TECHNICAL Specification

Design and design supervision services for the construction of the new railway line from PANEVĖŽYS TO Lithuanian/Latvian state BORDER with joniškėlis railway station

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# ACRONYMS AND ABBREVIATIONS

All acronyms, abbreviations, designations, definitions, and terms defined in the applicable laws, legislation, regulations, directives, Technical Specifications for Interoperability, standards, rules, this Agreement and Rail Baltica Design Guidelines, other guidelines and documents of Client are used in this Technical Specification without modifications if not defined otherwise further. In this documenft where the context admits, the following words shall have the meaning assigned to them hereafter:

Table 1: Acronyms and Abbreviations

|  |  |
| --- | --- |
| Abbreviation | Definition |
| AACE | International Association for the Advancement of Cost Engineering |
| AsBo | Assessment Body |
| BEP | BIM Execution Plan |
| BIM | Building Information Management |
| BoQ | Bill of Quantities |
| CAPEX | Capital Expenditure |
| CCS | Control, Command and Signalling |
| CDE | Common Data Environment |
| CIAR | Critical Items Action Report |
| CPM | Critical Path Method |
| DCMA | Defence Contract Management Agency |
| DeBo | Designated Body |
| DG | Design Guidelines |
| DSS | Design Supervision Services |
| EIA | Environmental Impact Assessment |
| EIR | Employer’s (Client’s) Information Requirements |
| ENE | Energy Subsystem |
| EU | European Union |
| GIR | Ground Investigation Report |
| GNSS | Global Navigation Satellite System |
| ICF | Interface Control Form |
| IPMA | International Project Management Association |
| Lith. | Lithuanian language |
| LT | Lithuania |
| MIDP | Master Information Delivery Plan |
| MoM | Minutes of Meeting |
| MDTD | Master Detailed Technical Design |
| NGO | Non-Governmental Organization |
| NoBo | Notified Body |
| NSA | National Safety Authority |
| OPEX | Operating Expenses |
| PCR | Project Change Request |
| PEP | Project Execution Plan |
| PMBOK | Project Management Body of Knowledge |
| PRM | Persons with Reduced Mobility |
| PWDM | ProjectWise Deliverables Management (Bentley Systems) |
| RAMS | Reliability, Availability, Maintainability and Safety |
| RBR | RB Rail AS |
| RFI | Request for Information |
| RIS | Railway Infrastructure Schematic |
| SP | Special Plan |
| STR | Construction Technical Regulation (Lith. *„Statybos techninis reglamentas“*) |
| TIDP | Task Information Delivery Plan |
| TPS | Spatial Planning and Construction Gateway (Lith. *„Teritorijų Planavimo ir statybos vartai”*) |
| TS | Technical Specification |
| TSC | Technical Specifications for Construction |
| TSI | Technical Specifications for Interoperability |
| TWG | Technical Working Group |
| VMT | Lithuanian State Forest Service (Lith. *„Valstybinė miškų tarnyba“)* |
| VMU | Lithuanian State Forest Enterprise (Lith. *„Valstybinė miškų urėdija“*) |
| VTPSI | State Territorial Planning and Construction Inspectorate under the Ministry of Environment (Lith. *„Valstybinė teritorijų planavimo ir statybos inspekcija“*) |
| WBS | Works Breakdown Structure |

# DEFINITIONS

The following terms are used throughout this document:

Table 2: Terms and Definitions

|  |  |
| --- | --- |
| Term | Definition |
| Affected Parties | Project external stakeholders – State institutions, local government bodies, public and/or private enterprises, non-profit and non-governmental organizations, legal or private entities (persons) representing the owners and/or managers of the assets (networks and/or objects of power supply, gas, oil, water, drainage etc.) that are linked to the designed layout of Rail Baltica railway line and shall be considered during the provision of Services. |
| Assessment Body | The independent organization or entity which undertakes investigation to provide a judgement, based on evidence, of the suitability of a system to fulfil its safety requirements. |
| Beneficiary | Ministry of Transport and Communications of the Republic of Lithuania. |
| Bill of Quantities | An itemized list of materials, parts, and labour together with their unit cost and description what is basis for cost calculation, required to construct, install, maintain, and/or repair the infrastructure. Classification system is described in the BIM Requirements. |
| BIM Execution Plan | A formal document that defines how the project will be executed, monitored, and controlled with regards to BIM. Developed by the Consultant at project initiation to provide important information/data management plans and assignment of roles and responsibilities for model creation and data integration throughout the project. |
| BIM Requirements | Corresponds to BIM requirements set in Design Guidelines: BIM Employer Information Requirements (EIR), BIM Manual and templates for BIM documents / deliverables. |
| Builder | Corresponds to Legal Entity responsible for the construction of the Project (Lith. „*Statytojas”*), according to the Law of the Republic of Lithuania on Construction. |
| Building permit | Construction permit (Lith. *„Statybą leidžiantis dokumentas”*) issued by state authorities based on national construction legislation. |
| CCS Contractor | Rail System Control-Command and Signalling Subsystem Contractor responsible for design and construction of the CCS subsystem for entire Rail Baltica Global Project, incl. Defect Notification Period and is contracted by RB Rail AS. |
| CCS Engineer | RB Rail AS employed Control-Command and Signalling subsystem engineer responsible for supervision of design and deployment of CCS systems that include the European Rail Traffic Management System (ERTMS) Level 2, interlocking, traffic management, information, and communication technologies (ICT), ancillary, station, and non-traction power supply subsystems. |
| Classification system | Classification system is described in the BIM Requirements. A systematic arrangement of Design and construction work aspects including assets, facility elements, functional and constructive systems, products, components, etc. |
| Client | AB LTG Infra |
| Common Data Environment | A central repository where construction project (Design) information is stored. The contents of the Common Data Environment are not limited to assets created in a „BIM environment” and it therefore includes data, documentation, graphical model and non-graphical assets. |
| Compliance Report | A compliance report is a self-declaration submitted by the Consultant with each deliverable demonstrating that the Consultant adheres to Design Guidelines, standards, rules, laws and regulations. |
| Conceptual Design | Preliminary (schematic) design level for objects, that shall be an integral part of the Rail Baltica project but are not requested to be designed by the Consultant to MDTD level. Conceptual design solutions shall be shown in MDTD documentation to ensure future developments. |
| Construction Object | Individual structure or part of the overall design solutions for which the design forms part of the scope of the Services. The ‘Construction Object’ is defined as separate object for which an individual Design package (including all required documentation and necessary approvals to obtain a Building permit) is prepared allowing to have a separate construction (including construction tendering) and taking-over process in accordance with national construction legislation. |
| Consultant | Service provider awarded with an Agreement to provide the Services specified in this Technical Specification. Consultant shall perform all rights and responsibilities of Consultant (Lith. *„Statinio projektuotojas”*) and Investigator (Lith. *„Tyrėjas”*) in accordance with national legislation and shall be certified/licensed to provide the Services. |
| Days | Corresponds to working days |
| Design | Corresponds to definition of Design project (Lith. *„Statinio projektas”*) and (Lith*. „Statinio projektavimas”*) according to the Law of the Republic of Lithuania on Construction. |
| Design Expertise | Corresponds to definition of Lith. *„Statinio projekto ekspertizė”*, according to the Law of the Republic of Lithuania on Construction. Client procures an independent expertise to evaluate the Design in accordance with national legislation. Consultant shall amend the Design according to expert comments to be able to receive positive expert conclusion within agreement terms. |
| Design Guidelines | Set of technical requirements for Rail Baltica infrastructure to be applied at design, construction, and operation phases of Rail Baltica Railway, which forms an integral part of this Technical Specification. The Design guidelines may be changed by the Client therefore the Agreement always refers to the most current version of the Design guidelines. See Annex 1 |
| Design Priority Section | Part of Design Section identified as separate Rail Baltica railway line section for planning of the Services, construction, and management purposes. |
| Design Proposals | Design stage corresponds to Project Proposal (Lith. *„Projektiniai pasiūlymai”*) stage as described in Building Technical Regulation, STR 1.04.04:2017 *„Statinio projektavimas, projekto ekspertizė“*. Design proposals are pre-requisite for application for building permit. |
| Design Section | Section of overall Rail Baltica railway line falling under the scope of the Services. |
| Design Supervision Services | Corresponds to Project Implementation Supervision (Lith. *„Statinio projekto vykdymo priežiūra”*) as described by STR 1.06.01:2016 *„Statybos darbai. Statinio statybos priežiūra“*. |
| Designated Body | In accordance with the Interoperability Directive (EU) 2016/797, a Designated Body (DeBo) shall perform conformity assessment for compliance with National Rules, Certifying National conformity (everything beyond TSIs). |
| Employer’s Information Requirements | Building information modelling (BIM) Employer’s information requirements (EIR) defines the information that The Consultant shall be required to provide in BIM models during development of the Project and fit for the operation of the completed built asset. |
| ENE Contractor | Rail System Energy Subsystem Contractor responsible for design and construction of the ENE subsystem for entire Rail Baltica Global Project, incl. Defect Notification Period and is contracted by RB Rail AS. |
| ENE Engineer | Rail System Energy Subsystem Engineer – provides engineering services for the complete ENE Global project lifecycle starting from preparatory phase for the procurement, supervision during design and construction, till the end of Defects Notification Period and is contracted by RB Rail AS. |
| Environmental Impact Assessment | Assessment of the significant effects of a project or development proposal on the environment. Corresponds to Lith. *“Poveikio aplinkai vertinimas”*. An integral procedure carried out during the preparation of Spatial planning documents. |
| Global Project | All the activities undertaken by the Rail Baltica railway implementing parties to build, render operational and commercialize the Rail Baltica railway and related railway infrastructure in accordance with the agreed route, technical parameters and time schedule. |
| Inception Report | A Report, produced by the Consultant after signing of an Agreement, that describes in detail all the work activities that are planned during the provision of Services. |
| Interface Control Form | A document that includes interface requirements to implement in both sub-systems referred in the document  Interface Control Forms are owned by RB Rail AS and are to be considered and updated (if related to the outcomes of the design process) by the Consultant through the Service provision. |
| Interface Management Plan | A document which describes the process of managing Project interfaces. |
| Local Facility | Means geographically limited parts of railway infrastructure with extended structural or functional elements (terminals, service facilities, etc.) which are related or needed to ensure a safe and smooth operation of the railway. Local Facilities are, inter alia, the following: a passenger terminal, including passenger stations; a freight terminal including railway station; a rolling stock maintenance facility; an infrastructure maintenance facility; other possible facilities. |
| Master Detailed Technical Design | Master Detailed Technical Design corresponds to Lith. *„* *„Techninis darbo projektas”* and must contain the information required by Construction Technical Regulations STR 1.04.04:2017 *„Statinio projektavimas, projekto ekspertizė“*, which establish composition and requirements for Master Detailed Technical Design. |
| National Safety Authority | The institution independent in its organization, legal structure and decision-making from any railway undertaking, infrastructure manager, applicant or contracting entity and from any entity awarding public service contracts. National Safety Authority is entrusted with authorization for placing in service the trackside control-command and signalling, energy and infrastructure subsystems constituting the Union rail system. |
| National studies / RB Rail AS studies | Detailed engineering, technical and feasibility studies on implementation of Rail Baltica project. |
| Notified Body | Conformity assessment body is classified as a ‘Notified Body’ (NoBo) following notification by a Member State. Notified bodies responsible for examining the procedures for assessment of conformity and suitability for use of interoperability constituents, together with the procedure for the assessment of subsystems, should, in the absence of any European specification, coordinate their decisions as closely as possible. European wide authority for assessment. Certifies EU conformity in accordance with TSI. |
| Operational Plan | Comprehensive set of documents defining all long-term operational principles of the Rail Baltica railway line on the wider corridor of Warsaw - Helsinki and describing the future structure of train traffic and operational processes on Rail Baltica railway line, outlining railway capacity, establishing operational requirements regarding the infrastructure, rolling stock, and outlining the related effort for maintenance of the infrastructure and rolling stock. Operational Plan also defines the infrastructure parameters for Rail Baltica railway line covering speed limitations, track layouts of the stations, main line and facilities, type of turnouts, main infrastructure objects. Timetable and travel time defined in the Operational Plan are the essential targets to be complied with.  The Operational Plan may be changed by the Client; therefore, the Agreement always refers to the most current version of the Operational Plan and RIS. |
| PRM TSI | “Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility” |
| Project | Design for construction of Rail Baltica line from Kaunas urban node to Polish state border. |
| Project Execution Plan | A governing document that defines how a Project is to be executed, monitored, and controlled. |
| Rail Baltica railway | A new fast conventional double track electrified standard gauge (1435 mm) railway line on the route from Tallinn through Pärnu - Riga - Panevėžys - Kaunas to Lithuanian - Polish border, with the connection of Kaunas - Vilnius. |
| Railway infrastructure | Correspond to the Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (recast), as well as it includes freight and passenger terminals and infrastructure and rolling stock maintenance facilities and the ground underneath them and the airspace above them to the extent that the national legislation permits the ownership of the ground and the airspace. |
| Railway station | Part of a railway containing necessary sidings and necessary equipment, which allows to perform train traffic organization (change of direction, overtaking, crossing) and commercial (passenger exchange, freight operations, etc.) operations. The border of a railway station is a station border (an entry signal or a border sign). |
| Reliability, Availability, Maintainability and Safety | As per RAMS requirements and RAMS methods, the obligatoriness Directives, Regulations and Standards following the Directives (EU) 2016/797 and Regulation (EU) 2013/402, the standard EN50126-1, Rail Baltica RAMS Design Guidelines and procedures. |
| Services | Corresponds to all Design and Design Supervision Services under the Agreement. |
| Shadow Operator | The Shadow Operator provides its Operation and Maintenance (O&M) experience and expertise in the railway industry to support the Rail Baltica project in representing the future O&M companies during the design and construction phases. It will contribute/define the O&M requirements for design and construction, participate and cross-review the project to ensure that abovementioned requirements are considered, support elaboration of tender documents and initiate a regulatory framework for the future operators and maintainers to operate the required services with the required performances. Shadow Operator is contracted by RB Rail AS. |
| Spatial planning and construction gateway | Corresponds to Lith. *„Teritorijų planavimo ir statybos vartai“*- Information system for Spatial planning and construction, www.planuojustatau.lt. |
| Special Plan | Spatial plan corresponds to definition of Lith. *„Inžinerinės infrastruktūros vystymo planas”*, according to the Law of the Republic of Lithuania on Spatial Planning (Lith. *„Lietuvos Respublikos Teritorijų planavimo įstatymas”*, prepared in accordance with Lithuanian national legislation and approved at the State level. |
| Technical Conditions | Corresponds to Technical tasks (Lith. *„Techninė užduotis”*), Special requirements (Lith. *„Specialieji reikalavimai”*), Design Conditions for connecting to engineering networks or communications (Lith. *„Prisijungimo prie inžinerinių tinklų ar susisiekimo komunikacijų sąlygos”*) and other mandatory documents as required by Republic of Lithuania Law on Construction (Lith. „Lietuvos Respublikos statybos įstatymas*”*) issued by Affected parties involved in Design process. |
| Technical Specification | This document with all its Annexes and references, which is an integral part of the Agreement. |
| Technical Specifications for Construction | Corresponds to (Lith. *„Techninė specifikacija”),* Part 101 of Article 2 of Law of the Republic of Lithuania on Construction. |
| Technical Specifications for Interoperability | “TSIs define the technical and operational standards which must be met by each subsystem or part of subsystem in order to meet the essential requirements and ensure the interoperability of the railway system of the European Union.” as defined in Directive (EU) 2016/797. |
| Technical Working Group | A group of technical experts from Client and involved parties nominated by Client specifically to deal with administrative and technical matters during Agreement implementation. The objective of the TWG is to provide a platform for the exchange of information and opinions among the key stakeholders, to ensure an efficient feedback mechanism, to promote cooperation during the implementation of the Agreement. The Technical Working Group has no responsibilities regarding project management and control as well as contract management. |
| Work Breakdown Structure | A hierarchical framework for organizing and ordering activities that make up the entire scope of Services. It covers all project scope and breaks down into unique manageable parts that correspond to key deliverables, phases of work, and milestones. They are product (deliverable-based) structures that provide a common frame of reference for managing and reporting project elements (e.g., estimating, scheduling, etc.) to stakeholders. |
| Work Package | The work and services defined at the lowest level of the work breakdown structure. |
| Works Contractor | Corresponds to future construction works contractor responsible for implementation of Construction activities. |

# General

## Introduction

The Baltic countries Estonia, Latvia and Lithuania have historically been linked to the east-west railway transport axis using the 1520 mm gauge railway system. Because of the existing historical and technical constraints, the existing rail system is incompatible with mainland European standards, thus there is a consensus that Estonia, Latvia, and Lithuania need to be fully integrated into the wider European rail transport system. Currently there is no efficient 1435 mm railway connection along the Warsaw - Kaunas - Riga - Tallinn axis, i.e., there are missing links or significant bottlenecks. Thus, there are no direct passenger or freight services along the railway axis as the existing infrastructure does not allow for competitive services compared to alternative modes of transport. Thus, most of the North-South freight is being transported by road transport and the overall accessibility in the region is low.

The ambitions of the Rail Baltica Global project (Global Project) are:

* to become a powerful catalyst for sustainable economic growth in the Baltic States,
* to set a new standard of passenger and freight mobility,
* to ensure a new economic corridor will emerge,
* sustainable employment and educational opportunities,
* an environmentally sustainable infrastructure,
* new opportunities for multimodal freight logistics development,
* new intermodal transport solutions for passengers,
* safety and performance improvements,
* a new value platform for digitalization and innovation,
* completion of Baltic integration in the European Union transport ecosystem.

