific nature of the construction works and the requirements of the applicable legislation of the Republic of Lithuania.

2 GENERAL PROVISIONS

The Contractor must replace the ***text in bold italics*** with the respective data.

The text in UPPERCASE BAHNSHRIFT FONT are the examples of values.

The text **[*in square brackets*]** is mandatory and must be replaced with the respective values.

The text **{*in curly brackets*}** is optional and must be replaced with the respective values.

Vertical line symbol „ | " separates the options of mandatory or optional values. A single value from the respective list must be selected in the model, as in **[A1 | A2 | B1 | B2 | C1 | C2]** or **{*A1* | *A2* | *B1* | *B2* | *C1* | *C2* | *…*}**

The description of the Level of Detail (hereinafter referred to as the "LoD") and the Level of Information (hereinafter referred to as the "LoI") of the model elements is based on the LEVEL OF DEVELOPMENT (LOD) SPECIFICATION [1]: https://bimforum.org/lod/ and the BIM MODELIO SISTEMŲ IR ELEMENTŲ DETALUMO LYGIAI [2].

3 SCOPE

The above requirements apply to the development of models of the existing situation and the construction of an integrated digital model of the stage of preparation of the Design Proposals under the design contract concluded with Vilnius City Municipality and managed by Vilniaus vystymo kompanija UAB (hereinafter referred to as the "Project Manager").

4 PROJECT INFORMATION

4.1 The project metadata must contain correct and reliable information about the project, site(s), building(s), the Client, Design team and the Project manager.

Name of the Project	Vilniaus kongresų centro naujo pastato naujos statybos, teritorijos su prieigomis, krantinės ir lauko inžinierinių tinklų sutvarkymo projektas
Adress	A. Goštauto g., Vilnius
Name of the Building	***[Vilniaus kongresų centras]***
Adress of the Building	A. Goštauto g., Vilnius

1 https://bimforum.org/lod/

2 https://skaitmeninestatyba.lt/produktas/bim-modelio-sistemu-ir-elementu-detalumo-lygiai/

Plot ID	Unique ID [0101-0040-0055]
Name of the Organisation	***[name of the office]***
Organisational Role	DESIGNER

4.2 The project information below is filled in only if the software allows you to enter more than one organisation. The information is filled in in the order below, as far as the software allows.

Name of the Organisation	***[name of the office]***
Organisational Role	***[project file]*** dalies rengėjas
Name of the Organisation	Vilniaus miesto savivaldybė
Organisational Role	Užsakovas
Name of the Organisation	UAB „Vilniaus vystymo kompanija“
Organisational Role	Projekto valdytojas

5 PROJECT STAGES

5.1 The stages of the project are understood as defined in the standard ISO 22263 “Organization of information about construction works” and Table 1 of Annex C to LST EN ISO 29481-1 C. The models of the existing situation are used as a digital basis for design solutions, so it is necessary to ensure the reliability and accuracy of their information.

5.2 The Client is using BIM process in the stages S2 to S6, i.e. from the stage of preparation to the commissioning and handover. The Client will conduct a feasibility study on the use of the prepared BIM model in the stage S7.

Life cycle stage according to ISO 29481-1	Stage	Stage name and primary target	Use of BIM
0 + 1 + 2	S0	Strategic Definition	
3	S1	Preparation and Briefing	**BIM process**
4 + 5	S2	**PP / Concept Design** Prepared design proposals of the construction works	
Building permit			**External process**
6	S3	**Spatial Coordination** Detailed concepts for all project files, including cost estimate.	**BIM process**
Procurement / Tendering			

7	S4	**TDP / Technical Design** Prepared technical work design of the construction works	
Commissioning of an expert's report			
8	S5	**Manufacturing and Construction** Construction and installation works	
	S6	**Commissioning and handover** Transfer of the construction works to the Client	
9	S7	**Use** Use and maintenance	To be decided by the Client

5.3 During the preparation and briefing stage the accurate information is collected and presented in BIM models. The scope of information colected should include, but is not limited to:

- site topography, natural conditions (including tree inventory data), existing buildings on the site and neighbouring territories;
- existing buildings on the site and neighbouring territories;
- neighbouring territory, impacted by the design solutions;
- existing utility networks, engineering facilities, structures, and their protection zones;
- legistlation and legal reguirements, applied for the site and plot: plot boundaries, easements, restriction applied by spatial planning documents, land use conditions, easements and other factors, impacting the design solutions;

5.4 During the concept design stage, the model must present the essential design solutions:, suitable for public hearing procedures, obtaining Client approval and the building permit.

6 BIM OBJECTIVES

6.1 The model of the Design Proposal stage shall be prepared in the detail and scope sufficient for the public hearing procedures, obtaining institutional approval for design proposals, and obtaining a building permit in accordance with the STR 1. 04.04:2017 “Design of a Construction Works, Expert Examination of the Design” effective from November 1st, 2024.

6.2 The Client will use the BIM models of the existing situation and design proposals in accordance with the cases of application of the BIM process specified in this table below:

Project stage	Designation	Informacinio modelio taikymo atvejai	Informacinio modelio panaudojimo būdas
S1 **S2**	**1**	Existing Conditions Modeling (ECM)	A sufficiently detailed model of the area, applicable regulations, engineering structures, utilities and facilities is used to justify the design solutions and identify potential risks.
S1 **S2**	**2**	Quantity Take Off (QTO)	Schedules of elements, materials, and quantities of work are created and checked on the basis of the prepared digital information model. Thus, additional costs due to unevaluated design solutions and/or improperly or incorrectly created Bills of quantities

			(BoQ) are avoided.
S1 **S2**	**3**	Phase Planning (PP4D)	The BIM model allows for an analysis of possible construction scenarios, their impact on the building environment, and the implementation of the project.
S1 **S2**	**5**	Design Reviews (DR)	The BIM model allows for the analysis of functional, volumetric, and planning solutions, as well as the assessment of the complexity and compatibility of these solutions. The aim is to ensure the feasibility of the design program, avoid conflicts between the functional areas of the construction works, optimally divide the building into fire compartments, plan the operating areas of engineering systems, and assess safety and technology requirements. The Client is given the opportunity to visualise the design solutions, analyze options, alternatives and select the best possible solution.
S1 **S2**	**6**	Visualisation (VIZ)	The participants of the project can view, evaluate and estimate the design solutions in advance and influence them.
S1 **S2**	**7**	Design and / or modelling	The quality of the design solutions is based on expert evaluation and / or dedicated software.
S2	**10**	Sustainability assessment	The Client will calculate the usage of timber and renewable materials in the construction products of the building in accordance with Resolution No. 582 (dated 19 July 2023) of the Government of the Republic of Lithuania and the methodology for calculating the information.
S1 **S2**	**11**	Structural Analysis (STR)	Using the analysis software and the BIM model, the behaviour of the structural system is examined and, by applying established design standards, three-dimensional modelling and overall analysis of the building structures is performed. This application method allows for the selection and justification of an optimal and feasible structural system at an early stage.
S1 **S2**	**16**	3D Coordination (3DC)	Unjustified, inaccurate, or incorrect design solutions that may need to be changed in later design stages can be avoided.
S1 **S2**	**26**	Data modelling	The verified BIM model is used for comparative analysis of solutions or in the subsequent stages of the life cycle of the construction works.
S2	**27**	Maintenance & Repair Information (MRI)	The information necessary for the facility management and reconstruction of the building is transferred in a structured form, ensuring the transferability of the construction documentations and maintenance information.
S1 **S2**	**30**	Asset Management (AM)	The information needed for the asset management is transferred in a structured form, ensuring the transferability of the construction documentations and maintenance information.
S1	**33**	Disaster Planning /	The BIM model is used to prevent accidents and

