



AGÊNCIA DE TRANSPORTE DO ESTADO DE SÃO PAULO

ANNEX 7 –Rodoanel Norte Lot

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ANNEX 07

SERVICES CORRESPONDENT TO EXPANSION FUNCTIONS

SPONSORED CONCESSION OF PUBLIC SERVICES OF OPERATION, MAINTENANCE AND MAKING OF INVESTMENTS NECESSARY FOR EXPLORATION OF THE ROAD SYSTEM CALLED RODOANEL NORTE LOT

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1. INTRODUCTION

This ANNEX presents the rules relevant to the expansion functions and must be observed by the CONCESSIONAIRE throughout the CONCESSION TERM. As a condition for signing the AGREEMENT, the CONCESSIONAIRE must present the POI, containing the planned works and investments and the respective PHYSICAL-EXECUTIVE and PHYSICAL-FINANCIAL SCHEDULES. The CONCESSIONAIRE shall implement the POI after its approval by ARTESP.

In accordance with the relevant contractual rules, the POI may be readjusted and the need for new investments may be reviewed during the ORDINARY REVISIONS, in accordance with the procedures and rules established in the AGREEMENT.

With the exception of those that are not linked to fixed contractual milestones, the deadlines for complying with the obligations of this ANNEX are consolidated in the Deadlines Framework provided for in item 5.

The digital systems must be implemented by the CONCESSIONAIRE within the deadlines and terms provided for in APPENDIX F.

ANNEX 21 is binding for the following purposes: (i) total value of each investment item for purposes of measuring imbalance; (ii) start and end years for the presentation of the POI in relation to each investment item; and (iii) description of each investment item related to the main expansion, other expansions and improvements and special conservation, unless otherwise indicated in the ANNEXES and/or APPENDICES.

The distribution of the amounts in the years in which the investments will be carried out, proposed in ANNEX 21, is merely referential and not binding, and the CONCESSIONAIRE must present the start/end dates of the investments in the POI, within the start and end period provided for in the EVTE.

The POI should also observe the grouping of related investments, especially the project fund and work and project certification as well as the implementation of construction site.

(a) General Provisions

The CONCESSIONAIRE is responsible for meeting the requirements set forth in this ANNEX, being certain that the burdens arising from the impossibility of meeting said requirements as a result of the project specifications contained in ANNEX 12, as well as any liabilities, irregularities, inaccuracies or failures identified during the PRE-CONSTRUCTION PERIOD shall be included in the INSPECTION REPORT and will be the object of economic and financial rebalancing of the AGREEMENT, pursuant to ANNEX 18.

If the CONCESSIONAIRE chooses an alternative solution to those provided for in ANNEX 12, it may prepare and present FUNCTIONAL PROJECTS and EXECUTIVE PROJECTS, under the terms provided for in APPENDIX G, at its own risk, without prejudice to the need to fully comply with the Performance Indicators provided for in ANNEX 03. If the alternative solution does not change the functional aspects of the projects, there will be no need to prepare and present FUNCTIONAL PROJECTS.

In the case of submission of alternative projects, they must comply with the minimum parameters provided for in the ANNEXES, as well as ARTESP project instructions and the DER/SP Geometric Projects Manual.

If the CONCESSIONAIRE chooses to implement an alternative solution that justifiably waives the periodicity provided for special conservation as provided for in ANNEXES 2, 12 and 21, it may submit a separate program for approval by ARTESP, not resulting in economic and financial rebalancing, without prejudice to the need full compliance with the Performance Indicators provided for in ANNEX 03 and ANNEX 06.

(b) Completion Works of the Rodoanel Norte and Adequacy of Investment Schedule

The investments specified in this ANNEX shall be included in the POI to be presented by the Contractor and approved by ARTESP, as a condition for signing the AGREEMENT, in accordance with the rules established by the REQUEST FOR BIDS.

The POI will be approved after the CONCESSIONAIRE has presented the document and analyzed it by ARTESP until the date set for the signature of the AGREEMENT, according to the rules of the REQUEST FOR BIDS. The conditions for its approval are: (i) the CONCESSIONAIRE shall consider all mandatory investments and (ii) the initial and final milestones established in this ANNEX and in ANNEX 21 must be respected, and the distribution of intermediate milestones will be at the free disposal of the CONCESSIONAIRE.

The POI, to be presented by the CONTRACTOR, must contain a detailed schedule of each of the planned investments, as well as the details of the expected date for the implementation of the equipment and operational buildings foreseen in this period, respecting the initial and final deadlines presented in this ANNEX, and presenting each of the intermediate activities that must be undertaken by the CONCESSIONAIRE to complete each of the steps necessary for the completion of each initial investment and the expected physical progress. The intermediate milestones of each construction stage must be arranged in the schedule at least every six months. The POI will be binding on the CONCESSIONAIRE.

The INSURANCE PLAN and the contractual guarantees provided by the CONCESSIONAIRE shall at least reflect the need to ensure compliance with the activities necessary for the completion of each investment presented in the POI, in accordance with the rules established in the AGREEMENT.

The anticipation of the work provided for in the current POI or INVESTMENT PLAN, as proposed by the CONCESSIONAIRE, must be presented to ARTESP, which must decide whether the implementation and the consequent economic-financial rebalancing will be carried out in the ORDINARY REVISION or EXTRAORDINARY REVISION, if that's the case.

The CONCESSIONAIRE must communicate in writing and justifiably any initial and final delays of the work (as well as the stages that constitute it, according to the INVESTMENT PLAN), without prejudice to the analysis and validation by ARTESP, regarding the merits, and the application of the proper penalties and the restoration of the economic-financial balance resulting from the delay.

(c) Runway Instrumentation

Concomitantly with the completion works, complete instrumentation (pavement instrumentation and weather data acquisition station) of two sections of the new runway pavement should be planned, preferably in a location close to commercial vehicle weighing stations. The instrumentation must follow the specifications contained in the publication “Projeto de Instrumentação para Medição de Deformação do Pavimento (Project of Instrumentation for Measurement of Deformation of the Pavement) (DNIT, 2008)”. User/password pairs must be provided to ARTESP for access to the automatic acquisition system and field data recording (mandatory on a web platform). Integration with ARTESP's ICC and with the other electronic management systems of the SPONSORED CONCESSION (especially SIGIS) must be foreseen. The schedule for the execution of this obligation must comply with the deadlines established in the Item 5 (Deadlines Framework) of this ANNEX. The EXECUTIVE PROJECT of this obligation must be presented when it is implemented, under the terms and deadlines set out in APPENDIX G.

(d) Pre-requirements for the start and continuity of the Works

If the CONCESSIONAIRE chooses alternative solutions to those described in ANNEX 12, the works can only be started and have their continuity fully guaranteed under the terms of APPENDIX G.

In the event of revocation or change in the status of any of the documents provided for in APPENDIX 12 without the proper approval provided for in APPENDIX G, or, if the CONCESSIONAIRE opts for alternative solutions, revocation or change in the status of any document provided for in APPENDIX G, the CONCESSIONAIRE may be notified by the Agency to stop the works. In this case, the CONCESSIONAIRE shall take all measures for the timely regularization of the documentation and resumption of the works, under penalty of the sanctions provided for in the AGREEMENT, REQUEST FOR BIDSS and ANNEXES.

(e) Pre-requirements for the reception of the works

The works can only be considered fully completed if the CONCESSIONAIRE proves compliance with the requirements set out in APPENDIX G.

(f) Minimum technical parameters

If the CONCESSIONAIRE opts for a solution other than that provided for in ANNEX 12, he minimum technical parameters to be met when preparing the projects are indicated in this ANNEX.

1.1. FUNCTIONAL PROJECTS(a) General Provisions

If the CONCESSIONAIRE chooses a solution other than that provided for in ANNEX 12, the presentation of the FUNCTIONAL PROJECT must comply with the provisions of APPENDIX G and this ANNEX, provided that if there are no changes to the functional solution, there will be no need to present and approve a FUNCTIONAL PROJECT.

