

**TERMS OF REFERENCE FOR THE SUPERVISION OF  
REHABILITATION WORKS ON THE LINE SECTION  
M101 DG – SAVSKI MAROF – ZAGREB GK, SECTION  
SAVSKI MAROF – ZAGREB ZK**

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## **1. GOAL, PURPOSE AND EXPECTED RESULTS**

### **1.1. General goal**

The subject of this project is renewal (complete overhaul) of track superstructure and substructure, rehabilitation of track structures, adjustment of signalling and interlocking devices and telecommunication devices, and adjustment of the overhead contact line on the Savski Marof– Zagreb Zapadni kolodvor section, which is 17.848 km long (a double-track line).

A double-track M101 DG – Savski Marof – Zagreb Glavni kolodvor line is significant for international transport, especially for suburban railway traffic, which connects Zagreb County with the City of Zagreb, as well as for urban railway traffic in Zagreb. The line supports mixed traffic, except for the Zagreb ZK – Zagreb GK section, on which there is mostly passenger traffic.

The section goes through the City of Zagreb and Zagreb County.

The following are Project goals:

- Increase total safety and interoperability of railway traffic
- Increase carrying capacity of the relevant line section
- Increase train operation speed
- Enable more passengers transported in daily commuter traffic
- Reduce line section maintenance and operation costs

### **1.2. Purpose of the Contract**

The purpose of the service contract “Supervision of Works on the Rehabilitation of the railway line section Savski Marof - Zagreb Zapadni kolodvor” is the supervision to ensure that the contracted works are performed successfully and to a high quality up to their completion and conducted technical inspections.

Supervision service covers:

- Continuous expert, technical, financial and geodetic supervision during the performance of works (also including the supervision of possible unplanned works);
- constant technological supervision, control testing on-site and in manufacturer’s works;
- services of other experts that are not specifically set out (e.g. work of assistant supervisor, etc.) but are necessary for an efficient implementation of supervision and monitoring of contractors’ works dynamics, as well as logistic and advisory support from the seat of the service provider.

The works shall be contracted by one contract:

Construction works will include works on the superstructure, civil engineering, hydrotechnical and geotechnical structures, on buildings and canopies, with all necessary material and equipment. Works on the adjustment of the command-control and signalling and interlocking system will be carried out. The works will be mostly financed by a World Bank loan, and this will be a standard WB contract on the basis of FIDIC contract terms.

### **1.3. Results that service provider has to achieve**

- Timely, efficient and transparent implementation of the works contract for the project of the rehabilitation of the line section Savski Marof - Zagreb Zapadni kolodvor;
- Implementation of the works contract in compliance with projects, FIDIC provisions and valid Croatian legislation, and prescribed quality levels and standards;
- Implementation of the project within the financial framework.

## **2. SCOPE OF WORKS**

### **2.1. General**

The contract will be concluded for the supervision services over the rehabilitation of the railway section Savski Marof - Zagreb Zapadni kolodvor, and includes the works on all the railway infrastructure subsystems: civil engineering, electrical power, traffic and command, signalling and interlocking, and telecommunication. Therefore, the supervisory team should be composed of qualified and experienced experts in civil and electrical engineering, as well as of experts of other profiles and knowledge required for a successful financial and technical implementation of the project, and for expert supervision of all the contracted works up to their completion and conducted technical inspections.

Within this Contract, the Consultant shall fulfil the following obligations:

- obligations of supervising engineers as defined in the Building Act (OG 153/13, 20/17),
- obligations the Consultant as defined in *Bank Harmonized Edition of the Conditions of Contract for Construction prepared and copyrighted by the International Federation of Consulting Engineers (Fédération Internationale des Ingénieurs-Conseils, or FIDIC)*,
- all other obligations defined by this Tender documentation.

Supervision services have to be performed in compliance with:

- the supervision contract,
- the works contracts,
- valid Croatian legislation and all related regulations in the field of civil engineering,
- detailed design of the overhaul,
- Environmental Management Plan which is a constituent part of the civil works contract,

The Project covers the following works:

- Drawing up of a detailed works performance plan,
- Drawing up of as-built documentation,
- Overhaul of existing open line tracks,
- Rehabilitation of the existing Savski Marof, Zaprešić and Podsused Tvornica stations, and upgrade of the existing Savski Marof station building, as well as Brdovec stop building
- Rehabilitation of existing stops and platforms at Zaprešić Savska, Brdovec, Podsused, Kustošija
- Rehabilitation of existing bridges and culverts,
- Drainage system setup on an open line and at stations,
- Adjustment of signalling and interlocking, and telecommunication devices to line overhaul,
- Adjustment of the OHL system to line overhaul.

Detailed project and works specifications are given as annexes (Specification of rehabilitation of the line section Savski Marof – Zagreb Zapadni kolodovor) to this Tender documentation.

Participants in the implementation of this project are: Client, Consultant and Contractor.

Prior to the beginning of works, all employees of the Consultant and Contractors and their subcontractors who will constantly or temporarily be on the site have to be informed of adequate measures to be followed in accordance with regulations on occupational safety and HŽ Infrastruktura ordinances on works near high voltage installations (“Instruction 227 on safety measures regarding electricity on electrified lines“ and “Handbook 227a for the application of safety measures against electricity on the single-phase system contact network, 25 kV, 50 Hz“).

For this purpose all the above mentioned persons have to receive training in movement on construction sites under temporary traffic management during works execution, and in safety measures for works near high voltage installations.

Training is organised by the Client, and the costs amounting to HRK 200kn + VAT per person will be paid by the Consultant and the Contractor, each for their personnel.