S2		Emergency Preparedness (DRC)	emergencies. In the case of an accidents or emergency, the model is used as the reliable source of the information for the emergency services and rescuers.

7 PREPARATION OF THE PROJECT

The project is being developed in an integrated working environment using building information modelling (BIM) processes, with all parties involved in the project working together.

The design context, limitations and risks may be evaluated by the Client using the integrated geometrical and informational model of the Preparation and Briefing stage.

The design expression, context, level of complexity, possible risks, energy need and financial load may be evalueted byt he Client using geometrical and informational model of the Concept Design stage.

7.1 GENERAL PROVISIONS

7.1.1 The BIM model of the existing situation shall be prepared to reflect the actual environmental, urban, engineering and legal conditions and properties of the plot and the linked site and the model can be used in subsequent design stages.

7.1.2 The BIM model of the Design Proposals stage shall be prepared in such a way that it meets the Client's expectations and can be used in subsequent design stages.

7.1.3 A separate BIM model is prepared for every file in the project and is aggregated into a federated BIM model.

7.1.4 The BIM model is the main source of project information. All the legally required or requested by the governing institutions, quantitative information and information for the preliminary cost estimates must be assigned to the relevant model elements.

7.1.5 The Project Manager or the BIM Coordinator must ensure that the BIM model preparation work schedule is up to date and submit the schedule agreed with the parties of the project and any desired changes to the Project Manager appointed by the Client for approval.

7.1.6 The BIM model being developed should be designed the way it can be adapted to the analyses required at the stages of Concept or Technical Design, including but not limited to: energy, insolation (potential solar energy received by the building), shading (the impact of shadows cast by the building and falling on it on the building and third parties), wind impact, pedestrian comfort (glare, local temperature changes, wind microclimates, etc.). The model is compliant ot the requirement if the geometry could be processed as polygonal mesh.

7.1.7 The Client is providing the Design team with the guidelines on the level of detail of the BIM model geometry and attribute information. The BIM coordinator will compile the scope of geometric and informational data in the BEP document or its annexes and, before commencing the works, receives the approvement from the BIM manager.

7.1.8 The requirements set out in this document takes precedence over the implementation measures provided for in the BEP. If the approved BEP does not allow these requirements to be met, the BEP document must be amended.

7.1.9 Project documentation, i.e. drawings, specifications, estimates, calculation schemes and other essential project information, must be extracted from the BIM model of the relevant project file and be inseparable from it. The information, supplemented with dimensions and textual and marking

information, is presented as project documentation. Drawings that set out the principal design solutions will not be accepted if the information they contain does not match the information in the BIM model.

7.1.10 Each prepared project document must indicate the status of the model on which the relevant document is based in a traceable manner (date and time, version, etc.).

7.1.11 The project team meetings are held at least once every two weeks. The results of the BIM model development is presented at least once every two weeks.

7.2 ROLES AND RESPONSIBILITIES

Role	Responsibility in the BIM process
Client's representative - Project manager	Supervises the design process, approves the design solutions on behalf of the Client
BIM manager, appointed by the Client	Coordinates and approves the BIM execution plan, makes comments and proposals, approves the suitability of the final BIM project and the fulfilment of the BIM requirements set by the Client.
BIM coordinator, appointed by the project developer	Creates and coordinates the BIM implementation process, distributes BIM activities, controls the quality of the project, and periodically submits reports on the current situation and progress to the BIM manager of the Client.

7.3 SOFTWARE

7.3.1 The list of used software and the version used for the purpose of informing the project partners and data compatibility shall be specified in the BEP document. The software used in the project must be compatible with each other in terms of the formats for exchanging basic or open project data files. If the same software is used in the project, it is recommended to use the same version of the software.

7.3.2 Software that meets OpenBIM criteria must be used. Software that meets OpenBIM criteria is listed on the website of the international BuildingSmart organisation. https://www.buildingsmart.org/compliance/software-certification/certified-software/

7.3.3 The software shall be selected so that the Client has the opportunity to view the initial file of the BIM model being prepared using free or available (purchased) viewing applications that display all the modelled building elements and their attribute values.

7.3.4 If the Design team chooses specific software for model creation with no free viewing applications, at least 1 (one) licensed workstation for viewing model information at the Customer's premises for the entire duration of the Project must be provided free of charge. The Project developer must install the software on the Client's computers and provide a short, up to 4 hours, training and up to 2 hours of total consultation by telephone or interactive video call, explaining the basic principles of working with the application and viewing and checking information.

7.4 MODELLING FULES

7.4.1 Modelling rules are prepared by the BIM coordinator, using their experience and modelling recommendations provided by the vendors of the main software packages used in the project.

7.4.2 The model information is prepared in the metric measurement system and standard SI units of measurement. Units of measurement for model length are millimetres (for buildings) and meters (for the plans of the plot, territories, and infrastructure objects). Units of measurement for area are square meters (m^2), with two decimal places. Volume units are cubic meters (m^3), with three decimal places. Other dimensions are provided with the accuracy specified in the project.

7.4.3 The BIM model in the working environment can be modelled in the coordinate systems selected by the Design team, but model used for coordination must be presented in a global coordinate system, taking into account the orientation of the model in relation to the cardinal directions and the actual altitude, referencing the same projest base point as specified in the BEP. If a model is covering several reference systems (both coordinate and / or height systems), a special care must be taken to avoid discontinuity.

7.4.4 The coordinating network of building axes, levels and their naming is defined by he Architectural team. The information must be consistent in all the project files.

7.4.5 It is mandatory every BIM model to include an agreed graphical element, used for spatial coordination of the models. The element is exported to the IFC file as a graphical entity, agreed in the BEP.