(b) Environmental Licensing

Without prejudice to obtaining ARTESP's prior consent, the CONCESSIONAIRE shall submit the FUNCTIONAL PROJECTS necessary to obtain the LP and LI, as applicable, for all expansion works, to the competent environmental authority, observing the deadlines that must be met for that it is possible to meet the deadlines set out in the PHYSICAL-EXECUTIVE SCHEDULE of the POI approved by ARTESP.

(c) Documentation Processing

The processing of FUNCTIONAL PROJECTS will follow the procedure provided for in APPENDIX G.

1.2. EXECUTIVE PROJECTS(a) General Provisions

If the CONCESSIONAIRE chooses a solution other than that provided for in ANNEX 12, the presentation of the EXECUTIVE PROJECT must comply with the provisions of APPENDIX G and in this ANNEX.

The EXECUTIVE PROJECT must follow the premises, concepts and eventual exceptions of the FUNCTIONAL PROJECT previously approved by ARTESP, as applicable.

(b) EXECUTIVE PROJECTS Quality Certification

The CONCESSIONAIRE shall obtain certification under the terms of APPENDIX G and shall use SISPROJ to register in full all the documentation referring to the processing of the EXECUTIVE PROJECTS from its implementation, being certain that the EXECUTIVE PROJECT that obtains the referred certification will not require approval from ARTESP, under the terms of the referred APPENDIX.

(c) Environmental Licensing

Without prejudice to obtaining the EXECUTIVE PROJECT Quality Certificate, the CONCESSIONAIRE shall submit the EXECUTIVE PROJECTS necessary to obtain the Installation License, as applicable, for all expansion works to the competent environmental authority, observing the deadlines that must be met so that it is possible to comply with the milestones (including intermediate ones) and deadlines provided for in the PHYSICAL-EXECUTIVE SCHEDULE of the POI approved by ARTESP.

1.3. Supervision(a) General Provisions

The CONCESSIONAIRE shall establish a program of supervision, monitoring of execution, technological and quality control of services. The costs of developing and implementing the supervision program will be borne by the CONCESSIONAIRE.

The CONCESSIONAIRE shall justify, in writing, any delays in the beginning and end of the work, including if there is a delay in the fulfillment of intermediate milestones presented in the current INVESTMENT PLAN, without prejudice to the analysis and validation by ARTESP on the merits.

(b) Works Quality Certification

The CONCESSIONAIRE shall obtain a Works Quality Certificate for all the works provided for in the SPONSORED CONCESSION, under the terms and deadlines of APPENDIX G.

(c) Works Quality Control Management

The CONCESSIONAIRE shall implement and operate an Integrated Digital System for the Management of Technological and Quality Control of Works (SISQUALI), under the terms and deadlines of APPENDIX F.

The quality control information must be fed into the system, concomitantly with the progress of the works.

(d) Monitoring of Works Using BIM Technology

The CONCESSIONAIRE shall enter information regarding the monitoring of the works in an appropriate BIM model, under the terms and deadlines set out in APPENDIX G.

1.4. Completion

Once the POI and the respective PHYSICAL-EXECUTIVE SCHEDULE are approved by ARTESP, the dates for completion of each service/investment item must be met by the CONCESSIONAIRE. Failure by the CONCESSIONAIRE to comply with the PHYSICAL-EXECUTIVE SCHEDULE, or the delay in complying with these dates, stages, segments and milestones will subject the CONCESSIONAIRE to the penalties provided for in the REQUEST FOR BIDS, in the AGREEMENT and its ANNEXES.

1.5. "As Built" documentation.(a) General Provisions

The CONCESSIONAIRE shall submit *As Built* documentation for all works provided for in the SPONSORED CONCESSION, under the terms and deadlines of APPENDIX G.

2. OTHER EXPANSIONS**2.1. Basic concepts**(a) General Provisions

The investments aim to provide a high level of service quality in terms of USER comfort and safety and to enable the provision of services corresponding to operational functions.

To this end, the CONCESSIONAIRE will be responsible for all measures relating to the provision of services corresponding to operational functions, that is, feasibility studies, design and environmental licensing, studies and projects in accordance with the requirements of environmental licensing, planning, execution of works, installations and implementation of environmental compensation and mitigation measures, assembly of equipment and operating systems and start-up tests, when applicable.

All investments described in this ANNEX must be implemented by the CONCESSIONAIRE, under its responsibility and at its expense.

Each of these steps will be monitored by ARTESP, and the CONCESSIONAIRE must maintain a permanent consultation and approval scheme, including digital availability through the implemented systems, observing the necessary environmental licensing processes with the competent agencies.

The CONCESSIONAIRE shall obtain, at its own expense, a Works Quality Certificate, in accordance with the rules set forth in APPENDIX G. The CONCESSIONAIRE shall establish a program of supervision, monitoring of execution, technological and quality control of services. The costs of developing and implementing the supervision program will be borne by the CONCESSIONAIRE.

The legal-administrative measures for the Statement of Works for Public Use (DUP) for the expropriation of the areas necessary for carrying out investments, eventually provided for in the POI, will be the responsibility of the GRANTING AUTHORITY. The CONCESSIONAIRE shall be responsible for promoting the actions necessary for the execution, in the administrative and judicial spheres, as well as bearing the burdens arising from such procedures, except in the case of expropriations resulting from changes in the EXECUTIVE PROJECTS caused by a liability identified in the INSPECTION REPORT or LATENT DEFECT, which will follow the provisions of ANNEX 18.

In cases of alteration of the EXECUTIVE PROJECT, due to a liability identified in the INSPECTION REPORT or LATENT DEFECT, any necessary expropriations will be borne by the GRANTING AUTHORITY, pursuant to the AGREEMENT and ANNEX 18.

Throughout the SPONSORED CONCESSION, new investments may be dimensioned, requested by ARTESP according to needs or when the level of service requires. The POI and each INVESTMENT PLAN in force may be reviewed, preferably during the ORDINARY REVISIONS, observing the procedures and formalities described in the AGREEMENT, at which time there may be a readjustment of the planning to carry out the works and/or evaluation of the need to carry out new investments.

The need for any expansions resulting from the maintenance of the service level must be evaluated by the CONCESSIONAIRE and submitted for prior approval by ARTESP, including the presentation of an EXECUTIVE PROJECT, according to the rules established in APPENDICES G and H, and the respective budget, containing an indication of the necessary costs for the implantation, operation and conservation of these extensions. The CONCESSIONAIRE shall point out to ARTESP the exact measure of any imbalance in the economic-financial balance of the AGREEMENT that may be generated by the expansion resulting from the need to maintain service levels and PERFORMANCE INDICATORS.

(b) ORDINARY REVISIONS and SISDEMANDA Platform

According to the rules established in the AGREEMENT, any readjustment of the INVESTMENT PLAN and the need to carry out new investments and expansions, may be carried out during the ORDINARY REVISIONS.

Observing what is established in the AGREEMENT and in the relevant regulation of ARTESP, the document of Consolidation of Demands for ORDINARY REVISION provided for in APPENDIX F must be submitted to a public consultation and public hearing process, conducted and coordinated by ARTESP together with the CONCESSIONAIRE, which must be carried out and completed within the period provided for in the ANNEX item 5 (Deadlines Framework) before each ORDINARY REVISION.

With the completion of this public consultation and public hearing process, ARTESP will authorize the CONCESSIONAIRE to prepare and present the EXECUTIVE PROJECTS for the selected investments and expansions, and the CONCESSIONAIRE shall, within the period provided for in item 5 of the ANNEX (Deadlines Framework) counted from the authorization and meeting the specifications of EXECUTIVE PROJECTS presented in this ANNEX, in APPENDIX G and in the ARTESP regulations, conclude by presenting such EXECUTIVE PROJECTS, as well as the corresponding budgets. After the EXECUTIVE PROJECTS and budgets approval process, the INVESTMENT PLAN will be reviewed.

If an event is verified that triggers the economic-financial imbalance of the AGREEMENT, due to readjustment or replanning of the current INVESTMENT PLAN and/or identification of the need for new investments, when duly authorized by ARTESP, the PARTIES shall observe and follow the procedure for recomposition of the economic-financial balance described in the AGREEMENT.

