

**APPROVED**  
Director Technical  
ME “Mykolaivvodokanal”  
Vitalii TKACHENKO

**Technical Assignment**  
**ITB-UKR-00397503**

"Renovation of the water pipeline using a polymer liner along Igor Bedzay Street from 6th Slobidska Street (Point A) to 3rd Slobidska Street (Point B) in Mykolaiv"

Nº	LIST OF KEY DATA AND REQUIREMENTS	SUMMARY OF KEY DATA AND REQUIREMENTS
1	Information about the payer	Danish Refugee Council
2	Information about the recipient	ME MYKOLAIVVODOKANAL EDRPOU Code: 31448144; 54055, Mykolaiv, 161 Pogranichna St.
3	Location of the facility	along Igor Bedzay Street from 6th Slobidska Street (Point A) to 3rd Slobidska Street (Point B) in Mykolaiv city
4	Basis for performing the work	<p>1. Restoring the water main to working order, extending its service life, and preventing accidents.</p> <p>2. Training of ME «Mykolaivvodokanal» staff during work ongoing, in cases where the “sleeve” is curing using the inversion method and polymerization is performed using hot water/steam —4 people.</p> <ul style="list-style-type: none"> <li>– Material: concrete, with some metal pipe inserts;</li> <li>– The diameter of the water pipe is 1,000 mm;</li> <li>– The length of the section is 750 meters;</li> <li>– metal pipe sections – 45 meters (approximately);</li> <li>– depth of burial — 3.2 m to the top of the pipe;</li> <li>– Pipeline type — pressure pipeline ;</li> </ul>
5	Characteristics of the existing pipeline (based on video inspection) – the video inspection was performed on a 237-meter section from Point B toward Point A.	<p>The internal condition of the water pipeline:</p> <ul style="list-style-type: none"> <li>– the concrete part does not require cleaning;</li> <li>– the metal part needs to be cleaned;</li> <li>– turns with an angle of less than 90 degrees – no;</li> <li>– horizontal sagging of the pipe: occurs in sections, causing water to pool.</li> <li>– the working pressure of the water supply system is 3 kgf/cm<sup>2</sup>.</li> </ul>
6	Types and stages of work	<p>The Recipient provides:</p> <ul style="list-style-type: none"> <li>- excavation work (five utility trenches) to ensure the Contractor has unobstructed and safe access to connection points; if necessary, perform</li> </ul>

		<p>excavation work at the site of pipeline subsidence;</p> <ul style="list-style-type: none"> <li>- shutdown of the water supply and drainage of the water main;</li> <li>- preparatory work for access to the cells;</li> <li>- work to restore landscaping in areas where preparatory work is being carried out.</li> </ul> <p>The Contractor provides:</p> <ul style="list-style-type: none"> <li>- CCTV video inspection (required) prior to work commencement, after cleaning, and after installation;</li> <li>- additional construction pits (except for 5) as needed, followed by restoration of the surrounding area;</li> <li>- hydrodynamic cleaning (cleaning pressure of at least 150 bar). Complete removal of deposits, corrosion, and foreign objects;</li> <li>- impregnating the "sleeve" with resin;</li> <li>- inversion or stretching;</li> <li>- positioning;</li> <li>- curing (hot water/steam/ultraviolet light);</li> <li>- temperature and time control;</li> <li>- connection to the existing water supply network at points A, A1, and B.</li> <li>- hydraulic pressure testing.</li> </ul>
7	Requirements for the quality of materials and workmanship	<p>CIPP – the liner must be a seamless composite structure formed directly inside the existing pipeline, ensuring: complete watertightness, structural integrity, chemical and corrosion resistance, and suitability for use in drinking water supply systems.</p> <p>Design requirements - the CIPP liner must be <b>semi-self-supporting</b> or self-supporting (taking into account the existing pipe). The calculation is performed in accordance with ASTM F1216 (to be performed by the contractor).</p> <p>Quality certificates for "sleeves":</p> <ul style="list-style-type: none"> <li>— A positive conclusion from the State Sanitary and Epidemiological Examination conducted by the State Service of Ukraine for Food Safety and Consumer Protection.</li> <li>— The materials manufacturer must be certified to ISO 9001, ISO 14001, and ISO 45001 standards and must supply all materials required for the complete</li> </ul>

		<p>product, including pre-pane, structural pane, resin, and end seals, from a reputable supplier.</p> <p>Quality of works:</p> <ul style="list-style-type: none"> <li>– no creases, wrinkles, or fraying;</li> <li>– full contact with the pipe wall;</li> <li>– tightness;</li> <li>– - strength recovery.</li> </ul>
8	Special Terms and Conditions for the Contractor	<ul style="list-style-type: none"> <li>– the minimum design life is at least 50 years;</li> <li>– availability of certified equipment and qualified personnel;</li> <li>– warranty period for the work performed: at least 10 years;</li> <li>– all work must be performed in strict compliance with applicable occupational health and safety regulations, DBN A3.2-2-2009 “Occupational Health and Safety in Construction,” and other applicable standards and regulations;</li> <li>– the contractor ensures compliance with environmental protection laws and independently implements all necessary measures to that end;</li> <li>– barriers and warning signs must be installed at the work site in accordance with regulatory requirements.</li> </ul>
9	Other requirements	<p>To carry out the work, the Recipient shall provide:</p> <ul style="list-style-type: none"> <li>– police permission;</li> <li>– permit to alter the public landscape.</li> </ul>
10	Deadline for completion of work	20 weeks

**Additional Information.** Source Data and Reference Materials (Photos, Videos, Links and Maps)



**Photo of Point B**

<https://maps.app.goo.gl/PCxajmWZpgwkt8Xg6>

Point A1 – Igor Bedzay Street at the corner of 4th Slobidska Street.

<https://maps.app.goo.gl/WghnKhgTSsYmDEMz8>

*Steel insert in a concrete pipe and 300 mm connection.*

Point A – Corner of Igor Bedzay Street and 6th Slobidska Street.

<https://maps.app.goo.gl/NPmGpCAqkC6QdM987>

Link to CCTV inspection 237 meters

[https://drive.google.com/file/d/1D64vYTdEfqWV2KDOwKFU\\_gkYFw4aPltF/view?usp=drive\\_link](https://drive.google.com/file/d/1D64vYTdEfqWV2KDOwKFU_gkYFw4aPltF/view?usp=drive_link)

## Section Location Plan