7.4.6 The building information models must be properly arranged by floors, spaces, engineering systems, as specified in the IFC standard; elements must be properly assigned to these groupings.

7.4.7 The model elements of the building must be exported to the appropriate IFC element types specified in the BEP.

7.4.8 Outdoor utilities are understood as network branches from the common (communal) utility systems to their inlets, outlets, or metering points in the building. They include all designed utilities, including but not limited to: electricity, electronic communications, gas pipelines, street lighting, contact electricity networks, heating, water supply, sewage disposal, and technological networks. Any outdoor utility networks belonging to the building (site lighting, alarm systems, communications, etc.) are designed in the relevant parts of the buildings engineering networks.

7.4.9 Models of Preparation and Briefing (S1) stage must include all the restrictions, easements and special use conditions, applicable to the plot or the surrounding area, modelled as spatial elements. These elements are used to check the compliance of the design solutions with the applicable legislation and documents of spatial planning.

7.4.10 All the utility networks and their protection zones that will not be dismantled or relocated during the implementation of the project must be present in the models of the Preparation and Briefing (S1) stage.

7.4.11 In the case project files are prepared by a third party (e.g., ESO) and a BIM model is submitted, it is imported into the common BIM model after applying the necessary corrections to coordinates and rotation angles. The afore-mentioned part of the project is not coordinated or checked; the necessary changes are identified and forwarded to the developer of this part of the project in accordance with the established procedure. When a BIM model is not provided, solutions are coordinated based on the available design or natural information. Similar provisions apply to the BIM models prepared during other projects that are imported into the project environment, e.g., projects being prepared or already prepared in adjacent areas.

7.4.12 The existing utilities are modelled according to their objectively (using survey data, existing documentation, etc.) determined location, at a distance of **not less than 1 m from the designed networks or the boundaries of their protection zone, accepting the higher of the dimensions.**

7.4.13 It is recommended to re-use the BIM model for energy calculation and / or modelling.

7.4.14 Earthworks are estimated on the basis of the data of the current topographic survey and the modelled designed ground surface. There is no need to create volumes for cut and fill

7.4.15 The surrounding environment (streets, biuldings) of the building can be prepared using Vilnius interactive map tool "3D extraction" (https://maps.vilnius.lt/teritoriju-planavimas#tools) or "3D Vilnius", https://3d.vilnius.lt/ .

7.4.16 It must be possible to change the colour of every element of every BIM model.

7.4.17 To reduce the size of BIM models and define reasonal requirements for the computer hardware, it is recommended to limit level of detail for the elements and use the resolution (or idstance between adjacent vertices) more than 15 mm.

7.4.18 External elements of the Architectural file, determining the essential design solutions should be represented in the most accurate colour and materials specified in the project. It is recommended these models be created in a way they can also be re-used for other design purposes – 3D printing, visualisations, VR, AR presentations, etc.

7.5 THE CLASSIFICATION SYSTEM

7.5.1 The National Classification System of Building Information (NSIK), as defined by the Order D1-364 [3] of the Ministry of Environment, dated 2024-10-28, must be used in the project. The classification of model elements should be limited to the ontologies (general classes, classifications) of spaces (<B>), functional systems (L<F>), technical systems (L<T>) and components (<L<K>>).

7.5.2 If the required entries are missing in the <B> general class, the CCI [4] „CS" classification entries should be used.

7.5.3 The NSIK classification system is applied according to the NSIK Application Manual [5] as long as the manual complies with these Requirements.

7.5.4 If the building materials are to be classified, the <P> classification scheme (coding and naming), defined in the BIM-LT [6] project should be used.

7.5.5 The classification system must be defined in the BEP and must be continuously used to define the structure of the entire information in the project, including but not limited to explanatory notes, technical specifications, schedules, etc, and to assign fields to information properties, parameters, types or other information groups.

7.5.6 The building elements must be classified by type (if applied), including the types of their functional and technical systems.

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3 https://www.e-tar.lt/portal/lt/legalAct/ad902000952f11efa605b9842742bf37

4 https://cci-collaboration.org/the-standard/

5 https://statyba40.lt/wp-content/uploads/2023/10/BIM-LT-WP4-NSIK-U3-R1-VADOVAS-v_03_S0_PVG_PROJEKTAS-1.pdf

6 https://statyba40.lt/wp-content/uploads/2023/10/BIM-LT-WP4-NSIK-U3-R1-ONTOLOGIJOS-v_02_S0_PVG-PROJEKTAS-1.xlsx

7.5.7 The classification information should be presented in the model using the methods defined in the IFC standard. If this is not possible due to the chosen software, the property names defining for the classification codes are agreed upon during the preparation of the BIM Execution Plan.

7.5.8 If a different classification scheme must be used in the Project, it must be presented in the BEP in the extent and scope defined in the Section „Information of the element properties“.

7.6 INFORMATION OF THE ELEMENT PROPERTIES

7.6.1 The set of information of the building element must include:

- the scope of information required by laws or legislation;
- the scope of project – dependant information as required by the Client;
- the information on the geometrical properties of the element and its materials;

1.1.1 The Client provides a list of the properties of the elements used, their data types, use cases, and examples of values as a related document. If necessary, the information may be provided in an editable format.

1.1.2 The Client provides a list of mandatory and optional model elements and their properties as a related document as well as their cases of application, applied consistently throughout the stages of the building’s life cycle. The actual amount and scope of information, not exceeding the provided scope, is agreed upon in the BEP. If an element is not covered by the information provided, the scope must be determined based on the elements ontology. This information may provided in the form of an IDS (Information Delivery Specification)[7] and as editable format, if possible.

1.1.3 The properties of the elements, not complying to the supplement the list of mandatory or optional model elements and their properties provided by the Client, must be presented in the BEP document together with the classification codes, the names of the properties, their data types, use cases, and examples of values. The BEP document may exclude the properties provided by Client as the list of mandatory or optional properties, if there is a clear and unambiguous indication to assign these properties to the model elements.

1.1.4 The element properties of BIM models must be defined in accordance with the requirements set out in the EIR and the BEP, complying to the Lithuanian laws, regulations and applicable standards, in the Lithuanian language. The names of element properties and their data types must comply to the relevant documents.

1.1.5 The properties of model elements are entered sequentially, during the entire design stage. At the end of the project stage, all required information must be assigned to the relevant element.

1.1.6 The rules for assigning element property information must be prepared by the BIM coordinator, using his experience and the modelling recommendations provided by the vendors of the principal software packages used in the project.

1.1.7 The properties of model elements specified in the IFC data scheme are presented in the corresponding property sets (*IfcPropertySet, IfcQuantitySet*), their names starting with *Pset_** or *Qset_**.