The unit cost values to be adopted must be based on the TPU DER/SP or SICRO Table of the DNIT, whose versions must be the most updated at the time of the investment in question, including for the installation of any expansions resulting from the maintenance of the service level, except in cases where it is necessary to use other national and international references for prices that may not be presented or are not compatible with these reference bases upon justification and prior authorization from ARTESP,

All investments made in the ROAD SYSTEM must meet the standards specified by ARTESP as well as manuals and technical standards in force at the time of the intervention. In case of divergence in the content of the manuals, rules and specifications shall prevail those defined in the most current documents approved by ARTESP without this being a reason for a claim for economic and financial rebalancing of the AGREEMENT.

2.2. Criteria for Adequacy of Capacity

The CONCESSIONAIRE shall carry out, from the start of operation of the traffic sensors, semi-annual controls of the operational performance observed in the last 12 (twelve) consecutive months (regardless of the beginning or end of each fiscal or contractual year), in order to identify the stretches of the system with more than 50h/year operating at service levels “E” and “F”, or on the verge of reaching this limit, using the methodologies established in IP-00.000.000-0-A23/001 and its revisions .

The CONCESSIONAIRE shall identify all stretches that record more than 300 (three hundred) hours at service level “D” in the last 12 (twelve) months, including stretches of the road, accesses, weaving sections and devices. Any investments that are necessary to expand the capacity of such stretches should be the object of study (preparation of a FUNCTIONAL PROJECT and reference budget).

The presentation of operational solutions for capacity problems identified in these stretches does not depend on prior approval of any claim for economic and financial balance by ARTESP.

In the case of operational service level control, the CONCESSIONAIRE shall indicate the occurrence of critical points or with capacity problems (for any number of hours at service levels "E" or "F") and take the appropriate operational measures, even than temporary or transitory, in order to minimize the effects of the problems detected, especially when the occurrence puts the USERS of the system or the neighboring population at risk.

When, every six months, it is identified that any homogeneous segment of the ROAD that is part of the ROAD SYSTEM, in the last 12 (twelve) consecutive months, recorded more than 50 hours/year at

service levels "E" and "F", the CONCESSIONAIRE shall, in response at the prior request of ARTESP or on its own initiative, report the following data for analysis and evaluation by ARTESP during the ORDINARY REVISION:

- (i) Traffic data collected in the field, aspects related to traffic seasonality and the physical and operational characteristics of the road stretch components where the problem occurs;
- (ii) Capacity and service level calculations of all components of the road stretch to be analyzed, and compliance with performance indicators, accompanied by a specific technical study on the problem;
- (iii) Operational and safety problems recorded in the stretch during the period considered;
- (iv) Identification of the cause of fluidity problems;
- (v) Possible solutions to the detected problems.

The CONCESSIONAIRE shall adopt initial actions and operational measures to mitigate the aforementioned problems, as well as prepare a technical opinion on the stretch in question, identifying:

- (i) Reason that led the analyzed stretch to exceed the service level limits established in the REQUEST FOR BIDS, AGREEMENT and ANNEXES;
- (ii) Solution proposals (provisional and definitive);
- (iii) Schedule of actions to be taken until the issue is resolved.

Necessary capacity expansions, including, but not limited to, duplications, new roadways, OAEs, devices, pedestrian flyovers, among others, according to the assessment described above, which are not originally provided for in this ANNEX or ANNEX 21, if required by the GRANTING AUTHORITY, shall constitute an IMBALANCE EVENT, and must be assessed in the ORDINARY REVISION or EXTRAORDINARY REVISION.

In cases where urban interference results in the service level being exceeded, the CONCESSIONAIRE shall prepare, jointly with neighboring municipalities, improvement proposals to be analyzed by ARTESP. Urban interference within the ROAD SYSTEM is considered to be the problem of fluidity, observed in the homogeneous segment, which is a direct reflection of the restriction of road capacity verified outside the RIGHT-OF-WAY. The CONCESSIONAIRE shall bear the costs involved in proposing alternatives to solve the improvement problems. When proposing alternatives, the CONCESSIONAIRE must always consider existing interferences (pedestrian flyovers, bus stops, level crossings, equipment, OAE, etc.), contemplating any need for expansion, relocation, remodeling, etc. If interventions are necessary to solve the aforementioned problems, they must be evaluated in the ORDINARY REVISION or EXTRAORDINARY REVISION

2.3. Investments: Description, Standards and Specifications

2.3.1. Supervision Control System

General Inspection Station (PGF)

The CONCESSIONAIRE shall implement the PGFs in accordance with the deadlines established in item 5 of this ANNEX (Deadlines Framework) and with the quantities provided for in the EVTE.

The locations of the PGFs are suggested in ANNEX 02, 12 and EVTE, however they may be relocated as suggested by the CONCESSIONAIRE, with prior authorization from ARTESP.

The CONCESSIONAIRE shall prepare the complete PGF projects and submit them for analysis by ARTESP and DER/SP regarding the implementation of the Remote Agent, in accordance with Ordinance SUP/DER 087/2021, or another that may replace it. In the preparation of projects, in addition to the rules established in APPENDIX G, rules for circulation, access, parking, among others, and all infrastructure for remote inspection at the COR (Remote Operation Center) and CCB (Balance Control Center). The location of the COR will be defined by the Traffic Authority.

In the implementation of weighing scales in motion (pre-selection and/or precision), as well as the peripheral equipment that make up the weighing system, the technical specifications of ARTESP must be observed, or in their absence, the DER or other standards and relevant specifications. The pavement of the approach and departure areas must be adequate to the standards of the aforementioned specification.

Throughout the SPONSORED CONCESSION, vehicle weighing equipment must always be kept in good repair and operation.

On the date of signature of the PROVISIONAL RECEIPT TERM, as regulated in ANNEX 10, the equipment must be, at most, 5 (five) years old.

To prepare the PGF project, the CONCESSIONAIRE shall observe the following minimum premises:

Weigh Scale Module

- (i) Total length of the runways: 500 (five hundred) meters, from the access to the PGF (end of the deceleration lane) to the return to the runways (beginning of the acceleration lane), after the precision scale;
- (ii) Extension between the beginning of the PGF (end of the deceleration lane) to the precision scale: 400 (four hundred) meters;
- (iii) Extension between the precision scale and the beginning of the last exit interchange for the runway (acceleration lane): 100 (one hundred) meters, plus the acceleration lane;
- (iv) Parking capacity for vehicles with overload: 12 (twelve) spaces measuring 5 (five) meters by 25 (twenty-five) meters;
- (v) Operational facilities: total area estimated at 190m² (one hundred and ninety square meters), subdivided into the following premises: reception and attendance, operating and assessment room, coordination and control room, room for employees involved in

any special operations, machine room, toilets and changing rooms, breakroom and storage;

- (vi) Facilities for Users: total area estimated at 20m² (twenty square meters), subdivided into the following premises: rest room and toilets.

Module for Supervision and Seizure of Vehicles transporting Dangerous Goods

The CONCESSIONAIRE shall prepare complete projects for the Module for Supervision and Seizure of Vehicles transporting Dangerous Goods according to the ABNT NBR 14095 Project, or a standard that replaces it, and submit them to ARTESP for prior approval.

Speed Control System

The CONCESSIONAIRE will be responsible for the implementation, approval, operation and maintenance of the Speed Control System, fully and simultaneously meeting all requirements established in ANNEX 05 of the AGREEMENT.

For sizing purposes, 1 (one) fixed speed control point must be considered every 10 (ten) kilometers of HIGHWAY. Each fixed speed control point must be made up of equipment that allows the monitoring and supervision of the speed of all types of vehicles (light, heavy and motorcycles), in all roadway existing in the place, simultaneously.

In cases where the occurrence of vehicles using the shoulder to escape supervision is observed, the CONCESSIONAIRE shall implement speed control, including on the shoulder.