Rail Baltica is already designed to become a part of the EU TEN-T North Sea – Baltic Core Network Corridor, which links Europe’s largest ports of Rotterdam, Hamburg, and Antwerp – through the Netherlands, Belgium, Germany and Poland – with the three Baltic States, further connecting to Finland via the Gulf of Finland short sea shipping connections with a future fixed link possibility between Tallinn and Helsinki. Further northbound extension of this corridor shall pave the way for future connectivity also with the emerging Arctic corridor, especially considering the lucrative prospects of the alternative Northern Circle maritime route development between Europe and Asia. Furthermore, the North Sea – Baltic Corridor crosses with the Baltic-Adriatic Corridor in Warsaw, paving the way for new supply chain development between the Baltic and Adriatic seas, connecting the Baltics with the hitherto inadequately accessible Southern European markets. In a similar fashion, Rail Baltica shall strengthen the synergies between North-South and West-East freight flows, creating new transhipment and logistics development opportunities along the Europe and Asia overland trade routes. The new Rail Baltica infrastructure would, therefore, not only put the Baltics firmly on the European rail logistics map, but also create massive opportunities for value creation along this infrastructure with such secondary economic benefits as commercial property development, revitalization of dilapidated urban areas, private spin-off investment, new business formation, technology transfer and innovation, tourism development and other catalytic effects. Rail Baltica aims to promote these effects from the early stages of the Global Project, learning from the key global success stories and benchmarks in this regard.

The contracting authority RB Rail AS was established by the Republics of Estonia, Latvia, and Lithuania, via state-owned holding companies, to coordinate the development and construction of the fast-conventional standard gauge railway line on the North Sea – Baltic TEN-T Core Network Corridor (Rail Baltica II) linking three Baltic states with Poland and the rest of the EU.

The shareholders structure of RBR is presented in Figure 1.

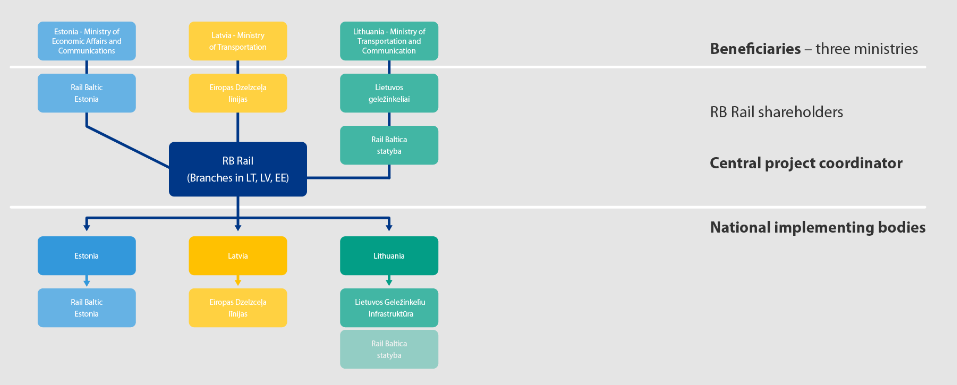
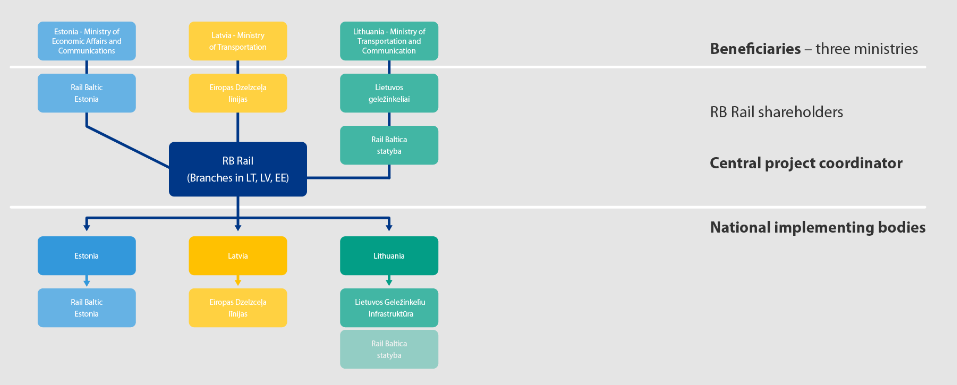
 

Figure 1: The shareholders’ structure

RBR together with governments of Estonia, Latvia, and Lithuania (represented by the ministries in charge of transport policy) have applied for the CEF co-financing in 2020 and 2021 (two applications in total). Both applications were successful and INEA grants are available to support the Global Project expenses.

Rail Baltica is a joint project of three EU Member States – Estonia, Latvia, and Lithuania – and concerns the building of a fast conventional double track 1435 mm gauge electrified railway line on the route from Tallinn through Pärnu (EE), Riga (LV), Riga International Airport (LV), Panevėžys (LT), Kaunas (LT) to the Lithuania/Poland state border (including connection Kaunas - Vilnius). In the longer term, the railway line could potentially be extended to include a fixed link between Helsinki and Tallinn, as well as integrate the railway link to Warsaw and beyond.

The expected core outcome of the Rail Baltica project is a European gauge (1435mm) double-track railway line of almost 900 km in length meant for both passenger and freight transport and the required additional infrastructure (to ensure full operability of the railway). It will be interoperable with the TEN-T Network in the rest of Europe and competitive in terms of quality with other modes of transport in the region.

Further information is available in <http://www.railbaltica.org/>

## Legal references

The Consultant shall comply with all EU Directives, all national construction and other legislation, EU standards, Lithuanian legislation/standards/rules, and other legal acts applicable to the provision of the Services. Consultant must ensure adherence to any updates or amendments to these laws and regulations, maintaining compliance throughout the duration of the project . ,Main applicable legal acts (non-exhaustive list) are provided below[[1]](#footnote-2):

* Construction Law of the Republic of Lithuania (Lith. *„Lietuvos Respublikos Statybos įstatymas“*)

<https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.26250/asr>

* Construction Law of the Republic of Latvia
* Construction Technical Regulations (Lith. *„Statybos techniniai reglamentai“*)

<https://vtpsi.lrv.lt/lt/teisine-informacija/teises-aktai-2/statybos-techniniai-reglamentai>

* Lithuanian register of legal acts

<https://www.e-tar.lt/portal/en/index>

* Melioration Law of the Republic of Lithuania (Lietuvos Respublikos Melioracijos Įstatymas )

https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.5651/asr

* Design of construction works. General requirements LST 1516 (*Lith. Statinio projekto.Bendrieji įforminimo reikalavimai* )
* On the recognition of the „Rail Baltica” project as a project of special national interest

<https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.408298>

* Intergovernmental Agreement on the development of the Rail Baltic / Rail Baltica railway connection  
  <https://www.railbaltica.org/wp-content/uploads/2017/05/Intergovernmental_Agreement_2017.pdf>

## Description of Services

The Services include Design and Design supervision services for the construction of the railway track substructure, superstructure as well as related civil structures, roads and utilities on the new standard gauge (1435 mm) double-track electrified railway Rail Baltica line which will connect Panevėžys to Lithuanian/Latvian state border railway line, further development of TEN-T North Sea – Baltic Core Network Corridor ..

As well Design and Design supervision services for the construction of railway track substructures, superstructures and all related civil structures, roads and utilities of the Joniškėlis railway station (Without Station Building)

The Design shall be prepared in accordance with the Rail Balica Design Guidelines (see Annex 1), Rail Baltica Operational Plan (see Annex 2), Special Plan for Kaunas – Lithuanian/Latvian border(see Annex 3), Enviromental Impact assessment for Kaunas – Lithuanian/Latvian border (see Annex 4), Special plan for Engineering infrastructure development for the engineering systems and regional stations of the communications engineering infrastructure of the "Rail Baltica" project on the Kaunas-Lithuanian and Latvian ( Annex 5 ) , TSIs requirements, for a design speed of up to 249 km/h for passenger trains and up to 120 km/h for freight trains.

## National state institutions

Lithuania’s regulatory institutions (non-exhaustive list) as a guidance for the Consultant to consider throughout the Agreement implementation provided below:

* State Territorial Planning and Construction Inspectorate under the Ministry of Environment  
  (Lith. *„Valstybinė teritorijų planavimo ir statybos inspekcija prie Aplinkos ministerijos”*)  
  [www.vtpsi.lrv.lt](http://www.vtpsi.lrv.lt)
* Lithuanian Transport Safety Administration (Lith. *„Lietuvos transporto saugos administracija”*)  
  [www.ltsa.lrv.lt](http://www.ltsa.lrv.lt)
* Construction Sector Development Agency (Lith. *„Statybos sektoriaus vystymo agentūra”*)   
  [www.ssva.lt](http://www.ssva.lt)
* Environmental Protection Agency (Lith*. „Aplinkos apsaugos agentūra”*)  
  [www.am.lrv.lt](http://www.am.lrv.lt)
* State Service for Protected Areas under this Ministry of Environment (Lith. *„Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos”*)  
  [www.vstt.lt](http://www.vstt.lt)
* Lithuanians State Forest Enterprise (Lith. *„Valstybinė miškų urėdija”*)  
  [www.vmu.lt](http://www.vmu.lt)
* National Center for Public Health under the Ministry of Health (Lith. *„Nacionalinis visuomenės sveikatos centras prie Sveikatos apsaugos ministerijos”*)

www.nvsc.lrv.lt

* State border guard services ( Lith. Valstybinė sienos apsaugos tarnyba „ ) [www.vsat.lrt.lt](http://www.vsat.lrt.lt)
* Department of Cultural Heritage under the Ministry of Culture (Lith. *„Kultūros paveldo departamentas prie Kultūros ministerijos”*)

www.kpd.lt

## Affected Parties

The Consultant shall be responsible for stakeholder management and coordination activities with Affected parties within and/or in association with the Scope of the Services (see Stakeholder Management in Section 6.4). The indicative (non-exhaustive) list of Affected parties is as follows:

* + - * 1. Transport infrastructure operators/owners: railways, roads, airports,
        2. Power transmission operators (high voltage) and power distribution (low and medium voltage),
        3. Oil/gas transmission operators,
        4. State/municipal institutions,
        5. Landowners and land managers,
        6. State Forest Service,
        7. Telecom (communication cable lines, mobile operators),
        8. Fire/rescue services and military authorities,
        9. Private enterprises, residents, developers, entrepreneurs,
        10. Associations / NGOs,
        11. Railway authorities,
        12. State/municipal service companies (water supply, heat supply etc.),
        13. Environmental monitoring institutions,
        14. Culture heritage monitoring institutions,
        15. Melioration and land drainage authorities and owners / managers,
        16. any other institutions involved in the Design process.

# Scope of the Services

## Main Tasks

### The Consultant shall perform all necessary tasks required for providing the Services and obtaining Client’s approval for the deliverables of the Services in compliance with the Design Guidelines, Operational Plan, Special Plans , EIA, Lithuanian National legislation, Latvian National Legislations, TSI requirements

### The Consultant shall review and analyze already prepared design solutions for Panevėžys – Lithuanian/Latvian border provided in Annex No.6. Which includes Value engineering reports, Master Detailed Technical Design interim reports, Geological investigation reports, Hydrological reports, Design proposals. and align these with all mandatory requirements and regulations, EIA report and Kaunas – Lithuanian/Latvia border Special Plan provided in references and annexes of this document.

### The Consultant shall review and analyze design solutions provided for Joniškėlis train station in "Rail Baltica" railway line Kaunas - Lithuanian Latvian border engineering systems and regional stations communications engineering infrastructure development special plan, selected alternative No. 2 technical solution schemes, EIA report and align these with all mandatory requirements and regulations set in references and annexes of this document.

### The Consultant shall prepare, submit all necessary applications for Affected Party requirements and Technical Conditions, and fulfil the Services in accordance with additionally obtained requirements and Technical Conditions.

### The Consultant shall prepare the Inception Report as described in section 3.2.

### The Consultant shall review all the input data provided in Annex 6 for a Main Line, and perform necessary assessments of existing conditions required to start the design and evaluate future impact during construction and operational phase of the existing neighboring, adjacent and interfaced objects/structures (roads, railways, bridges, buildings, etc.)

### The Consultant shall acquire necessary input data for Joniškėlis railway station, perform necessary assessments of existing conditions required to start the design and evaluate future impact during construction and operational phase of the existing neighboring, adjacent and interfaced objects/structures (roads, railways, bridges, buildings, etc.).

### The Consultant shall review all Site Investigations, including topographic, geodetic, geology, hydrology, areas contaminated with explosives and hazadous materials (where applicable), environmental, and other studies related to the Main Line and update existing investigations or undertake additional ones (if required) in Annex 6.

### The Consultant shall undertake all necessary Site Investigations, including topographic, geodetic, geology, hydrology, contaminated areas (where applicable), environmental, etc. for Joniškėlis railway station

### The Consultant shall prepare required documentation for compensation for repairing or reinstating third party property (crops, harvest, yield, plants, trees) that occurred during the Investigation stage, see 3.3.13.

### The Consultant shall establish the CP0 level geodetic network according to Design Guidelines.

### The Consultant shall undertake necessary procedures and prepare for timely access to forest areas.

### The Consultant shall assess/investigate existing structures and utilities intersections (including but not limited to high / low voltage electricity lines, general gas pipelines, water supply and sewer, telecommunication lines, oil pipes) and factual technical condition.

### The Consultant shall analyze existing data on archeologic, cultural heritage objects, and implement necessary investigations.

### The Consultant shall analyze existing data and assessments of existing environmental conditions and the expected impact on the environment, environmentally sensitive areas, and implement necessary investigations.

### The Consultant shall obtain all permits, qualification certificates, licenses required to deliver and complete the Services.

### The Consultant shall apply for all Technical Conditions from issuing institutions and Affected parties and implement the received requirements. Including but not limited to high / low voltage electricity lines, general gas pipelines, water supply and sewer, telecommunication lines.

### The Consultant shall comply with the BIM Requirements and shall design in a BIM environment throughout all stages and full duration of the Services.

### The Consultant shall prepare and deliver Design Proposals as detailed in Section 3.4.

### The Consultant shall prepare and deliver the Master Detailed Technical Design in accordance with Rail Baltica Design Guidelines, Operational Plan, SP, EIA, national legislation, TSIs requirements, Technical Conditions, this TS, and any additional Client Requirements.

### The Consultant shall prepare Design parts for cultural heritage objects (Lith. *„Tvarkybos projektas”*) if necessary, as defined in national legislation (refer to Lith. *„Lietuvos Respublikos nekilnojamojo kultūros paveldo apsaugos įstatymas”*).

### The Consultant shall prepare residential or industrial buildings demolition project documentation (Lith. *“Statinio griovimo projektas”* ), in case railway line design requires demolition to be performed by Construction Works contractor.

### The Consultant shall cooperate with all parties involved in the approval process and obtain all necessary approvals (from Client, National Safety Authority, AsBo / NoBo /DeBo, Affected Parties, etc.) which are required during the design process and for providing the Services.

### The Consultant shall present Master Detailed Technical Design for Design Expertise, as required by the Law of the Republic of Lithuania on Construction. The Consultant shall provide answers and implement required changes to Master Detailed Technical Design according to the remarks received to get approval from Design Expertise service provider.

### For a bridge over Mūša in the border of Lithuania /Latvia The Consultant shall present Detailed Technical Design as required by the Law of the Republic of Latvia and Lithuania. The Consultant shall provide answers and implement required changes to Master Detailed Technical Design according to the remarks received to get approval from Design Expertise service provider.

### The Consultant shall define the number of Building Permits and apply for them by ensuring the provision of necessary Design data in accordance with national legislation.

### The Consultant shall successfully obtain the Building Permit (including permits for cultural heritage objects if necessary) in accordance with national legislation by implementing the requirements received from all national institutions involved in the Building Permit acquisition process. This might require multiple attempts/applications which the Consultant shall provide at no extra cost.

### If EIA screening is needed, the Consultant shall prepare, submit and coordinate these documents to the responsible authorities as part of the Services, at no additional cost.

### The Consultant shall carry out all public and stakeholder management activities, consultations and presentations of design solutions.

### The Consultant shall prepare both BoQ and cost expenditure (construction cost estimation) calculations as required by National Legislation.

### The Consultant shall provide Design Supervision Services during the construction in accordance with the national legislation and design compliance requirements set in Section 5.

### The Consultant shall develop plans and strategies for different monitoring systems, including embankment settlement, frost heave, bridge/overpass/viaduct/tunnel and wildlife passages.

### The Consultant shall be responsible for assisting the Client in Procurement activities for Construction Works for all construction objects, by preparing required documentation and participating in question and answers procedures.. Recieved questions from tender shall be answered in 3 working days.

### The Consultant shall ensure best Project management practices (such as PMBOK, IPMA, PRINCE, or similar) are implemented throughout the provision of Services.

## Main Objects

### The Consultant shall design the following main Objects under the scope of the Services and any other parts necessary for the Objects below:

* + - * 1. Earthworks (including non-usable material storage places), embankment, cutting, subgrade, blanket layer (sub-ballast)
        2. Railway superstructure, i.e., railway tracks covering turnouts, ballast, rails, concrete sleepers with fastenings, slab track structures, etc.
        3. Joniškėlis station including all tracks, platforms, other infrastructure and utilities, required for operation of this station
        4. All required lighting solutions and equipment, including their supporting structures
        5. Culverts, groundwater, drainage and storm water management systems
        6. Reconstruction of existing affected land melioration system
        7. Structures, bridges, tunnels (e.g., railway, road, pedestrian, animal etc.), road overpasses (viaducts), railway overpasses (viaducts), wildlife overpasses (eco-ducts), retaining walls, segregated grade pedestrian crossings (including access to station platforms)
        8. Access and maintenance roads along the railway line and for infrastructure objects.
        9. Access roads to a private plot.
        10. Cableways (cable ducts, channels, manholes and under track crossings) for CCS and ENE subsystems (incl. cable channels to the turnout point machines, switch heating systems, axle counters and signals), cableways in entire track area of stations and passenger platforms, cableway connections to the neighboring design sections (incl. Local Facilities) and cableway connections to the land plot reservation areas for CCS and ENE equipment location
        11. Design evacuation structures from platforms. The quantity and location of the structures must be selected according to the "Rail Baltica" design guidelines, NFPA technical regulations, legislation, and other relevant document requirements.
        12. Fences with access gates, escape gates and escape ramps for animals, separation walls, and other relevant structures
        13. Noise barriers and other technical solutions for reduction of noise and vibration
        14. Necessary solutions for safety measures related to the railway protection zone
        15. Landscape design (including planting and replanting of vegetation, greeneries, etc.)
        16. Design for demolition and removal of buildings and other structures (including utilities)
        17. Design for reconstruction and/or relocation of all existing utilities (e.g., gas, oil, electricity main lines, communications,water supply ).
        18. Reconstruction of the existing transportation infrastructure, including intersections, state and local roads, narrow gauge railway and other related infrastructure, as necessary for the implementation of the Project
        19. Temporary buildings, structures, access roads and bypasses required for the implementation of the design solutions.