## **2.2. Contractual obligations of the Consultant**

Contractual obligations of the Consultant include, but are not limited to the following obligations:

### **2.2.1. After the Contract has been signed**

*(within the Period after the As-Is Situation has been Established):*

- participates in the kick-off meeting organised by the Client prior to the beginning of works;
- reviews the project documentation and other documents which the Client has to give to the Contractor;
- issues the notice on the Date of Commencement of the Contract Works to the Contractor which confirms that all the prerequisites set down in the Contract have been fulfilled, and organises a meeting for the Commencement of the Works;
- familiarizes himself with all valid special acts, ordinances, directives, regulations, provisions, standards and rules related to works on the railway;
- provides a list and CVs of proposed other experts and “supervising engineers” to the Client for approval. The Client will appoint the chief supervising engineer in accordance with the Building Act (OG 153/13, 20/17) and the Ordinance on manner of performing building surveillance, the form, the requirements and manner of keeping the site diary and the contents of the supervising engineer's final report (OG 111/14, 107/15, 20/17),
- issues As-Is Report as defined in these Terms of Reference.
- takes care that all the parties agree on all the details for each phase of the project implementation set down in the Terms of Reference and/or Technical Specifications/Requirements of the Client, and confirmed in the As-Is Report issued by the Consultant;

If, within the Period of the As-Is Analysis, any of the parties (Client/Consultant/Contractor) proposes modifications in the project implementation as set down in Technical Specifications/Requirements of the Client or the Contractor’s proposal, the parties have to discuss them, agree on them and accept the conclusion, which has to be confirmed by the Consultant. Modifications will be included in the Consultant’s As-Is Report.

### 2.2.2. Prior to the commencement of the works on the Site

*(in the period between the Date of Commencement of the Works and the actual commencement of the execution of works on a particular infrastructure subsystem):*

- reviews the construction site registration, verifies insurance policies of the Contractor, Contract performance guarantees, all licences and approvals, i.e. all other documents the Contractor must have on site pursuant to Article 135 of the Building Act;
- verifies whether the Building Diaries of the Contractor have been prepared in compliance with the Ordinance on manner of performing building surveillance, the form, the requirements and manner of keeping the site diary and the contents of the supervising engineer's final report;
- verifies and approves the Contractor's Time Schedule, Quality Assurance Plan, Works Execution Plan, Environment Protection Plan;
- prepares **Quality Control Plan**;
- checks whether the site is developed accordance with Articles 133 and 134 of the Building Act, and all the safety measures have been implemented on the site in compliance with the Occupational Safety and Health Act (OG 71/14, 118/141 154/14);
- checks and prior to the commencement of the works ensures the safety of (rail and road) traffic operations, and that all the environment protection measures have been taken;
- checks and approves the samples of the Materials to be installed by Contractors;
- checks and approves the locations of disposal sites for the surplus of earth material, construction and potentially hazardous waste, sources of stone materials, etc.; and calculates transport distance;
- at the Contractor's request organizes inspection and together with a competent road authority determines the condition of paths and roads which will be used for the transport of the material, i.e. where vehicles for construction purposes will run, and draws up a record about it
- at the Contractor's request and together with the owners of the property and crops that might be affected by the works determines their condition and draws up a record about it.
- approves the Contractors' work technology and measurement and calculation method;
- checks the proposed subcontractors of the Contractor and suppliers which are not mentioned in the Contract (if there are any);
- with prior approval of the Client determines the content and layout of the Contractors' reporting system toward the Consultant and the Client;
- issues the notice on the Commencement of Works, verifies and validates the Contractors' statement of readiness for the commencement of works on the site;
- organises a meeting on the occasion of Commencement of Works on the Site.

**Quality Control Plan**, as a minimum, describes:

- i. summary of the plan of previous and current Contractor's analyses from the Contractor's Quality Assurance Plan;
- ii. plan of control and testing of the quality of delivered Materials and executed Works together with an overview of specific types of works split per infrastructure subsystems, and the associated number and description of control tests and results verification;

The Consultant shall deliver the *Quality Control Plan* to the Client for approval within the period of 28 (twenty-eight) days after the issuance of the notice on the Date of the Commencement of the Works.

### **2.2.3. During the execution of the works:**

- supervises the Works every day in accordance with Article 58 of the Building Act;
- every day checks, validates and files the pages of the Building Diary, all this in compliance with the Ordinance on manner of performing building surveillance, the form, the requirements and manner of keeping the site diary and the contents of the supervising engineer's final report;
- every day supervises the Works in order to check whether the Works are in line with the detailed design and Technical Specifications;
- every day supervises the Works in order to check whether they are in line with the Time Schedule, Quality Assurance Plan, Works Execution Plan and Environmental Management Plan;
- every day monitors, checks and records the amounts of works the Contractor has executed according to the Contract, including the amounts/types of surplus of earth material, construction and potentially hazardous waste taken to disposal areas;
- every day controls the Contractor's execution of staking out works and performs geodetic control of the executed works;
- every day monitors, checks and records the quality of works the Contractor has executed according to the Quality Control Plan, and proposes improvement measures if necessary;
- every day monitors the Contractor's financial execution, and proposes improvement measures if necessary;
- reviews, corrects and, after the approval of the Designer and the Client, approves the modifications of the Detailed Design;
- reviews, corrects and approves as-built situation designs submitted by the Contractor;
- conducts regular control and approves the samples of Materials (including spare parts) to be installed by Contractors including, if necessary, control in the factory, production facilities, laboratories for testing of the Materials, etc.;
- analyses and approves the Contractor's updated plans (Time Schedule, Quality Assurance Plan, Works Execution Plan)
- analyses and approves all of the Contractor's progress reports, controls employees and equipment records of the Contractor, i.e., if necessary, all other records in order to have an overview of the Contractor's actual costs;
- keeps his/her own record of works progress and compares it with the approved Time Schedule, the Contractor's monthly progress report and, if necessary, proposes measures for the improvement of works execution process and works execution upgrade/acceleration;
- checks and validates, within deadlines enabling the validation of Temporary Situations, the amount of the Works actually executed (including all the blueprints/sketches/drawings and billing drafts) through the Measurement Book, and controls and ensures a harmonised overview of the executed works in the Measurement Book and Temporary Situation;
- organises inspections prior to any use of roads, i.e. any possible impact of the Works execution on private and public property (houses, land, crops, etc.), and together with the Contractor, competent road authority, property owners establishes as-is condition and makes the records of it;