For the entire ROAD SYSTEM, the CONCESSIONAIRE shall:

- (i) implement, according to the deadlines established in item 5 of this ANNEX (Deadlines Framework), the fixed speed control points, in order to meet the dimensioning criterion already defined;
- (ii) acquire, certify and ratify with the GRANTING AUTHORITY 2 (two) portable-type speed meters within the deadlines established in item 5 of this ANNEX (Deadlines Framework).

In order to define the location of implementation of this equipment in the ROAD SYSTEM, the CONCESSIONAIRE shall prepare, at its own expense, technical studies considering, at least, the geometric parameters, accident history, border occupation and speed practiced, complying with established guidelines and technical specifications from ARTESP.

To this end, the CONCESSIONAIRE must comply with the following interim deadlines, based on the dates of signature of the DEFINITIVE TRANSFER TERM:

- (i) forward for analysis and manifestation by ARTESP the technical study with the proposal of the installation location of all fixed speed control equipment, duly justified within a maximum of 4 (four) months;
- (ii) in the event that the technical study needs to be revised, it must be forwarded to ARTESP by the CONCESSIONAIRE within a maximum of 45 (forty-five) days.

The points considered subject to approval by ARTESP will be forwarded for analysis and manifestation by the GRANTING AUTHORITY, and the CONCESSIONAIRE will be responsible for meeting any demands (signaling or location adjustments) that may eventually be carried out.

Any delays in the approval of the sites for the implementation of the equipment resulting from the absence of analysis of the minimum parameters in the study and the current legislation, which lead to non-compliance with the deadline for the implementation of the equipment, subject the CONCESSIONAIRE to the administrative sanctions provided for in ANNEX 11.

The process of implementing the speed control system equipment (fixed and portable meters) will only be considered completed by ARTESP after the acquisition, installation, certification and approval of the speed control equipment by the GRANTING AUTHORITY, with the due publication of the act in the Official State Gazette – DOE.

During the entire period of validity of the SPONSORED CONCESSION, the CONCESSIONAIRE must keep in operation, at least, the amount of equipment that composes the speed control system (fixed and portable meters) defined for implementation in this ANNEX, under conditions of full and simultaneous service to all the requirements established in ANNEX 05.

On the date of signature of the PROVISIONAL RECEIPT TERM, as regulated in ANNEX 10, the equipment must not have more than 5 (five) years of use, counted from the date of acquisition by the CONCESSIONAIRE.

Equipment intended for speed control must comply with the provisions of ANNEX 05 and related APPENDICES.

2.3.2. Structures for Road Policing

The CONCESSIONAIRE must comply with the following:

Structure. The CONCESSIONAIRE shall implement an operational base for road policing, as provided for in ANNEX 02.

The 2nd Company of the 6th BPRv will be built or any other nomenclature that will replace it on the North Rodoanel stretch, following the standards and technical specifications established by the PMESP. The location must be defined by the CONCESSIONAIRE and presented to ARTESP for joint evaluation with the Military Highway Police.

Equipment The CCTV system to be implemented and maintained by the CONCESSIONAIRE, under the terms of item 6.2.2 of ANNEX 05, must provide the Road Police with optical character recognition equipment (OCR cameras) and/or other compatible technology, to be installed in the ROAD SYSTEM, according to the need for monitoring and in locations previously defined by the PMRv.

The purpose of these equipment is to monitor images aimed at public safety and must be deployed to monitor neighboring areas and identify vehicles traveling along the granted stretch.

It should be noted that the CONCESSIONAIRE will be responsible for the implementation, approval, revitalization and maintenance of the OCR system. If requested by ARTESP, this data must be transmitted by the CONCESSIONAIRE to ARTESP and/or the GRANTING AUTHORITY, in real time.

The form of delivery by the CONCESSIONER of this data and the form of integration to the systems of the GRANTING AUTHORITY and ARTESP must fully comply with the procedures, technologies and interfaces formally defined by ARTESP.

Vehicles. The CONCESSIONAIRE must provide the Military Highway Police with 13 (thirteen) duly characterized vehicles, within the deadline established in item 5 of this ANNEX (Deadlines Framework), as follows:

- (i) 01 (five) command vehicle, medium sedan type;
- (ii) 06 (six) patrol vehicles, compact sedan type;
- (iii) 02 (two) vehicles of ostensible tactics - TOR, SUV type,
- (iv) 04 (four) motorcycle type vehicles.

It should be noted that the CONCESSIONAIRE may choose to purchase, rental, outsource or for the leasing of these types of vehicles, and said vehicles cannot have more than 2 (two) years of use during the period of the SPONSORED CONCESSION.

The availability of resources (Building, Equipment and Vehicles), pursuant to ANNEX 05, shall take place from the beginning of the START DATE OF OPERATION.

Standards And Specifications

The PGF, the equipment intended for speed control and the vehicles for the Road Policing must comply with the provisions of ANNEX 05 and APPENDICES F and G.

2.3.3. Expansion / Implementation of Special Works of Art

The CONCESSIONAIRE shall carry out, during the entire term of the SPONSORED CONCESSION, monthly controls of the operational performance observed in the last twelve consecutive months (regardless of the beginning or end of each fiscal or contractual year), in order to identify the stretch of the system with more than 50 hours/year operating at service levels "E" and "F", or on the verge of reaching this limit, using the methodologies established in IP-00.000.000-0-A23 and its revisions.

The execution of all reasonable operational measures necessary to ensure that the limit of 50h/year operating at service levels "E" and "F" is not exceeded will be the responsibility of the CONCESSIONAIRE, unless in cases where investments beyond those provided for in the AGREEMENT to adapt the capacity of the ROAD SYSTEM.

The CONCESSIONAIRE shall consider, based on the relevant surveys and supervisions, the quantities of services related to the compatibility of OAEs in relation to adjacent road segments and in accordance with the standard required for the road in accordance with the current rules of the DER/SP, also considering the standard described in ANNEX 06. These adjustments shall occur at the CONCESSIONAIRE's expense and under its responsibility.

The need for any expansions resulting from the maintenance of the above-described service level to meet and adapt the ROAD SYSTEM's capacity must be evaluated by the CONCESSIONAIRE and contemplated in the ORDINARY REVISION or EXTRAORDINARY REVISION.

For the implementation of Special Civil Engineering Works, the rules, project instructions, ordinances and current standards of ARTESP, DER/SP, DNIT, ABNT and, in the absence of these, the internationally established rules on the subject.

The new Special Civil Engineering Works to be built must be included in the monitoring and management program containing all the Special Civil Engineering Works that is described in ANNEX 06.

Any enlargements in Special Civil Engineering Works must not have longitudinal joints between the new part of the board and the old board.

Spaces must be provided for longitudinal and transversal pavements in the OAEs, respecting the norms and specifications in force at the time of implementation with reference to geometry, safety and accessibility. In the existing OAEs, the space for paving must be provided according to the rules contained in ANNEX 06.

2.3.4. Communication and User Relationship Systems

Radiophony System

The CONCESSIONAIRE will be responsible for the implementation, operation and maintenance of the Radiophony System in the ROAD SYSTEM, fully and simultaneously meeting all requirements established in ANNEX 05.

The CONCESSIONAIRE must complete the implementation of the radio system in the ROAD SYSTEM according to the deadlines established in item 5 of this ANNEX (Deadlines Framework),

For sizing purposes, the following assumptions must be observed:

Fixed Stations:

At least 1 (one) fixed station must be provided for each fixed operating point.

A fixed operating point is understood to be the structures used for coordination or that provide support to operational resources, such as: CCO, User Service Stations - SAU, PGF.

Mobile Stations:

At least 1 (one) mobile station must be provided for each operational vehicle.

Vehicles used to provide winch services, pre-hospital care services, traffic inspection services, animal seizure services in the RIGHT-OF-WAY, water truck services, and mechanical assistance services must be equipped with mobile stations.

Portable Stations:

Portable stations should be provided, in sufficient quantity for communication between employees far from points where there are fixed or mobile stations.

Repeating Stations:

The CONCESSIONAIRE must install repeating stations in sufficient quantity to ensure communication with all workstations, whether fixed or mobile, throughout the ROAD SYSTEM, without presenting any point with communication signal failure.

