

Terms of Reference

For the Replacement of Rainwater Collector for the Floodwater Draining of Bara Area to the Ditch of Balkoura, Municipality of Trikala

**In the framework of
the “RESILIENT THESSALY” project**

**Funded by
The Coca-Cola Foundation**

1. Background

1.1. The “RESILIENT THESSALY” Project

Thessaly Region, Greece, was hit hard in early September 2023 by an unprecedented natural disaster caused by storm Daniel, causing 17 human casualties (the deadliest Mediterranean tropical-like cyclone in recorded history), thousands of animal fatalities, cost of billion euros in damage and detrimental effect on more than 25% of the national domestic primary sector. In compliance with the “Disaster Preparedness & Risk Management” Initiative, which, among several goals, aims to strengthen the resilience and adaptability of communities to the impacts of disasters and extreme events, the RESILIENT THESSALY Project focuses on high investment return actions to reduce the economic and social toll of the rising impacts of climate change in the Region of Thessaly.

The Project aims at significantly increasing the flood resilience of the Municipality of Trikala, a city in the Region of Thessaly with a total population of 62,000, where more than 3,000 households and 30,000 citizens were impacted directly by the recent storm. Specifically, the Project, in collaboration with the Municipality of Trikala and the Municipal Company for Water and Sewerage (Water Utility) of Trikala, will enhance the city’s stormwater management capacity, and therefore, its resilience to flooding, by extending and reinforcing the existing rainwater drainage network.

Opportunities to communicate project results and achievements to local, national, and international audiences / communities will be further explored while the end of the program will be marked by a public event that will showcase the completed works and will discuss follow-up steps, including towards engaging project partners to follow up activities.

2. Description of the Assignment

2.1. Objective

The objective of the assignment is the “Replacement of Rainwater Collector for the Floodwater Draining of Bara Area to the Ditch of Balkoura, Municipality of Trikala”, based on the information presented in the following chapters and the respective Annexes.

2.2. Requested Services

The tasks to be performed are determined as follows:

- a) Supply, receipt and transport to warehouses of the required supplies and materials.
- b) Trench excavation, road demolition, etc. for the laying of pipes and construction of pipelines.
- c) Transportation of materials and supplies to construction sites.
- d) Laying and connecting pipelines.
- e) Refilling of ditches and restoration of pavements and other demolished works.
- f) Construction of the technical works of the network (control shafts, etc.).

2.3. Assignment Outputs

The output of the assignment is the construction of a new pipeline of 340 meters length and cross section $\Phi 1200$ on Zilevti Street, structured wall (corrugated) 3N8 with the necessary control shafts (manholes), which will follow the same alignment as the existing pipeline, which is made of cement pipes with diameter $\Phi 800$ and will end at the trench of Balkoura. The existing $\Phi 800$ will be dismantled and all secondary pipelines as well as existing water collections will be connected to the new pipeline. The slope of the new pipeline is dictated by the receiver and connection point and is 2.5 per thousand.

The technical specifications of the various components of the technical intervention are presented in Annex 1 and 2 of the present document.

2.4 Deliverables

The output of the assignment includes the following components.

A/A	Service / Task	Unit	Quantity
A. Earthworks			
A1. Excavations			
A1.1	Excavation of underground network trenches in earthy or semi-rocky soil with lateral deposition of excavation products. Excavation depth up to 4.0 m	m ³	228,00
A1.2	Excavation of underground network trenches in earthy semi-rocky soil with the transport of excavation products. Excavation depth up to 4.0 m	m ³	2.470,00
A1.3	Excavation dealing with additional difficulties from passing mains	m	285,00
A1.4	Excavation to be executed under conditions of limited space	m ³	100,00
A2. Clearings / Restorations			
A2.1	Demolition of unreinforced concrete structures	m ³	27,00
A2.2	Restoration of single-layer asphalt pavements	m ²	775,00
A2.3	Asphalt precoating	m ²	205,00
A2.4	0.05 m thick compacted asphaltic traffic layer using common asphalt	m ²	205,00
A2.5	Loading and unloading of excavation products	m ³	110,00
A3. Embankments			
A3.1	Backfilling trenches with excavated products with special compaction requirements	m ³	228,00
A3.2	Backfilling of trenches with brittle quarry material, for a total backfill thickness of more than 50 cm	m ³	2.120,00
A3.3	Laying and formwork of pipes with quarry sand	m ³	645,00

A3.4	Sanitizing layers with brittle quarry material	m ³	110,00
A4. Water Treatment			
A4.1	Diesel or electric pump sets from 2 to 5 HP	h	60
A5. Support			
A5.1	Trench side supports with metal curtains	m ²	1.156,00
B. Concrete Constructions, Sealing, Building Works			
B1. Concrete Constructions			
B1.1	Production, transportation, placing, compaction and maintenance of concrete, For concrete constructions of class C16/20	m ³	25,00
B1.2	Typical control shafts	pcs	4,00
B1.3	Steel structural mesh B500C for outside underground works	kg	330,00
C. Networks, Metal Elements and Structures, Piping Network Devices			
C1. Piping / Networks			
C1.1	Networks with pipes SN8, DN/ID 1200 mm	m	340,00
C1.2	Ductile iron covers	kg	160,00
C1.3	Pipeline connection to an existing well	pcs	14,00

This tender is not divided into lots, and tenders must be for the study / report indicated.

2.5. Obligations

The specific obligations are presented in Annex 2.

2.6. Health and Safety Precautions

Responsibility for all aspects concerning health and safety issues for the duration of this project is vested entirely in the contractor entrusted to do this job, who will exercise all control over operations, materials, employees, and all other factors respecting health and safety norms. More details in Articles 1 and 16 of Annex 2.

2.7. Reporting line

The awarded contractor will communicate directly with Dr. Nikos Skondras, Senior Program Officer at GWP-Med (Contracting Authority). Additionally, the awarded contractor will consult with and work under the direct supervision of the representatives of the Municipal Company for Water and Sewerage of Trikala Municipality (Supervising Authority).

2.8. Monitoring and Progress Control

Dr Nikos Skondras, Senior Programme Officer at GWP-Med, and Mr. Charalampos Lappas, Programme Officer at GWP-Med, will be providing oversight and guidance from the side of the Project Team. Coordination calls between the Contractor, the Supervising Authority and the Project Team will be held at weekly basis, to monitor the progress of the assigned services.

Services will be rendered and will be considered completed upon approval of the deliverables by the Project Coordinator, the GWP-MED Executive Secretary and the Municipal Company for Water and Sewerage of Trikala Municipality.

2.9. Site Visit

The bidders must visit the location of the technical intervention in order to have an understanding of the actual conditions on the spot and be able to prepare their technical offer and assess the situation for the preparation of their financial offer.

The site visit will be arranged in coordination with the Supervising Authority.

2.10. Work Permissions

The Municipal Company for Water and Sewerage of the Municipality of Trikala will provide the necessary permit / clearance for the awarded contractor to start working on the requested assignment.

2.11. Language

All the necessary documentation will be submitted in English.

3. Duration of the Contract

Delivery of the works should be completed by 30/09/2024.

The overall duration of the contract will be maximum by 30/10/2024.

The date of the commencement of the contract execution shall be the last signing of the contract.

4. Contract Price, Schedule of Payments

The maximum fee for this assignment is **285,000 EUR (including VAT)**. This amount includes all other costs, income taxes and any other amount payable or cost that may be required for the completion of the service.

The calculation of the prices is based on the Price Analysis of Hydraulic Works of the Ministry of Environment, Energy and Energy, year 2017.

The schedule of payments is as follows:

- 30% payment upon completion of the first 110 m of the installation of the new pipeline. The works will be verified by the Municipal Company for Water and Sewerage of Trikala Municipality.
- 30% payment upon completion of the second 110 m (220 m total) of the installation of the new pipeline. The works will be verified by the Municipal Company for Water and Sewerage of Trikala Municipality.

- 40% payment upon completion of the last 120 m (340 m total) of the installation of the new pipeline. The works will be verified by the Municipal Company for Water and Sewerage of Trikala Municipality.

Each payment will be issued upon the contractor's request and after receiving the respective verification from the Municipal Company for Water and Sewerage of Trikala Municipality

In the event that there are delays in the execution of the contract the awarded contractor is liable to a deduction of €100 per day, for every day of delay, including Sundays and public holidays, up to a maximum of 10% of the contracted amount in case there are delays in the execution.

5. Guarantee

The awarded contractor agrees to submit to the Contracting Authority one Performance Guarantee accounting to 5% of the contract value (excluding VAT).

The Performance Guarantee shall cover comprehensively and on a non-discriminatory basis the application of all the terms of the contract and any claim by the contracting authority or the client against the awarded contractor.

The successful contractor shall, within ten (10) calendar days of the receipt of the contract, sign and date the contract and return it together with a copy of the Performance Guarantee. Any Performance Guarantee issuance expenses bear's the successful participant.

The Performance Guarantee shall be released after the completion of three (3) months from the written acceptance of the works performed by the Municipal Company for Water and Sewerage of the Municipality of Trikala.

The Contracting Authority will issue no payment to the Contractor until the Performance Guarantee has been submitted.

No Guarantee for Good Operation is required.

6. Selection Criteria (Pass / Fail)

Successful participants must provide the following documents:

A. Technical Offer:

- Be enrolled in one of the official professional or trade registries at the country of registration.
- Be licensed to perform works in Greece.
- Be classified as Hydraulic Works contractor.
- Provide a statement of availability of resources (e.g. financial, tools, equipment, personnel / technicians) to perform the requested tasks (either own resources or through collaboration).
- Provide a statement of understanding the requested objective, services, and deliverables.
- Provide a Graphic Works Schedule - Program of Works in the form of a Gantt Chart.