1.1.8 In the case properties of the relevant model elements are not specified in the IFC standard, they are grouped into the “VVK” property set (*IfcPropertySet*).

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7 [https://www.buildingsmart.org/standards/bsi-standards/information-delivery-specifications-ids/]

1.1.9 The information of the properties may be grouped into separate, smaller property or quantity sets (*IfcPropertySet, IfcQuantitySet)*, as coordinated during the preparation of the BEP.

7.7 LEVEL OF DEVELOPMENT

7.7.1 The Project developer shall prepare the BIM execution plan (BEP) in accordance with the requirements of the Client as set out below and the submitted Project Implementation Plan (PIP).

7.7.2 Only relevant project project files and BIM models needs to be created.

7.7.3 The BEP document must specify the scope and agreed level of detail (LOD) of the BIM model. This document provides the minimal required scope and level of information.

7.7.4 Elements can be modelled as volumetric objects: it is not necessary to detail the realistic forms of elements (furniture, equipment, benches, playgrounds, etc.) if this is not required for the design solutions.

7.7.5 Models elements must include the required volume(s) for operation and mantainance.

7.7.6 The BIM execution plan must include the LoIN for the property information, taking into account that the model created will be used in further stages of the construction design.

7.7.7 The LOD of the BIM model elements are determined according to the relevant documents provided.

7.7.8 If a scope, LOD or LoIN for a system or an element is not presented in the relevant documents, the required information must be agreed upon in the BEP.

7.7.9 If any of the models is not prepared, the its relevant aspects should be covered in the other models.

7.7.10 The minimal scope of the models is presented in the table below.

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
Site plan	SP	LOD 275 LoG 3	The model of the actual situation on the plot and the required surroundings, including generalised volumetric elements of the buildings. The classification codes must be assigned to the building voulmes. The building volumes should be suitable for the required analysis tasks in the Design Proposals, Concept Design and the Technical Design stages. The model should contain, including but not limited to: • topography; • foliage data, including arboristic data and recommendations for preservation; • covered sloped surfaces, split by the covering material; • retaining and linear hardscape elements, like walls, fences, handrails, railings etc, split by principal material type; • unitary elements, like stairs, gates, benches, manhole covers, tree and root protection measures etc; •		LOD 200 LoG 2	The model of the plot situation with the developed surfaces and generalised volumetric elements of the buildings. The building volumes should be presented in the way the principal building information like: underground and overground volume, build-up area, height of the building – could be obtained. The model should contain, including but not limited to: • topography; • foliage data, including means of preservation; • surface adjustments with defined sloping, split by the covering material; • retaining and linear hardscape elements, like walls, fences, handrails, railings etc; • unitary elements, like stairs, benches, tree and root protection measures etc; • utility equipment: transformer housings, light poles, road blocks, traffic lights etc; • designed utility networks and their protection zones, including ones outside plot boundary; • traffic and other infrastructure solutions, like bollards, dropout zones, exits, gathering areas, including ones outside plot boundary; The BIM model creation technology must be selected in a way it would be possible to automatically obtain cut-and-fill volumes.	
Traffic	S SAK SMG	LOD 275 LoG 3	The model should contain traffic elements, coverings excluder, including but not limited to:	Active traffic control elements, like traffic lights, road blocks,	LOD 200 LoG 2	Principal design solutions, ensuring the safety and design goals.	

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
			• road signs; • horizontal and vertical markings; • safety measures, like traffice separation barriers, impact protection measures, bollards, or security barriers) etc;	speed radars and cameras are to be modelled in the site automation file (LPVA)		The engineering calculations may be omitted.	
Lauko inžineriniai tinklai (šilumos tiekimo, lauko vandentiekio ir nuotekų šalinimo, lauko elektrotechnikos, lauko elektroninių ryšių ir kt.)	LVN LD LE LER LAS LPVA LŠT	LOD 275 LoG 3	Utilities and equipment, restored by survey, measuring or existing documentation: lighting fixtures; lighting poles and their foundations; water collection gutters, underground and above-ground engineering communications, traffic lights and their control cabinets, cables and equipment, road barriers, security cameras, engineering network sign stands, etc.		LOD 200 LoG 2	Principal design solutions, ensuring the design goals, building safety and hygiene requirements. The model must include utility networks and their protection zones, including ones outside plot boundary. The engineering calculations may be omitted.	
Architecture	SA	LOD 275 LoG 3	Building elements, excluding ones from the SK file, restored by survey, measuring or existing documentation. Finishing layers of more than 5 mm thickness (tiles, rendering, etc) Stationery elements and furniture like cabinets, shelving, podiums, panels, self-bearing trusses and beams The technology for creating the BIM model must be selected to allow automatic extraction of: • area and volume of building structures (by type); • area of covers and planes (by material); • type and dimensions of linear elements (baseboards, railings, armrests, etc.);	Moveable furniture and equipment should be presented in a separate file, like architectural technology (T.SA), interior technology (T.SI), etc.	LOD 200 LoG 2	Principal design solutions, ensuring the design goals, building safety and hygiene requirements. The model must include defined spaces and areas, including ones outside plot boundary. The required calculations may be omitted.	
Interior design	SI						

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
			• type, dimensions, quantity and area of unitary elements (windows, doors, columns, floor slabs, lintels, etc.) based on production types.				
Building structures	SK	LOD 275 LoG 3	Existing structural elements ensuring the mechanical stability of the building, of known or assumed dimensions, recreated by survey, evidences or existing documents: including but not limited to bearing walls, columns, slabs, frames, portals, stair flights, landings, foundations.	The elements must be properly divided into production units.	LOD 200 LoG 2	Principal design solutions, ensuring mechanical stability and load bearing and / or tranfer. Element sizing is estimated, not calculated. The required engineering calculations may be omitted.	
Technology	T.SA T.SI	LOD 275 LoG 3	Equipment and furniture not connected to the building structures: tables, cabinets, mobile and acoustic partitions, free-standing or table lamps, etc.	Equipment, existing and reused in later stages.	LOD 200 LoG 2	Principal design solutions, ensuring the design goals, building safety and hygiene requirements.	In the context of ensuring the design programme
	T.GVŠ		Video, audio and special (stage) lighting network and devices; cinema projectors and its servicing equipment	Equipment, existing and reused in later stages, in the context of events arrangement and / or servicing.			In the context of events arrangment and servicing
	T.MG		Equipment and devices for catering.	Equipment, existing and reused in later stages, in the context of catering.			In the context of catering
	T.PG		Equipment classified as industrial devices that is not permanently connected to the building structure: machines, tools, material processing equipment (food preparation, sewing, handicrafts, wood or metal processing, printing, film cutting, 3D printing, soldering and similar activities)	Equipment, existing and reused in later stages, in the context of tuition process.			In the context of tuition