During the term of the SPONSORED CONCESSION, if locations with communication failures are identified, the CONCESSIONAIRE undertakes to adapt the radiophony system and implement more repeating stations, if necessary.

During the entire period of validity of the SPONSORED CONCESSION, the CONCESSIONAIRE must keep in operation, at least, the amount of equipment defined for implementation in this ANNEX.

On the date of signature of the PROVISIONAL RECEIPT TERM, the equipment must not have more than 5 (five) years of use, counted from the date of acquisition of the same by the CONCESSIONAIRE.

Data Communication System

The CONCESSIONAIRE will be responsible for the implementation, operation and maintenance of the Data Communication System in the ROAD SYSTEM, fully and simultaneously meeting all requirements established in ANNEX 05.

The CONCESSIONAIRE must complete the implementation of the Data Communication System in the ROAD SYSTEM according to the deadlines established in item 5 of this ANNEX (Deadlines Framework),

Operational Support Facilities - OCC and SAU

The Operational Support facilities comprise a central administration, the OCC and the Users Service (SAU).

CCO

The CONCESSIONAIRE will be responsible for the implementation, operation and maintenance of the CCO, fully and simultaneously meeting all requirements established in ANNEX 05, and concentrating the coordination of the operation of the entire ROAD SYSTEM, within the period established in item 5 of this ANNEX.

SAU

The quantity and location of the SAU Stations will be defined by the CONCESSIONAIRE, under its sole and exclusive responsibility, in order to guarantee the fulfillment of the service levels required in ANNEX 05 and in APPENDIX H. The quantity and location of the SAU Stations must be proportionally distributed in both directions of the HIGHWAY.

The variation in the quantities referring to the SAU Stations provided for in this ANNEX and in ANNEXES 2, 12 and 21 will not give rise to the IMBALANCE EVENT. Upon delivery of the POI, the CONCESSIONAIRE must inform the measured number of SAU Stations to meet the service levels. For the purposes of measuring imbalances resulting from delays in the work, the value to be considered per SAU station will be equal to: (i) the sum of the estimated costs for each SAU station provided for in the EVTE divided by (ii) the number of SAU stations provided in the POI.

During the entire period of validity of the SPONSORED CONCESSION, the CONCESSIONAIRE must maintain the equipment that composes the operational support facilities in conditions of full and simultaneous compliance with all the requirements established in ANNEX 05.

On the date of signature of the PROVISIONAL RECEIPT TERM, as regulated in ANNEX 10, all equipment of the Operational Support Facilities - OCC and SAU - must not present more than 5 (five) years of use, counting from the date of acquisition of the equipment by the CONCESSIONAIRE.

Customer Service System 0800

The CONCESSIONAIRE must set up a 0800-type telephone system, according to the deadlines established in item 5 of this ANNEX (Deadlines Framework), fully and simultaneously meeting all the requirements specified in ANNEX 05.

System for Communication with USERS (Call Box)

The CONCESSIONAIRE will be responsible for the implementation, operation and maintenance of the System for Communication with the USER (Call Box) in the ROAD SYSTEM, fully and simultaneously meeting all requirements established in ANNEX 05.

The CONCESSIONAIRE must complete the implementation of the Communication System with the USER (Call Box), according to the steps and deadlines established in item 5 of this ANNEX (Deadlines Framework), having as parameter the date of signature of the DEFINITIVE TRANSFER TERM.

Upon completion of the implementation, the CONCESSIONAIRE shall notify ARTESP that it will carry out the commissioning tests to prove compliance with the requirements established in ANNEX 05 and in ARTESP's current technical specifications.

On the date of signature of the PROVISIONAL RECEIPT TERM, the equipment must not have more than 5 (five) years of use, counted from the date of acquisition of the same by the CONCESSIONAIRE.

Communication System with the USER via wireless data network

Within 180 (one hundred and eighty) days from the signing of the INITIAL TRANSFER TERM, the CONCESSIONAIRE shall submit to ARTESP the basic project for the implementation of the communication system with the user via wireless data network in the ROAD SYSTEM. The project referred to in this paragraph will be subject to analysis and approval by ARTESP.

As a condition for analysis, the project must clearly indicate the stretches of the ROAD SYSTEM related to the implementation stages defined below, having as a parameter the date of signature of the INITIAL TRANSFER TERM. The CONCESSIONAIRE must complete the implementation of the communication system with the user via wireless data network, according to the deadlines established in item 5 of this ANNEX (Deadlines Framework).

Upon completion of the implementation, the CONCESSIONAIRE shall notify ARTESP that it will carry out the commissioning tests to prove compliance with the requirements established in ANNEX 5 and in ARTESP's current technical specifications.

On the date of signature of the Provisional Receipt Term the equipment must not have more than 5 (five) years of use, counted from the date of acquisition of the same by the CONCESSIONAIRE.

Variable-message sign (Fixed and Mobile)

The CONCESSIONAIRE will be responsible for the implementation, operation and maintenance of the variable-message sign in the ROAD SYSTEM, fully and simultaneously meeting all requirements established in ANNEX 05.

The CONCESSIONAIRE shall implement 5 (five) fixed-type variable message signs (VMS) at strategic points of the ROAD SYSTEM, according to the deadlines established in item 5 of this ANNEX (Deadlines Frameworks).

The CONCESSIONAIRE shall submit to ARTESP the list of proposed locations for the implementation of fixed-type VMS in the ROAD SYSTEM, as well as the implementation schedule, both subject to ARTESP's analysis and approval, according to the deadlines established in item 5 of this ANNEX (Deadlines Framework).

ARTESP may request changes to the locations and/or dates proposed by the CONCESSIONAIRE for the implementation of fixed-type variable message signs, justifiably.

The CONCESSIONAIRE shall acquire and make available for the operation, at least, 4 (four) mobile type variable message sign, according to the deadlines established in item 5 of this ANNEX (Deadlines Framework).

On the date of signature of the PROVISIONAL RECEIPT TERM, the equipment must not have more than 5 (five) years of use, counted from the date of acquisition of the same by the CONCESSIONAIRE.

2.3.5. Traffic Monitoring System

Traffic Sensing System

The CONCESSIONAIRE will be responsible for the implementation, approval, operation and maintenance of the Traffic Sensing System, fully and simultaneously meeting all requirements established in ANNEX 05.

For sizing purposes, 1 (one) automatic traffic sensor per homogeneous segment defined in a homogeneous segmentation study must be considered, monitoring all runway directions and all roadways.

According to the deadlines established in item 5 of this ANNEX (Deadlines Framework), the CONCESSIONAIRE shall present the homogeneous segmentation studies with the respective sensor implantation locations and implantation schedule.

The CONCESSIONAIRE must complete the implementation of the Traffic Sensing System in the ROAD SYSTEM according to the deadlines established in item 5 of this ANNEX (Deadlines Framework),

Throughout the SPONSORED CONCESSION, the Traffic Sensing System equipment cannot be more than 10 (ten) years old.

In the implementation of traffic sensors, the technical specification ET-DOP-GOE-C-TRA-RNS-01/02 - Methodology for Obtaining ARTESP Traffic Parameters, its revisions or another technical standard that will replace it or change it must be observed. The pavement of the approach and departure areas must be adequate to the standards of the aforementioned specification.

On the date of signature of the PROVISIONAL RECEIPT TERM, all equipment of the Traffic Sensing System must have a useful life of 5 (five) years from the date of acquisition by the CONCESSIONAIRE.

2.3.6. CCTV Traffic Monitoring System

The CONCESSIONAIRE will be responsible for the implementation, approval, operation and maintenance of the CCTV Traffic Monitoring System, fully and simultaneously meeting all requirements established in ANNEX 05.

The number of monitoring cameras to be acquired and deployed by the CONCESSIONAIRE must be sufficient to ensure compliance with the requirements for coverage and intelligent video analysis established in ANNEX 05.