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- monitors and coordinates any damage made during the execution of the Works (to roads, surrounding land, real estate, trees, etc.), whether within or out of the area where the Works are executed;
- with the Client coordinates the Contractor's requirements for works in the traffic zone, including the line possession, the OHL switch off/on etc.;
- in cooperation with the Client and the Contractor on a daily basis takes care of safe flow of railway and road traffic and of passengers safety;
- ensures that environment protection, occupational safety and health, and fire protection measures are taken during the Works execution;
- immediately warns the Client of any discrepancies in relation to the Contract, detailed designs, Technical Specifications, approved plans, all relevant acts, regulations and standards;
- regularly and promptly keeps records of the supervising engineers' work, makes all necessary reports, convenes and organises meetings and takes the minutes;
- actively participates in the preparation (documentation and works overview, corrections and validation), and implementation of all the inspections of the executed works (Internal Technical Inspections), and elimination of possible faults discovered during these inspections;
- is available for and enables civil engineering and other inspectors to conduct inspection controls in accordance with the Building Act and other acts, and provides all the documentation necessary for such an inspection;
- fully cooperates with the World Bank's representatives when providing an overview and audit of any aspect of the Contract;
- is available for and enables the representatives of the Client and the World Bank an evaluation of a valid implementation of the contract by checking the original documentation and executed works on the spot.
- checks and validates the Temporary Situations, issues Taking-Over Certificates for all the Works and controls the Final Payment Certificate with the Contractor.

The Consultant shall supervise all the Works, including possible unforeseen works which it is obligated to deal with professionally, technically and financially, and draw up his/her opinion prior to giving it to the Client for approval. In order to have an overview of the submitted and processed Contractor's requests for the acceptance of unexpected works, the Consultant is obligated to come up with an adequate manner of record keeping and monitoring, after the prior approval of the Client. A Supervising Engineer for the supervision of works of a particular expert field is not authorised to approve any unexpected works without the prior approval of the Consultant.

After the review and verification/validation of the sheets of the building diaries by the Supervising Engineer, these sheets have to be scanned and filed, and given to the Client on a CD/DVD together with the Temporary Situation. In addition to Settlement of Accounts upon completion the Consultant is obligated to sort the Building Diary in a logical manner and give the Client one bound copy and one on a CD/DVD.

During the implementation of the Contract, the Consultant shall keep the records of the submitted project documentation and all its modifications in such a way that, after the prior approval of the Client, it sets up an adequate record and monitoring scheme.

During the implementation of the Contract, the Consultant is obligated to keep the records of the submitted proofs of the quality of the Material in such a way that, after the prior approval of the Client, it sets up an adequate record and monitoring scheme.

During the implementation of the Contract, the Consultant shall note every incompleteness of Technical Specifications/Requirements of the Client which has caused misunderstandings between the Parties to

the Contract or misinterpretation by the Contractor or the Consultant. The Consultant shall include these notes into the Final Report on the Implementation of the Works Contract, which will be used by the Client as experience base for future projects.

The Consultant shall also give advice, opinions and professional expertise regarding all the aspects of the Works' execution.

The Contractor shall at his/her own expense organise the visit of the Consultant during the production and/or delivery of materials and equipment that are produced outside Croatia, for the purpose of testing and inspection.

#### **2.2.4. In case of variations, claims, dispute and arbitration**

- analyses, processes from the expert technical and financial point of view and gives opinion on any claim by the Contractor;
- helps the Client in the preparation of documents required for the request for contract modification;
- immediately informs the Client of any event or dispute which requires an intervention and participation of the Client;
- in case of a dispute is at the disposal of the Client, arbiters and the Dispute Board on any issue relevant for the dispute;
- in case of arbitration and receiving a summons to testify it has to be available on any issue relevant for the dispute.

#### **2.2.5. Prior to the commencement of Testing upon Completion**

- checks whether all the Works have been executed and whether they have been executed in compliance with Technical Specifications and issued building permits, and whether all required proofs of the quality of the installed Material have been gathered;
- checks whether all required reports have been submitted to the Client, and whether all the required documentation (as-built condition documentation, etc.) has been submitted and approved;
- verify whether adequate equipment has been provided for testing a particular subsystem;

#### **2.2.6. After the submission of the Contractor's note that it is ready to run tests upon completion:**

- prepares the report/final report on executed works in compliance with Article 22 of the Ordinance on manner of performing building surveillance, the form, the requirements and manner of keeping the site diary and the contents of the supervising engineer's final report;
- notifies the Client in writing that the Contractor has executed the works according to the Contract, i.e. that the Contractor is ready to run tests upon the completion, and that internal technical inspection can begin;
- runs all the tests upon completion (including internal technical inspections, repeated inspections in order to eliminate defects) and fulfils all the obligations of the Consultant arising from the Contract between the Client and the Contractor, Technical Specifications, the Building Act, the Ordinance on manner of performing building surveillance, the form, the requirements and manner of keeping the site diary and the contents of the supervising engineer's final report and the internal acts of the Client;
- issues the *Taking-Over Certificate* after all the conditions have been fulfilled;
- prepares, validates and submits the Final Settlement of the Works to the Client.

