

Press Release/Reports

IFC – Environmental & Social Review Summary:

This Environmental and Social Review Summary is prepared and distributed in advance of the IFC Board of Directors' consideration of the proposed transaction. Its purpose is to enhance the transparency of IFC's activities, and this document should not be construed as presuming the outcome of the Board of Director's decision. Board dates are estimates only.

Any documentation which is attached to this Environmental and Social Review Summary has been prepared by the project sponsor and authorization has been given for public release. IFC has reviewed this documentation and considers that it is of adequate quality to be released to the public but does not endorse the content.

Project number	30859	Date ESRS disclosed	May 3, 2011
Country	India		
Sector	Utilities		
Department	CN1S5 – Reg. India, Infra & Nat Res, ASIA/Infra & Nat Res-CSA		
Company name	Vishwa Infra		
Environmental category	B		

Overview	Category & Applicable Standards	Key Issues & Mitigation	Community Engagements	Client's Documentation
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Overview of IFC's scope of review

IFC's review of this project consisted of:

- reviewing technical, environmental and social information on the Kolhapur STP (Request for Proposal: Volume III – Technical Specifications and Volume IV – Project Information Memorandum; Draft Initial Environmental Examination; Social Safeguards Planning Document, May 2009).
- meetings with **Vishwa** management including: Director, Finance; General Manager, Human Resources; Manager, Health, Safety and Environment; Senior Project Manager, Khandwa; Project Manager – Hyderabad micro-tunnelling);

- site visits to the Khandwa water supply project, Madhya Pradesh and an operational STP in Andhra Pradesh operated by **Vishwa**.
- reviewing **Vishwa** corporate environmental, health and safety, and human resources policies and procedures.

Project description

IFC is considering a \$5.5 million loan to **Vishwa** to be applied to the Khandwa water supply project and the Kolhapur STP.

The Khandwa water supply project, Madhya Pradesh, is a public-private partnership between Khandwa Municipal Corporation (Khandwa MC) and **Vishwa**, under the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT). The project will commence supplying 29 million L/day (MLD) to Khandwa (population 240,000) for domestic consumption, increasing to 43 MLD by the end of the concession period (2034), meeting the current shortfall by almost doubling the volume of water currently supplied. Under this build-own-operate-transfer (BOOT) scheme, **Vishwa** has a 25 year concession period (2 years construction, 23 years operation and maintenance). The project will pump water through an intake well on the Chhotitave River, a backwater of the Indira Sagar Reservoir, to the adjacent water treatment plant (WTP). The WTP (2.7 ha site) will treat water using water clarification / the application of alum for flocculation and chlorination, then pump it to Khandwa via a 50 km long 800 mm reinforced trunk pipeline. The pipeline will discharge into a 1,222 m³ ground level master balancing reservoir (GLMBR), from where it will be pumped to nine separate overhead tanks. Water will then be gravity fed to the township. The project includes the laying of 60 km of poly distribution pipeline through the streets of Khandwa. Project construction commenced in late 2010.

The Kolhapur STP and allied works, Maharashtra, is a long-term public-private partnership between Kolhapur Municipal Corporation (Kolhapur MC) and **Vishwa**. The project, an initiative contributing to the Panchganga Action Plan (PAP), has the objective of preventing and controlling the discharge of sewage entering the Panchganga River via the four main nallahs (streams) that drain Kolhapur. The Ichalkaranji section of the Panchganga River was declared critically polluted by the Central Pollution Control Board (CPCB). The existing