In addition, and pursuant to ANNEX 05, the amount of CCTV equipment (cameras) must be sufficient for monitoring, with exclusive equipment, of places considered to be points of attention and/or a risk to public and road safety. These points of care must be monitored 100% of the time, whether or not considering the implementation of primary containment in these locations.

The CONCESSIONAIRE shall complete the implementation of the Traffic Monitoring System by CCTV according to the deadlines established in item 5 of this ANNEX (Deadlines Framework). The implementation of additional cameras, for monitoring attention points, must occur according to the demand of the security agencies, within a period to be agreed between the CONCESSIONAIRE and ARTESP.

The configuration and parameterization of the intelligent video analysis functionality must be completed by the CONCESSIONAIRE according to the deadline established in item 5 of this ANNEX.

Upon completion of the implementation, the CONCESSIONAIRE shall notify ARTESP that it will carry out the commissioning tests to prove compliance with the requirements established in ANNEX 05 and in ARTESP's current technical specifications.

On the date of signature of the PROVISIONAL RECEIPT TERM, the equipment must not have more than 5 (five) years of use, counted from the date of acquisition of the same by the CONCESSIONAIRE.

2.3.7. Rest Areas for Truck Drivers

Although rest areas for truck drivers are not initially foreseen, the CONCESSIONAIRE may implement them, in different mileages of the ROAD SYSTEM, with accessibility for both directions of traffic, if required by the GRANTING AUTHORITY and upon the restoration of the economic and financial balance of the AGREEMENT in favor of the CONCESSIONAIRE.

The location of these rest areas must be defined in a study prepared by the CONCESSIONAIRE and submitted for approval by ARTESP. The study will aim to predict the best location of rest areas for truck drivers, in order to serve the USER and taking into account the truck driver's working hours (Federal Law no. 13.103/2015).

Based on the study approved by ARTESP, the CONCESSIONAIRE will be responsible for preparing the complete projects of the rest areas and submitting them for approval by ARTESP, in compliance with the rules established in ANNEX 05.

2.3.8. Stopping Areas for Exceptional Cargo and Dangerous Goods

The CONCESSIONAIRE shall implement Stopping Areas for Exceptional Cargo, as provided for in ANNEXES 02, 12 and 21, measuring 150 (one hundred and fifty) meters in length in the direction of the HIGHWAY axis by 10 (ten) meters in width, in addition to the runway of acceleration and deceleration.

In addition, these Areas must provide the capacity to carry out weighing of oversized cargoes, considering requirements such as width and length to accommodate cargoes in addition to the flatness of the floor pavement compatible with the technical specifications of the weighing equipment manufacturers and the supervision authority.

The CONCESSIONAIRE shall implement 04 (four) Stopping Areas for Exceptional Cargo, 02 (two) per direction, in order to accommodate the cargoes according to the transposition logistics of the ROAD SYSTEM.

In relation to Dangerous Goods, 04 (four) bays must be provided for Stopping for Dangerous Goods, 02 (two) per direction. The dimensioning of these places must include a drainage system to receipt cargo in case of leakage.

All Areas must be operational at the time of release of ROAD traffic.

The CONCESSIONAIRE will be responsible for preparing the complete projects for these areas and submitting them for approval by ARTESP. In the preparation of the projects, the following must be observed: circulation rules, accesses, parking lots, etc. and all infrastructure as provided in ANNEX 05.

The CONCESSIONAIRE shall prepare (i) a study with the location of the stopping areas and (ii) complete projects with an execution schedule, both to be submitted for approval by ARTESP. The CONCESSIONAIRE will be responsible for the implementation and conservation of these areas.

2.3.9. Acceleration / Deceleration lanes

These lanes must have geometric characteristics consistent with the reference speed of the HIGHWAY that is part of the ROAD SYSTEM and its branches, and must be dimensioned in accordance with IP.DIN/002, or another technical standard that replaces or changes it.

The CONCESSIONAIRE will be responsible for the implementation of these lanes at its own expense and responsibility.

2.3.10. Additional Runways

The CONCESSIONAIRE shall evaluate the possible implementation of additional continuous ascending runways, in stretches defined by a certain grade, along the highway that is part of the ROAD SYSTEM or in segments of the road defined by a certain traffic demand, where none exist, whenever the operational conditions, as indicated in item 3.2.1, if they require so.

The concepts of item 3.2, as well as IP-00.000.000-0-A24/001 Rev. 0, or another that replaces, complements or changes it must be followed.

The implementation of these runways must be carried out with the purpose of preventing any stretch of the System's roads from exceeding 50h/year operating at service levels "E" and "F", in accordance with the criteria established in IP-00,000,000 -0- A24/001 Rev.0, or another that replaces, complements or changes it.

The need for any expansions resulting from the maintenance of the service level described above must be evaluated by the CONCESSIONAIRE and submitted for prior approval by ARTESP, including the presentation of the Executive Project and the respective budget, containing an indication of the costs necessary for the implementation, operation and conservation of this Expansion, indicating to ARTESP the exact measure of the eventual imbalance of the economic-financial balance of the CONCESSION AGREEMENT.

If an event that triggers the economic and financial imbalance of the CONCESSION AGREEMENT is verified, due to the execution of the expansion to be implemented by the CONCESSIONAIRE, the CONCESSIONAIRE is subject to the rules established in the Contract for the beginning of the procedure for restoring the economic and financial balance.

The unit cost values to be adopted must be based on the most updated TPU DER at the time of the investment in question.

2.3.11. Trunking Devices

Trunking Devices

The CONCESSIONAIRE will be responsible for the implementation of the trunking devices provided for in ANNEXES 02, 12 and 21, which must include all works and investments presented in this ANNEX, at its expense and under its responsibility.

During the intervention, the CONCESSIONAIRE shall take all appropriate measures to eliminate/regulate any irregular neighboring accesses.

The devices were sized with the aim of preventing any stretch of the ROAD SYSTEM roads from exceeding the Service level "D" by more than 50 h/year, according to the criteria established in IP-00.000.000-0- A23/001 Rev.0. The need for any expansions resulting from the maintenance of the service level described above must be evaluated by the CONCESSIONAIRE and submitted for prior approval by ARTESP, including the presentation of the EXECUTIVE PROJECT and the respective budget, under the terms of the AGREEMENT.

If an event that triggers the economic and financial imbalance of the CONCESSION AGREEMENT is verified, due to the execution of the expansion to be implemented by the CONCESSIONAIRE, the CONCESSIONAIRE is subject to the rules established in the AGREEMENT for the beginning of the procedure for restoring the economic and financial balance.

2.3.12. Shoulders

The CONCESSIONAIRE will be responsible for the implementation of paved shoulders as provided for in ANNEXES 02, 12 and 21. It must be carried out in accordance with the safety standard required by the current regulations of DER/SP and ARTESP. These works must be carried out at the CONCESSIONAIRE's expense and under its responsibility, within the deadlines established in the EVTE, which includes the works specified in this ANNEX.

2.3.13. Flyovers for Pedestrian Crossings

The parameters for verifying the need for flyover throughout the SPONSORED CONCESSION period are those defined in this item or determined by ARTESP through a project instruction and/or technical specification.

The preparation of the project and the implementation of these devices for crossing pedestrians are the responsibility of the CONCESSIONAIRE, through the restoration of the economic-financial balance of the AGREEMENT.

The technical instructions issued by ARTESP and/or ABNT (in force at the time of implementation) must be observed, referring to all items involving the execution of the project and parameters for verifying demand.

The project for the implementation of flyovers, in addition to the project involving the structure, must provide for a minimum vertical template of 5.5m, a lighting system along the entire flyover and pedestrian walking until accessing it.

The Pedestrian Flyover must extend beyond the boundary walls of the RIGHT-OF-WAY, in order to prevent pedestrian access to the RIGHT-OF-WAY.

The CONCESSIONAIRE will be responsible for the implementation of pedestrian flyovers, and must analyze the most suitable places, prioritizing points where:

- (i) There is relevant urban concentration on both sides of the HIGHWAY;
- (ii) Repressed demand, or public interest proven by research;
- (iii) Request from the local government, with a proven demand for specific research;
- (iv) Municipal master plan indicate need.