In the period from the Final Settlement of the Works to the expiry of the Defects Reporting Period and issuing the Certificate of Obligation Fulfilment, i.e. to the validation of the Final Payment Certificate, all the Consultant's duties will be performed by the Client.

### **2.3. Prior approval of the Client**

The Consultant shall ask for Client's prior approval before it:

- changes the key experts appointed in this supervision contract;
- approves the replacement of subcontractors for the works or/and key personnel named in the Works Contract,
- approves the Contractor's Time Schedule and The Works Execution Plan;
- gives any order or approval which:
  - i. reduces the quality of the Materials set down in the Contract and the Technical Specifications **or**
  - ii. extends the deadline for the execution and/or increases the price of the Works;
- before the Consultant acts in any other way that is mentioned in the Technical Specifications for which prior approval of the Client is required.

### **2.4. Meetings and works reports**

Meetings and reports are necessary to ensure regular and efficient monitoring of the Works. The Client shall evaluate the timely submission of reports, their accuracy and comprehensiveness.

The reports are submitted in person or by registered mail in 3 copies in paper and 1 copy in electronic format (CD/DVD) and according to deadlines laid down in Subparagraph 3.4.13.

All reports must be in English and Croatian.

The Client and the Consultant shall jointly decide on any potential modification of the content of meetings and reports.

#### **2.4.1. Kick-off meeting**

Kick-off meeting for all the included parties shall be organised by the Client within thirty-five (35) days from the signing of the Agreement with the Contractor, in order for all the parties participating in the project's implementation to present themselves, and to confirm a clear distribution of responsibilities and tasks.

The Consultant shall give the complete project documentation to the Contractor.

#### **2.4.2. As-Is Condition Report**

Within the period of 28 (twenty-eight) days after issuing the Notice on the Date of Commencement of the Works, the Consultant shall submit the As-Is Condition Report in order to inform about all the relevant problems arising from the preparatory period, general organisation of the project and organisation of construction supervision.

The As-Is Condition Report as a minimum should present information on:

- i. basic project data and general project organisation;

- ii. engagement of the Consultant's and Contractor's staff and specific assignments of the supervising and site engineers;
- iii. basic data and observed initial problems with the Client's documentation, access to the Site, engagement of contractors etc.;
- iv. basic data on the site arrangement, access roads, disposal sites, etc.;
- v. potential modifications with regard to the Technical Specifications and the Contractor's proposal which were discussed at the kick-off meeting and all the parties to the contract agreed to;
- vi. basic data and comments on the Contractor's proposed plans (time schedule, quality assurance plan and works execution plan);

#### **2.4.3. Meeting for the Commencement of the Works on the Site**

- the aim of the meeting is to ensure common understanding of initial activities and obligations, establish the availability and completeness of the documentation, communication procedures, roles of the key staff, etc.;
- this meeting is to be organised by the Consultant and is to be attended by the representatives of the Contractor and the Client and of all the other parties included in the project's implementation (HŽI representatives who are responsible for traffic operation, power supply switch on/off, line possession/opening and, if necessary, owners of utility installations and representatives of local government);
- it is necessary to discuss all the problems discovered up to that point, disagreements and/or risks and to define solution measures and consider obligations;
- conclusion of this meeting should be that all the prerequisites have been met and that the Contractor is ready to commence with the Works;
- Proposed agenda of the Meeting for the Commencement of the Works:
  - i. Introduction and presentation of the attendees
  - ii. Additional presentation of the participants in construction process and their functions
    - a. Contractor
    - b. Consultant / Supervising Engineer
    - c. Client – end user
    - d. Designer
  - iii. Contract documentation
  - iv. Insurances
  - v. Dispute Settlement Committee
  - vi. Manner of correspondence
  - vii. Designs and information of the Client / the Consultant
  - viii. Time Schedule and all key dates
  - ix. Subcontractors
  - x. Site
    - a. Possession of the site, access to the site, construction zone

- b. Existing conditions on the site
- c. Site organisation
- d. Site boards
- e. Temporary utilities: water, power, phone, gas, Internet
- f. Working hours
- g. Site safety and protection, cleanliness and tidiness, environment protection
- h. Emergency procedures, phone contact after the working time
- xi. Payment procedure and Statement for Payment template with special emphasis on payments to subcontractors
- xii. Contractor's questions
- xiii. AOB
- xiv. Setting the date/day of the first weekly/monthly meeting on the works' progress

#### **2.4.4. Meetings on the progress of the works – weekly/monthly**

- A weekly meeting shall be held once a week at a time agreed on at the meeting held prior to the commencement of the works.
- The weekly meeting is an operating meeting for the purpose of the works' progress monitoring in relation to the approved Time Schedule and solving open issues on the Site, primarily regarding the delivery and clarification of technical documentation, access right, technical conditions for works execution, works in the traffic zone, etc. The agenda and the minutes are made and distributed by the Consultant.
- A monthly meeting will be held once a month at a time agreed on at the meeting held prior to the commencement of the works.
- The monthly meeting is a formal meeting for the purpose of exchange of information and procedures, and is based on the standing agenda. The agenda and the minutes are made and distributed by the Consultant.
- Prior to the monthly meeting on the progress of the works the Contractor is obligated to submit to the Consultant the Monthly Report on the Progress of the Works and Time Schedule for the current and following month which is in accordance with the last approved general Time Schedule.
- The Consultant must have enough time to review this Report on the Progress of the Works and Time Schedule in order to be able to perceive potential problems and prepare proposals for their solving.
- The proposed agenda of a Monthly meeting on the progress of the works is as follows:
  - i. Record of attendees – explanation of absence
  - ii. Acceptance of the agenda
  - iii. Acceptance – correction of the minutes of the last month's meeting
  - iv. Occupational safety and protection and environment protection
  - v. Site documentation
  - vi. Progress of the works