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
	T.SP		Sports devices and equipment, devices for presenting the information (excluding ones classified as audio, video and light equipment): scoreboards, starting equipment, photo-finish equipment, timers, clocks, etc	Equipment, existing and reused in later stages, in the context of sport events arrangement and / or servicing.			In the context of sport events arrangement and / or servicing
	T.SPA		Equipment and devices for swimming pools, saunas, massage bathtubs or showers that is not permanently connected to the building structure: steam or ozone generators, etc. Including the water connected equipment used for treatment purposes.	Piping, tanks, devices for water treatment and similar system should be include in the water supply file(s). Piped gas systems (chlorine, ozone, oxygen, etc) should be included in the gas systems file(s).			If required, in the context of ensuring the design programme
	T.M		Healthcare equipment, except for non-specialized furniture, that is not permanently attached to the building structure, including but not limited to: specialized chairs, seats or tables, lamps, stands, medical devices, fume extractors, sterilization equipment, X-ray and CT equipment and the accompanying specialized equipment (computers, recording equipment, etc.), beds for patients, etc	Equipment, existing and reused in later stages, in the context of healthcare arrangement and / or services.			In the context of healthcare arrangement and services
Water supply and sewerage	VN VT NŠ	LOD 275 LoG 2	Pipes and equipment, including measuring and metering devices, valves, devices and equipments for adjustments including motors; to ensure proper operation and maintenance all the devices and equipment must contain service and / or operation volumes. Parts of equipment, protruding more than 30 mm from the main volume must be shown, if they are	Piping and equipment, existing and reused in later stages. Fittings can be omitted	LOD 200 LoG 2	Sanitary equipment, main tanks, pumps etc. Principal pipe routes, presented either as pipe elements or the entities of the reserved volume(s).	

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
			not included in the bounding volume (e.g. lever handles, etc.).				
Fire suppression (fluid-based)	GV	LOD 275 LoG 2	Pipes and equipment, including measuring and metering devices, valves, devices and equipments for adjustments including motors; to ensure proper operation and maintenance all the devices and equipment must contain service and / or operation volumes. Parts of equipment, protruding more than 30 mm from the main volume must be shown, if they are not included in the bounding volume (e.g. lever handles, etc.).	Piping and equipment, existing and reused in later stages. Fittings can be omitted	LOD 200 LoG 2	Fire hoses or / and fire hose cabinets Principal pipe routes, presented either as pipe elements or the entities of the reserved volume(s).	
Heating, ventilation (including smoke extraction), air conditioning	ŠVOK ŠVOK.Š ŠVOK.V ŠVOK.OK	LOD 275 LoG 2	Pipes, ducts and equipment, including measuring and metering devices, valves, devices and equipments for adjustments including motors; to ensure proper operation and maintenance all the devices ad equipment must contain service and / or operation volumes. Parts of equipment, protruding more than 30 mm from the main volume must be shown, if they are not included in the bounding volume (e.g. thermostatic valves, handles, etc.).	Piping, ducts and equipment, existing and reused in later stages. Fittings can be omitted	LOD 200 LoG 2	Principal entities, like heating elements, utility inlet locations, main equipment (tanks, temporary storage tanks, pumps, etc), principal external elements (plants, ducts, fans, etc) Principal pipe and duct routes, presented either as pipe / duct elements or the entities of the reserved volume(s).	
Gas systems	D	LOD 275 LoG 2	Pipes and equipment, including measuring and metering devices, valves, devices and equipments for adjustments including motors; to ensure proper operation and maintenance all the devices and equipment must contain service and / or operation volumes. Parts of equipment, protruding more than 30 mm from the main volume must be shown, if they are	Piping, ducts and equipment, existing and reused in later stages. Fittings can be omitted	LOD 200 LoG 2	Principal entities, like inlet locations, main equipment, principal external elements (meters, tanks, etc) Principal pipe and duct routes, presented either as pipe / duct elements or the entities of the reserved volume(s).	

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
			not included in the bounding volume (e.g. lever handles, etc.).				
Electrical (including lightning protection)	E	LOD 275 LoG 2	Endpoint devices (luminaires, switches, sockets, sensors, etc), including th required service or / and operational volume. Switching and / or distribution boxes and the containing equipment, split boxes, cable ladders, busbars; to ensure proper operation and maintenance all the devices and equipment must contain service and / or operation volumes. Parts of equipment, protruding more than 30 mm from the main volume must be shown, if they are not included in the bounding volume (e.g. lever handles, etc.). If it is necessary to open the panel doors at an angle greater than 80°, the dimensions of the service area are modeled by evaluating the door opening area and extending it by 20–50 mm. The following types of conductors and cables are not modeled: • conductors and cables on the supports (cable ladders, trays, etc.); • conductors and cables with a conductor area of less than 2.5 mm²; • conductors and cables extending beyond support structures for less than 3 m. Conductors, cables, split boxes and conduits may be replaced by the reserved installation volume - the engineering corridor.	Conduits, cable ladders and equipment, existing and reused in later stages. Fittings can be omitted	LOD 200 LoG 2	Light sources and principal equipment (distribution panels, power sources, etc) Principal conduits and cable ladders, presented either as pipe / carrier elements or the entities of the reserved volume(s).	
Communications	ER AS	LOD 275 LoG 2	Endpoint devices (luminaires, switches, sockets, sensors, etc), including th required service or / and	Conduits, cable ladders and equipment, existing	LOD 200 LoG 2	Principal equipment (control panels, racks, etc) Principal conduits and ladders, presented either as	

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
Safety alarm Fire detection and alarm (including evacuation management) Process control and building management	GSS PVA		operational volume. Switching and / or distribution boxes and the containing equipment, control panels, split boxes, cable ladders, busbars; to ensure proper operation and maintenance all the devices and equipment must contain service and / or operation volumes. Parts of equipment, protruding more than 30 mm from the main volume must be shown, if they are not included in the bounding volume (e.g. lever handles, etc.). If it is necessary to open the panel doors at an angle greater than 80°, the dimensions of the service area are modeled by evaluating the door opening area and extending it by 20–50 mm. The following types of conductors and cables are not modeled: • conductors and cables on the supports (cable ladders, trays, etc.); • conductors and cables with a conductor area of less than 2.5 mm²; • conductors and cables extending beyond support structures for less than 3 m. Conductors, cables, split boxes and conduits may be replaced by the reserved installation volume - the engineering corridor. Devices, requiring remote components like sensors, mirrors, laser barriers, etc must include the required operational volume (*IfcFlowSegment*) to ensure proper clash detection. The volume id defined by design data and / or calculations and must be extended by 50 mm to al sides to maintain proper clearance.	and reused in later stages.		pipe / carrier elements or the entities of the reserved volume(s).	