The pedestrian flyovers to be implemented must be illuminated and comply with Class P1 of NBR 5101 or another that may replace and/or complement it. All implementation of pedestrian flyovers must comply with NBR 9050 - Accessibility, NBR 5101 - Public Lighting and NBR 14744 - Steel Poles for Lighting, NBR 6971 - Traffic Safety - Metal Fenders - Implementation, NBR 14885 - Traffic Safety - Barriers of Concrete and NBR 15486 - Traffic Safety - Road Containment Devices - Guidelines, and other rules and specifications in force at the time of implementation.

In the project, priority should be given to the execution (projection) of the ramps in a stacked manner ('U'), stairs for access at both ends, and the entire infrastructure for accessibility to the pedestrian flyover, lighting, and monitoring through a CCTV system with images centered on the OCC in real time.

In addition to the mapping and study provided for in this item, the CONCESSIONAIRE shall, throughout the entire SPONSORED CONCESSION period, carry out, at its own expense, studies and research at specific points when such studies are requested by ARTESP.

2.3.14. Public Lighting

The CONCESSIONAIRE shall implement the necessary infrastructure for public lighting, at its own expense, on all road sections that are part of the ROAD SYSTEM that cross neighboring urban centers; level intersections; pedestrian flyovers, viaducts and underpasses, with at least the highest lighting factor provided for in the standard (currently V1 lighting class) being implemented.

Urban areas subject to the implementation of public lighting must be identified based on the video-record type survey provided for in ANNEX 06 or methodology of similar effectiveness that allows the identification of demand for lighting infrastructure.

If any critical accident point is identified, even if it is outside an urban stretch, it must also be illuminated, as well as all OAEs that are also used by pedestrians to cross the HIGHWAY that is part of the ROAD SYSTEM. The current rules and standards of ABNT NBR 5101 - Public Lighting (Class P1) and NBR 14744 - Steel Poles for Lighting and other relevant rules must be followed.

The adequacy of the stretches, where the lighting is non-existent and/or with a lighting class different from that specified, must be promoted by the CONCESSIONAIRE, according to the deadline set forth in item 5 of this ANNEX.

2.3.15. Trunking Devices, Operational Returns and Special Civil Engineering Works

The CONCESSIONAIRE will be responsible, at its own expense and under its responsibility, for the implementation of the devices according to ANNEXES 02, 12 and 21, and these must be carried out within the deadlines provided for in this ANNEX.

In addition to the ARTESP Technical Specifications referring to this matter, the Standards of the Brazilian Association of Technical Standards (ABNT) referring to projects and materials must be observed.

2.3.16. Fences

The CONCESSIONAIRE shall implement fenders and fences at the CONCESSIONAIRE's expense in order to comply with the regulations in force and relevant at the time of implementation and the provisions of ANNEX 06.

2.3.17. Primary containment walls

The CONCESSIONAIRE shall implement walls along the limit of the RIGHT-OF-WAY in order to prevent unauthorized access by pedestrians to the HIGHWAY.

The quantities and implantation locations will be defined by the CONCESSIONAIRE and must follow the precepts of ANNEXES 05 and 06, in addition to being validated by ARTESP together with the Road Policing.

The expenses arising from the implementation and the provisions of ANNEX 06 will be the responsibility of the CONCESSIONAIRE.

2.3.18. Road containment devices

The CONCESSIONAIRE shall implement flexible and rigid road containment devices (metallic fenders, rigid concrete barriers, attenuating devices, dampening devices and others) in order to comply with the regulations in force and relevant at the time of implementation and the provisions of ANNEX 06.

The CONCESSIONAIRE shall prepare and present the projects of road containment devices (flexible and rigid) that include the implementations provided for in this item and in accordance with the rules stipulated in the AGREEMENT, as well as the adjustments provided for in ANNEX 06 under the terms of APPENDIX G and within the period provided for in the item 5 of this ANNEX.

The implementation and completion of road containment devices along the entire stretch must contain a very high containment level classification in accordance with current ABNT standards. In addition, the median strip must include a containment device along the entire stretch, on both runways.

In addition to the rules provided for in APPENDIX G, the project must contain, at least: a topographic base covering all existing elements in the RIGHT-OF-WAY (trees, drainage, signaling, etc.) and the indication/definition of the types of existing road containment devices, to adapt and implement.

At the end of the implementation services, the CONCESSIONAIRE must present a photographic report that proves the execution of the services.

Special care with surface drainage should be taken in cases of implementation of rigid road containment devices (e.g., concrete barriers).

2.3.19. Signaling and Auxiliary Devices

The CONCESSIONAIRE shall prepare the complete project for the implementation of traffic signs, traffic markings and auxiliary devices according to the deadline set forth in the item 5 of this ANNEX, respecting the standards and specifications in force in the Brazilian Manual of Traffic Signs- CONTRAN, in the Road Signaling Manual - DER/SP and in the relevant and current ABNT technical standards, in addition to the Institutional Signaling Manual and other ARTESP Technical Specifications.

In addition to meeting current standards and specifications, the signage implementation project must include:

- (i) signaling for stretches with incidence of fog;
- (ii) Warning signs with sounders, according to a survey carried out by iRAP and, in agreement with ARTESP;
- (iii) identification of devices and branches/interchanges according to the technical specification at ARTESP;
- (iv) The Concessionaire, upon completion of the IMPLEMENTATION WORKS, shall carry out the adjustments of the Destination Guidance Signaling system (pre-signaling, confirmation and distance) at all junctions and roads that give access to Highway SP21 - Mário Covas Rodoanel (West, South and East Stretches), at its own expense, contemplating the new and faster routes and integrating the information. For the necessary adaptations, the existing supports (porticos and semi-porticos) can be

reused. The adaptation project must be carried out with the consent of the Concessionaires and Agencies responsible for the stretch in question.

The implementation must be completed within the period provided for in the item 5 of this ANNEX.

All traffic sign and relevant auxiliary devices implemented by the CONCESSIONAIRE must be covered on the back with the ARTESP registration and the date of manufacture of the sign, according to the Agency's guidelines.

Retroreflective road tacks must have type II, III and IV lenses, and type C body, in accordance with NBR 14636.

Traffic signs, hazard markers or alignment markers may not be installed in a paved area characterized as a runway, including islands and fictitious flower strip, even in a neutral area.

At the end of the implementation services, the CONCESSIONAIRE must present a photographic report that proves the execution of the services.

3. POI GUIDELINES

According to studies carried out by ARTESP, based on the data, projections and current situation, ANNEX 21 (EVTE) includes the completion works that must be implemented by the CONCESSIONAIRE, being subject to the additions that are analyzed by the CONCESSIONAIRE for the purpose of presentation of Proposal and for the formulation of its POI, presented as a condition for signing the AGREEMENT. The INVESTMENT PLAN will be subject to adjustments and revisions under the terms of the AGREEMENT, preferably in accordance with the ORDINARY REVISION process.

As a condition for signing the AGREEMENT, the CONCESSIONAIRE must present the Original Investment Plan, with details in the Physical-Executive Schedule referring to the ROAD SYSTEM, observing the pre-defined deadlines in ANNEXES 02, 12 and 21. This schedule shall contain the details of the investments already foreseen for the entire period of the SPONSORED CONCESSION, including all works of Completion Works and Equipment, Other Expansions and Improvements and Special Pavement Conservation. According to the contractual rules, the Original Investment Plan may be periodically revised, in order to enable the identification of needs and demands for investments not initially foreseen.

The investments presented in the POI, based on ANNEXES 02, 12 and 21, must be carried out by the CONCESSIONAIRE within the deadlines set out in the initial Physical-Executive Schedule that deals with the necessary investments for the entire ROAD SYSTEM, counting as the initial milestone the date of signature of the DEFINITIVE TRANSFER TERM. In the event of non-compliance or untimely performance of the services presented in the POI, cases that also consider the milestones and deadlines of intermediate stages, the CONCESSIONAIRE will be subject to the incidence of a factor related to the fulfillment by the CONCESSIONAIRE of the Performance Indicators, as well as the penalties established in the AGREEMENT and its ANNEXES, especially in ANNEX 11.