- Provide a signed statement certifying that the components to be supplied are new and unused.
- Provide proof of their average annual turnover for the last three (3) fiscal years being at least equivalent to the maximum amount of this Call proven through Financial Statements (Income Statement and Balance Sheet) of the last three years duly certified by a Public Accountant, and with authentication of receiving by the Government's Internal Revenue Authority. Include any indication of credit rating, industry rating, etc.
- Provide proof (contract and accompanying documentation) of having executed at least one related work of equal or higher value in the last three years.
- Provide proof of visiting the location of implementation of the requested works in the preset period.
- Provide the certificates of the pipeline which is to be offered.

B. Financial Offer (Annex 4)

7. Awarding Criterion and Evaluation Process

Award criterion is the Most Economically Advantageous offer with criterion the lowest price for the offers satisfying the selection criteria.

8. Submission of Offers

Please refer to the **Call for Offers Document** for the proper submission of the Technical and Financial Offer.

ANNEX 1 – TECHNICAL SPECIFICATIONS

HELLENIC ORGANIZATION FOR STANDARIZATION = ELOT

A. NATIONAL TECHNICAL SPECIFICATIONS / HELLENIC ORGANIZATION STANDARIZATION - ELOT SPECIFICATIONS

- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-02-02-01-00 GENERAL EXCAVATIONS OF ROAD AND HYDRAULIC WORKS
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-01-03-01 EXCAVATION OF UNDERGROUND NETWORK TRENCHES
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-01-03-02 BACKFILLING OF UNDERGROUND NETWORK TRENCHES
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-02-08-00-00 DEALING WITH PUBLIC UTILITIES NETWORKS DURING EXCAVATIONS
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-10-01-00 CONSTRUCTION SITE WATER PUMPING
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-10-01-00 BITUMINOUS PRE-COATING
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-05-03-11-04 CLOSED TYPE BITUMINOUS LAYERS
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-06-02-02 SEWERAGE NETWORKS FROM U-PVC PIPES
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-06-06-02 RAINWATER AND SEWAGE NETWORKS FROM FIBER CEMENT PIPES
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-07-01-04 GRATES FOR WATER COLLECTION – COVERS OF MALLEABLE CAST IRON
- HELLENIC ORGANIZATION FOR STANDARIZATION TECHNICAL SPECIFICATION 1501-08-06-08-06 PREFABRICATED CONCRETE WELLS

B. OTHER TECHNICAL SPECIFICATIONS – Part I

Technical Specification 1: SIDE SUPPORT

1. Subject

This Technical Specification refers to the auxiliary structures of links for the support of the sides of the trench and the excavation of technical works in cases where there is a risk of collapse of the sides.

2. Metal diaphragms

The retaining of the sides of trenches and all kinds of excavations will be provided where necessary due to loose soils, using twin self-supporting metal diaphragms of Krings type or other

equivalent type. The Contractor is obliged to use diaphragms of recognized industrial origin and not improvised and to install them in accordance with safety rules.

The density of the links is proposed by the Contractor and approved by the Supervising and Contracting Authorities. It is noted that in case of need for side links, the Contractor must indicate this need to the Supervisor and in case of danger to proceed without prior arrangement to this work.

3. Measurement and payment

The measurement and payment of slope retainings with metal diaphragms when they are sporadic is included in the price of excavations, while when they are systemic and long they are measured on the basis of the square footage in contact with the ground and are paid according to the conventional prices.

Technical Specification 2: DRAINAGE PIPES FOR RAINWATER AND SEWAGE FROM PLASTIC PIPES OF STRUCTURED WALL

1. Subject

This Technical Specification refers to the pipes and special sewerage blocks from plastic pipes of structured wall with smooth inner and corrugated external surface according to the HELLENIC ORGANIZATION STANDARIZATION ELOT EN 13476 and perforated drainage pipes of structured wall with smooth inner and corrugated external surface according to HELLENIC ORGANIZATION FOR STANDARIZATION ELOT EN ISO 9969.

2. General

The planned works for the construction of structured wall plastic sewage pipes are summarized as follows:

- The supply of pipes and special pieces and all kinds of tests in the factory before receipt.
- All loading, unloading and transportation of pipes and special pieces from the manufacturing plant to the assembly site and then from there to the installation site.
- The laying and connection of pipes and special pieces inside the trench.
- The process of backfilling the trench of the pipeline.
- All kinds of acceptance tests of manufactured pipelines.

All the aforementioned works will be carried out in accordance with the details set out in this Technical Specification.

For all other works required for the construction of the sewage network, such as excavation and refilling of trenches, loading and unloading and transportation of excavated products, construction of sand substrate, construction of wells, etc., the NATIONAL TECHNICAL SPECIFICATIONS applies and for those works that are not provided for therein, the corresponding Technical Specifications of this Annex apply.

3. Quality, characteristics of pipes and special pieces – receipt of materials

The quality, characteristics, and acceptance tests at the factory of the pipes and special parts of the series specified in the design drawings will fully comply with the standards HELLENIC ORGANIZATION FOR STANDARIZATION EN 13476 and HELLENIC ORGANIZATION FOR STANDARIZATION EN ISO 9969. The manufacturer according to this standard is the factory, from which the Contractor will obtain the plastic pipes.

It is noted that the pipes that will be incorporated in this project must be certified with a Certificate of Conformity by EVETAM S.A. based on Government Gazette B 3346 / 14-12-12 and generally meet all the stated requirements in this.

4. Test standards

- HELLENIC ORGANIZATION FOR STANDARIZATION EN ISO 9969 Thermoplastics pipes – Determination of ring stiffness
- HELLENIC ORGANIZATION FOR STANDARIZATION EN 744 Plastic pipe and pipeline systems – Thermoplastic pipes – Test of resistance to external shocks by the clock method
- HELLENIC ORGANIZATION FOR STANDARIZATION EN 9967 Plastic pipes – Determination of creep ratio
- HELLENIC ORGANIZATION FOR STANDARIZATION EN 3126 Plastic pipe systems – Plastic components – Dimensional determination

The pipelines and special pieces of the same material will be delivered to the Contractor at the factory, after all mandatory and any optional acceptance tests that have been deemed appropriate, as defined in the HELLENIC ORGANIZATION FOR STANDARIZATION EN standards, have been carried out. The Supervising Authority has the right to attend the product control tests with its legally authorized representative. If a representative of the Supervision Authority is not present at the tests, the pipe manufacturer is obliged to issue to the Supervision Authority a certificate certifying that all pipes and fittings have passed the above tests.

It is clarified that the presence of a representative of the Supervision Authority at the acceptance tests of pipes and fittings or the granting of the relevant certificate by the manufacturer in accordance with the above, does not prejudice the final acceptance of the installed piping on site by the Supervision Authority.

5. Pipe dimensions

The dimensions of the pipes will comply with what is mentioned in the standard HELLENIC ORGANIZATION FOR STANDARIZATION EN 13476-3. The standardization of the nominal diameter of pipes (DN) is done by the inner diameter (DN/OD).

6. Transportation and storage of materials

The handling and storage of pipes and special pieces will be done with care to avoid damage. The transport vehicles shall be of such length that the pipes do not protrude from the truck. Cranes or other lifting machinery will be used for loading and unloading. In no case is landing by tipping allowed. It is forbidden to use wire rope or chains for handling pipes. Handling must be with straps.

The pipes shall be stored in fenced areas and placed in such an arrangement (e.g. pyramid arrangement) to avoid distortions and deformations due to overlying weight. Each diameter will be stacked separately.

Until their installation, the pipe connection pieces will remain in their packaging. The following must be avoided:

- a) The uneven temperature distribution peripherally in the cross-section, as it may cause distortion or buckling of the pipe.
- b) Axial or transverse loading in so far as it may cause deformation (widening) of the diameter.
- c) Dragging, dropping, or stacking on rough surfaces. If pipes are loaded and unloaded with ropes or chains, they shall be adequately protected against abrasions and scratches.
- d) Excessive loading of stored pipes (e.g. incorrect stacking). The right perspective is stacking at a height of up to 1.5m. The bottom layer will rest on a flat clean surface and along the entire length of the pipes.

When storing pipes of different rows and diameters, the most rigid ones will be arranged at the bottom of the stack.

If pipes have pre-formed ends (e.g. flanged pipes), these ends will protrude. The ends of pipes treated for connection will be protected from damage.

The trucks used to transport the pipes will have a body with smooth surfaces, without sharp objects protruding that could damage the pipes.

7. Laying pipes in the trench

For proper placement of the pipe in a trench, the following instructions must be followed:

- a) The depth of the trench should be such as to allow a minimum of 10 cm of sand to be laid on the bottom, on which the pipes will be laid (for sewer pipes).
- b) Sharp or very large stones must have been removed from the bottom of the trench.
- c) The choice of granulometry of materials should be made with the criterion of easy penetration into the grooves of the pipe. The base and protective backfill must consist of the above-mentioned materials, which are laid in successive layers followed by compaction up to a height of 30 cm above the crown of the pipe.
- d) Particular attention should be paid to the compaction of the backfill on the side of the pipeline. Compaction should be carried out after the backfill exceeds half the diameter of the pipeline to prevent it from rising and therefore changing the slope of the pipeline and continue backfilling and compaction as described in the previous paragraph. Then the pit can be filled with the excavation materials, after the sharp and very large stones have been removed. The degree of compaction of the backfill required is equal to or greater than 90% according to Proctor (Optimum).
- e) In case of aquifer existence, the laying of sewer pipes should be carried out after the removal of water and their backfilling should be done to avoid the phenomenon of buoyancy.
- f) It is recommended to use mechanical means, such as the installation of a board of suitable dimensions for the equal distribution of loads and the avoidance of damage to the ends of the pipes.

- g) Particular attention should be paid to the phenomenon of expansion of pipes when they are placed in an environment of high temperatures. In this case, it is necessary to coat the pipes with partial backfilling.

8. Pipe connection

The pipes are connected to each other by a coupling and rubber ring. For sewer pipes from DN/OD 250mm to DN/OD 1200mm and from DN/ID 300mm to DN/ID 800mm the ring shall be placed in the first groove and in pipes from DN/OD 160mm to DN/OD 200mm the ring shall be placed in the second groove or according to the manufacturer's instructions.