### The Consultant shall design the following objects at the Conceptual Design level:

* + - * 1. Traction power substations
        2. CCS land plot reservation areas (radiocommunication towers, facilities (including technical rooms or buildings) for CCS equipment, and other objects)
        3. Railway overhead catenary system, including locations of catenary supporting structures (fixing elements shall be integrated into structures)
        4. Technical buildings necessary for the railway operations and maintenance
        5. Adjacent design projects, including those listed in 3.1.13.

### The list of main objects defined in the 2.3.1 and 2.3.2 is indicative and is based on existing studies. It is Consultant’s responsibility to deliver the Services in its full scope thus also defining the exact number of construction objects during the Design implementation needed for the realization of the Project

## Design Priority Sections

### The Design Section subject to the Services has been broken down into the four Design Priority Sections and has been prioritized based on their design process and construction implementation requirements.

### The Design Priority Sections are presented in Table 3 below.

Table 4: Design Priority Sections

|  |  |  |
| --- | --- | --- |
| Id. No. | Priority | Title |
| LT-DS2-DPS2B | I | Berčiūnai - Joniškėlis |
| LT-DS2-DPS3 | II | Joniškėlis – Vaškai |
| LT-DS2-DPS3 | III | Joniškėlis Railway station |
| LT-DS2-DPS4 | IV | Vaškai – LT/LV state border |

### The Client reserves the right to change the number of Design Priority Sections and/or their priority order during Consultant’s provision of the Services, if such change is required due to adjusted financing and / or construction sequencing.

## Construction Objects

### The Consultant shall use the Construction Object list in Table 5 to evaluate his need for the necessary resources and planning. The Consultant shall deliver complete design packages in accordance with national construction legislation for every Construction Object.

### The Consultant shall arrange and split objects into the Construction Objects taking cognizance of the following:

* + - * 1. Lithuanian construction legislation
        2. Financial resources allocation for the implementation of design (construction) activities
        3. Consultant’s experience and best practices of high-speed railway design
        4. Coordination and management of the Services
        5. Ownership of the designed and built structures or other infrastructure solutions
        6. Technical Conditions received from Affected Parties
        7. Environmental Impact Assessment
        8. Alignment with construction staging strategy

### The Consultant shall note that due to the above-mentioned reasons, the final number and list of Construction Objects might change during the Services.

### The Consultant shall evaluate if CO scope should be delivered with a single package or multiple packages within given. And propose these evaluations for a Client to approve.

### The Consultant is responsible to ensure the design solution align between separate COs throughout the DPS and adjacent DPSs. In case the Consultant chooses to deliver certain COs earlier than other, the Consultant takes full responsibility to make corrections at his own cost, if any discrepancies are discovered in the submissions delivered and approved previously.

### The Consultant shall prepare an implementation Programme of design of Construction Object within Design Priority Section and submit it for approval. This implementation Programme shall be updated monthly and included in monthly progress report. The Client may change the priorities for design of Construction Objects.

### The following table shows the indicative list of Construction Objects based on Special Plan solutions which the Consultant shall consider in the development of the Design and consult with the Client regarding any necessary changes identified:

Table 5: List of Construction Objects

|  |  |  |  |
| --- | --- | --- | --- |
| **Design priority section** | **Construction Object Type** | **Construction Objects Description** | **Section range (km)** |
| **Design Priority Section No. 2B**  **Berčiūnai-Joniškėlis (0+000 to 20+700), 114+800 - 135+500** | | | |
| LT-DS2-DPS2B | CO-01 | Railway Track | **0+000 to 20+700** |
| LT-DS2-DPS2B | CO-02 | Roads |  |
| LT-DS2-DPS2B | CO-03 | Land Melioration |  |
| LT-DS2-DPS2B | CO-07 | ESO (electricity distribution networks) |  |
| LT-DS2-DPS2B | CO-08 | Exceptional railway structures (Narrow gauge railway Herritige ) |  |
| LT-DS2-DPS2B | CO-10 | Access Roads |  |
| **Preliminary number of Construction objects in Design Priority Section** | | | |
| Railway Mainline Track - 20.7 km  Railway bridge/viaduct structure (from 30m to 220m length) - 2  Road overpass structures (up to 60m length) - 3  Road overpass structures (more than 60m length) - 2  Road underpass / tunnel structure - 2  Wildlife overpass / green bridge structures - 1  Culvert over 2 m width, structures - 4  Maintenance / service roads - 11.95 km  Noise Barriers (acoustic walls) up to 5m height - 0.21 km  CO02 - State & Local Roads at crossings - 3.74 km  CO03 – Melioration - 365.93 ha  CO07 - ESO - Electricity distribution networks - 2.68 km  CO10 – Access roads – 28.02 km  Pumping Station CO1 - 1 | | | |
| |  |  |  |  | | --- | --- | --- | --- | | **Design priority section** | **Construction Object Type** | **Construction Objects Description** | **Section range (km)** | | | | |
| **Design Priority Section No. 3**  **Joniškėlis-Vaškai (0+000 to 18+539), 135+500 - 154+000** | | | |
| LT-DS2-DPS3 | CO-01 | Railway Track | **0+000 to 18+539** |
| LT-DS2-DPS3 | CO-02 | Roads |  |
| LT-DS2-DPS3 | CO-03 | Land Melioration |  |
| LT-DS2-DPS3 | CO-07 | ESO (electricity distribution networks) |  |
| LT-DS2-DPS3 | CO-08 | Exceptional railway structures (Narrow gauge Railway Heritage) |  |
| LT-DS2-DPS3 | CO-10 | Access Roads |  |
| LT-DS2-DPS3 | CO-11 | Joniškėlis Railway Station |  |
| **Preliminary number of Construction objects in Design Priority Section** | | | |
| Railway Mainline Track - 18.59 km  Railway bridge/viaduct structure (up to 30m) - 2  Railway bridge/viaduct structure (from 30m to 220m length) - 1  Railway bridge/viaduct structure (above 220m length) - 1  Road overpass structures (up to 60m length) - 2  Road overpass structures (more than 60m length) - 2  Road underpass / tunnel structure - 3  Wildlife overpass / green bridge structures - 1  Culvert over 2 m width, structures - 2  Maintenance / service roads - 8.76 km  Noise Barriers (acoustic walls) up to 5m height – 0.63 km  Retaining structures from 1m to 5m height – 0.06 km  Joniškėlis Railway station (without station building)  CO02 - State & Local Roads at crossings – 4,05 km  CO03 – Melioration - 328,63 ha  CO07 - ESO - Electricity distribution networks - 2.67 km  CO10 – Access Roads – 21.89 km | | | |
| |  |  |  |  | | --- | --- | --- | --- | | **Design priority section** | **Construction Object Type** | **Construction Objects Description** | **Section range (km)** | | | | |
| **Design Priority Section No. 4**  **Vaškai-LT/LV state border (0+000 to 14+530), 154+000 - 168+513** | | | |
| LT-DS2-DPS4 | CO-01 | Railway Track | **0+000 to 14+530** |
| LT-DS2-DPS4 | CO-02 | Roads |  |
| LT-DS2-DPS4 | CO-03 | Land Melioration |  |
| LT-DS2-DPS4 | CO-05 | Amber Grid (gas transmission network) |  |
| LT-DS2-DPS4 | CO-07 | ESO (electricity distribution networks) |  |
| LT-DS2-DPS4 | CO-10 | Access Roads |  |
| **Preliminary number of Construction objects in Design Priority Section** | | | |
| Railway Mainline Track - 14.51 km  Railway bridge/viaduct structure (from 30m to 220m length) - 1  Road overpass structures (more than 60m length) - 1  Road underpass / tunnel structure - 2  Wildlife overpass / green bridge structures - 1  Culvert over 2 m width, structures - 8  Maintenance / service roads - 6.53 km  Noise Barriers (acoustic walls) up to 5m height – 0.45 km  Pumping Station C01 – 1  CO02 - State & Local Roads at crossings – 1,02 km  CO03 – Melioration - 256,5 ha  CO05 – Amber Grid – Gas Transition Network reconstruction – 0.37 km  CO07 - ESO - Electricity distribution networks - 2.29 km  CO10 – Access Roads – 21.78 km | | | |

# Design Process and Deliverables

## General Requirements

### The Consultant shall comply with all Rail Baltica Design guidelines, SP, EIA, studies, reports, and other related documents (latest version) as listed in Section 7 until completion of the Services.

### The Consultant shall design the best technically feasible solutions within the limitations of the approved Special Plans.

### The Consultant shall also review the supplementary data provided in Annex 6, evaluate the information provided and consider re-use of the information where applicable for the implementation of Design Services.

### In case the design technical solutions developed by the Consultant cannot fulfil the requirements set out in 3.1.1 and 3.1.2 and the approved Special Plan boundaries must be exceeded, the Consultant shall inform the Client immediately and submit the proposal for Rail Baltica Design Guidelines derogations by completing a form and following the Change Management Procedure set out in the Design Guidelines. The Client will evaluate the request for derogation.

### If a derogation is not granted, the Consultant shall either (i) provide a land acquisition plan consisting of layouts, drawings, cadastral information, explanatory note, cadastral unit markings, boundaries, and surface data of additional land plots, or (ii) an easement (servitude) drawing with landowners’ written consent, which needs to be obtained for all Design elements.

### The Consultant shall submit all requests for Rail Baltica Design Guidelines derogations one month before start of Master Detailed Technical Design stage.

### The Consultant shall not be responsible for the Special Plan amendment / correction and for the land acquisition process procedures. In case these procedures interfere with the provision of Services, the Consultant shall propose a roadmap for proceeding with the project and align it with the Client case by case.

### The Consultant shall obtain “written consents” (Lith. *„rašytiniai sutikimai”*), “permissions” (Lith. *„leidimai”*), approvals (Lith. „*pritarimai”*) other mandatory documents from the owners of bordering land plots, Affected Parties, etc. in accordance with national legislation.

### Considering the requirements of the provisions of the Law on Special Land Use Conditions of the Republic of Lithuania to register protection zones related to the installation or relocation of engineering networks, upon the need to establish and register easements, the Supplier (as needed) will have to prepare the documentation of the related objects for the registration of these easements, organize the signing of notarial contracts according to the authorization( Client will pay compensations ) , organize the registration of land use conditions in the Real Estate Register, and transfer all coordinated documentation to the Client.

### The Consultant shall apply for Affected Party Technical Conditions. If Affected Party Technical Conditions expire during the design process or they expire within two years after the receipt of the Building Permit but prior to Construction, the Consultant shall renew the Technical Conditions at its own cost.

### The Consultant shall (i) inform the Client when the applications for Technical Conditions were made, (ii) inform the Client when the Technical Conditions were received, (iii) ensure that the Technical Conditions are in line with Client’s requirements and (iv) ensure that the Technical Conditions are valid and have not expired and (v) provide copies of the Technical Conditions to the Client.

### The Consultant shall be responsible for the implementation of the requirements of Affected Party Technical Conditions in the design solutions during the provision of the Services.

### The Consultant shall implement, update and transfer the database of Technical Conditions to the Client together with correspondence and any other documents related to Affected Party Technical Conditions.

### The Consultant shall align the railway track design solutions with adjacent design sections or projects by designing at least 1 kilometre of railway track alignment extending outside of the Project boundaries.

### The Consultant shall renew the list of adjacent projects which may interface with this project before starting the Design Services. The Consultant shall align the design solutions (by following Interface Management Process) at the interfaces with adjacent design projects and their technical solutions, preliminary non-exhaustive list is as follows:

* + - * 1. Rail Baltica New 1435mm railway line from Berčiūnai to Joniškėlis (DPS2A)
        2. Rail Baltica New 1435mm railway line Misa – LT/LV border (LV DS4 DPS5)
        3. ENE subsystem
        4. CCS subsystem.

### The Consultant shall prepare demolition project documentation (Lith. “Statinio griovimo projektas” )  for all objects, residential or industrial buildings, and structures required to be demolished and removed. The Consultant shall determine the most suitable CO under which this documentation to be provided ( if required)

### The Consultant shall prepare design documentation for a phased construction approach, indicating construction phased in technical documentation and separating Bills of Quantities for each construction phase.

### The Consultant shall prepare design (including necessary site investigations) for exploitation of mineral material deposits specified in the Special Plan and obtain all necessary approvals and permissions from state institutions for the exploitation of these deposits during the construction phase.

### Consultant investigates potentially contaminated areas and prepares a method for clearing explosives and hazardous materials (applicable during construction)."

### The Consultant shall comply with the EIA and any other environmental requirements throughout the provision of the Services. All Services deliverables must include approvals, permissions from respective responsible environment authorities.

### In case the proposed design solutions do not comply with the EIA, the Consultant shall carry out all additional monitoring, assessments, consultations, investigations, and necessary activities to fulfil the environmental requirements. The Consultant shall prepare the required applications/reports and receive all necessary approvals from the respective responsible environment authorities.

### The Consultant shall design environmental protection measures and perform necessary modelling of noise and vibration, following the requirements set in Rail Baltica Design Guidelines and national legislation.

### The Consultant shall develop all design solutions in BIM, following the BIM Requirements throughout the executions of Services. The Consultant shall ensure that all design deliverables are generated from the BIM model and are submitted only after Clash Detection procedures are performed and all clashes are eliminated for all construction objects within each DPS.

### The Consultant shall ensure that the designed railway chainage km-direction is set as described in Design Guidelines and aligned with Rail Baltica Global chainage nomenclature. For any existing railway reconstruction, the chainage has to be aligned as per the Affected Party requirements.

### The Consultant shall ensure the coordination of provision of the Services with Client, Affected Parties and any other state, private entities, persons involved in the design process.

### The Consultant shall cooperate with the AsBo, the NoBo, the DeBo and Design Expertise to implement their comments and obtain their acceptance for the Design, for details see Section 5.4.

### The Consultant shall prepare construction Cost Estimation as required according to national legislation (based on Comparative economic indicators for the estimated prices of building construction, e.g., „Sistela” or similar).

### The Consultant shall update the Construction Cost estimates in the period of up to two years after receipt of the Building Permit, when price indexes change or the Consultant receives renewed Technical Conditions from the Affected Parties.

### During provision of the Services the Consultant shall prepare all deliverables required to obtain all necessary Building Permits for all the Construction Objects.

### The Consultant shall prepare all necessary deliverables within the deadlines specified in the Agreement and Section 6.3 ‘Project Planning and Programme’.

### The Consultant shall submit these main deliverables (non-exhaustive list) during the provision of the Services:

* + - * 1. Inception report
        2. Investigation’s data and reports
        3. Design proposals (incl. necessary reports)
        4. Building permits
        5. Master Detail Technical Design
        6. Positive expertise and Positive AsBo/NoBo results
        7. Design supervision and reports.

### Approved master-detailed technical Design shall be submitted 1 copy in \*.pdf, \*.jpg format signed with electronic signatures, 1 copy in editable formats (\*.docx, \*.xlsx, \*.dwg, etc.). All layers/surfaces of the Designed railway embankment and superstructure shall also be submitted in .xml format. Railway horizontal and vertical axis with cant shall be provided also in .xml format.

### The Consultant shall be responsible for the correction and resubmission of Design deliverables at his own cost during any stage of provision of the Services if the Design deliverables were rejected due to design mistakes and/or noncompliance with TS, Rail Baltica Design Guidelines, Technical Conditions and other mandatory national construction legislation requirements.

### Upon request, but not more than twice per each Design documentation, the Consultant shall provide a copy of Design documentation for Construction Works procurement without personal data as follows:

* + - * 1. Designers: names, numbers of qualification certificates do not need to be concealed. Phone numbers, email addresses – must be concealed
        2. Surveyors: all personal data must be concealed
        3. Owners of the adjacent plots: all personal data must be concealed
        4. In private bodies approval letters: all personal data must be concealed
        5. In institutional approval letters or tables: all personal data must be concealed
        6. Correspondence with private bodies: all personal data must be concealed.

### The Consultant shall participate in Construction Works tender Questions and Answers process and shall provide answers and comments regarding the designed technical solutions (including the translation to Lithuanian) within 5 (five) days upon receipt of the questions, unless agreed otherwise.This process continosue until the tender winner are choosen.

### The consultant shall ensure that textual and graphical documents comply with Lithuanian Standard LST 1516 “Design of construction works – General requirements”. The Consultant shall provide a list of textual and graphical documents (drawings, sketches, plans, schemes, diagrams, TSCs, etc.), and propose an exact layout of these documents for Services to define the scope of graphical documents and minimum level of detailing. Alternative scales may be offered. The Consultant shall correct/improve/supplement the list and/or minimum level of detailing and obtain Client’s approval.

### The Consultant shall perform interdisciplinary review for all deliverables and shall provide the Client with the evidence of interdisciplinary review completion.

### The Consultant shall provide Design documentation containing information on Consultant’s interdisciplinary review and approval. Each Construction Object and its Design part (e.g., Structural, Electrotechnical, Site plan, etc.) shall be reviewed and verified against each other, and signed by Heads of Design Parts (Discipline Leads) and Project Manager / Head of Design. The Consultant shall include the information required by Lithuanian Standard LST 1516 “Design of construction works – General requirements” into each deliverable submitted by the Consultant.

### The Consultant shall submit all deliverables (reports, models, drawings, documentation, and metadata) using CDE platform, as described in BIM Requirements. All files shall be delivered in: (i) native-editable file format (e.g., MS Word, MS Excel, Autodesk Civil3D, NWC, Primavera P6, etc.) and shall include all styles and external references to allow the Client to fully re-create the drawings when needed, and (ii) non-editable/open file formats (PDF, NWD, XML, IFC).

### The Consultant shall align composition of combined or single PDF files of deliverables and adjust them if needed during the project based on the Client’s requirements.

### In addition, the Consultant shall submit all deliverables to Affected Parties, Design Expertise, AsBo / NoBo / DeBo, etc. based on their individual request, which may require to provide deliverables in hard-copy format, CDs, USB sticks, combined PDFs with size limitations. The Consultant shall engage with the Client and Affected Parties to ensure all necessary native-editable and non-editable files are provided upon submission.