In the presentation of the POI, the CONCESSIONAIRE must consider the effective dates of start and completion of services related to the executive phase of the work, excluding the deadlines related to project activities, licensing, expropriation, budgets, contracting or other administrative activities.

In order to verify compliance with the start dates of the works listed in the POI, the start dates of the actual works at the construction sites (“on-site”) will be considered. Therefore, for the purpose of calculating the percentages of progress of the works, deadlines related to project activities, licensing, expropriation, budgets, contracting or other administrative activities will not be considered.

4. NEW INVESTMENTS

In view of the contractual REVISIONS provided for in the AGREEMENT, whether ORDINARY or EXTRAORDINARY, new investments, not provided for in the POI, may be incorporated into the CONCESSIONAIRE's responsibilities, according to the rules established in the AGREEMENT and its ANNEXES. At the end of the revision process, when deciding to implement new investments, these must be detailed in an INVESTMENT PLAN that will also include a PHYSICAL-FINANCIAL SCHEDULE, which must present the start and end dates of each work, in addition to intermediate milestones of each constructive stage, which must be arranged in the schedule at least every six months.

The CONCESSIONAIRE is responsible for obtaining the approval of the FUNCTIONAL PROJECTS from ARTESP (when requested), which must be delivered within the deadlines determined by ARTESP during the studies referring to the New Investments.

The EXECUTIVE PROJECTS for the implementation of the works may only be delivered to ARTESP after the approval of the FUNCTIONAL PROJECTS, both of which must be prepared by the CONCESSIONAIRE, pursuant to APPENDIX G.

The anticipation of work provided for in POI or INVESTMENT PLAN in force, as proposed by the CONCESSIONAIRE, must be presented to ARTESP, which must, after consulting the GRANTING AUTHORITY, decide on its authorization, verifying that the implementation and the consequent economic and financial rebalancing will be carried out in the ORDINARY REVISION or EXTRAORDINARY REVISION, depending on the case.

In cases of anticipation of capacity expansion work(s) in areas adjacent to the investments already in execution, as well as the anticipation of the respective device(s) of that stretch(es) that is essential to the release of the road for safe entry into operation, on the initiative of the CONCESSIONAIRE, these will only depend on the prior consent of ARTESP and do not constitute an IMBALANCE EVENT. In these cases, the CONCESSIONAIRE may start the works immediately after obtaining prior consent.

In the cases provided for in the paragraph above, the request for prior consent must be presented to ARTESP separately, separately from any other request for anticipation or postponement of investment, and accompanied by the identification of the item(s) in the Physical Schedule and with the documentation relevant to the investment(s) to be anticipated, including the respective device(s), if any.

The CONCESSIONAIRE shall communicate in writing and justifiably any initial and final delays in the work, including delays of intermediate milestones presented in the INVESTMENT PLAN of the New Investments, without prejudice to the analysis and validation by ARTESP on the merits.

Before the final approval of the projects, ARTESP may issue recommendations and guide the CONCESSIONAIRE during the process of development and preparation of the projects, including based on the information, data and documents that it has knowledge through access to SISPROJ, always observing the systematic provided for in APPENDIX G.

5. DEADLINES FRAMEWORK

ACTIVITY	DEADLINE
Presentation of the Plan for Implementation and Development of Projects in BIM Modeling for approval by ARTESP, applicable to projects after the implementation of the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Runway Instrumentation Schedule, when applicable.	Up to the START DATE OF OPERATION
Document of consolidation of demands for ORDINARY REVISION.	Up to 9 (nine) months before the ORDINARY REVISION
Presentation of the EXECUTIVE PROJECTS for the investments and expansions selected by ARTESP to compose ORDINARY REVISION.	Up to 180 (one hundred and eighty) days before the start of the scheduled date for the ORDINARY REVISION
Implementation and operation of the Selective Weighing in Motion System in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Implementation and operation of fixed-type speed meters in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Acquisition and operation of static-type speed meters in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Implementation and operation of the definitive Radiophony System in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Implementation and operation of the Data Communication System in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Implementation and operation of the definitive SAUs.	Up to the START DATE OF OPERATION
Definitive telephone system, type 0800 in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Implementation of the Communication System with the USER in the ROAD SYSTEM (call box and wireless data network).	Up to the START DATE OF OPERATION
Implementation and operation of Fixed-Type Variable Message Electronic Sign in the ROAD SYSTEM	Up to the START DATE OF OPERATION
Acquisition and operation of Mobile Variable Message Sign.	Up to the START DATE OF OPERATION
Homogeneous segmentation studies with proposed locations for the implementation of SATs.	Up to 6 (six) months from the date of signature of the DEFINITIVE TRANSFER TERM
Implementation and operation of the Traffic Sensing System in the ROAD SYSTEM.	Up to the START DATE OF OPERATION

ACTIVITY	DEADLINE
Implementation and operation of the CCTV Traffic Monitoring System in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Mapping and study of crossings in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Complete project (implementation) of road containment devices in the ROAD SYSTEM.	Up to 120 (one hundred and twenty) days from the signing of the DEFINITIVE TRANSFER TERM
Implementation of road containment devices in the ROAD SYSTEM, if applicable.	Up to 30 (thirty) DAYS FROM THE DATE START OF OPERATION
Signage project in the ROAD SYSTEM.	Up to 120 (one hundred and twenty) days from the signing of the DEFINITIVE TRANSFER TERM
Installation of signage in the ROAD SYSTEM.	Before START DATE OF OPERATION
To forward to ARTESP's analysis and manifestation the technical study with the proposal of the installation location of all fixed speed control equipment, duly justified.	Up to 4 (four) months before the START DATE OF OPERATION
To present, if necessary, a review of technical studies for the implementation of fixed speed control equipment.	Up to 45 (forty-five) days after reception of a statement from ARTESP indicating the need to review the technical studies
To complete the implementation of fixed-type speed meters in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
Acquisition and operation of portable-type speed meters in the ROAD SYSTEM.	Up to the START DATE OF OPERATION
To complete the implementation of the Definitive Radiophony System, meeting the specifications and requirements of ANNEXES 05 and 07.	Up to the START DATE OF OPERATION
To complete the implementation of the Data Communication System in the ROAD SYSTEM, meeting the specifications and requirements of ANNEXES 05 and 07.	Up to the START DATE OF OPERATION
To complete the implementation of the CCO, meeting the specifications and requirements of ANNEXES 05 and 07.	Up to the START DATE OF OPERATION
To provide definitive 0800 Telephone System for communication with users.	Up to the START DATE OF OPERATION
To disclose the 0800-contact number throughout the ROAD SYSTEM, meeting the standards established by ARTESP.	Up to the START DATE OF OPERATION
To provide access to the definitive 0800-type telephone system database.	Up to the START DATE OF OPERATION



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ACTIVITY	DEADLINE
To implement a User Communication System via Wireless Data Network in the ROAD SYSTEM, meeting the specifications and requirements of ANNEXES 05 and 07.	Up to the START DATE OF OPERATION
To present a list of locations and implementation schedule for Fixed-Type Variable Message Electronic Signs.	Up to 6 (six) months before the START DATE OF OPERATION
Implementation and operation of Fixed-Type Variable Messages Electronic Signs in the ROAD SYSTEM, meeting the specifications and requirements of ANNEXES 05 and 07.	Up to the START DATE OF OPERATION
Acquisition and operation of Mobile-type Variable Message Sign.	Up to the START DATE OF OPERATION
Implementation and operation of the CCTV Traffic Monitoring System in the ROAD SYSTEM, meeting the specifications and requirements of Annexes 5 and 7 to the Contract	100% of the length of the highways on the START DATE OF OPERATION
Completion of the configuration and parameterization of the intelligent video analytics functionality.	Within 90 (ninety) days after the end of the implementation of the CCTV equipment in the ROAD SYSTEM
Construction of the Headquarters of the Highway Policing Company.	Up to the START DATE OF OPERATION