After the installation of the rubber ring to facilitate the connection, the coupling to be connected is internally coated with liquid soap. Soap coating of the rubber ring should be avoided in order not to cause adhesion of sand or soil microparticles, which may affect the tightness of the connection. When joining pipes of large diameters it is recommended to use mechanical means. In such cases, it is necessary to protect the free end of the pipe by placing a board of suitable dimensions to evenly distribute the loads and avoid damage to the pipe.

The couplers must be placed in their correct position to ensure the smooth flow inside the network (up to their inner ring).

Note: Especially for sewage networks in cases where there is a high-water table, it is recommended to use a second rubber ring, which will be made of special materials that swell upon contact with water (hydrophilic) thus ensuring the absolute two-way tightness of the network or any other element that will ensure the absolute tightness of the connection.

9. Water-tightness Tests

Tests are carried out on the pipeline according to ELOT EN 1277 Plastic pipe systems – Thermoplastic pipe systems for underground non-pressure applications – Methods for testing the tightness of elastomeric joints of sealing ring type.

10. Quality control requirements for receipt

- a) Check of consignment notes of incorporated materials.
- b) Presentation of a Certificate of Conformity or its absence, control of the corresponding Audit Certificates by EVETAM S.A. in accordance with the provisions of Government Gazette B' 3346 / 14-12-12.
- c) Check the horizontal and altitude placement of pipes and their wiring according to the approved study.
- d) Check of pressure test practices.
- e) Inspection of the installation according to the drawings of the approved study, in order to determine whether all the required components have been installed and whether the slopes have been accurately observed (in the case of gravity networks).
- f) Parts that display damage, distortions or corrosion will not be accepted and an order will be given to replace them at the expense of the Contractor.

11. Final cleaning and inspection

Before the project is accepted by the Supervising and Contracting Authority, the entire pipeline system, including manholes, must be cleaned to remove possible sediments that have entered

the network, so that the pipelines are completely clean and free of obstructions. Before receipt, the network will be inspected by the Supervising Authority.

12. Measurement and payment

The measurement of the pipelines for each diameter is based on the current meters (axial length) of the pipeline, which were satisfactorily constructed and in accordance with the terms of this Technical Specification and Study and accepted by the Contracting Authority. The length is measured from the inner side of one shaft to the inner side of the next shaft.

The payment will be made for the pipeline lengths per nominal diameter measured in accordance with the above and at the contractual unit price which constitutes full compensation of the Contractor for all costs of supply of pipes, installation and connection of pipes to the trench (arrangement of the trench, opening of nests, widening of the sides of the trench for direct connection of pipes and special pieces), as well as the costs of duct tightness tests, including the cost of water supply.

The price of the pipelines does not include encapsulation with sand or quarry crushing material, which are pre-calculated and paid separately based on the relevant financial offer.

C. OTHER TECHNICAL SPECIFICATIONS – Part II

A. Earthworks

A1. Excavation of underground network trenches in earthy or semi-rocky soil. Excavation depth up to 4.0 m

- With a bottom width of up to 3.00 m
- With lateral deposition of excavation products.
- With the transport of excavation products

Excavation of underground network trenches in earthy or semi-rocky terrain, including the excavation of any existing asphalt layers, in a residential area or in the range of occupation of a road axis under traffic, by any means (mechanical means with or without manual assistance) on dry or with groundwater (with a calm or degraded level by pumping), according to the EIB 08-01-03-01 "Excavation of underground network trenches".

The cutting of asphalt layers or existing concrete layers must be performed with an asphalt cutter.

The use of pumps is not particularly paid, both during excavation and during the execution of works within the trench and until their completion, unless otherwise provided for in the study.

The price includes sporadic retaining of the sides of the trench (if required), shaping the sides and bottom of the trench in the required cross-sections in such a way that it is possible to use formulas for laying concrete, bounce, depending on the way and means of excavation, as well as any necessary working floors. Finally, the price includes any kind of side transport (horizontal or vertical).

Sporadic are considered the supports of the sides whose length does not exceed 2,00 m in total, per 20,0 m axial length of trench. The special retaining structures shall be measured in particular, over their entire application area, in accordance with the provisions of the study.

Excavations shall be measured per depth zone (up to 4,00 m).

Price per cubic meter (m³) of trench, based on the payment lines determined by the present document, depending on the width of the seabed, the depth of the trench and the management of the excavated products.

A2. Restoration of single-layer asphalt pavements

- Restoration of asphalt pavements with asphalt layers of average thickness of 5 cm

For the works of complete restoration of one square meter of dismantled asphalt pavement, namely:

- Laying and compaction of paving material with quarry aggregates, in layers up to 15 cm thick and with a total thickness equal to the pre-existing one.
- Application of asphalt pre-coating.
- Asphaltic base layer with asphalt mixture, hot-prepared in a permanent installation, of a thickness of 50 mm.
- Laying and compaction of hot produced asphalt mixture in a permanent installation, of a total thickness equal to the pre-existing layer of concentrated thickness up to 50 mm.
- Application of asphalt adhesive coating in case of application of a double asphaltic layer.

This includes the supply and transport on site of all incorporated materials, the taking of measures for the required traffic arrangements and the employment of personnel, equipment and means to carry out the works, as well as the collection and removal of any surplus materials and the cleaning of the road surface using a mechanical sweeper after the completion of the works.

A3. Asphaltic Pre-coating

Pre-coating of surface without asphalt with asphaltic solution type ME-0 or with acidic asphaltic emulsion, regardless of the extent and shape of the surface, in outdoor and underground works, according to EIB 05-03-11-01 "Asphaltic pre-coating".

The unit price includes:

- The supply of asphalt, oil and any required antihydrophilic product and their transport to the site of the project from any distance.
- The handling of materials and the preparation of asphaltic solution (heating, storage, storage, etc.).
- Cleaning of the surface to be pre-coated with a mechanical sweeper and manual assistance.
- Transportation and diffusion of asphaltic solution or emulsion with a self-propelled asphalt distributor (Federal).
- Reheating of the solution before diffusion (when required),
- The possible laying of an inert coating material with the value of its production or supply and transport to the place of laying.

A4. Traffic related asphaltic pre-coating

Construction of asphaltic traffic related layer, in underground and outdoor works, regardless of the extent and form of the surface, with asphaltic mixture prepared hot in a permanent installation with crushed aggregates of quarry type, AS 12,5 or AS 20, according to the National Technical Specifications 05-03-11-04 "Asphaltic layers of closed type asphalt concrete".

The unit price must include:

- The production or supply and transport of appropriate aggregates and asphalt until the production facility of the asphalt mix.
- The production of asphaltic mixture, according to the approved composition.
- The transport of the hot asphaltic mixture on site, its laying with a finisher.
- The stagnation of the means of transportation.
- The rolling of the asphaltic mixture (initial, intermediate-intensive and final), in order to obtain the prescribed surface texture and smoothness.
- The complete compaction and thorough leveling of longitudinal and transverse joints to eliminate surface traces.

Unit price must include the value of incorporated asphalt.

A5. Backfilling of underground networks with excavated products, with special compaction requirements

Backfilling of underground network trenches in residential areas or in the road crossing zone, in layers up to 30 cm thick with suitable project excavation products deposited alongside or borrowed soil transferred on site, according to the study and the National Technical Specifications 08-01-03-02 "Refilling of underground network trenches".

The unit price includes lateral transport of deposited or presented products, disposition in the trench by mechanical means and manually (where necessary), layering up to 30 cm thick, wetting (by supplying and transporting water on site) and compaction with vibrating compactors of dimensions proportional to the width of the trench, in order to obtain a degree of concentration corresponding to a dry apparent density equal to at least 95 % of that obtained in the laboratory during the modified Proctor test (Proctor Modified by Hellenic Organization for Standardization EN 13286-2).

A6. Backfilling of underground network trenches with graded quarry crushed gravel

For total backfill thickness up to 50 cm

Backfilling of underground network trenches in residential areas or in the road crossing zone, in layers up to 30 cm thick, with graduated crushed quarry gravel, according to the typical cross-sections of the study and the National Technical Specifications 08-01-03-02 "Refilling of underground network trenches".

The unit price includes the supply and transport on site of graduated quarry crucible material, side transport, disposition in the trench by mechanical means and manually (where required), layering up to 30 cm thick, wetting (by supplying and transporting water on site) and compaction with vibrating compactors of dimensions proportional to the width of the trench, in order to obtain a degree of concentration corresponding to a dry apparent density equal to at least 95 %

of the density obtained in the laboratory in the modified Proctor test (Proctor Modified by Hellenic Organization for Standardization EN 13286-2).

Price per cubic meter (m³) of concentrated backfill volume, based on the payment lines of the trench defined in the study.

A7. Layers and encapsulation of pipes with quarry sand

Layers and encapsulation of pipes in a trench with sand from a quarry, according to the typical cross-sections of the study and the National Technical Specifications 08-01-03-02 "Refilling of underground network trenches".

The unit price must include:

- The supply and transport of quarry sand on site.
- The approach, disposition and laying of the material in the trench.
- The leveling of the bearing layer and the printing or slight compaction of the encapsulation layer so that it completely surrounds the pipes, with special care to avoid damage to the pipeline.

Price for one cubic meter (m³) of backfilling as above, according to the payment lines provided by the study (typical pipeline cross-sections)

A8. Sanitizing layers with gravel materials

Soil sanitation of the foundation of various structures at any location of the project (including sanitization of pipe ditch bottoms) with gravel materials in layers, thickness, granulometric gradation and degree of compaction according to the project study.

The unit price includes the supply and transport on site, from any distance, of gravel materials, their laying and compaction using appropriate mechanical equipment.

Price per cubic meter (m³). Measurement by taking initial and final cross-sections.