## Inception Report

### The Consultant shall prepare, submit, and present to the Client an Inception Report which must contain the following information:

* + - * 1. Executive Summary
        2. Legal framework – tender documents considered, consultants staff certification, TSIs compliance matrix
        3. Service provision methodology, including Conformity Assessment compliance (AsBo / NoBo, Design Expertise certification and approval processes)
        4. Project Execution Plan, as described in section 6.2.
        5. Detailed description of resource allocation and management structure for full scope of Services (incl. the team of key and non-key experts, administrators, managers, translators, sub-contractors, assisting staff, etc.)
        6. Documentation Management System – narrative indicating the document management plan for any incoming/outgoing communications, deliverables, software
        7. BIM Execution Plan, including TIDP, MIDP according to BIM Requirements
        8. System Engineering Management Plan as described in section 5.2.
        9. Project Planning and Programme Management – for detailed requirement description see section 6.3.
        10. Health and safety plan as per Annex 13
        11. Template for a BoQ for construction works
        12. Geodesy survey programme.

## Investigations

### The Consultant shall carry out all the necessary site investigations/surveys for Joniškėlis train station – inter alia, geodetic and topography, geological, geotechnical and hydro-geology, hydrometeorology, cultural heritage, environmental and any other investigations necessary to obtain authorities/institution approvals in accordance with the applicable national legislation, regulations, standards and other requirements covered in this TS, Design Guidelines and Rail Baltica - Additional requirements for investigations (Annex No. 7 and 9).

### The Consultant shall review provided investigation reports in Annex 6 for a main line from Panevėžys to Lithuanian/Latvian state borders and decide if additional investigations are required in line with the national legislations. If it required, it shall be coordinated and approved by the Client.

### The Consultant shall carry out additional investigation in Main line in Karst region. Preliminary number of boreholes required 18 pcs. In depth from 25 to 50 m.

### The Consultant shall prepare investigation plans within 4 weeks after receiving Notice to Commence.

### The Consultant shall obtain all the necessary and applicable permissions (from the Client, state authorities and others) to carry out the respective site investigations and prepare a report for each investigation after completion of such investigation.

### Geotechnical Investigations shall consist of following stages:

* + - * 1. 1st stage Initial Phase – required as pre-requisite to start the Design Proposals stage, unless otherwise agreed with the Client. The Consultant shall submit a Factual Report, which shall include a factual account of all field and laboratory investigations as described in EN 1997-2 clause 6.2. The results of these investigations shall be presented and reported according to the requirements defined in the EN and/or ISO standards applied in the investigations.
        2. 1st stage Remaining Phase – required as pre-requisite to start the Master Detailed Technical Design stage, unless otherwise agreed with the Client. The Consultant shall submit a GIR, which, in addition to the information provided in the Factual Report, consists of a geotechnical evaluation of the information listing the assumptions made for the interpretation of the test results. The results of a geotechnical investigation shall be compiled in the GIR according to provisions of Section 6 of EN1997-2.
        3. 2nd stage investigations – any additional investigations and monitoring which were proposed and justified at GIR stage shall be carried out. The Consultant shall produce a detailed programme for further investigations and align it with the Client.

### The Consultant shall submit the Geological Design Report (GDR) together with Master Detailed Technical Design submission.

### The Consultant shall provide a geotechnical risk register as part of the GDR where the risks associated with design, ground conditions for construction and in the operational phase are assessed. Based on the identified risks the Consultant shall propose suitable and mitigation measures and a suitable monitoring plan as per EN1997-1 sub-section 12.7.

### The Consultant shall prepare a methodology and a plan for the CP0 level geodetic network set-up. The Client shall approve the plan and proposed locations for installing control point with coordinates, according to the requirements for Geodetic network establishment for Design Stage of Rail Baltica highspeed railway set in DG and national legislation.

### The Consultant shall set up the geodetic control points in the locations approved by the Client. The Consultant shall obtain all necessary permissions from private or public landowners to install said control points. In case there is a need to relocate any type of existing geodetic marker the Consultant shall perform such service as part of the Design Services agreement. This applies to newly installed geodetic markers, which are situated under an embankment when design is complete and prior to the start of construction.

### The Consultant shall prepare topographical surveys in accordance with national legislation and DG. The topographical survey report shall contain CP0 network benchmark locations and all additional control points used for performing the survey, either for conventional methods or aerial mapping and LiDAR.

### The Consultant shall prepare a terrain model to be used as basis for the design using data from topographical survey.

### The Consultant shall regularly update the topographical survey as required by national legislation or as required by the affected parties throughout the duration of the Services.

### The Consultant shall submit a Geodesy network report and levelling report for Client’s approval, containing at minimum:

* + - * 1. Raw data from GNSS receivers, in Rinex format
        2. Loop closures and adjustment reports from the GNSS baselines postprocessing
        3. Error ellipsis plan view
        4. Baselines plan view
        5. Table with Easting, Northing, Latitude, Longitude, coordinates
        6. Raw data from the digital levels
        7. Planview of the levelling traverses and names of control points
        8. Double - run line misclosures from CP to CP
        9. Levelling line misclosures to Constraint State or connecting project’s benchmarks
        10. Levelling line in a spreadsheet format (e.g., MS Excel)
        11. Levelling lines adjustment reports
        12. Table with Control Points and elevations
        13. Concluding chapter with the concept of network measuring and connection to the neighboring projects, findings and solutions propose or provided, as well as an annex with one page per control point containing as a minimum: an image of the control point and its surroundings, type and name of control point, sketch of location, all sets of coordinates and the date of measurement
        14. Calibration certificates for the equipment used

### In case tree logging works are required for performing the Services, for example for investigations, the Consultant shall be responsible for:

* + - * 1. preparing all mandatory documents, performing all mandatory procedures, (including obtaining all required approvals and permissions) where logging or other cutting of existing trees, protected trees and shrubs is needed to perform the Services.
        2. obtaining consents from owners (where required) or persons in disposition of land plots where logging needs to take place and applying on their behalf for the logging permit to the territorial subdivision of the Lithuanian State Forest Service under the Ministry of Environment of the Republic of Lithuania (Lith. *„Valstybinė miškų tarnyba prie Lietuvos Respublikos aplinkos ministerijos”*), municipality, or any other institution that may require a permit for tree logging works to be obtained.
        3. bearing all costs associated with performing tree logging activities, including but not limited to marking of the trees to be cut, cutting, storage and transportation of cut timber, repairing or reinstating the forest track affected by these activities (where required) or any other tree logging activity that might be required by the applicable legislation and the issued permits.

### Consultant shall have right to access land for investigations. Preparation and provision of all documentation, informing/requesting the landowners to allow accessing land for investigations will be Consultant’s responsibility. In case the Consultant’s activities require repair or reinstatement to third party property (crops, harvest, yield, plants, trees), the Consultant shall prepare the required documentation for compensation for repair or reinstatement of the property in accordance with Article 4, paragraph 2, clause 2 of the Law of the Republic of Lithuania on the Land Acquisition for Public Needs in the Implementation of Projects of Particular State Importance. The documentation shall be prepared on behalf of Client and Client shall pay the compensations.

### Where reconstruction and/or major repair of an existing structure, building or utility is required, the Consultant shall perform a technical condition assessment of it in accordance with the Technical Construction Regulations STR 1.04.04:2017 and STR 1.03.01:2016.

### The Consultant shall obtain hydrometeorological information from the Lithuanian Hydrometeorological Service under the Ministry of Environment.

### In case the design requires interaction with cultural heritage objects or design solutions intervene with cultural heritage protection zones, the Consultant shall prepare a project part for cultural heritage objects (Lith. *„Tvarkybos projektas”*) and prepare all necessary archaeologic investigation as required by legislation.

## Design Proposals

### The Design Proposal stage corresponds to the Project Proposal stage (Lith. *„Projektiniai pasiūlymai”*) as described in Technical Construction Regulation STR. 1.04.04:2017 („*Statinio projektavimas, projekto eksperti*zė“).

### Design proposals are a basis for obtaining the building permit as described in STR 1.05.01:2017 ( *“Statybą leidžiančio dokumento išdavimas”*) Consultant shall prepare Design Proposals for all Construction Objects (Which requires a Building permits) and the deliverables of project parts according to and as designated by the Technical Construction Regulation STR. 1.04.04:2017 and other relevant Technical Construction Regulations, national standards, etc.

### The Consultant shall review Design proposals in Annex 6 for a Main Line. And make amendments to them so required building permits are received.

### The Consultant shall prepare the mandatory documents ‘Task for preparation of design proposals’ (Lith. „*Projektinių pasiūlymų rengimo užduotis*”) and present them to the Client for review and approval.

### Consultant shall carry out all necessary tasks and procedures to obtain approvals from the affected municipalities for his Design proposals. This step shall also include obtaining approvals from utilities (under and overground) managers and/or operators where applicable.

### Where design solutions require interaction with cultural heritage objects, the Consultant shall provide Design proposals to the National Cultural Heritage Department for assessment and shall obtain their Technical Conditions for the Design.

### The Consultant shall apply best engineering practice to optimize the design solutions and achieve best value for money throughout the railway lifecycle by ensuring safety, railway system capacity, operational efficiency, reliability, and flexibility, social, economic, environmental as well as any other relevant objectives. The Consultant shall investigate and propose best technical solutions without compromising SP (including EIA) and DG requirements.

### The Consultant shall ensure that each hydrological design solution is based on sufficient hydrological and hydraulic calculations. Design options shall consider hydrological constraints that are present in the Design Section.

### The Consultant shall ensure that Design Proposals composition corresponds to requirements set in STR. 1.04.04:2017 („*Statinio projektavimas, projekto ekspertizė*“) and contains at least the following:

* + - * 1. Design Proposal report (introduction, general requirements, constrains, geotechnical conditions, overview of alternatives, multicriteria analysis, criteria description, conclusion and recommendation for chosen alternative, etc.)
        2. Drawings for all alternatives (plans, horizontal and vertical alignment, cross-sections, elevation views, etc.)
        3. Preliminary BoQ for Construction Works.

### The Consultant shall prepare a 3D model for the chosen Design Proposal composition option according to DG BIM Requirements. The Consultant shall refer to the ‘Value Engineering’ stage for LOD.

### The reports of Design Proposals shall be prepared in consultation with the Client, where required also with relevant Affected Parties and approved by the Client.

### The approved Design Proposals shall be used for obtaining the building permit. And as a basis for further development and preparation of the Master Detailed Technical Design.

## Acquisition of Building Permits

### The Consultant shall submit the Design proposals for interim reviews to the Client and Affected Parties prior to applying for the l Building Permit.

### The Consultant shall carry out all necessary activities at its own cost to obtain necessary Building Permits for all Construction Objects according to the national construction legislation.

### The Consultant shall be responsible for the applications to receive the Building Permits and provision of necessary information. The Consultant is obliged to consider all the comments and remarks issued by the relevant authorities during the building permit review process. Implementation of changes to the design solutions according to the comments and remarks must be agreed prior to with the Client.

## Master Detailed Technical Design

### The Consultant shall prepare Master Detailed Technical Design (Lith. *„Techninis darbo projektas”*) for all Construction Objects as designated in Construction Technical Regulations STR 1.04.04:2017.

### Master Detailed Technical Design shall consist of all necessary parts worked out to the level, that Client can start Construction works, organize their procurement.

### The Consultant shall prepare mandatory document(-s) e.g. technical task (-s) (Lith. *„Techninė užduotis“*) for every construction object and present them for Client’s revision and approval.

### The Consultant shall develop Master Detailed Technical Design as a single stage project “Master - Detailed Technical Design” for all COs if Law of the Republic of Lithuania on Construction and Construction Technical Regulations permit it. The Consultant shall change the project type and provide all additional project parts and documentation if a need for change in type arises during the whole Design process to ensure building permit is acquired. Indicative list of MD project types is provided below, the Consultant shall review and adjust it:

Table 6: Indicative list of MDTD project types

|  |  |  |
| --- | --- | --- |
| CO No. | Description | Master Detailed Technical Design Project Type |
| CO-01 | Railway Track | Techninis darbo projektas / Master - detailed technical design |
| CO-02 | Roads | Techninis darbo projektas / Master - detailed technical design |
| CO-03 | Land Melioration | Techninis darbo projektas / Master - detailed technical design |
| CO-05 | Amber Grid (main gas pipeline network) | Techninis darbo projektas / Master - detailed technical design |
| CO-07 | ESO (electricity distribution networks) | Kilnojamųjų elektros energetikos objektų ir įrenginių įrengimo projektas /  Installation project of movable electricity objects and equipment |
| CO-08 | Exceptional railway structures | Techninis darbo projektas / Master - detailed technical design |
| CO-10 | Access Roads | Techninis darbo projektas / Master - detailed technical design |

### In case of reconstruction or major repair of the existing structures/buildings, with reference to Construction Technical Regulation STR 1.04.04:2017, General Part (Lith. *„Bendroji dalis”*) of Master Detailed Technical Design shall contain a copy of performed technical conditions assessment report (Lith. *„Esamų statinių tyrimų ataskaita”*) as an annex. Requirements for existing structures conditions assessment are defined by Construction Technical Regulation STR 1.03.01:2016.

### The Consultant shall provide any additional graphic materials/documents or other information if it is necessary to do according to requirements of approving authorities, AsBo / NoBo, Design Expertise, etc.

### The Consultant shall consider the loads of all elements, regardless of their level of detail in Master - detailed technical design as well as relevant construction phases, methods, and equipment, when executing structural calculations and verifications. All bridges, overpasses, wildlife underpasses and overpasses (eco-ducts), tunnels, culverts, segregated grade crossings, pedestrian crossings between platforms, railway substructure and superstructure shall be designed with the consideration and calculations of all the impacts and all the loads. The design solutions shall include the locations for lighting poles, noise barriers, retaining walls, landscaping and catenary supporting structures, signals, and other objects.

### For Structural Part development the Consultant shall use load cases as per EN 1991-2 clause 6.5.3. part (9) requirements and LST EN 1991-2:2004/NA:2012 requirements, the traction and braking loads shall be considered as per EN 1991-2 clause 6.5.3 part (2) requirements in full scope (100 % + 100 %) on both tracks.

### The Consultant shall design eco-ducts according to Eurocodes, EIA, National legislation, and DG. If requirements are missing, then the minimum requirements are the following:

* + - * 1. If planned traffic is missing, then minimum calculated vehicle load should be 600 kN (for emergency situation) and axle load 150 kN
        2. If local traffic will pass wildlife overpasses (eco-duct) then calculated vehicle load should be 1200 kN, and axle load 150 kN
        3. Wildlife overpasses (Eco-duct) calculated lifetime should be 100 years.

### The Consultant shall design the solutions, that impose lowest possible negative impact on the capacity as well as operation of the existing railway infrastructure during and after the construction. The Consultant shall develop and align construction sequence and phasing to ensure continuous operations of any existing infrastructure. The design solutions (as well as construction technology solutions) influencing the capacity of any public infrastructure shall be aligned with the corresponding Affected parties and Client.

### The Consultant shall undertake Electro-Magnetic Compatibility analysis for overhead high voltage crossings with railway and/or parallel to railway (joint corridor).

### The Consultant shall design technical solutions for the section of Rail Baltica infrastructure, drawings, and cross-sections for the railway line, relevant stations and civil structures, including but not limited to:

* + - * 1. Schematic track layout for the railway line including main track and side-tracks, station areas, passing loops, crossovers, etc.
        2. Railway line layout (horizontal alignment) (scale 1:1000) with related ditches, roads, utilities, other structures/buildings placement and planned railway tracks.
        3. Railway line longitudinal profiles (vertical alignment) (vertical scale 1:200, horizontal scale 1:5000) combined with railway line layout (scale 1:5000) on orthophoto, including structures, switches, crossings, platforms with level data, utilities, culverts, ditches and geological, hydrogeological data and calculated groundwater and highest water level data.
        4. Cross-sections (scale 1:100) every 100m on the railway mainline and at unique locations including superstructure, substructure, platforms with level data, land plot boundaries, drainage structures, ditches, typical cableway connections to land plot reservation areas for CCS and ENE equipment, typical undertrack crossings with ducts, etc. and geological, hydrogeological data and calculated groundwater and highest water level data.
        5. Diagram of design speed permitted according to alignment parameters.
        6. Railway civil structure part: bridges with catenary fixing elements, grounding and signalling and catenary cable channels, crossings, showing overview plan, cross-section and elevation, indicating the length of spans, used materials and dimensions of bearing structures.
        7. Layouts of the forestation plans and landscaping design (including new greeneries implementation).
        8. Any additional drawings and documents according to national legislation.

### The Consultant shall submit track alignment data (track number, DPS chainage start and end, global chainage start and end, alignment element type, length of element, coordinates of start and end of element, radius, cant, slope, design speed, gauge type) in spreadsheet format as per template provided by the Client.

### The Consultant shall ensure that all existing utilities and their connections are shown in the design with information of the owner of each specific utility. Protective measures shall be designed if required by Affected party.

### The Consultant shall carry out accredited laboratory tests for the quality check of mineral materials (in accordance with the requirements in Design Guidelines) from local quarries to be used in substructures.

* + - * 1. Cross-sections (scale 1:100) every 100m on the railway mainline and at unique locations including superstructure, substructure, platforms with level data, land plot boundaries, drainage structures, ditches, typical cableway connections to land plot reservation areas for CCS and ENE equipment, typical undertrack crossings with ducts, etc. and geological, hydrogeological data and calculated groundwater and highest water level data.

### All elements designed in 2.3.2 must remain in design drawings and 3D models throughout the project cycle for future reference.

### The Consultant shall be provided with CCS/ENE Engineer requirements by the Client. During Master Detailed Technical Design stage, the Consultant shall coordinate the development of solutions directly with the CCS/ENE Engineer (or CCS/ENE Contractors after these are contracted).

### The Consultant shall ensure that all materials listed in Annex 8 (Consolidated Materials Supply List) have their supply and installation quantities separated in BoQs and Cost Estimation Part for Master Detailed Technical Design Documentation.

### The Consultant shall follow requirement for materials specifications listed as references within Annex 8, these requirements supplement Design Guidelines and provide more detail for all the materials listed in Annex 8.

### The Consultant shall propose the Client best suitable locations for material storage sites during Master Detailed Technical Design stage. The Consultant shall align the suitability of proposed locations with the Client prior submission of Master Detailed Technical Design deliverables.

### The Consultant shall prepare the BoQ following national legislation and requirements for mainline railway track related objects set out in Annex 11. The Client shall provide BoQ master table, the Consultant shall use the table and codification in it to produce BoQ and TSCs for construction works/materials..