city STP (43 MLD treatment capacity) is limited to primary treatment (primary screening, grit removal and settling) and has inadequate capacity. As a result, treated sewage does not meet CPCB standards, and overflows from the existing STP plus partially treated and untreated sewage flow almost directly into the Panchganga River that serves as a potable water source for Kolhapur and other settlements. The project will intercept and pump untreated sewage from nallahs into the new STP. The STP will treat wastewater using: (a) primary treatment - conventional mechanical methods; and (b) secondary treatment - sequential batch reactor (SBR) technology that allows variable flows to be treated by this activated sludge method. A high quality effluent will be produced with low turbidity and low nitrogen levels. The STP will service Kolhapur city (population 493,000 in 2001) with a treatment capacity of 76 MLD, replacing the existing STP. The project consists of: the STP at Kasba Bawda; a sewerage pumping station and rising main at Bagat Camp and Line Bazaar; a rising main at Jayant Nallah; a discharge pipe between the STP and Panchganga River; and miscellaneous civil works. Under this design, finance, construct, operate and maintain scheme, **Vishwa** has a 15 year concession period (2 years construction, 13 years operation and maintenance). The STP site is located within an existing compound owned by Kolhapur MC, next to the existing STP operated by the Corporation. Project construction commenced in early 2011.

Category and Applicable Standards:

Identified applicable performance standards

While all Performance Standards are applicable to this investment, IFC's environmental and social due diligence indicates that the proposed investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

PS 1: Social and Environmental Assessment and Management System; PS 2: Labor and Working Conditions; PS 3: Pollution Prevention and Abatement; and PS 4: Community Health, Safety and Security Land for the Khandwa and Kolhapur projects will not result in any physical or economic displacement. The Khandwa WTP is located on Government Forest land that is devoid of settlements, and the trunk pipeline, reservoir, overhead tanks and distribution pipelines are also located on public land (mainly within road easements). The Kolhapur STP site is located on 12 ha of land that has been

owned by the municipal corporation for an extended period and is devoid of houses/settlement. The alignments of the rising mains are mostly within existing right-of-ways. The project sites are not located on or adjacent to any protected areas, critical habitat or ecologically sensitive sites, and the operation of each project is not expected to impact biodiversity (PS6). The Khandwa WTP is located on Government Forest land that supports open grassland and shrubs. The Kolhapur STP site is located on the north-eastern side of the city around 2 km from the Panchganga River within the existing STP compound. With regard to PS7 (Indigenous Peoples) no impacts are anticipated and no cultural heritage is expected to be impacted and the project sites do not contain any archaeological monuments or sites as per the Archaeological Survey of India PS8 (Cultural Property), or any historical or cultural monuments.

Environmental and social categorization and rationale

The project is a Category B because a limited number of specific environmental and social impacts may result from the Khandwa water supply project and the Kolhapur STP that can be avoided or mitigated by adhering to generally recognized performance standards, guidelines and design criteria. Potential adverse construction impacts are likely to be limited to project sites, short term, able to be effectively managed and mitigated, and likely to have no or limited impact on environmentally sensitive features and sites. Project operational impacts can also be effectively managed by implementation of suitable engineering and management measures.

The Khandwa water supply and Kolhapur waste water treatment projects will deliver significant environmental and community health benefits. The Khandwa project will provide a more reliable domestic water supply in terms of both volume and quality, thereby reducing the incidence of waterborne disease. The Kolhapur STP and allied works will improve sewage collection and provide additional sewage treatment capacity, safely treating sanitary effluent that currently poses a major health hazard and significantly degrades Panchganga water quality and the aquatic ecosystem, thereby improving social and environmental conditions in Kolhapur.

Key environmental and social issues and mitigation

PS 1: Social and Environmental Assessment and Management System For both Khandwa and Kolhapur, **Vishwa** is responsible for all environmental approvals and other legal requirements, the construction of all facilities, and operation and maintenance of scheme for the contracted period, while the respective municipal corporations are responsible for the provision of all land required for the project.