A9. Operation of pumping units

Operation of portable or mobile construction site pumping units for the drainage of incoming or groundwater and the pumping of sewage during the execution of the various works of the project, if this is provided for in the study or after a written order of the Contracting and Supervising Authorities and otherwise in accordance with the National Technical Specifications 08-10-01-00 "Construction site water pumping" and 08-10-02-00 "Muck - Sewage Pumping".

Unit rates must include:

- a) The presentation at the place of execution of the pumping unit of suitable power for the respective head and flow rate required and the corresponding piping, devices and accessories.
- b) The cost of fuel or electricity
- c) Installation, supervision of operation, fuel supply and maintenance of the pump and piping
- d) The opening of a temporary ditch for the extraction of pumped water to an existing recipient

- e) The movements of the pump and piping according to the work schedule
- f) The staggers of the complex for any reason

Price per hour (h) of operation of the pumping unit carried out after approval by the Contracting and Supervising Authorities.

B. Concrete Constructions

B1. Production, transportation, placing, compaction and maintenance of concrete

Production or supply, on-site transport, laying and compaction of concrete of any category or quality, in accordance with the provisions of the Hellenic Organization for Standardization EN 206-1, of the Concrete Technology Regulation and Greek Regulation of Reinforced Concrete (provided that they do not conflict with the provisions of the Hellenic Organization for Standardization EN 206-1), as well as the requirements of the Study.

The price must include:

- a) The supply, transportation from any distance to the site of the project, of concrete, in the case of factory concrete, or the supply, loading and unloading of all the materials required (aggregates, cements, water) for the preparation of concrete, if the concrete is prepared on site (construction site concrete), the drips of cars transporting aggregates and concrete, the preparation of the mixture and the transport of the concrete to the laying site.
It is noted that the price per category of concrete includes the cost of the required quantity of cement to achieve the predicted characteristics (strength, workability, etc.) under the applied granulometric gradation of aggregates depending on the case. In no case is the amount of cement incorporated in concrete particularly measured.
The required granulometric grading of aggregates and the cement content to achieve the required characteristic strength of concrete is determined in the laboratory at the expense of the Contractor.
- b) All additives (except fluids) provided for in the approved composition study, as the case may be, shall be measured separately.
- c) The use of mass and/or surface vibrators and the configuration of the upper level (final or temporary) of the concreted elements, according to the specifications of the project design.
- d) The drip of the concrete transport vehicles (barrels), the transition on site, the set-up and return of the concrete pump, as well as the collection, loading and removal of any overflows or excess concrete that has been presented at the concreting site.
- e) Additional floor configuration processing of special requirements (e.g. industrial flooring) is not included.

The work will be carried out in accordance with the following National Technical Specifications:

- 01-01-01-00: Production and transport of concrete
- 01-01-02-00: Concrete laying and compaction
- 01-01-03-00: Concrete maintenance
- 01-01-04-00: Concrete production sites
- 01-01-05-00: Vibratory concrete condensation

01-01-07-00: Concreting of bulky structures

Please note that it is strictly forbidden to add water to the concrete on site. It is also forbidden to use concrete after 90 minutes of mixing, unless retardant additives are applied based on a special composition study.

B2. Typical control shafts

Complete construction of a typical control shaft, at any location of the project and regardless of the depth of the pipeline from the ground surface, in accordance with the applicable National Technical Specifications per individual scope of works.

The unit price includes:

- Any research areas required to identify pipelines and networks.
- The required excavations in any way (mechanical means or hands), in any kind of soil, with any required retaining of the sides of the trench, as well as the loading and unloading of surplus excavation products and their transport at any distance.
- The required demolitions – dismantling.
- Any pumping required.
- The required sanitizing layers of the shaft
- The unreinforced and reinforced concrete structures that make up the shaft (concrete of any category, reinforcement, formwork, admixtures), according to the plans of the Study.
- The required internal configurations of the shaft, according to the plans of the Study
- The insulation of the outer sides of the shaft with asphaltic coating.
- The supply and installation of the planned cast iron grades and the manhole cover, according to the plans of the Study.
- The construction of a drainage arrangement of the shaft to a suitable recipient (pipe, special pieces, connection, and encapsulation of pipe).
- The supply and installation of a ventilation pipe (when required).
- The backfilling of the remaining gap of the trench with crushed material.
- The restoration of the surface of the trench to its original condition (road deck or pavement)
- Any other work or individual construction for the completion of the shaft, according to the plans of the Design.

B3. Steel concrete reinforcement

Supply and transportation on site of concrete reinforcement steel of all kinds of structures, cross-section, form and category according to the study, its configuration according to the study, approach to the integration site by any means and its placement according to the reinforcement drawings. Execution of works according to the National Technical Specifications 01-02-01-00 "Steel concrete reinforcement".

The installation of the reinforcement will be done only after the receipt of the formwork or the concrete bearing surface (e.g. reinforced floor substrate, etc.).

Steel concrete reinforcement is measured in kilograms, per reinforcement category (steel B500A, B500C and welded mesh) based on detailed Reinforcement Tables.

If these tables are not included in the approved design of the project, they will be prepared by the Contractor and will be submitted to the Supervising Authority for inspection and approval before the start of the installation of the reinforcement.

The Tables will be prepared based on the drawings of the study and will include in detail the dimensions of the bars (spreads), the diameters, the mounting positions and the overcover lengths, the weights per running meter per diameter, the individual and total lengths of the bars, the partial weights per diameter and the total weight. The above Reinforcement Tables, upon receipt of the reinforcement, will be signed by the Contractor and the Supervising Authority and will constitute the measurement of the reinforcements.

The weight of reinforcement bars per running meter will be calculated on the basis of the following Table of the Regulation of steel technology KTX-2008, which is set out below. Under no circumstances is it acceptable to determine the unit weight of bars on the basis of a balance sheet.

Nom. diameter (mm)	Field of application					Nom. cross section (mm ²)	Nom. mass/ metre (kg/m)
	Bars	Coils and aligned products		Electro-welded mesh and trusses			
		B500C	B500A	B500C	B500A		
5,0		√		√		19,6	0,154
5,5		√		√		23,8	0,187
6,0	√	√	√	√	√	28,3	0,222
6,5		√		√		33,2	0,260
7,0		√		√		38,5	0,302
7,5		√		√		44,2	0,347
8,0	√	√	√	√	√	50,3	0,395
10,0	√		√		√	78,5	0,617
12,0	√		√		√	113	0,888
14,0	√		√		√	154	1,21
16,0	√		√		√	201	1,58
18,0	√					254	2,00
20,0	√					314	2,47
22,0	√					380	2,98
25,0	√					491	3,85
28,0	√					616	4,83
32,0	√					804	6,31
40,0	√					1257	9,86

The units to be measured, in addition to the supply, transport on site, configuration and installation of the reinforcement, include the following:

- The connection of the bars in a solid manner, at all cross-sections independently and not alternately, by wire of thickness according to the diameter and position of the reinforcement or by welding in the case of injected piles.
- The supply of the mooring wire.
- The supply and installation of spacers to ensure the thickness of the reinforcement coating provided in the study, as well as joint locks (according to ISO 15835-2).
- The installation of supports (cavaliers, stirrups) and special suspension pieces that may be required (labor and materials).

- The reduction and wear of reinforcement during cutting and machining.

ANNEX 2 – SPECIFIC OBLIGATIONS

Article 1. Works insurance

For the proper implementation of the works, the Contractor is obliged to have the construction works insured against all risks (civil liability and insurance to third parties), including cases of damage due to force majeure.

Article 2. Study of project execution conditions

The Contractor accepts with his offer that he/she has fully studied the nature and location of the works, the general and local conditions, mainly regarding the conditions of finding, transporting, depositing and storing materials, the existence of labor, water, electricity, the volatility of weather conditions, the possibility of flooding of streams and generally all natural conditions in the area of the works, the configuration and condition of the soil and subsoil, the type, quality and quantity of materials and water above and below ground, the type and means that will be required before the commencement and during the period of works and any other matters which in any way may affect, in connection with the contract; the work or its cost. In particular, he/she studied and took into account in the offer the load and traffic conditions of vehicles and the existence and operation of projects and public utility networks (pipelines, sewerage in general, etc.). It is noted that the responsibilities for correspondence and consultations that may be needed with the various Public Utilities all belong to the Contractor. All such actions will be done with the knowledge of the Supervising Authority.

The Contractor acknowledges that interference is expected from other Contractors of other projects and for this reason has taken into account these charges in the contractual prices of the offer and in the detailed construction program and that no such interference will be the basis for additional compensation to the Contractor. The Contractor shall cooperate with all other Contractors under the instructions of the Supervising Authority, and undertakes the obligation not to obstruct the execution of any other works or works of a public sector body, which may be affected by the works of the present assignment, to protect existing constructions from any damage or interruption of their operation and without reducing its liability to restore or contribute to the immediate restoration of damages or interruptions.

For the inspection of existing network pipelines, etc., if requested by the Supervising Authority, the Contractor will submit a detailed special report and construction drawings. This special report and the plans will accompany the detailed work programme. These works include all those necessary for the diversion or arrangement and generally the control of existing pipelines, networks or streams, etc. without disturbing their operation. The works for the inspection of the existing pipelines (water supply, sewerage, etc.) as specified above will begin before the start of the works of the works to be constructed and will end after the completion of the works and the final restoration of the trenches. Upon signing the Contract, the Supervising Authority is obliged to make available to the Contractor the approved final design of the project. The Contractor has the obligation to make good and faithful execution of the approved plans and documents and has no right, without prior written order of the Supervision, to modify them. The Contractor must, in any case where he considers that a change in the plan of the approved design would be technically and economically beneficial to the project, to inform the Supervising and Contracting Authority, who may accept or reject the proposed change.