Project fie	Designation of the project file (in compliance to LST 1516)	Stage of the project					
		Preparation and Briefing (S1)			Design Proposals (S2)		
		LOD LoG	Expectation of the Client	Remarks	Detalumas	Expectation of the Client	Remarks
Heat produnction and transformation: heat sources (including renewable), heat exchangers, chillller systems	ŠT	LOD 275 LoG 2	Centralized heat or cold supply sources and systems, required for proper operation of the building. If the supply system contains more than one source (e.g. utility networks, geothermal energy, electricity, cold storage), these systems are modeled separately or a main and auxiliary system is distinguished. The main system is considered to be the one that supplies the amount of energy necessary for normal operating conditions and the common pipelines of the supply system; auxiliary systems are considered to be those that cover peak needs or back ups the other systems. Accumulation tanks are assigned to the system they serve.	Pipes, conduits and equipment, existing and reused in later stages. Fittings can be omitted System boundary is defined on the closing valve towards the user system.	LOD 200 LoG 2	Principal equipment (heat exchangers, tanks, control panels, racks, etc) Principal pipes, presented either as pipe elements or the entities of the reserved volume(s).	

7.8 BIM DATA EXCHANGE AND COMMUNICATION INFRASTRUCTURE

7.8.1 The Project must use a single data exchange and communication infrastructure for the project team, i.e. the CDE. All necessary and reliable project information must be provided only through the CDE.

7.8.2 The Project Manager or the BIM coordinator must provide and coordinate the CDE system used to the BIM manager. The reference (URL) to the CDE must be included in the BEP as verbatime.

7.8.3 The Design team must provide the reasonable training of CDE environment to the Client, if requested.

7.8.4 The CDE must allow the Client to review and monitor the entire BIM model during the entire design stage.

7.8.5 The developer undertakes to provide the Client with up to 5 licences to use or access the CDE environments free of charge during the entire project life cycle, if requested. This includes access through API (software interface), if requested.

7.8.6 To ensure effective cooperation and communication between the different project parties, the CDE must ensure security, control, structuring, versioning, access control requirements and provide integrated IFC viewing and reviewing capabilities.

7.8.7 When designing the BEP and developing the CDE, the Design team must implement measures of data protection. The purpose of these measures is to limit the possibility of unlawful use, transmission or dissemination of project information. Every project participant should be granted limited set of rights that do not prevent them from performing the direct duties in the project. The scope and detailed rights for a project participant (or group of participants) must be specified in the BIM execution plan.

7.8.8 The CDE environment should allow temporary partial public access to the data of the project, e.g. to subcontractors or the institutions.

7.9 DATA EXCHANGE

7.9.1 The BIM model is published to other Project parties to the CDE environment, in the IFC data format, version and MVD agreed upon in the BEP. The data must include the required geometrical data and the required information. The IFC version is defined by the BIM Coordinator and the BIM Manager during the preparation of the BEP, taking into account the used software, the benefits provided by the format version and the potential challenges.

7.9.2 It is advised to use IFCZIP file format. If, during the period of implementation of the Project, incompatibilities with the software are discovered which cannot be resolved (unacceptable changes to the software or its version, etc.), the IFC file format may be used.

7.9.3 Remarks for the design are presented in the BCF format.

7.9.4 The BIM coordinator must establish a communication strategy, stating:

- information on the uploaded, updated, exchanged or revoked BIM model;
- the scope and means of information the major changes are propagated to other project parties;
- the way unacceptable changes are rejected;

7.9.5 A relevant topography data must be present in the CDE environment, executed in the LKS-94 coordinate and LAS07 height systems and complying the requirements from GKTR. At least one point must indicate the ground floor altitude for each building. Height of every building must be indicated based on the elevation of the ground floor or the height reference point, referencing the height of parapet or the ridge of the roof.

7.10 THE STRUCTURE OF PROJECT INFORMATION AND DOCUMENTATION

7.10.1 The BIM Coordinator must define the means and structure of the information delivery plan in the BIM execution plan and coordinate it with the BIM Manager designated by the Client, i.e. it is necessary to plan the communication of the model, provide for the structure of the CDE catalogues, the dates of submission and updating of the information. The expected structure of the project information (files and catalogues) is relevant to the construction and operational phases and needs to be assessed. Agreements must be recorded in the BIM execution plan before development of the model.

7.10.2 The information structure of CDE must clearly distinguish between project management data, the design process, the project stages and the project documentation, in accordance with the guidelines of ISO 19650.

7.10.3 Out-of-date information must be transferred to the archive and information must not be lost, either intentionally or accidentally. It is necessary to provide a place for outdated (archived) project files at each level of the structure (catalogue). If data versioning is ensured by CDE, only out-of-date wire design documents are uploaded in the afore-mentioned space.

7.10.4 The Client may present a proposed structure of the CDE folders, if required.

7.10.5 The structure of CDE is to be defined and agrred upon in the BEP.

7.10.6 The project information is presented in the form of data files, folders or other hierarchical information grouped into logical parts.

7.10.7 To ensure clear collabotarion throughout the entire project, the files must preserve their names. The name of the file must indicate the project, its stage, project file and the document related information. The structure of the file names for model and project documents is presented in the table .

Project number. As defined by the Project manager	Marking ogf the structure (block), as stated in the site plan file;	Stage of the project. It is advised to use „ES“ for the Preparation and Briefing stage (S1)	Project file	Marking of the document according to the project document register	Revision	Title of the document	File type
Name of the model				Data of the document			
111	01	PP	SA				ifczip

111	**01**	**PP**	**SA**	**BR.4001**	**C**	**Pirmo aukšto lubų planas**	**dxf**
111	**01**	**PP**	**SA**	**TXT.T**	**K**	**Dokumentų žiniaraštis**	**odt**
111	**01**	**PP**	**SA**	**TXT.AR**	**C**	**Aiškinamasis raštas**	**pdf**

7.10.8 Names of the documents and files must be created according the requirements specified in LST 1516:2015

7.10.9 Document revision must be specified in the file name, like: [document_mark]-[revision].

7.10.10 It is advisable to add name to a document mark in the file name, like [document_mark]-[revision] – [document_name].[file type].

- 111-01-TP-SA-BR.4001-C – Pirmo aukšto lubų planas.dxf
- 111-01-TP-SA-TXT.T-K – Dokumentų žiniaraštis.odt
- 111-01-TP-SA-TXT.AR-C – Aiškinamasis raštas.pdf

7.10.11 In order to improve the visual perception of the information, bottom scrolling can be used instead of a scroll bar, for example: 111_01_TP_SA_BR.4001_C_–_Pirmo_aukšto_lubų_planas.dxf

7.10.12 The chosen semantic part tub of the file name, i.e. symbols "-" or "_", should not be used to convey any other information.