### The Consultant shall prepare TSCs as a part of Master Detailed Technical Design documentation according to national legislation, and requirements for mainline railway track related objects set by the Client in Annex 11. The Consultant shall follow the principles set in the provided reference and align with the Client if deviations from it is needed.

### The Consultant shall develop Construction Work Organisation Part (Lith. “Pasirengimo statybai ir statybos darbų organizavimo dalis“) as required by STR 1.04.04:2017 for every CO. Once COs within the DPS are designed, the Consultant shall prepare a combined Construction Work Organisation Part for all construction works needed to build the entire DPS. The Consultant shall submit a combined Construction Work Organisation Part together with a final deliverable of a DPS.

### The Consultant shall prepare the necessary documentation (drawings / plans and confirmations from landowners) needed for easement registration and provide this documentation to the Client. The Client shall organize further procedures to set and register easements.

### The Consultant shall produce maintenance manuals for all the Construction objects as a part of Master Detailed Technical Design, following examples provided by the Client in Annex 20, and shall include, but not be limited to:

* + - * 1. the requirements for maintaining the designed infrastructure objects to ensure their effective and safe operation,
        2. set of values for immediate action limits, intervention limits and alert limits,
        3. measures to be taken to mitigate the risk not to meet prescribed limits and prevent occurrence of defects (e.g., speed/operation restriction, reaction time for repair).

### The Consultant shall develop Rail Baltica Railway maintenance manual which describes the maintenance activities which are considered necessary to carry out the maintenance works of the line referring to civil works and track works. The Consultant shall use the “Manual Railway Infrastructure Maintenance (Civil Works, Track)” (RBDL-SOD-ZZ-ZZ-OAM-R-00002) provided by the Client in Annex 20. The key focus areas included but not limited are as follows:

* + - * 1. the system safety and its availability regarding to civil works and track works and to
        2. minimize operating costs
        3. configuring the system to facilitate its operation
        4. and providing all procedures necessary for safe, reliable, and efficient operations.

### The Consultant shall provide dedicated maintenance manuals for specific point objects. The Consultant shall note, that provided “Manual Railway Infrastructure Maintenance (Civil Works, Track)” is a draft document and shall be used when developing the maintenance manual, either by improving current document or working on sections not covered (as indicated in Annex 20, Appendix I).

### The Consultant shall prepare the visualizations for every Design priority section of final MD solutions. The Consultant shall follow the requirements for visualization set in section 3.4.15.

### The Consultant shall develop monitoring plans and strategies and align them with the Client. The plans and strategies shall include, but not be limited to the following:

* + - * 1. General monitoring strategy
        2. Monitoring plans for structures (Installation of the sensors, control points, cabling, control system, etc.; Monitoring programme; TSCs)
        3. If needed, Electronic communications (Telecommunications) section shall be prepared as part of the project as described in Building Technical Regulation, STR. 1.04.04:2017 *„Statinio projektavimas, projekto ekspertizė“*.
        4. If needed, additional elements shall be designed to protect monitoring sensors

### The Consultant shall prepare an environmental monitoring programme for the construction and operation of the railway line in accordance with the EIA and applicable legislation. The Consultant shall obtain all necessary approvals and permits if necessary.

## Design Supervision Services

### Design Supervision services correspond to Design Implementation Supervision (Lith. *„Projekto vykdymo priežiūra“*) as described in STR. 1.06.01:2016 *„Statybos darbai. Statinio statybos priežiūra“*. The Consultant is not obliged to perform Construction technical supervision (Lith. *„Statybos techninė priežiūra“*) as described in the same STR.

### The Consultant shall appoint Design supervision manager (Lith. *„Statinio projekto vykdymo priežiūros vadovas“*) and Design supervision managers for specific discipline (Lith. *„Statinio projekto dalies vykdymo priežiūros vadovas“*) to ensure thorough Design supervision. Design supervision manager shall represent and coordinate Design supervision team and shall carry out the Design Supervision Services for all sections / construction objects in accordance with national construction legislation. The Design Supervision Services shall also include supervision of cultural heritage objects’ design (reconstruction/restoration) implementation in accordance with national legislation if necessary.

### The Consultant is responsible for construction site visits according to the Programme of the Design Supervision Services (The minimum amount of the times the DSS should be on site are 4 times) , to ensure that construction works are implemented according to the Design. Each discrepancy detected during site visit must be noted in Construction Works Logbook (Lith. *„Statybos darbų žurnalas”*) and in monthly reports.

### The Consultant shall attend construction work consultations and construction site meetings at the time agreed upon with the Client representatives (but no later than 24 hours after request). The Consultant shall ensure, that meetings are attended by specialists requested by the Client or the Works Contractor according to implemented construction activities. There shall be weekly Construction site visits / meetings organized.

### The Consultant shall inform the Client immediately if the construction works deviate from the Design. The Consultant shall exercise their best efforts to ensure that the deviations are resolved without a delay.

### The Consultant shall check building structures, technological and other equipment, construction products and materials compliance with the Master Detailed Technical Design. The Consultant shall inform the Client of any non-compliance found and, if necessary, provide additional instructions.

### The Consultant shall carry out all Master Detailed Technical Design modifications / corrections / additional detailing required during the construction works phase and if mistakes, flaws, nonconformities in Master Detailed Technical Design are detected. When such cases arise, the Consultant shall immediately inform the Client in writing and shall carry out changes / corrections to the Design at its own expenses and without Agreement extension.

### The Consultant shall acquire necessary approval of the Client and/or any Affected party, AsBo / NoBo, Design Expertise, building authorities, project supervisor (if applicable) for all changes done to Master Detailed Technical Design. The Consultant shall propose and agree the modification procedure with the Client to ensure Construction works can proceed in a fastest possible way.

### The Consultant shall ensure conformity with the MDTD during commissioning of completed construction works within the scope of the DSS. The Consultant shall ensure that the Design and DSS documentation correlate to the as-built reality on site.

### The Consultant shall provide the Design supervision monthly reports to the Client. The Consultant shall coordinate with the Client all the decisions during the Design Supervision Services provision prior to communicating them to any other party. The Consultant shall agree with the Client the approval process for variation orders received during the construction process and design supervision services.

### The Consultant shall submit a written report on the content, volume, delivery time and Services provided to the Client once per month. Report should include Design supervision information such as: Service scope, Consultant's staff, service schedule, key achievements in period, routine inspections information, variations, relevant issues, related correspondence overview, etc.

### The Consultant shall provide hourly rates for Design supervision services so the Client can order the additional services if required.

### The Client reserves the right to ask the Consultant to provide evidence that during the Provision of DSS System Engineering management plans were implemented and that the built Railway infrastructure conforms to RAMS requirements.

### The Consultant is obliged to transfer the documents obtained or provided during provision of the Services to the Client within 20 (twenty) days after the necessity to work with the documents has expired.

# Client’s Review and Approval Process

## Means of Verifications

### The Consultant shall receive approvals from the Affected parties for all Services including all Project parts for all Construction objects.

### The Consultant shall ensure Approvals are received before the milestone dates of every single stage of Services.

### The Consultant shall consider that multiple submissions may be required in case provided documents are of low quality or missing required information. The Consultant shall ensure that final submissions are delivered on milestone dates.

### The Consultant shall submit a Compliance Report for all the deliverables submitted for Client’s review and approval. The Compliance Report can be filled in as part of comment response sheet or in another format if agreed with Client.

### The Consultant shall use comment response sheets to close any outstanding comments, all the subsequent submissions shall clearly identify all changes that were made to the documents during update process. The consultant shall indicate references to drawing, document, page and changes made, any removal or addition made in the updated version.

### The Client may conditionally accept the documents and deliverables with comments to resolved by the Consultant within the next stage deliverable submission. The consultant shall resolve all previously conditionally accepted non-compliances before the final submission of Master Detailed Technical Design can be accepted.

### Table below summarizes the means of verifications of final deliverables:

Table 7: Means of Verification

|  |  |
| --- | --- |
| Design Service | Means of Verification |
| Inception report | The Client receives final version of Inception report and approves it. Delivery & acceptance certificate signed by Client |
| Investigations: Geodetic, topography | Submission of Geodetic, Topographic Investigations Report approved by Client. Delivery & acceptance certificate signed by Client |
| Investigations: Geological, geotechnical | Submissions of Factual report and GIR approved by the Client. Delivery & acceptance certificate signed by Client. |
| Investigations: Other | Hydrogeology, hydrometeorology, cultural heritage, all any other. Final report of Investigations is approved by the Client. Delivery & acceptance certificate signed by Client. |
| Design Proposals | Design Proposals approved by Client & Municipality (on TPS). Delivery & acceptance certificate signed by Client. |
| Building Permit issued | Building permits and Final version of MD submission to the Client. Delivery & acceptance certificate signed by Client. |
| Master Detailed Technical Design | MDTD approved by Affected parties, conformity assessment bodies, Design expertise and the Client. Delivery & acceptance certificate signed by Client. |
| Design Supervision | Completed Services Percentage Reports in line with Construction Works completion percentages shall be submitted to the Client. Upon confirmation of the percentage the Client will sign partial Delivery & acceptance certificate. |

## RACI Matrix

### The responsibility matrix below provides overview of involved parties and its responsibilities:

Table 8: RACI Matrix

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity | Consultant | RB Rail AS | AB „LTG Infra” | ENE Engineer/  Contractor | CCS Engineer/  Contractor | Shadow Operator | AsBo, NoBo | Design Expertise | TPS |
| Inception Report | R | I | A |  |  |  |  |  |  |
| Investigations | R | I | A | I | I |  |  |  |  |
| Design Proposals | R | C | A/C | I | I | I |  |  | A |
| Building Permit | R | I | A/C | I | I |  |  |  | A |
| Master Detailed Technical Design | R | C | A/C | C | C | I | C | A |  |
| Design Supervision | R | I | A/C | I | I | I | C | A | C |

R: Responsible for producing process outputs

A: Approves process outputs

C: Contributes to production of process outputs

I: Informed of content of process outputs

## Inception Report

### The Consultant shall submit Inception Report for Client to review. After receiving the provided deliverable Client will carry out the review in a period of up to 10 (ten) days.

### If submission is incomplete, the Consultant shall correct any inconsistencies or provide missing information within 10 (ten) days. The Consultant shall be responsible at its own cost for the correction and resubmission of Inception Report.

### The Client will approve inception report after final document version is aligned.

## Investigations

### The Consultant shall present permissions to execute Investigations as required by National legislation and approvals from the Affected parties for all Site Investigation services.

### The Consultant shall submit Topographical surveys, aligned according to National legislation. The Client shall approve the report.

### For a Main Line consultant shall update Topographical surveys,according to national legislations.

### The Consultant shall submit Geodesy network report and levelling report to the Client. The Client shall approve the reports.

### For Initial Geology investigation phase, the Consultant shall submit a Factual Report for Client Review. The Client shall review the information in 10 (ten) days.

### For Remaining Geology investigation phase, the Consultant shall submit a Ground Investigation Report GIR for Client Review. The Client shall review the information in 20 (twenty) days.

### If submission is incomplete, the Consultant shall correct any inconsistencies or provide missing information within 10 (ten) days.

### The Consultant shall submit the Geological Design Report GDR together with Master Detailed Technical Design submission. Review and re-submission as per reference.

### The Consultant shall submit Hydrometeorological Investigation Report together with Master Detailed Technical Design submission.

## Design Proposals

### The Consultant shall submit Design Proposals for Client to review:

* + - * 1. Administrative review. After receiving of the provided deliverable, the Client will carry out administrative review in a period of up to 10 (ten) days. The aim of the administrative review is to check whether the deliverable provided is sufficient to proceed with technical review. If submission is incomplete, Client shall request resubmission of the deliverable in full scope.
        2. Technical review. After Administrative review is passed, the Client together with Beneficiary representatives will prepare the technical review report in a period of up to 35 (thirty-five) days.

### In case technical review report rejects the deliverable, the Consultant shall submit new Design Proposals Revision in 20 (twenty) days with all the comments and discrepancies resolved.

### Once the final version of the Design Proposals has been approved through both Administrative and Technical reviews by the Client, the Consultant shall organize and execute all necessary steps to obtain the building permit.

### The Design Proposals stage shall be considered completed once the building permit are recieved.

## Master Detailed Technical Design

### The Consultant shall submit deliverables of the MDTD to the Client for review. In order to meet deadlines set in the Programme and close out all comments, the Consultant shall plan intermediate submissions following the proposed initial Programme (or propose alternative Programme in Inception report):

* + - * 1. Submission 6 months prior to deadline – Interim design report
        2. Submission 3 months prior to deadline – for alignment of open comments
        3. Final submission on deadline.

### The Consultant shall provide Interim design report 6 (six) months prior to final MD deliverable, consisting of the following information and deliverables:

* + - * 1. Updated PEP: including any changes that may have occurred since the Design Proposals stage.
        2. Site Investigations and Assessments: The report should include a summary of completed 1st stage remaining phase site investigations. This should include key information on soil conditions, site topography (including CP0 markers), and other site-specific factors that may affect the project design and updated status of 2nd stage investigations that are remaining for MD completion.
        3. Affected Party conditions received: a list of Affected Party conditions for design and actual copies of the conditions. The list shall include information on dates, when the conditions were requested, were received, and their expiration date.
        4. Requirements Management Plan aligned with the Client.
        5. Design solutions: the Consultant shall provide final design alternative, developed on a basis of approved Design Proposals stage, including detailed engineering analyses and calculations to support the design decisions made since Design Proposals stage. This should include structural, geotechnical, and hydraulic analyses, as well as environmental impact assessments.
        6. Updated Design Drawings: The report should include updated design drawings made since Design Proposals stage, including site plans, horizontal and vertical alignments, cross-sections, structural drawings and details
        7. Federated BIM model: The Consultant shall provide a federated BIM model as part of Interim design report submission. The Federated BIM model shall include all CO’s designed at LOD level agreed in BEP. Clash detection shall be performed in federated BIM model.
        8. Project Cost Estimates: The report should provide updated cost estimates for the project, based on design solutions. This should include detailed cost breakdowns for all major elements of the project.

### The Consultant shall submit Master Detailed Technical Design deliverables for Client to review:

* + - * 1. Administrative review. After receiving of the provided deliverable, the Client will carry out administrative review in a period of up to 10 (ten) days. The aim of the administrative review is to check whether the deliverable provided is complete. If submission is incomplete, Client shall request resubmission of the deliverable in full scope.
        2. Technical review. After Administrative review is passed, the Client together with Beneficiary representatives will prepare the technical review report in a period of up to 35 (thirty-five) days.

### In case technical review report rejects the deliverable, the Consultant shall submit new MDTD Revision in 20 (twenty) days with all the comments and discrepancies resolved.

### The Client shall organize Design Expertise and AsBo / NoBo assessments for submitted Master Detailed Technical Design deliverable. The Client is responsible for supply of 2 iterations of Design Expertise reviews and 2 iterations of AsBo / NoBo assessments. If two iterations are not sufficient to obtain positive conclusion, the Consultant shall cover the costs for any additional Design Expertise review services or AsBo / NoBo assessment services supplied until the Consultant receives a positive Conclusion.

### The Consultant shall organize Design Review Coordination Meetings, as set in Section 6.9.

### When all Approvals from Affected parties, Expertise, AsBo / NoBo and the Client are received, the Consultant shall get the Builders approval (Lith. *„Statytojo Tvirtinimas”*).

## Design Supervision Services

### The Consultant shall submit monthly reports and draft Services Delivery & acceptance certificate with the percentage of Services completed aligned with actual Construction works completion percentages.

### The Client shall evaluate the presented percentages and shall sign the Services Delivery & acceptance certificate or reject if percentages do not align.

# Design Compliance Requirements

## Building Information Modelling (BIM)

### Client’s BIM requirements with all additional documents (templates etc.) are outlined in Design Guidelines. The Consultant shall follow these documents throughout all Design process.

### BIM requirements shall apply to full scope of Services, including all technical disciplines that are included in the Consultant’s design scope (including stakeholders’ utilities affected).

### The Consultant shall follow BIM Requirements and use the Templates set in Design guidelines to prepare BIM documents and related deliverables. See Annex 1 for more details.

### During the Design Proposal stage, the Consultant shall follow BIM Requirements designated for Value Engineering in all BIM related documents and guidelines.

### The Consultant shall use Master Bills of Quantities table when creating metadata for quantity take off for all models generated, see Section 3.5.17 for more details.

### The CDE and the whole document management system shall be hosted by the Client. The Client shall provide a limited number of licenses for the access to CDE.

### As part of Inception Report (see section 3.2.1), the Consultant shall prepare and provide for Client’s approval a full BEP with TIDP, MIDP according to the BIM Requirements. As a minimum, but not limited to, BEP shall also contain following information:

* + - * 1. Organizational Roles and Staffing
        2. Modelling and clash test tolerances
        3. Coordinate system and models’ alignment rules and procedures
        4. Model partitioning principles and interfaces
        5. Rules on nomenclature of file names
        6. Collaboration Plan and Quality Control
        7. All Quantity Take-offs and Extractions
        8. Updated Objects Attribute Matrix
        9. CDE usage for the design deliverable submission
        10. Level of Detail (LOD) - Level of Geometry (LOG) and Level of Information (LOI) – for Conceptual Design, Master Detailed Technical Design stage
        11. 3D model details – for Conceptual Design, Master Design stages and Detail Technical Design Stage
        12. Assemblies of the structure models.

### All changes, clarifications or amendments shall be represented and updated in BEP during the execution of the Services. Any deviations or changes in the BEP, if those are recommended or necessary, shall be permitted only after Client’s approval.

### The Consultant shall follow all CAD standards set in Design Guidelines and BIM Requirements. These CAD Standards define minimum standards and requirements for the drawings:

* + - * 1. Drawing and Model referencing procedures
        2. Exchange and revision procedures
        3. Line-types
        4. Text and Dimensioning
        5. Annotations
        6. Layers/Levels
        7. Drawing Templates.

### The Consultant shall provide native-editable and \*.IFC 3D models according to DG BIM EIR listed requirements. Native-editable model files shall be delivered with all their parent component library files. Native-editable models shall be delivered as editable format for further model development and upgrades. Native-editable files and their component library will be the Clients property when it will be delivered in the Clients' CDE.

### The Consultant shall include all 3D reference models of technical disciplines which are directly interfering and are needed for spatial coordination of the models but are beyond the Consultant’s design scope in Master Detailed Technical Design design deliverables. Such reference models may be provided in LOD (LoG and LoI as per EIR definitions) which is lower than specified by the Rail Baltica Design Guidelines.