Article 3. Personnel of the Contractor

The Contractor is obliged to establish at the place of execution of the project, an office with specialized and experienced technical staff, i.e. at least one Civil Engineer with ten years of experience in corresponding projects, who will be present daily to direct and monitor the project and at any time requested will be at the disposal of the Supervising Authority. The Contractor is also obliged to submit a list of the persons who will be authorized to replace them above mentioned in their absence. The foremen of the Contractor must be able to assist him in the execution of works, measurements, etc. The craftsmen must have the required suitability for the purpose for which they are used.

The Supervising Authority may always order the removal of personnel deemed justifiably unsuitable or the reinforcement of the contractor's workforce.

Article 4. Contractor's compliance with the contract and the orders of the Supervising Authority.

The Contractor must comply with the provisions of the Special Conditions and other elements of the contract, as well as with the written orders of the Supervising and Contracting Authority. The Contractor has no obligation to comply with the orders given to him orally but only with the written orders or service notes of the Supervising Engineer certified by relevant documents of the Supervising Authority.

Exceptionally, in urgent cases, the Contracting and Supervising Authorities' order for amendments or additions may also be given orally at the site of the works. In this case, a relevant entry must be made in the project logbook. If such an order is given by the supervisor, he shall forthwith inform the Contracting Authority in writing of the issue of a proper order issued within three working days of such written notification. If this order partially or totally alters the orders of the supervisor, the Contractor shall be compensated for the work he has carried out, in accordance with the order of the supervisor, until the order of the managing department is received.

Article 5. Sources of aggregates – Disposal of surpluses

The Contractor must supply at his own risk and expense all aggregates that will be required for the execution of the project.

The aggregates (gravel paving, pipeline encapsulation, drainage, etc.) that will be used in the project will be crushed quarry materials. The Contracting Authority does not undertake any obligation for the expropriation of land suitable for the production of materials to be used by the Contractor in the project, therefore he must include in the prices he will offer all the necessary costs for the supply from quarries, mines, etc. of the necessary aggregates, or for the lease or purchase of land for the production of these materials.

The costs of construction and maintenance of access roads, transportation of materials from whatever source they may be received, etc., should also be included in the offer. No claim from the Contractor for payment of any other compensation due to any additional transport or adverse conditions of lease of quarries, mines, etc., disclosure and creation or exploitation thereof, etc. Unsuitable or surplus materials shall be laid out, following a proposal by the contractor in appropriate areas and after approval by the Supervising Authority. In case it is not possible to deposit the excavated products in pre-approved areas, the Contractor must find and use other suitable areas, with the approval of the service without any special compensation.

Article 6. Quality of Materials – Inspections

The Contractor must procure at his own risk and expense all the materials that will be required for the execution of the project.

The receipt and quality control of the materials used in the construction of the project or incorporated in it, is done by the Material Receipt Committee appointed by the Supervising Authority.

The materials must be of excellent quality and meet the terms of the respective applicable National Technical Specifications. They must also carry ELOT and/or ISO certificates, which are submitted to the Supervising Authority.

Samples of materials must be submitted for approval before use. Materials and other articles used without the above certificates and approval shall be rejected if their unsuitability is established.

The required samples and descriptive data will be taken in a timely manner by the Contractor before use and will be examined by the Supervising Authority. Then, when required, samples will be sent for examination to an appropriate state material testing laboratory. For this reason, those will be properly packaged, with the name of the material and factory and the commercial materials and for aggregates the place of origin, the name and location of the project and the name of the Contractor, as well as that the materials to be used correspond to the sample. The type of inspection to which the materials will be subjected shall also be indicated. Any relevant cost will be borne by the Contractor and is included in its percentage of overheads and benefits.

If during the implementation of the project, the Supervising Authority considers that the materials to be used do not meet the requirements of the specifications or are generally unsuitable, the Supervising Service orders the non-use of the materials. If the Contractor disagrees, the materials are not used unless their suitability is judged by laboratory testing performed by recognized laboratories. The cost of laboratory investigations shall be paid in advance by the contractor and shall ultimately be borne by him if the unsuitability of the materials is proven. Otherwise, the cost shall be borne by the client and reimbursed to the contractor from the project appropriations.

Article 7. Inspections – Construction Test

The supervising Authority will proceed whenever is deemed appropriate and at the expense of the Contractor to inspections and tests of the structures, in order to ascertain, inter alia, their quality and effectiveness. The controls - tests are:

- Waterproofing of tanks and wells.
- Tightness of pipelines.
- Operation of gravitational networks

Article 8. Mechanical equipment

The Contractor must procure at his own risk and expense all the mechanical equipment that will be required for the execution of the project.

The mechanical equipment provided by the Contractor will be in excellent working condition and will be maintained normally.

If, however, and at the absolute discretion of the Supervising Authority, the mechanical etc. means introduced into the project are not deemed sufficient for the timely completion of the works, then the Contractor is obliged, within ten days from a written order of the Service, to

reinforce the existing on-site mechanical equipment, etc. in accordance with the instructions of the Supervising Authority.

The Contractor must check the proper operation and operation of machinery (earthmoving and material handling), lifting machinery, vehicles, installations, machines and other work equipment (safety belts with ascent and descent mechanism, escalators, portable ladders, etc.) in accordance with the applicable institutional framework (Presidential Decree 1073/81 (no.17, 45-74), Law 1430/84 (no.11-15), Presidential Decree 499/91, Presidential Decree 395/94, as amended and in force: Presidential Decree 89/99, Presidential Decree 304/00 and Presidential Decree 155/04, Presidential Decree 105/95 (annex. IX), Presidential Decree 305/96 (no.12 annex IV part B section II par.7 - 9), JMD 15085/593/03, JMD no.D13e/4800/03, PD 57/10, L.3850/10 (no. 34, 35)).

The construction machinery according to Presidential Decree 305/96 (art.12 annex. IV, Part B, Section II, par.7.4 and 8.5) and Presidential Decree 304/00 (no.2), must be accompanied by the following information:

- License plates
- Authorization
- Evidence of insurance.
- Proof of payment of road tax (use)
- Machine operator licenses according to Presidential Decree 305/96 (art.12, appendix. IV, Part B, Section II, para. 8.1.c and 8.2) and Presidential Decree 89/99 (appendix. II, par.2.1). Please note that the machine operator's license accompanies the operator.
- Certificate of safe operation of the work equipment (proper assembly - installation, good operation) and maintenance file in which the results of the tests will be recorded in accordance with Presidential Decree 89/99 (art. 4a par.3 and 6).
- Certificate of re-inspection of lifting machine, instructions for use, maintenance and corresponding book of maintenance and controls according to JMD 15085/593/03 (art.3 and art.4. par.7).

Article 9. Deadline for completion – Timetable – Indicative/exclusive partial deadlines – Detailed programme – Logbook – Progress of work – Penalties

The Contractor within fifteen days from the signing of the Contract must submit to the Supervising Authority for approval a detailed program, showing the order of execution of the works. This plan will also be drawn up in the form of a project progress diagram (GANTT diagrams) so that the sections, their value (financial disbursement plan) and the time limits for completion of the project are clearly shown, as well as the mechanical means to be used at each partial deadline. This program must be returned to the contractor, approved or modified, partially or totally, within fifteen (15) days of its submission.

The Contractor must use each time adequate crew of technicians and workers and mechanical means of construction or work overtime on Sundays and holidays and train night crews, without being entitled for this reason to additional compensation, if this is deemed necessary to ensure the execution of the works in accordance with their above progress program. The Supervising Authority, if it considers that the rate of progress of the works is not satisfactory and in accordance with the work schedule, may require the Contractor to increase the number of his crews, overtime on working days and the number of machines and generally to take all measures necessary to accelerate the progress of the works. The Contractor must comply with the relevant orders of the Supervising Authority, without additional compensation.

The non-compliance of the Contractor with the above orders and the proven unjustified delay in the execution of the works according to the above program, gives the Contracting Authority the right to terminate the contract and deprive the Contractor of the right to continue the project. The non-exercise of the above rights of the Contracting Authority does not release the Contractor from any obligation arising from the contract.

The Contractor must keep a detailed logbook of works and weather conditions. The logbook should be filled in daily and should be indicated in a concise manner, in particular:

- (a) Round-the-clock weather conditions;
- (b) Figures for staff employed by categories and staff on day off due to late payment by the employer;
- (c) The machinery used and machinery which is on a daily holiday as a result of the employer's late payment;
- (d) Location and description of operations. Indication of the work for which there is no progress or is not being carried out, and the reasons for this,
- (e) Time of start and end of critical tasks within the day;
- (f) Arrivals and departures of main equipment;
- (g) Traffic conditions. Also record modifications or problems with settings and related equipment,
- (h) The materials presented, the operations carried out;
- (i) Laboratory tests;
- (j) Delays, difficulties, accidents, damage, abnormal circumstances causing delays, the time for temporary suspension or resumption of work;
- (k) The instructions and observations of the oversight bodies;
- (l) Emergencies; and
- (m) Significant visits or communications with the State or local authorities or roadside owners;
- (n) Any other relevant information relating to the project.

Article 10. Topographic works – Applications on ground – Implementation plan

The Contractor is obliged to provide, for the exclusive use of the Supervision Authority, throughout the execution of the works, all the control instruments, auxiliary accessories and the appropriate personnel, which are necessary for all topographic inspections that will be required in all phases of construction of the project. The Contractor, before commencing any permanent work, must install an integrated system of permanent altitude starting points (REPERES) in the various parts of the project.

Any work necessary at the discretion of the Supervising Authority for the application on the territory of the approved engravings, shall be carried out with care and expense of the Contractor, in accordance with the instructions of the Supervising Authority, which shall check the accuracy in accordance with the applicable regulations. The costs of the above works in materials, means and personnel shall be borne by the Contractor.

During the construction of the project, it may be necessary to draw up plans, diagrams and tables, implementation plans necessary both for the good and timely execution of the works and for their easier monitoring.