7.10.13 When choosing the characters to be used in file names, it is necessary to consider the limitations imposed by various operating systems on the characters and their combinations in file names.

7.11 THE STRUCTURE OF MODEL INFORMATION

7.11.1 Any information, identifying element in the model – names (descriptions), type names, marks etc must match the infromation in schedules and cost estimate(s).

7.11.2 Element type name or description[8] must be unique in the same classification group. It is not recommended to re-use element type marks[9] between different classification groups.

7.11.3 Element mark must uniquelly identify the element among similar elements in the same classification group[10]. It is not recommended to re-use element marks between different classification groups[11].

7.11.4 The recommended structure of of elements name and type is presented below. Name of the element is the part of the projects documentation and therefore must be presented in Lithuanian. The suggested field structure of the naming scheme is {structural properties} {principal material} [element type] {geometrical properties}. Use cases for different project files are presented below.

8 The description must clearly define the difference between eg. type marks „St-0145" and „St-0146", like: „St-0145 : 120 mm pločio molio plytų mūro siena"; „St-0146 : 150 mm pločio akytbetonio blokelių mūro siena". To save the space in the drawing area of the sheet it is recommended to separate type mark and type description.

9 Type mark should be unique both in the project file and the entire project, eg type mark „St-0145" shoud be unique in the entire project.

10 For example, element mark „SaD-104/2" uniquely identifies doors leading into the room 104.

11 Element mark should be unique both in the project file and the entire project. For example, element mark „SaD-104/2" uniquely identifies door element in the architectural file and the mark is unique both in the project file and the entire project. Incostistent example – „D-104/2", marking doors on the architectural file and air outlet in the HVAC file.

Structural property	Principal material	Element type	Geometrical properties
Dvivėrės	plieninės	durys	1400×2200 mm
Dvivėrės EI_2	plieninės	durys	1600×2200 mm
Monolitinė		kolona	400×500 mm
Surenkama	gelžbetoninė	kolona	250×300 mm
Surenkama	plieninė	kolona	HEB 200
Apvalus	plastikinis	ortakis	200 mm
	Akmens vatos	izoliacija	30 mm
Paviršinis		gaisro daviklis	

7.12 QUALITY CONTROL, MODEL COORDINATION, INCONSISTENCY DETECTION AND MANAGEMENT

7.12.1 The goal of model coordination and collision checking is to define error control guidelines and validate model information against the defined set of rules of information coordination and collision checking, in order to reduce the number of collisions and reduce design adjustments in the project implementation stages.

7.12.2 Models for coordination and inconsistency detection are submitted in the IFC data format in the coordinate systems and units as defined in the EIR and BEP documents.

7.12.3 Possible error in quantities between the project data and the quantities generated in the BIM model is 0..+15%.

7.12.4 Allowable and acceptable collisions between elements are defined at the risk and responsibility of the Project Manager, taking into account the Client's expectations, personal experience, the foreseeable further BIM process and the general opinion of the design team. The Project Manager and the representative of the Client agree and indicate the permissible collisions in the BIM execution plan. The BIM Manager designated by the Client identifies and comments on the permissible conflicts identified in the BIM execution plan, as appropriate.

7.12.5 The principal tasks for BIM coordination and collision-checking are presented below and should be elaborated during preparation of the BEP:

Inspection	Aim	Participants responsible	Remarks
Visual inspection	Identify the incorrect model elements and their position. Determine compliance of the Design team with the BIM objectives.	BIM Coordinator Managers of the project files	The inspection is carried out at least once every two weeks. Format of the report, i.e. BCF or another file format must precisely locate the issue
Clash detection	Identify clashes in a project file or the federated model, prioritise them, appoint the responsible parties for resolving issues, manage the correction process.	BIM Coordinator Managers of the project files	
Model integrity check	Ensure the federal model complies with the integrity requirements, as specified in the EIR or BEP. Ensure that the model does not contain undefined, misdefined or duplicated elements.	BIM Coordinator BIM coordinators of project file	
Project review	Verify the model meets the objectives of the Client and is executed in accordance with the BIM requirements specified in the EIR and the BEP.	BIM Coordinator Project Manager BIM Manager	
	Review if the model under development is inline with the objectives and requirements set by the Client, as specified in the	BIM Coordinator Managers of the project files BIM Manager	

7.12.6 The coordination and collision-finding process and the quality control process must be agreed in the BEP before the model is developed and may be adjusted as necessary during the model development.

7.12.7 The BIM Coordinator must ensure that the report of the inspection (visual, intersection, model integrity, etc.) is submitted to the BIM Manager designated by the Client at least once every 2 working weeks.

7.12.8 The Design team is obliged to adjust the BIM model, coordinate the changes with the managers of the project files or project design supervisors and submit them to the Client in accordance with the procedure described in this document, at any time during the project implementation, if an unacceptable inaccuracy in the BIM model is revealed or a need to adjust design solutions is identified.

7.12.9 The matrix is developed in accordance with the following principles:

- The quality of the model and the influence of its collisions on further inspections are assessed. If unauthorized deviations are identified, further verification of the provided model of the part of the project is not performed and the results of the inspection is transmitted to the organisers of the appropriate part of the project.
- A check for collisions between the parts of the project is carried out, giving priority to the architectural and structural solutions and rigid engineering systems, i.e. ventilation, fire supression, sloped piping (rain collection, sewerage, drainage etc.).

7.12.10 The principal matrix for the performance of the collision check is given below, the lower number indicating the higher priority of the check. This matrix must be elaborated in the BEP, accounting the actual project files and peculiarities of the design.

PROJECT FILES	SA	SK	V, VN.V, E, ER	Š, OK, VN.V	SP, VN(L), E(L), D(L)	...
SA	1	3	3	4	2	...
SK		2	3	5	3	...
V, VN.N, E, ER			4	5	6	
Š, OK, VN.V				6	7	...
SP, VN(L), E(L), D(L)					8	
....					...	...

7.13 STAGE COMPLETION

7.13.1 The models of Concept Design stage should be implemented sequentially during the design phase in accordance with the information submission schedule agreed upon in the BEP

7.13.2 The BIMs for individual building components may be submitted independently of each other.

7.13.3 The model may be submitted when the Contractor issues the Delivery note and confirms the information contained in the models as well as the accompanying informations is accurate, complete, complies with the EIR requirements and is suitable for submission

7.13.4 The model is accepted and the relevant milestone or stage is considered to have been completed only when the Client has checked the transmitted model and has no comments on the information contained in it and the scope of the information to be provided.