- vii. Comparison to the approved time schedule with special emphasis on deadlines referring to the phasing of works and works execution dynamics, traffic organisation and traffic flows
- viii. Methodology
- ix. Quality assurance
- x. Testing
- xi. Payments and claims of Contractors, Subcontractors and the Client
- xii. AOB
- xiii. Records of the submitted documentation
- xiv. Date of the next meeting

#### **2.4.5. Monthly Reports on the progress of the works**

- The Consultant shall submit the Monthly Report on the Progress of the Works within 14 (fourteen) days from the beginning of the month in order to report on the course of the works and on all relevant events that happened the previous month.
- The Consultant's Monthly Report is a key document for controlling the Contract which should as a minimum include, but not limited to, the following information:
  - i. Comments on the Contractor's progress during the past month including any divergences from the planned activities,
  - ii. Comments on problems and limitations encountered and forecasts of future limitations,
  - iii. Overview of the dynamics of the executed works of the Contractor with regard to the valid (accepted) Time Schedule with current projection of the expected date of the works completion, and proposals, in case of divergence, for the acceleration of the works with special emphasis on deadlines referring to the phasing of works and works execution dynamics, traffic organisation and traffic flows, photographs of the progress of the works
  - iv. Data on access roads, disposal sites (locations/amounts and type of the disposed material), sources of materials (locations/amounts and types of the delivered material), etc.;
  - v. Overview of financial indicators,
  - vi. List of submitted evidence of the quality of the material together with approval status of each material,
  - vii. List of the Contractor's requests for information and execution status of each request
  - viii. List of open technical issues,
  - ix. List of delivered documentation,
  - x. Review of and comments on the Contractor's resources with proposals for capacity increase in case of insufficient capacity,
  - xi. Review of key deadlines plan and works execution dynamics, traffic organisation and traffic flow,
  - xii. Review of the Contractor's planned works in the following period and the description of the Consultant's planned works in the following period,
  - xiii. Review of the requests for access to the Site (a part of the Site),
  - xiv. Review of the occupational safety and protection condition and possible accidents,

- xv. Review of the environment protection situation and possible unexpected pollution,
  - xvi. Validated pages of the Building Diary (scanned and attached on a CD/DVD in PDF format),
  - xvii. All other documentation in compliance with the Contract and the Client's Requirements.
- The reports of the Consultant and the Contractor shall be read together. In case of any discrepancy between the reports of the Consultant and the Contractor, an additional explanation shall be required from both sides.
  - Once the Works have begun, the Contractor's Monthly Report should depict the actual progress of the Works during the previous calendar month. Key parts of the Monthly Report on Progress are any unresolved information, unsolved problems and requests for more time or resources.

#### **2.4.6. Meetings at request**

- Meetings at request are held as needed and at the request of one of the participants in the construction process, usually only with one topic such as the project modification or a claim.
- It is necessary to require a minimum attendance, in order to ensure fast and efficient decision making.
- The minutes shall include an accurate overview and explanation of the requests (problems), and recommendations for their solving.

#### **2.4.7. Report/Final Report on the Executed Works**

- Supervising Engineers and Chief Supervising Engineer, appointed according to the Building Act, prepare Reports/Final Reports of supervising engineer/chief supervising engineer on the executed works in compliance with Article 22 of the Ordinance on manner of performing building surveillance, the form, the requirements and manner of keeping the site diary and the contents of the supervising engineer's final report.
- Supervising Consultant shall prepare the report on executed works 14 days before the proposed date of an internal technical inspection at the latest.

#### **2.4.8. Proposal of the Final Report/Final Report on the performance of the contract**

- The Consultant is obligated to submit the proposal of the Final Report on the Performance of the Contract 28 days after issuing the Taking-Over Certificate to the Contractor.
- After the Client has reviewed the proposal of the Final Report, the Consultant shall make necessary modifications to the proposal of the Final Report and shall submit the final report on the performance of the contract 28 days after receiving the comments at the latest.
- Proposal of the Final Report/Final Report on the performance of the Contract shall contain the following minimum information:
  - i. on the works executed in accordance with the Contract, with all the technical and financial indicators;
  - ii. copies of the Taking-Over Certificate;
  - iii. list of approved/accepted as-built drawings by the Contractor;
  - iv. complete analysis of the works completion costs, especially taking into account those problems and costs which might become a matter of dispute;



- v. overview of actual progress of the works in relation to the initial Time Schedule with a detailed explanation of reasons for delays and/or extension of construction deadline;
- vi. overview of safety procedures, potentially perceived problems in this respect, incidents and improvement recommendations;
- vii. overview with comments of the Contractor's working practice and resources;
- viii. evaluation of the quality of materials and of their general manufacture, and if there have been any problems, each problem shall be described in detail and recommendations for improvements given;
- ix. details on technical difficulties discovered during the execution of the works and the way they were dealt with

#### **2.4.9. Overview of reports and submission deadlines**

The Consultant is obligated to submit the abovementioned reports within the following deadlines:

<b>Report</b>	<b>Chapter</b>	<b>Submission deadline</b>
As-Is Condition Report	2.4.2.	28 days after issuing the Notice on the Date of Commencement of the Works
Monthly Report on the Progress of the Works	2.4.5.	14 days after the expiry of the month which is the subject of the report
Report/Final Report on the Executed Works	2.4.7.	14 days before the internal technical inspection (Report) / submitting the request for issuing the certificate of occupancy (Final Report)
Proposal of the Final Report on the performance of the contract	2.4.8.	At the latest 28 days upon issuing the Taking-Over Certificate to the Contractor
the Final Report on the performance of the contract	2.4.8.	28 days after receiving the comments

The reports are submitted in person or by registered mail in 2 printed copies and 1 in electronic format (CD/DVD) within deadlines defined in paragraph 2.4.9.