Vishwa has been engaged in a process of screening and planning for project environmental and social risks, commencing at the project bid stage, with this process currently being formalized by the company. An Initial Environmental Examination (IEE) and Initial Project Assessment: Social Safeguards Due Diligence report were prepared for the Kolhapur project to assess potential impacts as part of the project preparation activities supported by the Asian Development Bank (ADB). “Consent to Establish” and “Consent to Operate” each facility is required from the respective State Pollution Control Boards (SPCBs) under: (i) The Water (Prevention and Control of Pollution) Act 1974, amended 1988 and Rules 1975; and (ii) The Air (Prevention & Control of Pollution) Act 1981, amended 1987 and Rules 1982, 1983 for any new facility / modification in an existing facility which is likely to emit air pollutants. **Vishwa** has obtained each required Consent to Establish for both projects and its activities are subject to compliance with consent conditions. Other Acts and Rules that the projects are subject to include: Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008; Manufacture, Storage & Import of Hazardous Chemical Rules, 1989 and Amendment Rules 2000; and Noise Pollution (Regulation and Control) Rules, 2000, Amended 2002. A “no objection” is also obtained from each affected Panchayat before construction commences. Approval to extract water from the Indira Sagar Reservoir and clearance to release wastewater and sludge back in to the Reservoir will be obtained in due course from the Madhya Pradesh PCB. Both projects have to meet SPBC treatment standards as set out in their respective contracts.

Vishwa manages both projects in accordance with its ISO 9001:2008 certified quality management system and its recently developed occupational health

and safety (OHS) management system that is planned to be certified in May 2011. The company plans to develop an ISO 14001:2004 EMS that will set out the purpose, scope, management responsibilities, performance criteria and management activities for project environmental management during construction and operation. This will be supported by an environmental management plan (EMP) that will cover the full range of environmental management measures required for its different water and waste water projects. **Vishwa** will ensure adherence to the IFC Performance Standards that are applicable to its projects through the implementation of its OHSMS and proposed EMS.

Vishwa's project mobilisation team prepared a detailed project plan of activities addressing key issues prior to the commencement of both projects. Construction did not commence until required approvals and permits were obtained. Each plan incorporated key OH&S activities.

Vishwa has a corporate health, safety and environment (HSE) management unit. **Vishwa's** health, safety and environment (HSE) staff are managing project environmental and social issues on a daily basis, regularly monitoring construction and operation activities to ensure that impact avoidance and mitigation measures, as well as all required health and safety measures, are fully implemented. EHS incidents are recorded and investigated, and required corrective actions are implemented in a timely manner.

PS 2: Labor and Working Conditions **Vishwa** will employ a peak workforce of around 200 permanent construction employees and 150-175 permanent O&M employees on Khandwa, and around 50 permanent construction employees and 15 permanent O&M employees on Kolhapur. Additional labor and specialist services (e.g. electrical) will also be hired under contract for each project. Project construction will take 24 months for both Khandwa and Kolhapur, while the O&M periods are 23 years and 13 years respectively. **Vishwa** implements its formal Human Resources (HR) Policy Manual on both projects, that specifies: recruitment procedures; working hours and leave; travel and accommodation conditions; other employment benefits; induction; and sexual harassment policy. All employees are required to be 18 years of age or older, including contractor staff, and personnel records are used to verify this.

Vishwa places importance on health and safety management because many of its construction activities involve hazardous conditions (e.g. open pits, tunnelling, working at height, use of heavy equipment), while project operation can also pose significant hazards (e.g. use and storage of hazardous chemicals; a health hazard associated with working with sewage from exposure to hazardous gases and disease-causing pathogens). The company's recently prepared OHSMS conforms to water and sanitation industry practice and Indian law. The OHSMS contains: management commitment; responsibilities and organizational chart; OHS policy and procedures; planning, implementation, checking and management review; and a legal register. The plan has operation control procedures for a broad range of activities that include: use of personal protective equipment; noise monitoring and control; working at height; electrical safety; lifting operations; and contractor management. These procedures clearly set out the purpose, responsibilities, standards, procedures and reporting requirements. In addition, a range of supporting guidelines have also been produced to improve on-site performance. These guidelines include a HSE Manual and HSE Handbook written in English and illustrated. The company intends to translate this into various local languages. Safety signage, markings and barriers are implemented on construction sites as standard measures. The OHSMS also takes account of key Acts and Rules relating to employment and conditions, including: The Building and Other Construction Workers Act 1996 and Rules 1998; The Contract Labor (Regulation and Abolition) Act 1970; Minimum Wages Act 1948; and Equal Remuneration Act 1979.