Three (3) days prior to the construction of the respective work, harmoniously and in accordance with the approved syllabus, the Contractor is obliged to submit to the Supervising Authority the

implementation plan that will be drawn up at his own expense. The submitted drawings must contain all the necessary components and a description of the construction methods and will be accompanied by a technical report containing the necessary calculations, so that the Supervising Authority after inspection and corrections will return the drawings to the Contractor in three (3) days. In case the redrafting of the implementation plans by the Contractor is required, he is obliged to submit them again for review in two (2) days and the Supervising Authority finally returns them in two (2) days validated. Thus, the total time from their submission by the Contractor until their return to him should not exceed a total of seven (7) days.

Approval of implementation plans should not be considered:

- i. That it allows any departure from the terms of the contract.
- ii. That it relieves the Contractor from liability for any error contained in the details of the implementation plan, such as dimensions, material indications, etc.
- iii. That it constitutes approval or acceptance by the Contracting Authority and its representatives of deviations from the draft details delivered to the Contractor by the Contracting Authority and appearing in the implementation plans, but not justified by a special report submitted with them, in accordance with the following paragraph.

If, for any reason, the Contractor, during the execution of the works, finds the need for deviations or variations from the drawings, diagrams, tables and other elements of the Contract delivered to him by the Contracting Authority, he must include these deviations and variations in the implementation plans he will necessarily submit and a relevant supporting report, describing and justifying them in detail. The approval of the submitted variations or deviations, in whole or in part, depends on the Contracting Authority, so the relevant terms of the contract are adjusted, which are validated in writing by the Authority.

The omission of such variations or deviations or their inclusion in the drawings without submission of the relevant supporting report shall be imputed to the Contractor.

Article 11. Elevation and Horizontal elements

Upon signing the Contract, the Contractor must be ready so that, in application of the approved design, he will make in parts and in accordance with the worktable and the detailed execution program the engraving, piling, leveling, etc. of the axes of all kinds of pipelines for their installation the execution of excavations is to begin. The work will be performed by a qualified engineer who will be hired with care, expense and responsibility of the Contractor.

The Contractor may not raise any objection if in parts of the pipelines the alignment, for various reasons, does not follow the direction and layout set by the approved design. The Supervising Authority may decide to modify the alignment. If there are no dense fixed altitude starting points in the area of the works, the Contractor must thicken them. The determination of the absolute altitudes of the new starting points will be done with double geometric leveling from existing elevation starting points that will be given by the Service. In case of discrepancies between the topographic diagrams of the study and the actual terrain elements, the Contractor must adjust the alignment of the axes appropriately after consultation with the supervision and taking into account the main objective from a hydraulic point of view purposes of the study.

The Contractor will capture the required details on a scale of 1:20 and will numerically indicate the necessary dimensions and altitudes. He is also obliged to identify the locations of installations

(water, electricity, telephone) which affect the execution of the project. The identification of the elements, where there are control shafts, will be done through their mouths. The Contractor will reveal the covered manhole covers at the locations where he will be informed by the Supervising Service that there are pipelines.

The Contractor is not entitled to any additional remuneration for the identification of the elements of the existing wells, the preparation of plans for the works that exist in general and for the execution plans, because this fee is included in the prices of the Invoice. In places where there are no visiting wells, the identification of technical data will be done by research sections. The research sections will be made only at the request of the contractor for each of them and will be executed after a written order of the Supervising Authority and will be compensated in accordance with the articles of the tender invoice. Without an order from the Supervising Service, research sections will not be compensated.

Before the execution of the research sections, the Contractor submits to the Supervising Authority for approval a list of the pipeline sections. After the execution of the exploratory sections, the Contractor submits to the Supervising Authority drawings of the sections on an appropriate scale, where the location of the technical elements-pipelines of utilities will be presented. which were detected during the execution of the incisions. The number and correct selection of the locations of the above sections is left to the sole responsibility of the Contractor. The Service must respond within three (3) working days of submission. When this deadline has passed, the list shall be deemed to have been adopted.

The implementation plans will include a general horizontalization of the works, especially the pipelines and their nearby building and street lines at a scale of 1:1000. Data of the topographic background as well as details of the building and street lines will be supplied by the Contractor from the Supervision Authority. The mapping of the networks and of all technical work will be done in the system of EGSA 87. The pipeline lengths will be delivered at a scale of 1:1000 for lengths and 1:100 for heights and will depend on the elevation network of the Supervision Authority. The drawings of the civil engineering works will be delivered on an appropriate scale and appropriate cross-sections, where necessary (e.g. to determine at important points the relative position of the new pipelines to the old ones), always taking into account the objective hydraulic purposes of the study.

If the Contractor during the execution of the project finds the existence of hidden obstacles, he must immediately notify the Supervising Authority and wait for the appropriate instructions regarding the execution of the project. Delay or modification or cancellation of works for this reason does not create any right to compensation to the Contractor, but it is understood that in this case a corresponding extension of the deadline is mandatory for the Contracting Authority.

When an independent part of the network is completed, the Contractor is obliged within three (3) days to submit to the Contracting Authority the following information:

- i. Horizontal laying of pipelines and civil engineering works, such as visiting wells, private connections, etc.
- ii. The positions of the altitude starting points of the area that will be marked with a serial number in the horizontography with their altitudes.

The Contractor is not paid particularly for the above works, because it is considered that their cost is included in the overhead costs of the prices of earthworks and civil engineering works. The delivery of the above plans is a prerequisite for the preparation of the measurements of the

accounts, the protocols for the receipt of hidden works and the protocol for the provisional acceptance of the project.

The Contractor is obliged to provide, upon completion of the project and without payment of any additional fee, the finalized construction drawings of the project in accordance with the instructions of the project supervisor. The coordinates of the constructed control wells and pavement will be according to EGSA 87.

Article 12. Excavation of trenches – Backfillings – Demolitions

The excavation of trenches for the installation of pipelines and the execution of technical works shall be carried out in accordance with the execution plans (certified by the Supervision Authority) and the on-site instructions of the Supervision. The depths and widths of the excavation bottom where the implementation of the drawings of the approved design is not possible, shall be determined by the Supervisor according to the specific local conditions and the intended degree of safety of each pipeline. The aim is to ensure sufficient coating thickness, measured from the projected final ground level and bottom width sufficient to make it easy to construct, lay and assemble pipelines. The slopes of the trenches shall be vertical and appropriately supported. Where the conditions of the project so require, the Service may determine slope slopes by means of a document.

Excavations other than those specified in the plans or by the Supervising Authority are not recognized without its prior written order, nor are other works carried out due to additional excavation (backfilling, pavement restorations, etc.) recognized. The Contractor must propose to the Supervising Authority the modifications which, in his/her opinion, are required and concern slopes, use of retaining etc.

The excavated products shall be temporarily placed on the lower than the cross-section side so as not to be carried away by water towards the trench. The excavation of ditches and subsequent works up to and including their refilling must be carried out at the fastest possible pace, especially in areas with heavy traffic, so as not to maintain for long the irregularities caused to pedestrian traffic, cars, etc. by the existence of the ditch, soil, etc. It is particularly emphasized that the Contractor is obliged not to leave a part of a trench of any length in which the works will not have been completed (from excavation to its refill).

The Contractor must ascertain the possible existence of obstacles before excavations begin, gathering the required information from the competent Services, in order to avoid damages and accidents. Particular care will be taken not to damage underground cables, water supply networks, etc. Where residential water pipes meet, they must be properly supported and protected. Passage next to poles will be treated with complete and safe special support of the side of the trench at the necessary length and depth, with the appropriate safety measures each time. The existence of makeshift or temporary buildings, e.g. kiosks, will not normally be a reason for changing the route of the pipeline. Unforeseen obstacles will be dealt with according to the specific circumstances.

At trench junctions with roads of significant traffic, after excavation, the Contractor is obliged to temporarily restore traffic by constructing a temporary bridge upon the recommendation of the Supervision Authority. The Contractor must, during the excavation of the ditches, take all necessary safety measures to prevent damage to the works or to third parties and in particular to prevent accidents.

The characterization of the quality of the soils excavated will be determined by protocol by the competent body designated by the Supervising Authority / Soil Characterization Committee and its acceptance (in total or with reservation) by the Contractor. In this protocol, the indications of the cross-sections are written and for each one the proportion to the percent of the excavated soil, according to the values of the offer. Regarding the prices of the offer for earth, semi-rocky and rocky soils, which in principle include all soils where all excavations can be carried out by hoe, it is emphasized that the same prices apply in case the Contractor uses other tools in addition to hoeing, provided that their use replaces excavations with hoes.

The price of the excavation of the trenches or sections includes the configuration of the slopes of the trenches that will be done by any means.

Trench backfills will generally be performed after the complete installation of the respective pipelines and their successful tightness test. Specifically, after the successful testing of the pipeline, its protective backfill is made carefully and until filling thickness of at least 20 cm is completed along the entire length of the pipeline with sand. During the execution of this protective layer, special care will be taken to fill all gaps, especially under the pipeline, so that it is well supported and protected. Then, after the protective layer is finished, the Supervising Authority will check the condition of the pipeline and then the Contractor will proceed to the additional backfilling of the trench. The backfilling of the trench will be made with gravel or sand or torrent material as such, always according to the standard cross-sections, while excavation products will be used in cases where the Supervising Authority deems their suitability. All measures will be taken to exclude any appreciable future subsidence. It is necessary to strictly apply the technical specifications relating to the compaction of backfills. In cases where the ditch intersects with roads of heavy traffic, it is possible, upon the recommendation of the Supervising Authority, to make the necessary bridges for the passage of pedestrians and cars. In these cases, the Contractor must have several bridges, suitable openings, for the temporary overlap of the trench and the safe passage of wheeled vehicles. These will be maintained until complete backfilling and normality of the road is restored.