#### **2.4.10. Acceptance of the Final Report on the performance of the contract**

- the acceptance of the report by the Client confirms that they have been made in compliance with the conditions from the Contract and Terms of Reference.
- The Client shall within 56 days from the day of receiving the report inform the Consultant of his/her decision regarding the submitted report, which may be:
  - a) The Report is completely accepted or
  - b) The Report is returned for fine-tuning, together with comments on what is not accepted in the report or
  - c) The Report is completely rejected and it is necessary to draw up a new report.



- If the Consultant does not receive information on the acceptance or rejection of the report within 42 days from the submission of the Report to the Client, it may request this information in writing. If the Client does not clearly inform in writing the Consultant on the status of his/her report within 28 days from the written request of the Consultant, the Report is considered to be accepted.
- In case of b) when the Consultant has to supplement or modify a part of the Report, the Client shall prescribe the deadline in which that has to be done.

### **3. BEGINNING AND DURATION OF THE CONTRACT**

The performance of services begins 7 days after the Consultant has received the Client's notice on the date of the Kick-Off Meeting.

The expected date of the beginning of the provision of services is October 2018.

The expected duration of services' execution is 30 months, i.e. 3 months after issuance of Taking-Over Certificate.

The final completion deadline is indicative and depends on the Contractor and the course of the works and possible unexpected circumstances which may affect the works' duration. If the Contract term for the execution of the works is extended for reasonable grounds, the duration of the supervision contract shall also be extended.

Services Provision Plan shall depend on the Works Execution Plan of the Contractor. Regular working hours shall be every day in the period from 7.00 to 19.00 hours, with a possibility of changes, depending on works performance times.

Intensity of the Consultant's activities will change during the term of the Contract, and that has to be taken into account when proposing and hiring expert staff.

### **4. OTHER REQUIREMENTS**

#### **4.1. Expert staff**

Expert staff of the Consultant are required to be familiar with all relevant valid laws and regulations of the Republic of Croatia which may affect in any way the performance of the contract, i.e. the total construction and the overall project implementation.

During the construction works, the Consultant has to be constantly present on the location of the project with enough team members at any time in order to ensure an efficient supervision and project implementation. Tasks have to be distributed among the team members so that all the activities of the Contractor are supervised at any time by a member/members of the team of the adequate profession.

Work in shifts and/or at night should be expected, so an optimal expert mobilisation and presence on the Site should be ensured in compliance with the project's needs and the Contractor's work programme.

All payments for the Consultant's staff shall be based on the work of key experts which is controlled and approved by the Project Manager. The Client shall not accept any requests for additional payments which would arise from the Consultant's bad judgement or bad distribution of activities with regard to the staff employment.

#### **4.1.1. Key experts**

The subject matter of procurement are the services of expert supervision over works' performance on the project "Reconstruction of the M101 State border – Savski Marof – Zagreb GK railway line, Savski Marof – Zagreb ZK section".

The foreseen intervention is very complex with regard to the type, quantity and variety of works to be performed at the same time. Besides, the construction site cannot be secured in the usual way, and works and traffic will continue under special conditions, which requires an extremely high degree of co-ordination between the supervision team, contractors and Client's operational staff.

Therefore, the provision of relevant services has to be entrusted to an economic entity, which can prove its experience in providing such services under similar conditions; proof of technical and professional competence is required, as mentioned below.

In order to secure an appropriate level of market competitiveness and taking into consideration the complexity and duration of such and similar projects, the Client has determined a longer time period for relevant services, for which technical and professional competence will be proven.

The Consultant shall prove technical and professional competence by providing the following:

a) List of main services

The mentioned proof of competence must serve the Consultant to prove that in the year, in which the public procurement procedure began and in the course of 5 years preceding to that year, it has provided the following:

- three (3) up to the maximum of five (5) services of expert supervision over the construction and/or repair and or/reconstruction of transport infrastructure
- that the total value of mentioned performed services amounts to at least HRK 8,000,000.00 (without VAT).

As sufficient proof of competence, the Client will accept a filled out form (List of main services), containing the following information: value of services, date and name of the other contracting party. If necessary, the Client can directly request the other contracting party to check the authenticity of the data mentioned in the list.

If the service was provided as a part of a contract, in which other type of services were also included, and which were not connected to the procurement subject, it is obligatory to mention the data on that part of services relating to the procurement subject.

In case that a service was provided by a consortium, whose member is a participant in this public procurement procedure, the reference in the list of main services has to contain information relating only to that consortium member (mention services connected with the subject of procurement provided independently by that consortium member).

b) In the first phase of the tendering, the Consultants submitted to the Client a Statement which obligated them to provide the prescribed profiles of experts, and in the Tender they have to submit a list of technical experts they propose for performing contractual obligations and necessary evidence for each of the proposed experts:

- Filled in Form XX. A list of technical experts included in the performance of the contract,
- For every proposed expert:
  - o Filled in Form YY Curriculum vitae and work experience of the technical expert,
  - o Copy of a diploma (together with the translation into Croatian if it is not in Croatian).

