

# International Sewerage Developments and Water and Environment Solution Hub Utilization by City of Yokohama

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## **1. Introduction**

Capitalizing on opportunities presented via technological exchange with the U.S. beginning the 1960s, City of Yokohama has conducted international developments in the sewerage field through technical cooperation in emerging countries, primarily in Asia, as well as participation in international conferences and exhibitions. Furthermore, the city founded the Yokohama Water Business Association in 2011, supporting overseas water business developments through business matching, joint overseas surveys of the public-private sectors. In addition, with the registration of the Water and Environment Solution Hub (hereinafter referred to as the “Hub”) operated by the Ministry of Land, Infrastructure, Transport and Tourism, Yokohama city has exchanged information with municipalities actively engaging in overseas developments and GCUS(Global Center for Urban Sanitation), and has completed upgrades of display items in the base facility in March 2016. This paper introduces the international development initiatives by Yokohama city, the details of the Hub’s upgrades, as well as initiatives utilizing the base.

## **2. International Sewerage Developments and International Development Structure by City of Yokohama**

City of Yokohama founded the Yokohama Water Business Association (President: the Mayor of Yokohama) in November 2011, aiming support overseas water business developments and solve water problems in emerging countries by utilizing the technology of companies based in Yokohama and the operational know-how possessed by Yokohama city that comprised of members that include companies found within the city. These member companies in various industries related to water and sewerage such as manufacturing, consulting, engineering, and construction. In May 2012, the Environmental Planning Bureau, Yokohama city established the Basic Policy on International Contributions in Sewerage Projects, promoting international projects with the purposes of raising the status of Yokohama, revitalizing the local economy, and development of human resources.

Some specific activities in the sewerage fields include The JICA Partnership Program by Japan International Cooperation Agency (JICA) in Hanoi, Vietnam, the Project of Capacity Building for Management of Sewage Works in Hanoi (Phase 2) (scheduled from December 2017 to December 2020) to be conducted jointly with member companies, in addition Yokohama city has been technical cooperation in the sewerage fields in that memorandums on technological cooperation concerning the full breadth of urban planning have concluded with Cebu of Philippines, Bangkok of Thailand and Da Nang of Vietnam.

Moreover, seizing the opportunities presented by receiving observation teams from overseas, the Yokohama Water Business Association conducts business matching and hosts technological seminars, inviting concerned overseas sewerage parties.

## **3. Summary of Hub’s Base Upgrades**

Since registering the Hub in 2012, City of Yokohama has utilized the Hub’s framework to share information with other municipalities and related institutions, etc. concerning international developments. In addition, in order for effective dissemination of information at the base (Hokubu Sewerage Center), display items were installed to introduce member company’s technologies of the Yokohama Water Business Association as well as the sewerage history and measures in Yokohama city were completed in March 2016. The summary of upgrades to the base is shown in the Table one, while the Hub’s appearance is introduced in Photos 1 through 3.

Effectively utilizing the open space in the existing Hokubu Sewerage Center’s administrative building, panels, models, products, formed objects, etc., were set up in addition to a renewal of the outdoor informational signs for visitors. Display items of companies were widely collected from among all member companies, and an internal selection committee selected

the member companies to be displayed. Assuming both Japanese and overseas visitors, both Japanese and English were used for the display items.



Photo 1 Entrance



Photo 2 Model Display



Photo 3 Introduction of member company technologies

Table 1 Summary of Display Items, etc.

Hokubu Sewerage Center					
Hokubu-Daini Wastewater Treatment Plant			Hokubu Sludge Treatment Plant		
Venue	Details	Display type	Venue	Details	Display type
Administrative building			Administrative building		
3F Large conference room	Treatment area summary facility summary	Panel	2F Large conference room	Treatment area summary facility summary	Panel
	PR video (English version)			PR video (English version)	
	Tourism information	Pamphlets, monitors		Tourism information	Pamphlets
3F Hall	Facility layout	Panels, models	2F Hall	Facility layout	
	Water treatment flow			Sludge treatment flow	
	Responsibilities of center personnel, etc.			Digester tank summary	
2F Hall	Yokohama sewerage history	Panels, etc.	2F Central control room	Sludge effective utilization, etc.	
	Yokohama sewerage measures				Glass-surface graphics
	Introduction of member- company technologies	Panels, pamphlets, products, etc.		1F Hall	Introduction of member-company technologies
2F Central control room		Glass-surface graphics			
1F Water quality laboratory	Summary of water quality examinations	Panels, monitors, etc.			
Outdoor			Outdoor		
Main facilities	Facility introduction	Signs	Main facilities	Facility introduction	Signs

#### 4. International Developments Utilizing the Hub

The Hub is define “an alliance of cities in Japan with advanced experience in policy and technology for water, wastewater and the environment.” Since registering the Hub in 2012, Yokohama city has exchanged information with municipalities actively engaging in overseas developments in addition to advertising sewerage project of Yokohama, facilities, and measures, in the Hokubu Sewerage Center at the base for receiving overseas observation teams, as well as furthering international contributions and international exchanges.

City of Yokohama has 6 objectives in the base of management. The Objectives of the Hub in Yokohama is shown in the Figure one. Yokohama city hopes to continue to effectively utilize this base for international sewerage developments to raise the status of Yokohama’s sewerage and attract international projects for member companies, while widely utilizing tourism information provision, field trips targeting citizens, personnel training, etc. It will also undertake initiatives to dispatch the attractive points of Yokohama as an international city, educate residents about the environment, and develop

personnel. Furthermore, in addition to the company display space being utilized for member companies, it is expected that the space will be used for international developments in cooperation with Yokohama city through measures such as overseas observations, technological development, survey research, etc., based on member company requests.

<b>■ Providing information: regarding International Contribution, International Exchange, Support for Overseas Water Business Expansion</b>	
<b>【Objectives】</b> ○Contributing to solving water issues in emerging countries  ○Supporting member of companies in the Yokohama Water Business Association ○Boosting technological development and research	<b>【Activities】</b> ⇒ ○To hold inspections and training tailored to the needs of overseas visitors  ⇒ ○To publicize the technology and products of member companies ⇒ ○To accept and promote research into cutting edge technologies
<b>■ Promoting the City of Yokohama Attractiveness as an International City – Public Relations to Citizen – Improving City of Yokohama Organizational Strengths</b>	
<b>【Objectives】</b> ○Contributing of promote tourism to Yokohama ○Supporting environmental education, Public relations of sewerage ○Developing human resources	<b>【Activities】</b> ⇒ ○To distribute tourist information pamphlets ⇒ ○To accept citizen to facilities field trip ⇒ ○To conduct staff training

**Figure 1 Objectives and Activities of Water and Environment Solution Hub in Yokohama**

## 5. Conclusion

In order to effectively advance international contributions and overseas water business developments, it is desirable that the information dispatched from the base is the most recent information available. Therefore, it is indispensable that regular updates are provided on the upgrades made on this occasion such as information on sewerage initiatives in Yokohama city and member company technologies, and it is necessary that the concerned departments cooperate and appropriately manage and operate the information so it does not become obsolete.

Finally, international sewerage developments do not lead to results overnight. In the midst of this, the role that local municipalities play in building relationships with other countries, etc., is significant. In addition to effectively utilizing this base, Yokohama city will steadily make progress through public-private partnerships in international contributions and overseas water business developments such as overseas surveys, business matching, providing opportunities through seminars, etc., jointly with businesses.