Khandwa's health and safety performance since construction commenced in October 2010 has been good, with no incidents occurring to April 2011. The widespread and effective use of safety barriers, markings and signage and the use of PPE by employees was observed during the inspection of the Khandwa WTP construction site.

The company's HR Manager is responsible for health and safety management across the company, supported by a HSE Junior Manager who is a specialist in this field. A qualified officer is assigned to manage HSE on each project for the duration of construction and operation, in conjunction with the Project

Manager, to ensure safe and compliant work practices. The officer may be supported by one or more additional HSE staff, depending upon the size of the project. Company policies apply to permanent and temporary employees, as well as contractor staff. Contractors are contractually bound to comply with the company's OHSMS and their performance is monitored and reported upon.

Vishwa provides safety training to all construction and operation staff that includes personal protective equipment (PPE) use, use of first aid kits and fire extinguishers, working underground and at height procedures, and emergency response procedures. Prior to project commencement, potential health and safety risks are identified, along with mitigation measures, requirements for PPE and the staff responsible for managing site health and safety. Workers are issued the PPE required for the tasks to be performed, such as hard hats, boots, gloves, ear plugs and safety harnesses, with the compulsory use of this equipment enforced daily. First aid kits are provided on all sites, as well as fire extinguishers where required. Monitoring and reporting on compliance is undertaken by the site HSE officer.

Construction employees are housed in rented local accommodation at both projects. Khandwa operation and maintenance employees will be housed in purpose-built accommodation at the WTP and in Khandwa township. The permanent accommodation provided by will Kolhapur operation and maintenance employees will be housed in rented accommodation in Kolhapur city. **Vishwa** provides essential facilities that include: potable water; washing, cleaning and toilet facilities; a kitchen or canteen/mess; and waste management. PS 3: Pollution Prevention and Abatement Potential pollution issues associated with the construction of the Khandwa and Kolhapur projects include: noise (from construction activities, vehicles and generators); localized air quality decline from dust (windborne off exposed areas and from concrete batching), exhaust emissions; off-site sedimentation and water quality decline from disturbed area runoff, construction effluents and the spillage of hazardous materials; and excavation spoil and building waste disposal. These issues are primarily temporary, localized and manageable. **Vishwa** undertakes proactive environmental management as an integral part of its standard construction practices, in consultation with the client relating to any off-site issues such as the disposal of spoil and waste. Noise level increases during construction will be minimal and generally restricted to daylight hours.

Air quality impacts (dust) will also be minor, temporary and localized. The site erosion hazard will be low and off-site sedimentation will be managed through proper soil management and containment. Spoil and building waste will be disposed of in an appropriate manner as required by local law in specified areas.

Khandwa MC has obtained approval from the Narmada Valley Development Authority (NVDA) for the purchase of water for the project. The volume of raw water that will be pumped out of the Indira Sagar Reservoir, commencing at 29 MLD, will not compromise existing reservoir water uses as the volume of extraction by the project is minor for this high value use. The quality of water in the reservoir varies across the year, particularly suspended sediment content which increases during monsoonal inflows. Raw water quality values for the main parameters are: PH 6.5 to 8.0; turbidity 25.0 NTU; suspended solids 45 mg/l; iron 1.0 mg/l; conductivity 500 microS/cm; faecal coliforms 3,000/100 ml; total coliforms 8,000/100 ml; TDS 370 mg/l; and hardness 30 mg/l (note: these values are a guideline, with seasonal changes in quality occurring across monsoon and dry seasons). The probable deviation in seasonal raw water quality has been taken into account in the design of WTP processes, therefore treatment by physical/chemical treatment processes (chemical dosing, flocculation, sedimentation, filtration and disinfection) will ensure water meets the desirable limits set out in the Indian Drinking Water Standard (IS 10500, 1992), including: pH 6.5-8.5; turbidity 1 NTU maximum; total hardness, as CaCO₃ 200 mg/l maximum; iron as Fe 0.30 mg/l maximum; and dissolved solids 1000 mg/l maximum.