### In case LoG (Level of Geometric detail) definitions of the Design Guidelines are unclear the Consultant shall seek for clarification from the Client or in BIM Forum Level of Development requirements, version no older than 2020, available at website bimforum.org.

### In cases when the Consultant notices rationally unjustified duplication in design information content required by Client’s BIM requirements and Client’s other requirements (e.g., requirements for printed documents when their function can be fulfilled by BIM content and/or processes) the Consultant shall inform the Client and get approval for a respective work optimization.

### The Consultant shall ensure the sufficient performance capacity of hardware and software necessary to undertake 3D model analysis (clash check, etc.) and deliver the Services at the level set in DG BIM Requirements. The Client shall not accept software limitations as the reason for failure to fulfil the design requirements set in this TS and BIM requirements.

### The Consultant shall develop 2D drawings from BIM Models. The Client may request the Consultant to present such ability at any time during the project. The Client shall use BIM Models to produce 2D drawings for Client’s needs.

### The Client shall ensure the necessary training for the Consultant’s personnel working with CDE and other workflows. The Consultant shall be responsible for the participation of the required personnel in these trainings.

### The Consultant shall submit work-in-progress models 3 (three) days prior BIM Collaboration Meeting. The Consultant is responsible for presenting this model during the meeting. See 6.9.2 for BIM collaboration meetings details.

### The Consultant must inform the Client on the design issues and propose solutions before submitting it to the Client’s CDE.

### All utilities (existing/renovated/reconstructed/relocated) within Special Plan boundaries shall be designed as 3D models with full geometry as mentioned in DG BIM EIR document.

### In cases where utilities must connect to an existing utility network outside Special Plan boundaries, these utility connections shall also be designed in 3D with full geometry as mentioned in DG BIM EIR document. Extent of these connections to existing utility infrastructure shall be modelled to the closest utility connection point (valve, electricity mast, connection box, manhole/well, etc.) and shall be included in BIM model.

### For all utilities with unknown locations, the Consultant shall agree 3D modelling details with the Client in BEP separately.

### The Consultant shall provide planting areas in 3D models according to the landscaping design data.

### The Consultant shall identify Geodetic CP0 benchmarks and show development with correct coordinate and altimetry systems in federated models in each stage of the design.

## System Engineering Management

### The Consultant shall carry out Design under a System Engineering approach following the RAMS life cycle (V-cycle) as indicated in the EN 50126 standard. The Consultant shall detail which evidence is to be provided at each stage as proof of compliance and fulfilment of each phase in the RAMS life cycle (V-cycle).

### The Consultant shall prepare and provide all plans mentioned below (see 5.2.3 to 5.2.9) for Client’s approval during Inception report. The Consultant is entitled to follow System Engineering activities as detailed in the RASCI matrixes included in Annex 22 (RASCI for System Engineering Activities regarding Design).

### The Consultant shall follow RBR System Engineering Management Plan (see Annex 13) and provide a detailed System Engineering Management Plan documenting the approach that will be adopted for the overall railway system engineering activities in the project.

### The Consultant shall follow RBR Requirements Management Plan (see Annex 14) and provide a detailed Requirements Management Plan documenting the approach that will be adopted regarding Requirements Management.

### The Consultant shall follow RBR Configuration Management Requirements (see Annex 15) and provide a detailed Configuration Management Requirements documenting the approach that will be adopted regarding Configuration Management.

### The Consultant shall follow RBR Design Management Plan (see Annex 16) and RBR Verification & Validation Management Plan (see Annex 17) and provide a detailed Design Management Plan and Verification Management Plan documenting the approach and programme (planning) regarding Design and Verification of requirements. It shall cover design implementation and design verification activities performed by the Consultant up to final approval by RB Rail. (Note: Validation is not a System Engineering activity at design phase, therefore only Verification Plan is applicable).

### The Consultant shall provide Verification evidence (Report and Certification) of the correct implementation of design verification as agreed in the Verification Plan. Correct implementation meaning the fulfilment of the verification criteria as agreed in the Verification Plan. After internal approval of a Design Package based on the verification criteria, the Consultant will present the Deliverable officially to the Client that will accept/reject the delivery based on the verification criteria agreed. Also, any delivery to the National Construction Authority and third parties, shall be confirmed/authorized by the Client.

### The Consultant shall follow RBR Interface Management Plan (see Annex 18) and requirements listed in Section 5.3, and provide a detailed Interface Management Plan documenting the approach that will be adopted regarding Interfaces.

### The Consultant shall use the Requirements Management Environment defined by the Client. JAMA is the tool that shall be used for Requirements Management. The Consultant shall be responsible for purchase of the number of licenses necessary to carry out Requirements Management activities.

### The Consultant shall ensure Requirements Management Environment is used for tracking the Activity progress. The actual progress shall be live and up to date at any time during provision of Services.

### To track the progress of Activities, the Consultant shall report monthly (as part of Monthly Progress Reports) on the variation of the state of requirements with respect to the previous report. JAMA will be used to issue Requirements Status Reports and to track changes between the reporting periods. The Consultant shall justify the variation of the state of requirements based on evidence. Evidence shall also be included in JAMA and traced to its related requirement.

### The Client may request the Requirements Status Report at any time and the Consultant shall provide it within 2 (two) days if such request is made.

### The Consultant shall provide an Organization Chart with the organization planned (roles and number of persons) to carry out the System Engineering activities fulfilling the project plan.

## Interface Management

### The Consultant shall follow Interface Management Requirements described in Annex 18

### The Consultant shall ensure the responsibilities assigned to Consultant in ICFs are followed during the provision of Services.

### The Consultant shall ensure technical expertise throughout the full Design and design supervision service deployment and apply/contribute to the Interface management process by Interface identification, definition, agreement, design implementation and verification of interface requirements in their design, design and verification following the same process as any other technical requirement.

### The Consultant during participation of Interface Management process implementation shall cover either Responsible Entity functions or Supporting Entity functions (as detailed in the Annex 18).

### The Consultant shall be responsible for management of all technical interfaces, creating or supporting the definition and implementation of Interface control forms, related to Services but not limited:

* + - * 1. Interfaces with Control Command and Signaling (CCS) subsystem
        2. Interfaces with Infrastructure (Main Line and Local Facilities)
        3. Interfaces with Energy (ENE) subsystem
        4. Interfaces with Rolling Stock
        5. Interfaces with Shadow Operator (alignment with Operational and Maintenance concepts)
        6. Interface with Third Parties

### The Consultant shall ensure that all requirements, presented in Interface Management Register and all Interface Control Forms (ICFs) provided in Annex 22, are implemented in Master Detailed technical designs. The Client leaves the possibility to update Interface Register and given Interface Control Forms during the full design and design supervision services deployment, the Consultant shall ensure all Interfaces and Interface Control Forms are resolved as described in Interface Management Plan.

### The Consultant shall appoint an Interface Manager as a responsible person for implementation of Interface Management process internally and with other parties/subsystems.

### The Consultant shall organize weekly Interface meetings with Client to discuss ongoing works and agree on next steps.

### The Consultant shall be responsible (in case of being Responsible Entity) for organizing meetings to solve Interface matters with Supporting Entity. RBR appointed Interface Manager must always be informed of the meetings held and status of the ICFs discussions.

### The Consultant shall identify a full list of all applicable Interfaces of design together with submission of Design Proposals.

### The Consultant shall contribute to the Interface Process, so that the definition, agreement and signature of each Interface Control Form is accomplished within 60 (sixty) days from the beginning of the ICF discussions, and all ICFs are signed prior to the start of activities for Master Detailed Technical Design. The ICF Discussion phase shall be planned as activity in Project Programme.

### For every additional ICF provided by the Client during the design process, the Consultant shall foresee that ICF definition, agreement and signature activities is finished in 60 (sixty) days from the receipt of such ICF.

### The Consultant shall ensure that all requirements in Each Interface Control Form are implemented in the first submission of Master Detailled Technical Design deliverables.

### The Consultant shall ensure that each signed Interface Control Form is included in the final Master Detailed Technical Design packages before that Master Detailed Technical Design is approved by the Client.

## Conformity Assessment

### In order to ensure that an authorization is granted for the placing in service of the Rail Baltica rail system in the European Union, the Contractor must demonstrate compliance with the applicable safety and interoperability requirements set out in the EU Directives. In order to secure authorisation to put the Rail Baltica railway system into operation in the European Union, the Contractor must demonstrate compliance with the applicable safety and interoperability requirements set out in the EU Directives (Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety, Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union, Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the ‘infrastructure’ subsystem of the rail system in the European Union, Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009).

### The Consultant must demonstrate compliance by providing design documentation, test results, simulations, inspection results, certificates, declarations and other evidence of conformity. All documents submitted by the Consultant must be provided with traceability and completeness of the answers in accordance with the documentation set out in Annex 10.2. The Consultant must provide any additional graphic material/documentation or other information as required by the Assessment Body (AsBo) /Notified Body (NoBo) and the EU Safety and Interoperability Directives.

### The Employer must organize AsBo/NoBo assessment services. The Consultant cooperates with the AsBo/NoBo assessment service provider and the Employer and provides all the necessary materials. Supplier communication with AsBo and NoBo should be organized through the Employer.

### The Employer shall, within 12 (twelve) working days, carry out an administrative review of the material submitted by the Consultant. During the review, the quality of the submitted documents is assessed, as described in the Instruction "RB Rail Deliverables Information traceability quality requirements for AsBo /NoBo" (see RB Rail Deliverables Information traceability quality requirements for AsBo/NoBo; Annex 10.2).

### The Consultant must appoint a competent specialist for the implementation of the Project AsBo / NoBo requirements, who would be responsible for the fulfilment of the applicable requirements and constant control during the performance of the Contract.

### The Consultant shall ensure that the scope and readiness of the design dossier and the construction dossier are such that full compliance with the applicable safety and interoperability requirements can be demonstrated.

### All documentation related to the railway project must be transferred to the conformity assessor after the Employers administrative review has been carried out and the submitted documents have been accepted.

### Upon receipt of the documentation, the compliance assessor assesses the quality and traceability of the information. The conformity assessor has the right to reject the submitted documents in case of non-compliance with the requirements described in the instruction "RB Rail Deliverables Information traceability quality requirements for AsBo/NoBo" (see Annex 10.2), although the package has passed an administrative review and has been accepted to submit it below to the compliance assessor.

### Within 20 (twenty) working days, the conformity assessor reviews the submitted documentation and provides feedback on the submitted evidence. Feedback is provided using the Open Items List (OIL) for AsBo and the Clause-by-clause Matrix (CbC) for NoBo as described in the instruction "RB Rail Deliverables Information traceability quality requirements for AsBo/NoBo" (see Annex 10.2).

### During the entire AsBo/NoBo assessment, the Consultant must, within 10 (ten) working days from the receipt of comments / comments from the assessor, change the design documentation or provide additional information in response to the comments of the AsBo/NoBo assessor. The Consultant must respond in detail (and provide evidence) to the table of each item in the case of NoBo and to the list of open points in the case of AsBo, and the status of all items must be "Closed" / "Corresponds". AsBo/NoBo assessment reports must be absolutely positive after each stage has been completed.

### If the project solutions are changed during the provision of services, the Consultant must ensure that the assessment of compliance of the latest version of the design documentation with AsBo / NoBo is carried out, the procedure for changes must be established, approved and followed.

### The Consultant shall ensure that DeBo assessments are carried out in the event that the National Safety Authority concludes that a permit is required for the placing in service of the upgraded and/or upgraded fixed rail subsystems. The Consultant is responsible for DeBo evaluation services, the Employer does not order these services.

### The Consultant may submit documents free of charge at all stages of the assessment (design and construction) to 2 (two) review iterations for AsBo providing safety conformity assessment services and NoBo providing interoperability conformity assessment services. If the Contractor does not have enough 2 iterations to obtain a positive conclusion, the Contractor shall reimburse all additional costs of AsBo / NoBo assessment services (if the conclusions were not obtained due to the fault of the Contractor) until a final positive conclusion is obtained from AsBo, NoBo.

### Before starting the assessment of the technical documentation AsBo/NoBo, the Contractor must prepare and submit the following documents to the Employer, AsBo and NoBo for coordination:

### The project safety plan;

### The interoperability plan (including detailed definition of the system).

### The Consultant shall have at his disposal a designated expert of Safety/Interoperability with sufficient knowledge and experience in the implementation of the technical specifications for railway interoperability (TSIs), Commission Implementing Regulation (EU) No 402/2013 on the overall safety method for risk analysis and assessment and/or the reliability, accessibility, maintenance and safety (RAMS) standard EN 50126 for the proper management of the conformity processes of the assessment body and the notified body. The expert must have experience in the railway industry related to the infrastructure subsystem (track, railway infrastructure, railway facilities) as part of the department of the contractors' organization / railway engineering services / consultant / designer / contractor / infrastructure manager. The Contractor must provide a written and signed recommendation from the previous Employer(s) demonstrating the expert's required design experience. If there is no indication, the Contractor must submit a declaration signed by him proving experience with the contact information of the Employer. The language level of the expert(s) is at least level B2 in English.

### In order to ensure an adequate level of safety and compliance with safety requirements, the Contractor shall follow the accompanying instructions provided. Information on the application of Regulation 402/2013 and the Assessment Body (AsBo) can be found in the guide RBDL-CTF-GDL-O-00002 (Annex 19). The information related to the provision of quality answers and the demonstration of information is provided in the instructions RB0007-SEA-XX-XX-INS-QA-Z-00001 (Annex 19). It is expected that the application of the requirements set out in this instruction will reduce the number of administrative rejections and eliminate poor-quality submissions. Information on the requirements to be met during the duration of the Contractor's contract is set out in the specification RGBL-SEA-SPC-R-00001 (Annex No. 19). The safety activities, both managerial and technical, which must be carried out throughout the existence of the Rail Baltica global project, are set out in the system safety plan RBGL-SEA-PLN-R-00003 (Annex No. 19). We recommend that the Contractor use the hazard registry REF-INF-ML-HR-2.0 (or subsequent versions distributed in advance or during the contract execution) as a reference for to the identification and the management of hazard and threats (Annex 19). Further information on the application of the technical specifications for interoperability (TSI) and the assessment of a conformity assessment body (NoBo) can be found in the manual RBDL-CTF-GDL-O-00001 (Annex 19). Additional information on how the relevant documents are to be drawn up in order to ensure the proper maturity of the documentation on system definition and evidence of interoperability can be found in the guide D0007-SEA-GDL-R-00002 (Annex 19).

## RAMS Requirements

### The Consultant shall implement Reliability, Availability, Maintainability, Safety (RAMS) and CSM according to Directive (EU) 2016/797, Regulation (EU) 2013/402, standard EN50126-1, Rail Baltica RAMS Design Guidelines and RB Rail AS related procedures.

### The Consultant shall design Rail Baltica high speed railway to meet the following RAMS high level requirements:

* + - * 1. The Design Guidelines shall determine Reliability Availability Maintainability and Safety targets (RAMS) which must be achieved by the operating Rail Baltica railway.
        2. The Rail Baltica railway transport system shall be safe, secure, efficient, cost effective, robust, reliable, durable and comfortable in all aspects, capable of delivering high standards of service quality within the forecasted levels of capacity and employ modern technology with proven performance characteristics.
        3. Performance and reliability shall be delivered at levels comparable to other leading international railway infrastructure.

### The Consultant shall deliver the following RAMS/CSM documentation:

* + - * 1. Design Safety Plan
        2. System definition
        3. Preliminary Hazard Analysis
        4. Hazard log following Risk assessment
        5. Risk assessment report
        6. Failure mode and effect critical analysis (FMECA)
        7. Design Safety Report
        8. RCM (Reliability Centred Maintenance) report

### The Client undertakes to review of the Consultant documentation, where the part related to Risk management and Risk assessment as per Regulation 2013/402 shall be assessed by AsBo, according to the provisions set in 5.4 Conformity Assessment.

## Quality Assurance / Quality Control

### The Supplier shall be ISO 9001 certified in accordance with the scope of work or have an ISO 9001 equivalent management system approved by a certifying third party. The quality management organisation shall be clearly defined (and adequately resourced to successfully carry out its roles and responsibility

### The Supplier’s personnel involved in quality assurance and quality control shall have demonstrable experience or qualifications and have clearly defined responsibilities and organisational freedom to identify and assess quality problems.

### The Supplier shall appoint a quality manager. The quality manager shall be certified in internal/external auditing and the quality assurance personnel shall have audit experience appropriate to their position.

### All employees of the Supplier shall have job descriptions with defined duties and responsibilities, including those related to quality, safety and environmental protection

### The Supplier shall submit a Quality Management Plan (including Design Management Plan) within 28 days of the date of award of the Contract. .

### The Supplier’s Quality Management Plan shall be in accordance with ISO 10005 “Guidelines for Quality Plans or equivalent standart, with particular reference to Section 6 - Contents of the Quality Management Plan, Annex C and the Client's Quality Management Plan”.

### Design quality management shall include workflow and quality records. Documented processes include, but are not limited to:

Configuration management.;

Change management.

Defect / non-conformity management.

Acceptance / approval process.

Roles and responsibilities.

Building Information Modelling (BIM).;

Reliability, Availability, Maintainability, and Safety (RAMS).;

System assurance.

Interoperability of the rail system in the European Union.;

Document management.

Sub-contractors’ selection and management.

### In a given case, a robust quality management system (QMS) must be in place throughout the life cycle of the Design, commensurate with the nature, duration and complexity of the works.

### The Supplier shall ensure that externally supplied processes are controlled within the scope of the Supplier's Quality Management System.

### The Supplier shall apply the requirements of Annex 25, evidence of which shall be provided to the and the Client.

### The Supplier shall apply the requirements of Annex 25 “Client's Quality Requirements” and evidence shall be provided to the Client.

### Within 40 calendar days of the award of the Contract, the Supplier shall prepare and submit a Quality Management Plan (QMP) for the Design, acceptable to the Client, in accordance with the requirements of ISO 10005 “Guidelines for Quality Plans”, ISO 9001 “Quality management systems” including the preparation of Quality Assurance Manuals and all procedures necessary to ensure that the Quality Assurance System meets the criteria set out by the Client, a preparation plan and a schedule. The QMP shall be approved by the the Client.