The Client reserves the right to verify the submitted certificates and all the data in the CVs. If the Client discovers that these are untrue, it shall exclude that Consultant from the public tender procedure.

For the purpose of an efficient performance of expert supervision during the whole period of the works' performance, the Tenderer shall ensure constant presence of the following:

- Engineer for monitoring and implementation of contracts according to FIDIC (mentioned as Expert 1 in the list of technical experts);

- A chief supervising engineer (in case these are not the same person) and other supervising engineers (Experts no. 2 to 4 from the list of technical experts) in charge of specific type of work whenever such type of work is executed.

All the submitted evidence and documents have to be in Croatian or translated into Croatian.

The Consultant has to have at least the following key experts available for service performance:

- Key expert 1 Engineer for monitoring and implementation of contracts according to FIDIC
- Key expert 2 Supervising engineer for superstructure construction works
- Key expert 3 Supervising engineer for works on signalling and interlocking and telecommunications devices
- Key expert 4 Supervising engineer for electrical energy works
- Key expert 5 Supervising engineer for rail/road substructure works
- Key expert 6 Supervising engineer for geodetic works
- Key expert 7 Supervising engineer for works on buildings

The Consultant must include the following in the list for every proposed person: name and surname and a remark indicating for which expert that person is proposed.

For technical experts, who that belong to another economic entity, it is required to add a statement/agreement/contract from another economic entity confirming that the Consultant will have at its disposal technical experts necessary for the implementation of this contract, signed by a person authorized for representation of the economic entity they belong to.

Remark:

- A single physical person is permitted to perform only one of the mentioned functions.
- The Consultant can employ more experts in contract implementation than the number foreseen in this Procurements documentation.

c) Education and professional qualifications of key experts

Key expert 1: Engineer for monitoring and implementation of contracts according to FIDIC

Requirements:

- A university degree in construction engineering, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
- 8 years of work experience in this profession;
- 5 years of experience in carrying out expert supervision over construction and/or project management and/or technical assistance and/or tasks of construction site engineer in transport infrastructure project management;
- Experience in monitoring and implementation of 1 (one) works contract according to FIDIC or equivalent contract terms, the value of which amounted to at least HRK 20 million;

Key expert 2: Supervising engineer for superstructure construction works

Requirements:

- A university degree in construction engineering, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
  - 5 years of work experience in this profession;
  - 3 years of work experience performing tasks of design and/or construction and/or expert supervision of railway superstructure construction;
-

Key expert 3: Supervising engineer for works on signalling and interlocking and telecommunications devices

Requirements:

- A university degree in electrical engineering, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
- 5 years of work experience;
- 3 years of work experience performing tasks of design and/or construction and/or expert supervision over the installation of railway signalling and interlocking and telecommunications devices;

Key expert 4: Supervising engineer for electrical energy works

Requirements:

- A university degree in electrical engineering, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
- 5 years of work experience;
- 3 years of work experience performing tasks of designing and/or construction manager/construction site engineer and/or expert supervision of construction/reconstruction of railway electrical power subsystems;

Key expert 5 – Supervising engineer for rail/road substructure works

Requirements:

- A university degree in construction engineering, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
- 5 years of work experience in this profession;
- 3 years of work experience performing tasks of design and/or construction and/or expert supervision of railway/road substructure construction;
- 1 project in which the expert performed expert supervision of railway/road substructure construction

Key expert 6 – Supervising engineer for geodetic works

Requirements:

- A university degree in geodesy, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
- 5 years of work experience in performing expert geodetic tasks and design for the purposes of construction or expert supervision over works
- 1 project, in which the engineer performed geodetic supervision over transport infrastructure works

Key expert 7 – Supervising engineer for works on buildings

Requirements:

- A university degree in construction engineering, i.e. a completed undergraduate and diploma university study course or integrated diploma university study course or a specialist graduate professional study in the mentioned field (a minimum of four years of higher education);
  - 5 years of work experience in this profession;
  - 3 years of work experience performing tasks of design and/or construction and/or expert supervision of building construction;
-

- 1 project in which the expert performed expert supervision of building construction;

**Note:** In compliance with Article 57 of the Building Act (OG 153/13, 20/17) in case of carrying out more types of works or larger scope of works on a building, expert supervision must be conducted by several supervising engineers of an adequate profession. The Client shall in this case by a written contract appoint the chief supervising engineer who shall be responsible for the completeness and coordination in expert supervision of the construction. Chief Supervising Engineer may at the same time also be a supervising engineer for certain type of works.

In this Contract, the role of Chief Supervising Engineer shall be performed by one of the experts from the civil engineering profession (Expert 1 or 2), proposed and appointed by the Client.

Conducting activities of expert supervision of construction within the context of the Act on Physical Planning and Building Tasks and Activities (OG 78/15) means the performance of all activities according to a special act regulating the area of building, and they are carried out by a supervising engineer (Building Act - OG 153/13, 20/17).

The Consultant is responsible for meeting the requirements of valid acts with regard to authorisations of persons who will work in the position of engineer/chief engineer for supervision of specific works (persons who obtained the title “certified engineer”), in order to carry out supervising tasks in compliance with this act and relevant provisions arising from this act.

The Supervising Engineer cannot be an employee of the Contractor or the provider of any services that will undergo expert supervision under this Contract.

After the Taking-Over Certificate has been issued, the Consultant does not need to be physically present during the Defects Reporting Period. However, the Consultant should be available in order to provide support to the Client with regard to potential contractual, technical or operational issues which may arise in that period.