Potential operational impacts of the Khandwa water supply system that require close management include: disposal of sludge from water clarification; wastewater disposal; air emissions (from chemicals used in disinfection); and the storage of hazardous materials (e.g. chlorine). Each of these potential issues is manageable and not considered significant. Noise level increases at the nearest receptors will be negligible due to noise output of the plant and the distance to local receptors. **Vishwa** will safely dispose of wastewater and sludge into the Indira Sagar Reservoir in accordance with MPPCB approval. Water quality at the nearby intake will be protected by directing waste water and sludge away from this site. Care will be taken to avoid and monitor for the inadvertent release of hazardous emissions. Hazardous materials will be stored strictly according to the specified methods to avoid leaks, combustion, etc.

The Kolhapur STP has been designed to service domestic waste water from the entire city. An insignificant volume of industrial waste water will form part of the influent volume entering the STP, but this will be well diluted by the domestic load. The raw sewage characteristics are: biochemical oxygen demand (BOD) 80-250 mg/l; total suspended solids (TSS) 80-400 mg/l; chemical oxygen demand (COD) 200-500 mg/l; faecal coliforms 5×10^5 MPN/100 ml; total Kjeldahl nitrogen 20-65 mg/l; and phosphorus 2-8 mg/l. The STP will treat effluent to conform to the following Maharashtra PCB standards of: BOD 10-15 mg/l; TSS 30-50 mg/l; COD 80-100 mg/l; faecal coliforms <500 MPN/100 ml; total Kjeldahl nitrogen 10-15 mg/l; and phosphorus <1 mg/l.

The main potential operational impacts of the Kolhapur STP are: noise from plant operation (including back-up generators); air emissions and odors; the storage of hazardous chemicals; treated wastewater use/discharge; and organic residue use/disposal. Noise levels emitted from the new STP will be similar to those generated by the STP that is being replaced and are not significant. Air emissions and odors will be at acceptable levels and hazardous chemicals will be appropriately stored to ensure minimal hazard. Treated wastewater from the SBR process will be of high quality and suitable to be used for industrial or agricultural purposes or to be discharged into the Panchganga River under permit, with the final use of this resource to be determined by authorities at a later date. The remaining organic residue will be applied to land as a fertiliser in an approved manner, having substantially reduced ammonia and phosphate levels. Potential operational impacts from the associated pumping stations and connecting sewerage pipelines include leakages and overflows, this will be adequately managed through a detailed program of regular monitoring.

Vishwa currently manages environmental issues on both projects as a component of its contractual obligations. The company proposes to prepare an ISO14001:2994 certified EMS and a EMP that will serve as a source document for the range of management measures required for these projects and future activities. The EMP will specify: typical environmental issues associated with **Vishwa's** different types of projects; implementation responsibilities; management measures; and monitoring and reporting requirements. **Vishwa** will prepare a project-specific EMP for each of these developments based on the corporate-wide EMP.

The Kolhapur STP will deliver important pollution abatement benefits to the city's urban population and to the local and downstream environment by eliminating raw sewage that discharges into the environment by: (a) improving sewage collection; (b) increasing sewage treatment capacity; (c) improving the level of sewage treatment / quality of waste water; (d) improving water quality in the Panchganga River; and thereby (e) improving the health of local residents, and (f) the Panchganga aquatic ecosystem.