### Appropriate quality management resources must be allocated and used throughout the Design life cycle

### The Supplier shall appoint a Design Quality Manager who shall be responsible for the implementation of the applicable quality management requirements and for continuous monitoring during the performance of the contract. Before start of design the Supplier (Designer) shall officially notify Client about appointed Quality Manager and provide evidence of his/her competence.

### All quality management documents must be prepared and submitted in PDF format and in an editable source format.

### If the Supplier chooses to outsource any process, it shall control such processes. This shall be identified in the quality management system.

### The Client may, at its option, participate in any inspection or audit of the Supplier if it wishes to satisfy itself that the Supplier properly implements the quality management system. The Client may, at its discretion, appoint a representative to carry out such inspections/audits, but this shall not relieve the Supplier of its responsibility to carry out its activities in accordance with the Contract or in compliance with the Quality Management System.

### Within 40 days of the signature of the Contract, the Supplier shall submit its internal and second-party audit programme(s) to the Client for review and approval.

### .The Client may monitor the Supplier's quality management system by the following means:

Continuous maintenance

Being present at key moments

Consideration of discrepancies in reports

Special periodic audits

Document review

Other additional inspections by the Client or third parties.

### Contracts for laboratory services, such as concrete and soil tests or tests on the chemical and mechanical composition of materials or on non-destructive testing, shall have a quality programme in accordance with ISO 17025 or an equivalent approved by the the Client. The Supplier shall assess and verify that the quality programme of the subcontractors meets the requirements.

### An Kick-off meeting to discuss the management of the quality requirements shall be held between the Supplier, the Client prior to the commencement of the Works to ensure that all requirements are understood.

### Supplier's progress reports (monthly, weekly) must contain quality related information (NCR, Audits, Inspections, Tests, Findings and corrective action status).

## Document Control

### The Consultant shall ensure that all the documents delivered to the Client are prepared according to Document Control requirements set in Annex 21.

### The Consultant shall ensure that all the documents delivered to the Client contain the following minimum, but not limited to, information:

* + - * 1. LTG INFRA Logo, Document number, Title, Revision, Date of revision, Author – on cover sheet
        2. LTG INFRA Logo , Document number, Title, Revision - on headers of all document pages (including annexes)
        3. Table with referenced Documents (Number and Title) – on the last page of the document (before annexes).

### The Consultant shall ensure that Document numbering and coding procedure set in Annex 21 is rigorously followed. The Consultant shall use the latest version of Client’s Code Register. The Client shall update the Code register during the period of Services and shall inform the Consultant, when update has been released.

### The Consultant shall provide all deliverables with Deliverables Issue Register provided in Annex 21 containing information about all provided documents, their previous submissions, version history, etc.

### The Client shall check if the deliverables are in line with Document Control requirements during Administrative Review. If any non-compliance is found during the review, the documents shall be rejected.

### All Rail Baltica Global Project (RBGP) documentation shall be managed using a centralized Electronic Document Management System (EDMS) selected by the Client that supports document review, approval, storage and distribution to ensure consistent management practices, secure document management and effective access to all Design stakeholders.

### All RBGP documents, including those created by LTG Infra AB, RB Rail AS, the Supplier and other interested parties, shall be stored in the RBGP EDMS. This centralized repository facilitates uniformity, traceability and control of Design documents.

### The structure of the folders in the EDMS shall comply with the requirements of the Client and the RBGP to ensure logical organization of documents, easy search and proper categorization of documents. The folder hierarchy shall reflect the Design phases, document types and access management.

### Access to documents in the RBGP EDMS must be managed according to Design levels, roles and responsibilities. Access permissions will be granted on a need-to-know basis to ensure confidentiality, security and compliance with RBGP policies.

### The client shall provide access to client's chosen EDMS. Access will be granted to interested parties to ensure smooth document management.

# Project Management and Control

## General Project Management Requirements

### The Consultant shall be responsible for all aspects of the management and execution for the full scope of the Services, included but not limited to planning, control, reporting, supervision, administration, management of sub-contractors and stakeholders, quality assurance, health & safety management, security, development of procedures, ensuring all necessary qualifications and certifications for experts are valid.

### Independent from all management and control activities which may be taken by the Client, the Consultant is fully responsible for:

* + - * 1. Managing and controlling all Project activities with the target to keep and optimize the Project plan in any phase of the Project
        2. Foreseeing risks and possible problems and taking measures in advance
        3. Analysing and solving all problems and Informing the Client.

### The Consultant shall be responsible for the provision of the following Services implementation deliverables:

* + - * 1. Programme (Detailed and Summary)
        2. Services progress report (monthly)
        3. Design Supervision Services progress report (monthly)
        4. Final report after completion of the Services
        5. Final report after completion of the Design Supervision Services
        6. Minutes of the meetings
        7. Official correspondence with all parties except for the Client
        8. All prepared presentations.

## Project Execution Plan

### The Consultant shall prepare PEP, the document that describes how the project will be executed, monitored, controlled, and closed in accordance with Project Management best practices, such as PMBOK (Project Management Body of Knowledge), IPMA (International Project Management Association) or other equivalent/similar requirements.

### PEP shall include the following sections:

* + - * 1. Project goals and objectives
        2. Project stakeholders and their responsibilities
        3. Cleary defined scope of work
        4. Work Breakdown Structure (WBS)
        5. Organization Chart (including Consultant team members and sub-consultants)
        6. Responsibility Matrix
        7. Cost Breakdown Structure (CBS)
        8. KPIs that are to be tracked and reported
        9. Requirements Management Plan
        10. Configuration Management Plan
        11. Quality Management Plan
        12. Resource Management Plan
        13. Change / variation management process
        14. Risk management plan, including list of possible risks and mitigation strategies
        15. Communications plan, including what is to be communicated, to whom and when
        16. Cleary defined milestones and the process for verifying when milestones are reached

### The Consultant shall submit PEP as part of Inception Report and shall update it every 6 months during execution of the Services.

## Project Planning and Programme

### Tender Programme and a preliminary WBS shall be submitted as a part of tender documentation should fulfil Level 3 AACE requirements as described in Annex 10, including cost and resource loading. The Consultant’s WBS will be based on the RBR WBS provided in Annex 10 and shall start at the lowest level of the RBR WBS (for each DPS and complete DS).

### The Consultant shall provide a Detailed Programme (AACE Level 04) based on the developed WBS which will cover all Design Services scope and sufficient project milestones and other significant deliverables against which progress can be reported. The Detailed Programme shall consist of a precedence network diagram using the Critical Path Methodology (CPM) to show each essential activity in sequence to meet the contractual milestones. It shall be detailed to a level where activities duration and resource can be estimated accurately, and progress could be confidently assessed. A basis of estimate for both attributes shall be provided for each activity. All Programme basis and assumptions must be documented and all interfaces and influences that could impact the work must be shown in the Programme.

### The Consultant shall ensure that the following requirements as well as the requirements set in Annex 10 are respected during the provision of the Services. The Detailed Programme shall be resourced with labor (Working hours used as unit). No activity in the Programme shall exceed 30 (thirty) calendar days in duration. The Programme must not include any negative float and open-ended activities. The completion date must be modeled using a “Finish-On-or-Before” and no other activity apart the commencement and the completion dates shall be constrained. More than 95% of the relationships shall be “Finish-To-Start”. Activities should not be logic tied using negative lags (leads) and positive lags should be kept to a minimum (less than 5% of the relationships and not exceed fourteen (14) days. “Start-To-Finish” logic ties are not allowed. Float in the Programme is not to be used by the Consultant as a substitute for contingency. Failure to comply with these requirements will invalidate the Programme Submission.

### The Detailed Programme shall be developed using the latest version of Oracle Primavera P6 as scheduling tool and within the RBR Oracle P6 Cloud environment as prescribed in Annex 10. The Primavera P6 settings shall be in accordance with the Client’s requirements, which enables easy and efficient control of the progress and changes in the Programme. The Client will provide 1 (one) Primavera P6 license to the Consultant.

### An overall Progress Curve using the resource loading and comparing earned and forecast progress to planned progress in terms of percent complete against a monthly time scale.  Consultant’s assessment of actual progress must be verifiable by the Client. This section will be in the monthly progress report and shall also include incremental and cumulative manpower histograms and curves comparing actual and forecast manpower levels to those planned (including subcontractors identified separately).

### A Cumulative Schedule Variance shall be calculated: The following criteria are to be used to define the minimum required actions on the Consultant’s side to address schedules deviations:

* + - * 1. Negative cumulative variance exceeding 5% must be addressed with a recovery plan or mitigation plan including a timeframe for the results to be achieved.
        2. Cumulative negative variance under 5% requires a list of preventive/corrective actions.
        3. Positive variance will be accepted and cash flow forecast and impact will be adjusted accordingly.

### The Summary Programme is used as the basis for developing and reporting to management and key stakeholders from initiation to completion. The Summary Programme will be developed in time-scaled format and should limited to 1 page. The Summary Programme activities and progress status must be related to the status performed on the Detailed Programme.

### Submissions made by the Consultant shall be in both non-editable file (.PDF) and native Primavera P6 (.XER) file formats for the Detailed Programme and native Microsoft EXCEL (.XLSX) for the report. The Consultant’s Programme will form an integral part of the overall Client delivery Programme and Reporting structure.

### In addition, the Consultant shall submit a complementary and detailed narrative description of its plan for performing the work including, but not limited to:

Summary Description of the scope

Format of activity descriptions including any abbreviations used

Staffing plan indicating total manpower required per reporting period, inclusive of subcontractors

Activity calendars used, particularly non-standard work patterns

Holidays, weather windows and other non-work periods

Assumptions and Constraints

Assumed production rates, equipment, and personnel requirements by craft to complete a resource loaded Programme.

Description of the critical path

Description of the near critical paths (these activities being defined as a total float below fifteen (15) days)

Listing of key interfaces with the Project Manager/ Client/ Affected Parties or others and the dates those interfaces are planned to occur

Listing of information required by the Consultant to meet Programme together with the date that the information is required

Details of any significant changes including revisions to the critical path since previous Approved or Submitted Detailed Programme

Impact of Progress

Details of Changes to Key Dates, Milestones, and Associated float and time risk allowances

List of Implemented / Predicted Changes or Variations

Any delay mitigation measures incorporated

All dates for the Contractual Milestones and Key Dates, Deadlines (including intermediate terms) and Commencement, Completion and Handover Milestones. Any other milestones and/or activities provided by the Client

All dates when the Consultant plans to submit any particulars or deliverables of the design or temporary works design

All dates when any information to be provided by the Client or third parties will be required by the Consultant

Details of any consents, permits and licenses development, preparation, submission, and approvals allowing enough time for each stage of the process and allowances for resubmission

Details of any 3rd Party interfaces and/or documents preparation, submission and approvals allowing enough time for each stage of the process and allowances for resubmission

The Consultant shall describe details of any measures to be taken to minimize the effect of the Consultant’s operations on the public including as a minimum (where applicable): intended working hours, safety risk assessments

Clear details on Services completion processes and timeframes

Clear identification of any Client obligation

### Together with Inception report the Consultant shall provide the following:

* + - * 1. Project Control Management Plan for the Client’s approval. It should cover the processes indicating how he intends to carry out all aspect of Project Control requirements stated in this TS, including the Annexes 8 and 27.
        2. Detailed Programme for approval. When approved, the Detailed Programme will constitute the Approved Detailed Baseline for the Agreement’s execution. The Consultant shall cost load the Programme to the level of Construction Objects to allow for the accurate production of the cash flow and forecast.
        3. Summary Programme for proforma and content approval.
        4. Programme Narrative.
        5. Design Progress Performance report for proforma and content approval with sets of Control Points (number and weight) designed for each different types of deliverables for approval.

### The Consultant shall retain the Approved Detailed Baseline in all Detailed Programmes submitted during monthly reports, unless the Client permits the baseline to be amended. This will facilitate the assessment of progress, cost, and performance.

### Together with each Monthly Progress report the Consultant shall provide a Programme Analysis Report:

* + - * 1. Updated Detailed Programme for approval, showing the progress, remaining duration, actuals, physical percentage complete and forecast completion dates and submit it to the Client for acceptance.
        2. Updated Summary Programmewith progress aligned with Updated Detailed Programme
        3. Updated Programme Change log where every modification done on the Detailed Programme (activities, logic before and after, Constraints, etc.) are recorded.
        4. Updated Programme Narrative
        5. Programme Variance Report for review by the Client at Monthly Progress Meeting which shows cumulative and period movement data. Any areas which show significant schedule or Cost variance shall be investigated, explained and mitigation measures identified if applicable.

### The Consultant shall undertake ad-hoc or as requested Programme exercises as specified by the Client (which may include ‘what-if scenarios’). These exercises shall be undertaken by the Consultant within 10 (ten) days of the request.

### The Consultant shall ensure that the updates and changes in the Programme follow these requirements:

* + - * 1. The Programme shall remain a relevant document capable of accurate reporting on an ongoing basis and able to be relied upon when other associated parties are planning their works. If it becomes apparent that this is not as described, the Consultant shall revise and re-submit the Programme for approval by the Client.
        2. If it is evident that the rate of progress is insufficient to ensure timely completion as per the contractual milestones and time periods, the Consultant shall revise their Programme to demonstrate the intended plan to recover. A list of associated mitigating measures shall also be included.
        3. If the Consultant requests an extension of time to the dates specified in the Contract, justification shall be provided as the Client deems it necessary. The supporting information used for justification shall include a cause-and-effect type Programme produced in P6 using recognized delay analysis method (EG time impact analysis) so the impact of the delay to the activities in question can be demonstrated.
        4. If any logic changes are required to be made to the Programme, a Change Request shall be submitted by the Consultant requesting the change and the justification for the Change
        5. If any of the works necessary for the performance of the Contract is not included, this shall not relieve the Consultant of the obligation to complete all necessary work until the respective deadline of each phase or all Works, parts thereof, regardless of the Project Manager/ Client approval of the Programme or any sub - Programme.

### All Programme submissions made by the Consultant shall be clearly titled (e.g. Baseline Programme, Monthly Programme, What-if Programme), numbered (e.g. Period 00, 01, 02, …), revision coded (e.g. Rev 00, 01, 02, …) and dated (DDMMYYYY)

## Resource management

### The Consultant shall ensure the participation of key experts, including certified/licensed experts as described in procurement documents, required to complete the Services. See listed below:

* + - * 1. Project manager
        2. Design manager
        3. 1435 mm gauge railway track designer / engineer
        4. Structural/bridge designer / engineer
        5. Building Information Modelling (BIM) Manager

### The Consultant shall ensure the participation of additional experts, including certified/licensed experts, required to complete the Services. See listed below (non – exhaustive list):

* + - * 1. Geodesy expert/engineer
        2. Geotechnical expert/engineer
        3. Hydrology expert/engineer
        4. Road design expert/engineer
        5. Spatial planning expert / Architect
        6. Cultural heritage expert
        7. Environment expert/engineer
        8. Power networks designer/engineer
        9. Natural gas and oil distribution network expert/engineer
        10. Railway signalling expert/engineer
        11. Railway catenary expert/engineer
        12. Construction planning expert/engineer
        13. Cost estimation expert
        14. System Engineering Manager
        15. Reliability, Availability, Maintainability, and Safety (RAMS) Engineer
        16. Verification manager
        17. Requirements manager
        18. Configuration manager
        19. Interface manager
        20. Contract Manager
        21. Project Planning expert
        22. Stakeholder Manager / Public relations coordinator
        23. Design Quality Control engineer
        24. Geographical information systems (GIS) Expert
        25. Technical translator (from/to Lithuanian-English language)

### The Consultant shall ensure, that sufficient level of expert engagement is assured throughout the delivery of Services, detailing the allocation and workload of the experts in the Programme.

## Stakeholder Management

### The Consultant shall be fully responsible for stakeholders, including Affected parties’, management process. The Consultant shall be responsible for necessary alignment and approvals to be obtained from the stakeholders as well as for provision of necessary analysis and data related to scope of works at the request of the stakeholders or the Client.

### The Consultant shall prepare the Stakeholder Management Plan that includes methodology, processes and tools for stakeholder management to be implemented by the Consultant throughout the provision of Services. The Stakeholder Management Plan shall contain at least the following parts:

* + - * 1. Stakeholders’ identification and grouping
        2. Matrix of stakeholder’s assessment according to their interests and influence
        3. Relevant engagement strategy for each stakeholders’ group and consultation/communication methods to be applied
        4. Annual action plans
        5. Roles and responsibilities within the Consultant team, also including escalation mechanism to the Client

### The prepared Stakeholder Management Plan shall be consulted on and endorsed by the Client.

### The Stakeholder Management Plan shall be reviewed regularly and, in any case, not least than once per quarter, and in case necessary – updated accordingly.

### The Consultant shall ensure local representation being able to communicate with national stakeholders in local language (not less than B2 Lithuanian).

### Any stakeholder engagement shall be documented and traceable. All generated documentation of meetings shall be in English language and in the Stakeholder’s official national language, if required by the Stakeholder.

### Stakeholder management activities, drawing particular attention to activities taken and planned by the Consultant in context of early risk mitigation, shall be included in the regular progress reports.

## Risk Management

### The Consultant shall plan all its activities necessary to carry out the full scope of the Services in due time and in the agreed quality by considering all relevant risks and minimizing their adverse influence on costs and time schedule. Without limitation, such risks include:

* + - * 1. Restrictions by landowners to access the land plots for the site investigation
        2. Weather conditions which may affect site investigation performance
        3. Possible track realignment outside the borders of approved Rail Baltica route
        4. Delays, inactivity, procrastination of the Affected parties regarding the provision of the Services
        5. BIM strategy development and system implementation delays for any reason
        6. Land acquisition process, Environmental impact assessment and related procedures
        7. Delayed commencement of the Works and delayed Works during construction
        8. Changes in the Design guidelines, the Client’s requirements and defaults of the Consultant’s subcontractors including unavailability of human and technical resources
        9. Changes in applicable legislation
        10. Legal actions by third parties

## Change Management

### The Consultant shall inform the Client of request for changes immediately upon discovery of such need. The Consultant shall Change Request form (provided in the Contract) consisting of:

* + - * 1. The reason for change
        2. Who is requesting the change
        3. The consequences of the change, including maintenance, health and safety, time, quality, cost (and who will bear the cost).
        4. Proposals for mitigation of any consequences.
        5. The risks associated with the change.
        6. Alternatives to the proposed change.
        7. Time by which the change must be instructed

### The Client shall evaluate the proposal within 20 (twenty) days upon receipt of Change Request.

## Reporting

### The Consultant shall prepare monthly progress report on Services broken down by DPS which shall include the following information:

* + - * 1. Contract Status and key achievements (including received building permits, other permits, approvals from Affected parties and authorities, etc.)
        2. Progress per Discipline
        3. Progress per Construction Object
        4. Interface Management Report
        5. Requirements Status Report
        6. Risks management & Opportunities report
        7. Contract and Commercial status
        8. Critical Items Action Report, see section 6.8.2
        9. Co-Ordination Report, see section 6.8.3
        10. Open Items Report, see section 6.8.4
        11. Claims and Variations Report, see section 6.8.5
        12. Stakeholder Engagement activities including progress achieved on open/solved issues.
        13. Updated Detailed Programme
        14. Updated Programme Change log
        15. Updated Summary Programme
        16. Programme Variance Report
        17. Health and Safety

### The Consultant shall maintain a **Critical Items Action Report (CIAR)** which will be maintained in conjunction with the Early Warning system.