#### **4.1.2. Experts from other fields and other staff**

In addition to the above mentioned key experts, the Consultant shall for the purpose of an efficient expert supervision and monitoring of the dynamics of the works, during the whole time of the works execution ensure the work of experts from other fields who are not key experts whenever this type of works is executed (e.g. certified engineers - specialists in fields of geodesy, geomechanics, hydrotechnics, mechanical engineering, occupational safety and protection, traffic management and organisation; lawyers, interpreters etc., and Key Experts’ assistants for specific type of work).

The work of experts from other fields also includes work on non-business days, in shifts and/or night work, if necessary.

The work of the assistants of key experts and experts from other fields shall be included in the total tender value calculation. The Client has to approve the chosen assistants and experts from other fields.

In the tender it is not necessary to submit the CVs of experts from other fields who are not Key Experts. The Consultant selected as the most favourable one has to submit the CVs of experts who are not the key ones to the Client for approval after the signing of the Contract, condition being that they have at least 5 years of experience in the profession for which the Consultant proposes them.

The Consultant has to ensure sufficient translation capacity in order to ensure undisturbed work of his/her staff, applying Croatian regulations and communication on the Site.

Other employees and logistic and advisory support from the seat of the service provider which are not mentioned here may participate in the implementation of this contract, and their costs shall be included in the total cost of the offered services.

#### **4.2. Contents ensured by the Client**

The Client shall:

- ensure all the necessary project documentation which the Client has in relation to all the elements of the project realisation (detailed designs);
- ensure undisturbed and timely access of staff and the Contractor's and Consultant's equipment to the site.

#### **4.3. Costs**

The following costs are included in this price:

- continuous expert, technical and financial supervision during the execution of works (including the supervision of execution of unforeseen works);
- constant technological supervision, control testing on-site and in manufacturer's works;
- continuous geodetic supervision;
- occasional work of experts-specialists from other fields (geodesy, geomechanics, hydrotechnics, mechanical engineering, occupational safety and protection, traffic management and organisation; lawyers, translators etc.);
- services of other experts that are not specifically mentioned (e.g. work of supervision assistant, etc.), but are necessary for an efficient supervision and monitoring of contractors' works dynamics, as well as logistic and advisory support from the seat of the service provider;
- employees' salaries including social security contributions and all other costs such as: business trips costs for business activities out of the area of work under this Contract (except for business trip costs for the purpose of testing and overview during the production and/or prior to the delivery of the material and equipment manufactured out of the Republic of Croatia, which shall be borne by the Contractor), daily allowances, overtime and night work, field work allowances, family separation allowance, accommodation and meals for employees etc.;
- costs of preparation and organisation of meetings, technical and inspection overviews, preparation and drawing up of the works progress reports.

In addition to the abovementioned the total price includes all other activities given in the Terms of Reference for supervision, all the activities arising from the Construction Contract concluded between the Client and the Contractor (contract for the civil engineering works of track renewal, building renewal and adjustment of signalling and interlocking, telecommunications equipment and the OHL) which require supervision, and all the taxes, levies or other obligations which are not specifically mentioned here. It shall be assumed that the profit and deductions for all commitments are equally distributed and included in the total price.

The Consultant shall execute all necessary activities described in these Terms of Reference, all the activities mentioned in Technical Specifications and Drawings in which supervision is required, all the activities arising from the Building Contract concluded between the Client and the Contractor, in compliance with the provisions of the Building Act and other valid applicable laws and regulations in the Republic of Croatia.

#### **4.4. Costs acceptance and payment**

Payment of performed services will be carried out on the basis of an interim and final payment certificate of the Consultant, and the Project Manager will check incurred costs and provide approval according to already obtained approval from the Client.

Interim payment certificates have to be delivered for approval to the Client on a monthly basis.

All costs have to be described in detail in reports delivered by the Consultant to the Client, and the costs charged in a specific payment certificate have to be visible also in payment certificate accompanying documentation.

The calculation of performed services of the Consultant will be carried out for every month of service provision, in proportion to the work carried out by the Contractor for that month, and according to the percentage defined by the Consultant for every specific bill of quantities' item of the Supervision contract. This way of calculation will be carried out until the cumulative value of the performed service has reached 95% of the Supervision contract price. The precondition for charging the remaining amount is the fulfilment of all obligations of the supervising team, including obtaining the approval for the Final report. If the Final report is approved before 30 months' deadline expiry for service performance, the payment will be carried out only upon the expiry of this deadline.

The Client and/or Project Manager will monitor the work of the Consultant by performing occasional on-site inspections on a monthly basis, based on the indicators for performance monitoring and evaluation. If it is determined that an individual key expert or more of them do not meet the indicators of presence and work efficiency, then the payment will be reduced for that month. If this practice continues, the Client is entitled to request a key expert replacement.



## **CONTACT SHEET**

Full legal name of Lead Organisation/

Individual:

Trading Name (if different from above): -

Country of Registration:

Address of registered office:

Postal address (if different from above):

Telephone number (including country code):

Fax number (including country code):

Main contact person for this assignment:

Main contact person's position

Organisation:

Contact person's email address:

Alternate contact person:

Alternative E-mail:

Website of the Organisation:

### **Important Notes:**

Any change in the addresses, phone numbers, fax numbers and in particular e-mail addresses, must be notified in writing to HŽ INFRASTRUKTURA d.o.o., Mihanovićevo 12, Zagreb.

HŽ INFRASTRUKTURA d.o.o. will not be held responsible in the event that it cannot contact the Consultant using any of the above details. It is the sole responsibility of the Consultant to ensure that it monitors its telephone and fax numbers and that its postal and e-mail addresses are official and accessible.