The Khandwa water supply project will indirectly deliver greenhouse gas emission savings by efficiently treating and reticulating water that was previously obtained via a range of less efficient means that included reticulation via pipelines in disrepair (with losses estimated at 40%) and tanker delivery. Site restoration at both projects will be undertaken by **Vishwa** at the completion of construction as per its contract conditions, including the removal of building materials and debris and revegetation, leaving the site in safe order and fully restored. To ensure that appropriate rehabilitation and revegetation methods are used on each site, the company will develop a range of generic site rehabilitation procedures based on stockpiled topsoil and indigenous vegetation species that will be incorporated into the corporate EMP.

PS4: Community Health, Safety and Security Kolhapur STP and associated project infrastructure and the water reticulation component of the Khandwa water supply project are located in urban areas, while Khandwa also has rural-based infrastructure (intake, WTP and main trunk pipeline to Khandwa). Community health and safety will be actively managed to avoid or mitigate impacts in these different areas, with the urban centres being a focus given the greater range of issues and potential sensitivity. **Vishwa** has a high level of engineering capacity and a well established track record in the design, construction and operation of these types of major infrastructure projects, undertaking works to the required safety standards.

Impacts on the local community during project construction and operation that Vishwa will closely manage include: noise, dust, lights and traffic; temporary disruption of services; health issues associated with supplied water quality and waste disposal; and safety issues. Khandwa project works within the township will create temporary traffic diversions, raised noise levels, involve the temporary cutting of underground services and ground disturbance. These impacts will be temporary at each site due to the rapid laying of pipelines

(usually completed in a week at each site) and completion of other works (i.e. overhead tanks and reservoirs) taking no more than 4 months at each site. Health and safety issues will be managed by: applying engineering standards; restricting working hours (generally to daytime); erecting safety fencing or tape around excavated areas; controlling traffic and pedestrian access with signs and security staff; only opening trenches immediately prior to pipe laying; disconnecting services for the shortest possible period; rehabilitating the ground surface to pre-construction condition; and appropriate disposal of spoil and waste. No sensitive receptors are located near the WTP, with the nearest house over 1 km from the site, therefore the risks to community health and safety are low. Water quality in the Indira Sagar Reservoir immediately below the site is being protected by a bund around the intake construction site.

Kolhapur STP's community health and safety issues are limited given the plant's replacement of an existing STP located within an established and secure municipal compound. The new STP is set back a minimum of 15 m from the compound boundary, 400 m to the nearest house and 500 m to the nearest business/industry. There are no sensitive receptors nearby, such as schools or hospitals. Decommissioning of the existing outdated STP will at least partially offset the impacts of the new STP, such as noise and odor emissions. Health and safety issues will be managed in a similar manner to the controls that will be implemented at Khandwa.

Operational health and safety controls that will be implemented for the projects include: regular testing of reticulated water (for Khandwa only); treating wastewater to an appropriate standard; disposing of or using wastewater, sludge and organic solids in an approved manner; permanent fencing and site security to control access to facilities; facility lighting; regular monitoring of pipelines for leaks. Project health and safety issues are managed according to **Vishwa's** OHSMS. Environmental issues that have the potential to impact upon communities will be managed in accordance with **Vishwa's** proposed EMS and measures to be set out in the proposed generic EMP.

Vishwa is responsive to livelihood issues that might arise during construction, seeking to avoid or minimise them where possible. For example, trench

excavation and laying of the Khandwa main trunk pipeline on public land were delayed until adjacent crops on private land were harvested, thereby avoiding their inadvertent disturbance.

Site security is provided for both projects by **Vishwa**, who subcontracts security services that use unarmed guards. **Vishwa** will define a grievance mechanism for inclusion in the EMS and ensure relevant site managers are trained in its implementation to ensure the company addresses grievances and acts as a liaison between communities and the client.