7.13.5 The Client will inform the Contractor of his acceptance of the provided models.

8 MODEL SUBMISSION TO THE CLIENT

8.1 Upon completing the design stage, the BIM model is submitted in the native file format (RVT, PLN, DB1, DWG, DGN, etc.) and the IFC data format, as IFCZIP file, according to the version of the format and the MVD specified in the BEP. The models are transmitted with full rights of use in the scope of the constructed work to ensure the continuity of the information generated and its use in the subsequent stages of the project. This transfer of the rights to use the BIM models created does not in any way imply a transfer of the moral rights of the project.

8.2 Information for the facility management will be transferred in COBie format in the next stages.

8.3 The models, submitted to the Client in the native software format, must contain no irrelevant or working information, unless agreed otherwise. Only the geometry, information and documentation necessary for the subsequent design stages must remain, as agreed in the BEP document.

8.4 The BIM model transmitted to the Client must contain no uncoordinated collisions. The BIM coordinator must identify the allowed collisions according the standard model development practices and peculiarities of the project. The rules for allowable collisions must be defined in the BEP.

8.5 The Client comprehensive rights over the submitted model and its data. The Client is granted the right to develop the BIM model as required during the working design preparation, construction and operation phases, to prepare and publish analyses, studies, generalised or detailed information of the project; to store, process and distribute geometric and attributional information of the object independently or with the assistance of other contractors or service providers.

8.6 Any model submitted must be editable and enrichable with properties and elements.

8.7 Documents accompanying BIM models are submitted as PDF files.

8.8 The URLs to the documents, used as the property data, must be created in the DMSP according to the following process:

- The required documents, prepared in accordance with the PDF/A-1 or PDF/A-2 format specification, are uploaded to the DMSP location, indicated by the Client;
- A corresponding URL is created for each document; as the workflow is specific to particular type of DMSP, the user manual should be consulted. The created URL must be checked and validated;
- The URL, supplemented by a specific page or chapter reference if necessary, is assigned as the element property of the BIM model.

9 TERMS, ABBREVIATIONS AND DEFINITIONS

Term or abbreviation	Definition
AR	Augmented Reality
Open file	Editable file format, used by the authoring software.
Open XML file	Editable data file, based on the XML data schemes and structures: OfficeOpenXML (*.docx, *.xlsx, *.pptx and similar Microsoft Office files), OpenOffice XML (*.odt, *.ods, *.odp and similar OpenOffice / LibreOffice files) etc
Company	Vilniaus vystymo kompanija, UAB
BEP	**BIM Execution Plan** One of the provisions of this document is the cooperation of the project participants with regards to the information supplies to be provided.
BIM	Integrated digital information building model, i.e. Building

	Information Model
CDE	Common Data Environment
DMSP	Client's data exchange and storage platform
EIR	**Exchange Information Requirements** describe the requirements of the client regarding the information to be provided, standards and processes that the contractor must comply with
GKTR	Regulation on Technical Requirements for Geodesy and Cartography GKTR 1.01:2020 approved by 1 July 2021 Order No 3D-420 of the Minister of Agriculture of the Republic of Lithuania, as amended, and related documentation
Identical scope file	A file, containing exactly the same information as presented in the PDF file. This is usually referenced in the context of engineering drawings and denotes a vector file, where the information is identical or has minor differencies (eg slightly different date, the file is unsigned, the line widths or colours are different) compared to the information in the PDF file.
IFC	**Industry Foundation Classes** is an open, vendor-neutral and cross-national standard in construction for the digital description of building models in all design, construction and operation phases, defined in ISO 16397-1:2018
LOD	Level of Development of BIM model
LoD	Level of Detaling of the BIM model
LoI	Level of Information of the BIM model
MVD	**Model View Definition** Specification for the exchange and transmission of structural model data within the framework of IFC, defining the scope and organisation of the data for common and specific use cases.
PIP	Project Implementation Plan
Approves Endorses	The term define a process of: • preparation of the design solutions; • presentation of the solutions to the Client; • receiving comments from the Client; • implementing the necessary changes; • mutual coordination of the design decisions in the project design team according to the processes agreed upon; • endorsement of the project by the Client.
Project party	Any elegible decision maker(s) of the project team.

Requirements	This document, containing requirements for the Contractor, based on the strategic goals, operating principles of Company and the legal regulations.
PP	Conceptual design stage. For legal reasons must be abbreviated as „PP“.
Client	Any person, assigned to the project by the Builder or the Project Manager (as these terms defined in the legislation), in the scope of his/her responsibitity.
VR	Virtual reality

10 REFERENCES

Seq.	Title	Document reference	Rev.	Reference URI
10.1	BIM data schema, used by the Company (in Lithuanian)		0	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_B5_04-0%20-%20VVK%20duomen%C5%B3%20schema.pdf
10.2	List of the mandatory and optional BIM properties, to be used in the BIM models (in Lithuanian)	**B3/B4/B5-02**	A	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_B5_01-A%20-%20Bendrovei%20pateikti%20privalom%C5%B3%20ir%20projekte%20pasirenkam%C5%B3%20BIM%20informacijos%20atribut%C5%B3%20s%C4%85ra%C5%A1as.pdf
10.3	Definitions of Levels of Development (in Lithuanian)	**B3/B4/B5-03**	0	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_B5_03-0%20-%20Projekto%20informacinio%20modelio%20i%C5%A1vystymo%20lygi%C5%B3%20apra%C5%A1as.pdf
10.4	Client requirements for the schedule data (in Lithuanian)		A	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_06-A%20-%20U%C5%BEsakovo%20reikalavimai%20%C5%BEiniara%C5%A1%C4%8Di%C5%B3%20formai.pdf
10.5	Client requirements for cost estimation data		0	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_05-0%20-%20U%C5%BEsakovo%20reikalavimai%20s%C4%85mat%C5%

Seq.	Title	Document reference	Rev.	Reference URI
	(in Lithuanian)			B3%20informacijai.pdf
INFORMATIONAL ANNEXES				
10.6	Project implementation plan (in Lithuanian)	**B3/B4/B5-04**	B	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_B5_04-A%20-%20Projekto%20%C4%AFgyvendinimo%20planas.pdf
10.7	List of BIM properties and attributes used by the Company and their explanations (in Lithuanian)	**B3/B4/B5-01**	A	https://www.vilniausvystymas.lt/uploads/BIM/B3_B4_B5_01-A-%20Bendrov%C4%97s%20naudojam%C5%B3%20BIM%20informacijos%20atribut%C5%B3%20s%C4%85ra%C5%A1as%20ir%20j%C5%B3%20paai%C5%A1kinimai.pdf

REVISIONS

Revision	Date	Summary	Edited by
0	2025-11	Initial revision	Eugenijus Januškevičius