* + - * 1. A critical item is defined as any item that has caused or is likely to cause an impact to a Milestone or Key Date or to overall contract Completion. It should be noted that not every delay result in an impact to a key date or milestone and therefore not every delay counts as a critical item.
        2. The intent is that the CIAR becomes a working dynamic document, not a voluminous punch list for the contract. It should rarely contain more than 15-20 items. Significant critical items should have an accompanying entry in the Consultant’s Programme. The main task of the CIAR is the analysis of the Programme to determine which items are critical or potentially critical.
        3. The CIAR shall be reviewed at Monthly Progress Meetings to discuss corrective actions or alternatives to eliminate the programme impact of the critical items.
        4. The Consultant shall nominate a CIAR coordinator from within his team. The CIAR coordinator shall be responsible for development, maintenance and production of the CIAR.
        5. The Consultant shall define a template for CIAR in Inception Report.
        6. The Consultant shall continually identify and highlight activities in the programme that are at risk of being delayed. A list of any events causing delay or likely to cause delay is to be maintained including the proposed mitigating measures which may be performed by the Consultant for consideration by the Client.

### The Consultant shall produce a monthly **Co-ordination Report** showing the Authorities and Affected Parties contacted, their feedback, actions taken, future needed actions and documents exchange between the parties. Detailed format of the report will be agreed within the Inception Report. The dates and the scope from the report must be reflected to Primavera P6 Schedule.

### The Consultant shall produce a monthly **Open Items Report** showing all the items raised on meetings, Request for Information (RFI) and Project Change Requests (PCR) submitted during the period and previous periods which have not received resolution to the date. The report shall show also all the decisions taken at working level meetings and open items from those meetings (Meeting Items). The report will be accompanied with RFI, PCR, Meeting Items and Open Items tracker which displays all the history of items raised and decisions taken. Detailed format of the report and the tracker will be agreed within the Inception Report.

### The Consultant shall produce a monthly **Claims and Variations report** showing all Claims and Variations issued since the start of the Services, actions taken, future needed actions and documents exchange between the parties.

### The Consultant shall produce a weekly Design Progress Performance report as specified in Annex 27.

## Meetings

### The Consultant shall attend all meetings below in person in Vilnius, Lithuania, unless agreed otherwise with the Client.

### During provision of the Services, the following meetings shall be organized and held:

Table 9: Meetings

|  |  |  |  |
| --- | --- | --- | --- |
| Title | Responsible party organizing the meeting | Scheduling | Participating parties (from both parties of the Agreement) |
| **Kick-off meeting** | Consultant | 1 week after commencement date of the Agreement | Consultant and Client project management team |
| **Inception meeting** | Consultant | 1 month after commencement date of the Agreement | Consultant and Client project management team and necessary experts |
| **Monthly Progress meetings** | Consultant | Monthly, following the Inception meeting | Consultant and Client project management team and necessary experts |
| **Monthly Schedule meetings** | Consultant | Monthly, same week as Monthly Progress Meeting | Consultant and Client project management team and necessary experts |
| **Risk Management meetings** | Consultant | Monthly, same week as Monthly Progress Meeting | Consultant and Client project management team and necessary experts |
| **Claims and Variations meetings** | Consultant | Monthly, same week as Monthly Progress Meeting | Consultant and Client project management team and necessary experts |
| **Technical Working Group (TWG) meetings** | Consultant | Ad-hoc | Consultant and Client project management team, and necessary experts |
| **BIM collaboration meetings** | Consultant | As approved in BEP | Consultant and Client project management team, and necessary experts |
| **Meetings with Affected parties** | Consultant | When needed or when Client appoints the time or Affected party appoints the time. | Consultant and Client project management team, and necessary experts. Affected party authorized representatives |
| **Client and beneficiary management meetings** | Client | When needed (approximately on quarterly basis) | Consultant and Client project management team, and necessary experts |
| **Design Review Coordination Meetings** | Consultant | When needed. (Mostly, during Design Review and Conformity Assessment) | Consultant and Client project management team, and necessary experts |
| **Meetings with AsBo / NoBo** | Client | When needed. (Mostly, during Design Review and Conformity Assessment) | Consultant and Client project management team, and necessary experts |
| **Meetings with Design Expertise** | Consultant | When needed. (Mostly, during Design Review and Conformity Assessment) | Consultant and Client project management team, and necessary experts |
| **Interface Management Meetings** | Consultant | Weekly | Consultant and Client project management team, and necessary experts |

### The minimal content to be followed during the meetings is defined in the following table:

Table 10: Minimal content for the meetings

|  |  |  |
| --- | --- | --- |
| Title | Main content and objectives of the meeting | Input data to be provided from Consultant’s before the meeting |
| **LT-DS2 - Kick-off meeting** | * Presentation of Rail Baltica Global project and the general scope of the Services and Client Expectations presented by the Client. * Organizational structure of the Consultant * Presentation of Consultant’s Team * Split of responsibilities at Consultants Team * Preliminary Programme for execution of the Services activities | * Presentation Slides |
| **LT-DS2 - Inception meeting** | * Presentation of Inception Report, including all items listed in Section 3.2 * Presentation of Draft versions of documents for Monthly Progress Meeting, Claims and Variations Meeting, Schedule Meeting. | * Inception report * Draft version of Progress Report * Draft version of Claims and Variations Report * Draft Version of Programme Analysis Report |
| **LT-DS2 - Progress meeting No. XX** | * Monthly Progress Meeting Report, as listed in Section 6.8.1 (Programme Analysis Report and Claims and Variations Report to be discussed in separate meetings) | * Monthly Progress Report |
| **LT-DS2 - Monthly Schedule meeting No. XX** | * Programme Analysis Report | * Programme Analysis Report |
| **LT-DS2 –** **Risk Management Meeting No. XX** | * Risk Management Report | * Early warnings * Risk Management plan, mitigation measures |
| **LT-DS2 - Claims and Variations meeting No. XX** | * Claims and Variations Report | * Claims and Variations Report |
| **LT-DS2 - TWG meeting No. XX** | * Presentation of technical issues and proposal of solutions * Agreement on the way forward for every technical issue | * List of technical issues to address during the meeting with the proposed solution options |
| **LT-DS2 - BIM collaboration meeting No. XX** | * Review Federated Design Model * Review Design Clashes and agree resolutions * Discuss open BIM issues * Review upcoming delivery plan | * Federated model of upcoming deliveries * Submit progress report * Questions, comments, suggestions from the Consultant * Updated BEP document |
| **LT-DS2 - Affected party meeting No. XX** | * Presentation of administrative and/or technical issues related to Affected party and proposal of solutions * Agreement on the way forward for every administrative and/or technical issue | * List of administrative and/or technical issues to address during the meeting with the proposed solution options, including drawings for solutions presented. |
| **LT-DS2 – Client and beneficiary management meeting No. XX** | * Presentation of progress * Administrative issues * Agreement on the way forward for every open issue | * Programme review * Status Presentation * Open Issues with the proposed solution options |
| **LT-DS2 - Design Review Coordination Meeting No. XX** | * Presentation of consolidated checklist * Review and resolution of open comments | * Consolidated checklist |
| **LT-DS2 - Meeting with AsBo / NoBo No. XX** | * Review of open comments from AsBo / NoBo. * Agreement on the way forward for every comment. | * List of comments to address during the meeting with the proposed solution options |
| **LT-DS2 - Meeting with Design Expertise No. XX** | * Review of open comments from Design Expertise * Agreement on the way forward for every comment | * List of comments to address during the meeting with the proposed solution options |
| **LT-DS2 - Interface Management Meeting No. XX** | * Presentation of progress regarding Interface Management process * Agree on the next steps | * Interface list * Interface Control Forms |

### Consultant shall ensure the following:

* + - * 1. Request the Client if any additional items shall be added to agenda
        2. Distribute the agenda of the meeting to the participants at least 5 (five) days in advance
        3. Prepare the supporting documents according to agenda and upload the material to CDE at least 2 (two) days before the meeting.
        4. Organize a venue for the meetings
        5. Chair the meetings
        6. Record the Minutes of the Meeting (MoM)
        7. Organize signing of the MoM
        8. Distribute the signed MoM and upload the records to CDE, no later than 1 week.

### The Consultant shall be responsible for the Live Translation services to and from Lithuanian language during the meetings where Affected Party or non-English speaking participants are involved.

## Languages

### The Consultant shall prepare bilingual design documentation, in English and Lithuanian language. The documentation should be prepared in such way that both languages could be read in parallel on the same document.

### The Client is not and shall not be responsible for the translation of national legislation into English language. The Consultant shall cover the costs for the translation of national legal acts and any other documents, if necessary for the Consultant for implementation of the Services.

### The Consultant shall have technical and legal resources proficient in communication both in English and Lithuanian language.

### List of the documents to be provided and translated:

Table 11: Documents to be provided

|  |  |  |
| --- | --- | --- |
| Document name | English | Lithuanian |
| Correspondence between Consultant and only Client | YES | NO |
| Correspondence and minutes of meetings between Consultant and Affected Parties | YES | NO |
| Inception, Progress, Technical Working group (TWG), BIM collaboration meetings (agenda, necessary data, minutes of meeting) | YES | NO |
| Meetings with Client, Beneficiary, AsBo / NoBo, design expertise (agenda, necessary data, minutes of meeting) | YES | YES |
| Inception report | YES | YES |
| Programme | YES | NO |
| Quality Management Plan | YES | YES |
| BIM Execution plan (BEP) | YES | YES |
| Design progress reports | YES | NO |
| Design supervision progress reports | YES | NO |
| Final report after completion of the Design Services | YES | YES |
| Final report after completion of the Design Supervision Services | YES | YES |
| Site investigation (per investigation) | - | - |
| Investigation Programmes | YES | YES |
| Permissions | YES | YES |
| Site investigation reports | YES | YES |
| Application for approval investigation programme, reports, receiving permits | YES | YES |
| Design Proposals reports for railway alignment | YES | YES |
| Design Proposals reports for structures | YES | YES |
| Payment documentation | YES | YES |
| Presentations | YES | YES |
| Applications for receiving Technical Conditions from Affected parties | YES | YES |
| Technical conditions from Affected parties | YES | YES |
| Applications for building permits | YES | YES |
| Building permits | YES | YES |
| Conceptual design | YES | YES |
| Master Detail technical design | YES | YES |
| Construction technology and work organisation part | YES | YES |
| Bill of quantities | YES | YES |
| Maintenance manual | YES | YES |
| Environmental reports | YES | YES |
| Land acquisition plan | YES | YES |
| Plans for deforestation of land plots and cutting of trees | YES | YES |
| Procurement Responses for Construction Works Tender | YES | YES |

### The Consultant shall submit all bilingual documents or deliverable submission in both languages when documents are submitted for review or approval. However, the Consultant may request the Client for permission to submit bilingual documents or deliverables in one language only for partial or interim reviews. Bilingual documents with only single language or partial translation will not be accepted by the Client, unless it is aligned with the Client prior such submission is made.

# Annexes

### The following documents complement and shall be read together with the TS. Please note that the most up to date version of the reference document shall be applied when contract is signed.

Table 12: Annexes

|  |  |  |
| --- | --- | --- |
| Annex Ref. | Name | File Codification Number |
| Annex No. 1 | Design Guidelines | RBR\_DG\_Version\_0144.zip |
| Annex No. 2 | Operational Plan | RBDN-SOD-ZZ-ZZ-DRW-R-00001 |
| Annex No. 3 | Special plan for European standard railway line section Kaunas to Lithuanian/Latvian state border - TPDRIS Nr. T00079723 | Special Plan Kaunas to Lithuanian/Latvian state border.zip |
| Annex No. 4 | Environmental impact assessment report for the European standard railway line Kaunas-Lithuania-Latvia border | EIA Kaunas – Lithuanian/Latvian border .zip |
| Annex No. 5 | Engineering infrastructure development plan for the engineering systems and regional stations of the communications engineering infrastructure of the "Rail Baltica" project on the Kaunas-Lithuanian and Latvian border TPDRIS Nr. S-NC-00-21-349 | Special plan for Regional stationsns.zip |
| Annex No. 6 | Additional information (Value engineering, Master Design interim report, Road safety Audits, ) | Additional information on the Main Line.zip |
| Annex No. 7 | Additional Requirements for site investigations (geological and hydrogeological surveys) | RBLT-GEO-SPC\_SI-R-00001 |
| Annex No. 8 | Consolidates Material Supply elements | RB068-PMD-LST-R-00001 |
| Annex No. 9 | Hydrometeorological Investigation | RBGL-HYD-SPC\_SI-R-00001 |
| Annex No. 10 | Schedule Management Plan  Primavera P6 Cloud Operational Requirements  Work Breakdown Structure | RBDL-PCR-PLN-Z-00001  RBDL-PCR-QRG-Z-00001  RBDL-PCR-LST-Z-00001 |
| Annex No. 11 | Requirements for Technical specification for Construction | RBDN-CWS-SPC-R-00001  RBCN-RBR-SPC-R-00001  RBCN-RBR-BOQ-R-00001 |
| Annex No. 12 | Health and Safety Requirements | RBGL-HSD-STN-Z-00002 |
| Annex No. 13 | System Engineering Management  System Engineering Management process for Implementation phases: Design, Construction and Manufacturing  System Engineering Requirements Specification for INFRA Design and Construction tenders | RBGL-RNC-PLN\_SE-R-00001  RBGL-SEA-PLN\_DN-R-00001        RGDL-SEA-SPC-R-00001 |
| Annex No. 14 | Requirements Management | RBGL-SEA-PLN\_RQ-R-00001 |
| Annex No. 15 | Configuration Management | RBGL-SEA-PLN\_CM-R-00001 |
| Annex No. 16 | Design Management Plan | RBGL-RNC-PLN\_DN-O-00001 |
| Annex No. 17 | Verification and Validation (V&V) Management | RBGL-RNC-PLN\_VV-O-00001 |
| Annex No. 18 | Interface Management | RBGL-SEA-PLN\_FC-R-00001 |
| Annex No. 19 | Įvadas į CSM-RA taikymą  RB RAIL Teikiamų dokumentų informacijos atsekamumo kokybės reikalavimai, keliami AsBo/NoBo  Sistemos užtikrinimo reikalavimai, keliami pagrindinių geležinkelio linijų ir civilinių darbų rangovui  RBGP Saugos planas  RBR Nuoroda INF Pagrindinės linijos pavojų įrašas  Įvadas į Notifikuotosios Įstaigos (NoBo) taikymą ir vertinimą  NoBo sistemos apibrėžimas ir sąveikumo įrodymai | RBDL-CTF-GDL-O-00002  D0007-SEA-XX-XX-INS\_QA-R-00001  RBGL-SEA-SPC-R-00001  RBGL-SEA-PLN-R-00003  RBGL-RBR-LST-Z-0006  RBDL-CTF-GDL-O-00001  D0007-SEA-GDL-R-00002 |
| Annex No. 20 | MANUAL RAILWAY INFRASTRUCTURE MAINTENANCE (CIVIL WORKS, TRACK)  Appendix I: FMEA and RCM matrix  Appendix II: Inspection checklists | RBDL-SOD-ZZ-ZZ-OAM-R-00002  RBDL-SOD-ZZ-ZZ-MTX-R-00001  RBDL-SOD-ZZ-ZZ-TPL-R-00001 |
| Annex No. 21 | Document numbering procedure  Document Numbering and Master Coding  Deliverables Issue Register  Deliverables Quality Control  Document Management Plan | RBGL-DMT-PRC-Z-00001  RBGL-DMT-LST-Z-00001  RBGL-DMT-TPL-Z-00002  RBGL-RBR -PRC-Z-00005;  RBGL-DMT-PLN-Z-00001 |
| Annex No. 22 | Interface Management Register  Interface Control Forms (ICFs)  Interface Control Forms (ICFs)for Main Line  RASCI for System Engineering Activities regarding Design. | RB128-INF-REG-R-00001  RBGL-DMT-TPL-Z-00021\_3.0  IFC\_Main\_Line.zip  RB128-SEA-MTX-R-00001 |
| Annex No. 23 | Rail Baltica Utility Requirements | RBDL-TRG-SPC\_RQ-00001 |
| Annex No. 24 | Technical study for the impact of high voltage line parallel to Rail Baltica line | RBDL-ADN-REP-E-00001 |
| Annex No. 25 | RBR Quality Requirements for Providers of Products and services  Clients Quality Requiraments | RBDL-SEA-ZZ-REQ\_QA-R-00001\_2.0 |
| Annex No. 26 | Quality assessment study on usage of local mineral materials in Lithuania for Rail Baltica Global Project – Engineering Services | RBDL-TEH-REP-N-00001 |
| Annex No. 27 | Study on Supply of Mineral Materials for Rail Baltica in Lithuania | RBDL-GEC-REP-N-00001 |
| Annex No. 28 | Design Progress Performance guidelines | RBDL-PCR-GDL-Z-00001 |
| Annex No. 29 | TECHNICAL NOTE - ESTABLISHMENT OF CP0 GEODETIC NETWORK OF RAIL BALTICA | D0128-BIM-XX-XX-NTF-R-00001 |

1. The Client is not responsible for the availability and content of the information available online (except for www.railbaltica.org website) [↑](#footnote-ref-2)