Any kind of removal, decomposition and demolition of structures, superficial or underground, necessary for the opening of the ditches, will be carried out to the extent necessary and inevitable for the installation of the pipelines. The relevant articles of the invoice and those additionally defined below, apply:

- i. Before any demolition, the Supervising Authority must check if necessary, determine its extent and take, in comparison with the Contractor, the necessary dimensions and any other data required for the preparation of the relevant measurements and protocols.
- ii. Where useful materials are to be obtained from demolition, the Contractor must take appropriate measures to prevent their deterioration as well as to keep them safe on site until they are reused, if applicable. If not, it delivers them with a protocol to the Supervising Authority and any loss of such materials is borne by the Contractor, who is obliged to replace them with new ones. Scrap materials resulting from demolition which are unsuitable for backfilling must be removed as soon as possible.
- iii. Useful demolition materials must be deposited in normal piles to facilitate inspection and counting and in places where traffic is not obstructed and so that means of transport can easily approach for removal or reuse.

Article 13. Removal of waste materials

Excavation products and generally any kind of useless materials coming from demolitions, constructions related to road surface restorations, etc., will be removed without delay. Waste materials will be removed, even partially, in order to limit as much as possible, the period of existence of the anomaly in pedestrian, vehicle traffic, etc. that comes from it. Materials that need to be removed are:

- i. Excavated products
- ii. Useless excavation products resulting from road demolitions, etc.
- iii. Surpluses of excavation or demolition products from various pipeline-related structures (cobblestones, infrastructure, gravel, etc.).
- iv. Blocks and granitic curbs should be transported after sorting to a special assembly area designated by the Service.

The removal of excess excavated products must be carried out by the Contractor without objection and regardless of whether the quantity is large or small. The places where these materials are deposited shall be approved each time by the competent authority. The cost of removal shall be included in the excavation price.

Article 14. Reconstruction of roads – pavements

Once the final execution plan of the works is approved and before excavations begin on asphalt roads, the Contractor must request a relevant permit for the intersection of the pavements, as the case may be, from the Municipality (in the case of a municipal road) or from the State. He/she also assumes the responsibility for the restoration of permanent pavements as specified in the relevant permit and the relevant terms of this contract.

The obligation of the Contractor to proceed with the immediate and complete restoration of the road surfaces is particularly emphasized, and in any case no other works will be allowed if there is a road length greater than 200 m not fully restored. In cases where permanent pavements exist, the extent of their deterioration during the opening of trenches must be kept to a minimum and the restoration of the road surface must be technically sound and must be done after perfect compaction of the underlying embankments with the necessary use of a vibrating plate, in order to exclude any irregularities or deterioration of the road surface that is being reconstructed. If this occurs, at any time after reconstruction and until final acceptance, the Contractor must repair it with his own care and expense.

The demolition and restoration of the road section will be done in the manner specified in the Technical Specifications.

The restoration of damage to pavements caused by the opening of ditches will take place immediately after the completion of the backfill. The obligation of the Contractor to proceed with the immediate and complete restoration of the pavements is particularly emphasized, and in any case no other works will be allowed if there is a pavement length greater than 50 m that is not fully restored. The printing should necessarily be done with a vibrating plate to avoid future destruction of the pavements by subsidence for which the Contractor bears the responsibility and is obliged to restore it at his own expense.

The Contractor is obliged to restore any retreat that will occur until final acceptance without special compensation.

Article 15. Improper construction of works - Defects

If, during the construction of the works until final acceptance, any work shows defects which are not rectified by the Contractor, a special order of the Supervising Authority shall be notified to him/her. The special order shall specify the defects, determine whether they are substantial, insignificant or dangerous and set a reasonable time limit for their rectification. Restoration may include the removal of defective works and their reconstruction, if necessary. If the defect is not substantial and its rectification requires disproportionate costs, the special order shall set a percentage reduction in the contractor's remuneration for the corresponding works. In the latter case, the order may also include the execution of certain operations to limit the defect.

If the defect is discovered at the time of acceptance of the works, the provisions of the respective law shall apply, and the rectification of the defects shall be established by the Contracting Authority.

The Contractor is declared void from the contract when his/her works are systematically poorly crafted or the materials he uses do not meet the specifications.

Article 16. Health and Safety

The Contractor is obliged to execute the works in a safe manner for his staff, or the staff of the project operator, or any third party, in order to eliminate or minimize the risks of accidents or occupational diseases during the construction phase of the project and in accordance with the Laws, Decrees, Police and other provisions and instructions of the Service, concerning the health and safety of workers. Indicatively, and not restrictively, the following are mentioned:

- The Presidential Decree of 22-12-33 (Government Gazette 406 A/33) and its amendment by Presidential Decree 17/78 "On the safety of workers and employees of employees on portable ladders"
- Presidential Decree 447/75 (Government Gazette 142 A/75) "On the safety of employees engaged in construction work".
- Law 495/76 (Government Gazette 337A/76) "On weapons and explosives".
- Ministerial Decision BM5/30428 (Government Gazette 589 B/30-6-1980) "Marking of works carried out on roads outside residential areas".
- Presidential Decree 778/80 (Government Gazette 193A/80) "On safety measures during the execution of building works".
- Presidential Decree 1073/81 (Government Gazette 260A/81) "On safety measures during the execution of works on building sites and all kinds of works under the responsibility of Civil Engineers".
- Ministerial Decision BM5/30058 (Government Gazette 121 B/23-3-1983) "Marking of works carried out on roads within residential areas".
- Law 1430/84 (Government Gazette 49A/84) "Sanctions of the International Labour Convention concerning safety provisions in construction, industry, etc.".
- Law 1568/85 (Government Gazette 177A/18.10.85) "On the health and safety of workers".
- Presidential Decree 294/88 (Government Gazette 138A/88) "Minimum employment time of safety technician and occupational doctor".
- Presidential Decree 395/94 (Government Gazette 220A/94) "Minimum Safety and Health Requirements for the use of work equipment by workers at work, in compliance with Directive 89/655/EEC".

- Presidential Decree 396/94 (Government Gazette 220/94) "Minimum safety and health requirements for the use by workers of personal protective equipment at work, in compliance with Directive 89/656/EEC".
- Presidential Decree 397/94 (Government Gazette 221A/94) "Minimum health and safety requirements for the manual handling of loads, where there is a particular risk of back injury, in compliance with Directive 90/269/EEC".
- Presidential Decree 399/94 (Government Gazette 221 A'/94) "Protection of workers from the risks related to exposure to carcinogens at work, in compliance with Directive 90/340/EEC".
- Presidential Decree 105/95 (Government Gazette 67A/95) "Minimum requirements for safety and/or health signs at work, in compliance with Directive 92/58/EEC".
- Presidential Decree 16/96 (Government Gazette 10A/96) "Minimum health and safety requirements in the workplace, in compliance with Directive 89/654/EEC".
- Presidential Decree 17/96 (Government Gazette 11A/96) "Implementation of measures to promote the improvement of health and safety of workers, in compliance with Directive 89/391/EEC and 91/383/EEC".
- Presidential Decree 305/96 (Government Gazette 212A/96) "Minimum requirements to be applied at temporary or mobile construction sites", in compliance with Directive 92/57/EEC.

Regarding the adoption of safety measures, the Contractor is obliged to carry out under his/her responsibility any relevant study (static study of scaffolding, study of temporary marking of works, etc.) and to take all relevant measures. The Contractor bears full and exclusive responsibility for any damage caused to anyone by the breach of the above obligations, being liable, among others, for the payment of the relevant compensations. The Contractor must take protective measures, in accordance with the current legislation in the Safety and Health Plan (OSS), as well as any modifications or other necessary adjustments of the studies during the design and construction phase of the project. The Contractor is obliged within ten (10) days from the signing of the agreement to submit to the Supervising Authority a document which will include the Safety and Health Plan and the Safety and Health File for the entire Project to be undertaken. It is noted that a necessary element for the provisional and final acceptance of the project is the Safety and Health File.

The Contractor must provide the workforce, the supervision staff of the Service, as well as any other person present at the Project site, with the required Personal Protection Measures such as protective helmets, safety boots, plastic boots, phosphorescent coats (for winter), phosphorescent vests (for summer), protective gloves, earplugs, goggles and sun hats, First Aid kits, one for the offices and one for each vehicle on the construction site, masks of various types, etc.

The Contractor of the project must insure to the insurance fund as provided by law all the staff he will employ.

The Contractor is solely responsible for the observance of all provisions and regulations relating to the execution of the project and the provision of work, as indicated in the Safety and Health Plan and the Safety and Health File of the contractual documents of the contract, is responsible for any violation and is therefore charged with the payment of fines, compensation and any other amounts imputed to him/her.

Article 17. Storage of materials, works, and existing structures

The Contractor must keep at his own risk and expense the supplies and materials in his possession (pipes, special pieces, and other components) intended for the execution of the project. The Contractor will be responsible for any loss or breakage or damage thereof and has the obligation to replace them.

All claims of the Contracting Authority for the fencing or special safekeeping of his property will be executed by the Contractor without any special compensation. If the Contracting / Supervising Authority finds that the Contractor does not adequately protect materials, machinery, supplies or works performed, then this property may be protected by the former, with the cost of safekeeping to be borne by the Contractor, and will be deducted from what he is entitled to receive.

Article 18. Protection of vegetation – environment

The Contractor has the obligation to take measures to protect the environment. He/she must comply with the approved environmental terms of the Environmental Impact Study of this project and comply with the applicable environmental legislation.

The Contractor protects the vegetation of the area where the project is executed and is responsible for any felling of trees, shrubs and destruction of a plantation that would not be necessary for the execution of the project. In case of damage or destruction to elements of the natural environment, which are not provided for in the approved design of the project (or by any modifications approved by the Supervising Authority), the Contractor, regardless of any responsibilities that may arise for him, is obliged to restore the existing works or the natural environment to the state it was in before its installation, at his/her expense, without being entitled to any financial compensation or extension of the deadline.

Violation in the fulfillment of obligations such as lack of proper protection of the environment, failure to protect the public, delay in repairing damage to other public works or public property impose on the contractor the sanctions of the respective laws.