Community Engagements

Client's community engagement

Consultation with affected stakeholders is undertaken by the client during the environmental assessment and/or approval/consent application process prior to project initiation. Khandwa MC has undertaken discussions with local public and elected representatives as required under UIDSSMT. Kolhapur MC has undertaken consultation for the project through informal individual and small group discussions during transect walks. These discussions indicated that: people are positive about the project due to the dire need for improved sewage collection and treatment; health benefits linked to poor drainage/nallahs and river water quality due to uncontrolled and untreated sanitary effluent flows; fish kills linked to poor water quality; and due to the improvement in water quality of the Panchganga River.

Vishwa will facilitate effective project implementation by explaining each project to interested local residents and others during the construction phase as questions arise. Specific stakeholder issues raised that are the responsibility of the client will be referred to the client. **Vishwa** will also, in consultation with each Municipal Corporation, establish grievance mechanisms for both projects. Strong community support for these projects is widespread given the local need for the water and waste water services being provided.

Local access of project documentation

The project EA documentation are available directly from **Vishwa** from the following contacts:

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KOLHAPUR

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IFC – Summary of Proposed Investment:

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Project number	30859
Country	India
Sector	Water and Wastewater Utilities
Department	Reg Ind, Infra & Nat Res, ASIA
Status	Pend FAP
Company name	Vishwa Infrastructure and Services Pvt Ltd
Environmental category	B

*Date SPI disclosed	May 3, 2011
*Projected board date	June 3, 2011

Overview	Category & Applicable Standards	Key Issues & Mitigation	Community Engagements	Client's Documentation
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Project description

Vishwa Infrastructures and Services Pvt. Ltd. ("**Vishwa**" or "Company") was founded in 1992 by a group of technocrats with a focus to execute infrastructure projects. **Vishwa** is recognised as a turnkey contractor involved in developing integrated water supply and waste water projects which include:
Laying of water and waste water pipeline networks

- * Construction of water and sewage treatment plants
- * Construction of pumping stations
- * Management of NRW Projects
- * Construction of allied infrastructure including reservoirs, civil and electrical works projects

Vishwa has a team of about 600 employees with an experienced execution team with in-house design capabilities. It has successfully manufactured and laid pipelines with aggregate length of over 1000 kms for various water supply and waste water projects. It has constructed water treatment plants (WTPs) ranging from 6 MLD to 84 MLD, and sewage treatment plants (STPs) with capacities ranging from 6 MLD to 60 MLD. **Vishwa** was recently awarded two water/wastewater projects to be executed on a PPP basis:

Khandwa Project: The Khandwa water supply project is a public-private partnership between Khandwa Municipal Corporation (KMC) and **Vishwa**, under the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT). The project will commence supplying 29 million L/day (MLD) to Khandwa (population 240,000) for domestic consumption, increasing to 43 MLD by the end of the concession period (2034), meeting the current shortfall by almost doubling the volume of water currently supplied. Under this build-own-operate-transfer (BOOT) scheme **Vishwa** has a 25 year concession period (2 years construction, 23 years operation and maintenance). The project will pump water through an intake well on the Chhotitave River, a backwater of the Indira Sagar Reservoir, to the adjacent water treatment plant (WTP). The WTP (2.7 ha site) will treat water then pump it to Khandwa via a 50 km long 800 mm reinforced pipeline. The pipeline will discharge into a 1,222 m³ Ground Level Master Balancing Reservoir (GLMBR), from where it will be pumped to nine separate overhead tanks. Water will then be gravity fed to the township via a network of distribution pipelines. The project includes the laying of 60 km of poly distribution pipeline through the streets of Khandwa. Project construction commenced in 2010.

Kolhapur Project: The Kolhapur STP is a long term public-private partnership concession between Kolhapur Municipal Corporation, Kolhapur, Maharashtra and **Vishwa**. The project will service apart from new STP of 7 area of Kolhapur and will have a sewage treatment capacity of 76 million L/day (MLD), the project involves construction of allied works such as new sewage pumping stations and new rising mains at Bapat Camp, Line Bazaar and Jayant Nallah, pipe laying for discharge into the Panchganga river and other miscellaneous civil works. Under this design, finance, construct, operate and maintenance scheme **Vishwa** has a 15 year concession period (2 years construction, 13 years operation and maintenance).