Article 19. Damage to the project - Damage from force majeure

Until final acceptance, the Contractor bears the risk of damage from any cause, unless these are due to the fault of the project developer. The Contractor is obliged to correct within a reasonable deadline set by the construction operator the defects of the project, which will be detected during construction and until final acceptance. If this deadline has not been complied with, the project promoter may carry out the correction against the contractor by any means, always without prejudice to his right to declare the contractor to be disqualified. If the defect is not substantial and its correction requires disproportionate costs, a relative reduction of the contractor's consideration shall be made.

The Contractor is not entitled to any compensation from the developer for any damage caused to the works, for any damage or loss of materials and generally for any damage due to negligence, carelessness or unpretentiousness of him or his staff or to non-use of appropriate means or to any other cause, except in cases of fault of the project constructor or force majeure. The Contractor is obliged to repair the damages borne by him at his own expense.

In case of damage caused by force majeure to the works carried out or to the materials located on the construction site, the Contractor has the right, by reporting to the Supervising Service, submitted within ten days from the occurrence of the damage, to indicate the time when the damage occurred, the cause that caused it, the type, the extent and cost necessary to remedy it.

Article 20. Use the project before completion

The Municipal Company for Water and Sewerage of Trikala Municipality, which will receive the project as a donation from GWP-Med, has the right to take possession or use any part of the work that has been partially or totally completed, only after its administrative acceptance (partial) in accordance.

If such possession or use delays the progress of the work, then the Contractor grants a corresponding extension of the deadline for completion of the work.

If the use of the project by the Municipal Company for Water and Sewerage of Trikala Municipality before its completion entails additional costs for the Contractor, then the Municipal Company for Water and Sewerage of Trikala Municipality shall pay these costs which must be fully justified.

Works for the restoration of damages due to the use of a work delivered to use before its acceptance in accordance with the provisions hereof, shall be carried out only after a written order of the Contracting Authority.

Article 21. Compilation of project register

The compilation of the Register of the project will be done according to the instructions of the Supervising Authority. In any case, the Register must necessarily include:

1. Technical report which will include:
 - Report on the design and construction of the project
 - Report on the operation and maintenance of the project
 - Inventory table, summarizing the individual sections that make up the whole project
 - Report of the total cost of the project.
2. Data sheet of altitude starting points and trigonometric points (altitudes - coordinates) with their collaterals along with drawings and photographs showing their positions.
3. Project plans, as executed (as build), namely:
 - i. Complete horizontal drawings, at a scale of 1:1000 with dependence on the Hellenic Geodetic Reference System (E.G.S.A.), where the positions of the projects (networks - civil works) will be accurately depicted, with their dimensions and technical characteristics, in relation to road axes and positions of existing structures, separately for each network, as they were constructed and imprinted on site. In addition, the horizontal drawings will show the numbering of all the points that have been depicted and their coordinates will be delivered in a separate issue. Each horizontal should show the names of roads, building blocks, manholes (visit, intersection, fall), pipelines (length, from manhole to well, - material - cross-section form - diameter or dimensions), sewerage supplies with corresponding connection wells, and flows that do not end in wells, water collection shafts.
 - ii. Sections of the networks separately for each network, on a scale of heights/lengths 1:100/1:20, with all the absolute elevation data of the ground, of the constructed technical works (shafts, etc.) and the flow of the pipelines and the other elements of the pipelines (distances, material, cross-section, slope, etc.).

- iii. Width sections per street and per distinct project section, with all the existing networks as well as all the constructed networks.
 - iv. Complete drawings of all constructed shafts (plans - sections), with the structural part of the shaft at a scale of 1:50, with their dimensions and absolute bottom and cover elevations.
 4. Project documents, as executed, accompanying the above drawings, with tables concerning more specific data on the constructed networks – civil works. In detail per network, there should be a Collateral Report (at least three per point), for the manhole covers and the end ends of the networks and a Table, which includes data on the shafts, the pipelines, the supplies with the corresponding connection shafts, as well as the supplies that do not end in shafts.
 5. The details set of the following photographs:
 - i. The pre-existing situation in the area where important civil engineering works are carried out. These will be submitted to the Supervising Authority along with the supporting documents of the 1st certification.
 - ii. Important phases of execution of work. These will be submitted during intermediate certifications.
 - iii. Of the finished work. These are submitted together with the supporting documents of the last certification (before the final bill).
 6. On the back of the photographs will be written the general characteristics of the project and other elements that will be considered necessary to highlight the project and its feasibility, according to the instructions of the Supervision. The photographs must be taken by experienced persons, be clean and delivered to the Supervising Authority, together with the negatives or in electronic form.
 7. The Safety and Health Plan and the Safety and Health File for the entire project, in accordance with the applicable provisions.

All the above elements of the file, with appropriate numbering and classification, will be compiled in two (2) copies which will be submitted to the Supervision Authority once the Project is completed. The costs for the compilation of the Register of the project are borne by the Contractor and are included in the unit prices of the Invoice. The contract will be considered not to have been completed, and therefore no certificate of completion will be issued if after the end of the works the Project Register is not submitted to the Supervising Authority.

Article 22. Measurements – Hidden Works

At the end of each deliverable, the Contractor prepares measurements in distinct parts of the project for the works executed in the previous period. The measurement shall include for each operation a brief description of the operation with an indication of the corresponding article of the invoice or the protocols for regulating unit rates of new work performed and the necessary measurement drawings, data, and diagrams for this purpose, based on direct measurement data of operations or protocols of hidden operations.

The measurements, accompanied by the necessary measurement data and drawings, in printed and electronic form, shall be submitted by the Contractor to the Supervising Authority for inspection no later than ten days (10) after the end of the period following their execution, after

being signed by him with the indication "as prepared by the Contractor". which ends with the approval decision of the latter.

The Supervising Authority, within ten (10) days from the submission of the measurements by the Contractor, has the obligation to check and correct the calculations, approve the measurements and notify the contractor of the measurements that have been checked and corrected. The Contractor, if he does not accept the corrections, may exercise the prescribed right of objection. If the submitted measurements show deficiencies that make it impossible to check or correct them, the Supervising Authority returns the measurements to the contractor within the above ten (10) day deadline and invites him to remedy the specific deficiencies. Missing data deemed necessary by the Directorate must be specifically and numbered in the invitation. The Contractor is obliged within ten (10) days resubmit the measurements by completing all the information requested in the invitation. After resubmission of the measurements, the Supervising Authority may not return them again to the contractor for completion but is obliged within ten (10) days to check, correct, approve, and notify them to the contractor. The measurements, if they are not returned approved or corrected or for completion within the above period or if, after their resubmission, they are not checked, corrected, approved and notified to the contractor within the above deadline, are considered automatically approved, only in the sense that they can be included by the Contractor in a subsequent account.

In the case of works, the quantitative verification of which is not possible in the final form of the project (hidden works), such as works that are to be overlapped by others and are not finally visible, quantities received by weighing or the like, the Contractor is obliged to invite the Supervisor for the Receipt of Hidden Works, in order to proceed jointly with the counting or weighing and to draw up a protocol of receipt of hidden works or a weighing protocol respectively. This protocol, signed by the contractor and the supervisor, shall be a prerequisite for the certification of the work concerned. The invitation of the Contractor to the Supervising Authority must be made for the joint weighing at least one (1) working day before it, and for the receipt of the field data at least five (5) working days before they are carried out. Failure by the designated bodies to respond to the invitation may constitute grounds for default on the part of the developer and shall result in disciplinary action against those responsible. The protocol of receipt of works must accompany the measurement of the relevant works, has no enforceable administrative character, and is not challenged independently except together with the challenge to the approval act of the measurement.

One (1) month at the latest after the certified completion of the project, the Contractor is obliged to submit to the Supervising Authority individual measurements that are missing and the "final measurement", i.e. a final summary table summarizing the quantities of all partial measurements and the protocols of the paragraph of receipt of hidden works. If these have been checked by the Supervising Authority, the quantities shall be entered as corrected, even if objections by the contractor or requests for treatment are pending. Such inclusion in the final measurement shall not constitute a waiver by the contractor of such lawfully filed applications or objections, nor shall it entitle him to submit new ones. For individual measurements which have not yet been checked by the department, the measurement quantities as drawn up by the Contractor prior to the department's inspection shall be recorded. The final measurement shall be signed by the Contractor with the words 'as drawn up by the Contractor'. The Supervising Authority is obliged to proceed with the audit of the final measurement within one (1) month from its submission and to notify the Contractor of the audited and corrected measurement.

If no final measurement is submitted by the Contractor, no later than one month after the notification to him/her of the certificate of completion of the works, a special penalty of two thousandths (2‰) of the total amount paid to the contractor until then for the whole contract shall be imposed on him, for each completed month of delay. The penalty is imposed by decision of the managing department and for a maximum of six (6) months of delay. Irrespective of the imposition of the penalty clause and after the expiry of the period of its imposition, the final measurement is drawn up by the department that may use private technicians and workshops for this purpose, charging the relevant cost at the expense of the contractor. The final measurement thus drawn up shall be communicated to the Contractor.

Article 23. Completion of works – Delivery

The completion of the assigned works will be certified to the Contracting Authority by the Municipal Company for Water and Sewerage of Trikala Municipality, as the Supervising Authority of the project, in compliance with its internal procedures. The Contracting Authority will receive the final invoice of the Contractor, the works are transferred automatically to the Contracting Authority until its donation to the Municipal Company for Water and Sewerage of Trikala Municipality.

Article 24. Project signs

The Contractor is obliged, within one month from the signing of the Contract, to construct and place at the beginning and at the end of the project signs with the details of the project. The withdrawal of the original sign takes place with the placement of the commemorative sign after its final receipt.

Article 25. Antiquities

The Contractor is obliged to notify the Supervising and Contracting Authorities if antiquities or any works of art are found during the construction of the works. In this case, the provisions on antiquities shall apply.

ANNEX 3 – DRAWINGS

Respective drawings are provided as separate files in .DWG format.