Sewage will be pumped to the STP by the new pumping stations. The STP is a replacement of the existing STP operated by the Kolhapur Municipal Corporation and is located within the existing compound. The STP will utilise Sequential Batch Reactory (SBR) technology to treat the wastewater. Treated wastewater discharged from the site will either be utilised for industrial or agricultural consumption and/or discharged into the Panchganga river. The remaining organic residue will be applied to land as a fertiliser in an approved manner. Project construction commenced in early 2011.

SPONSOR/COST/LOCATION

Project sponsor and major shareholders of project company

Vishwa was founded in 1992 by Yerra Srinivas as a firm focused on construction related to water and water services. Over the years, it has transformed itself into an integrated water EPC player. Key Founders of the Company are Mr. Yerra Srinivas; Mr. M.L Sridhar Reddy; Mr. J. Vikram and Mr. K. Vijay Kumar. Founders together hold about 53.40% stake in the Company. Out of the balance 35.60% is held by Axis PE and 11% by NEA.

Total project cost and amount and nature of IFC's investment

The two Projects are expected to cost about \$39 million out of which about \$32 million will be funded through Central Government programs and the balance has to be funded through debt / equity. The proposed IFC investment is an A loan of about \$5.5 million for IFC's own account.

Location of project and description of site

Khandwa Project: The Khandwa water supply project is a public-private partnership between Khandwa Municipal Corporation (KMC) and **Vishwa**, under the Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) being implemented in Khandwa Town in Khandwa District. The project will pump water through an intake well on the Chhotitave River and pump it to Khandwa via a 50 km long 800 mm reinforced pipeline. It involves Ground Level Master Balancing Reservoir (GLMBR), Elevated Service Reservoirs and a network of distribution pipelines.

Kolhapur Project: The Kolhapur STP is a long term public-private partnership concession between Kolhapur Municipal Corporation, Kolhapur, Maharashtra and **Vishwa** and is located in Kolhapur Town, Maharashtra. The project comprises construction of a new STP with a sewage treatment capacity of 76 million L/day (MLD). It also involves construction pumping stations, and pipe laying for discharge into the Panchganga river.

DEVELOPMENT IMPACT

Anticipated development impact of the project

- a) Improve sanitation and better water services to about 450,000 people in two mid-tier towns in India
- b) Generate employment both during construction and operation
- c) Demonstration Effect- Successful execution of the Project will help provide push for further replication of PPP based water infrastructure creation in the country

IFC's expected development contribution

- a) Provision of long term debt financing for a growing company
- b) Provide impetus for successful deployment of PPP based water projects across the country.

Environmental and social issues - Category B

The proposed investment in the Company and the Project is a Category B project because a limited number of specific environmental and social impacts may result, which can be avoided or mitigated by adhering to generally recognized performance standards, guidelines or design criteria. Potential impacts in construction activities besides being mitigable are likely to be limited to project site; short term; and likely to have limited impact on environmentally sensitive areas. Further, it is possible to readily design and implement engineering and management measures to mitigate adverse impacts during construction and operations.

The Company will manage its environmental and social performance in accordance with applicable local laws and regulations, including IFC's Performance Standards on Social and Environmental Sustainability. **Vishwa's** water and waste water projects deliver significant environmental and community health benefits. The Khandwa water supply project will provide a more reliable water supply in terms of both volume and quality, thereby reducing the incidence of waterborne disease. The Kolhapur STP will provide additional sewage treatment capacity, safely treating sanitary effluent that currently poses a major health hazard. **Vishwa** will formalize and ISO certify a Corporate EMS as part of the project. Further details on the potential environmental and social impacts, corresponding mitigation measures, and guidance on how and where information about the Project can be obtained are provided in the IFC Environmental and Social Review Summary (ESRS).

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