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共建化淡廠



COMMENCEMENT OF MARINE WORKS

13/WSD/17
Design, Build and Operate First Stage of
**Tseung Kwan O
Desalination Plant**
Newsletter | ISSUE 04 | Summer 2021



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The **Marine Works** have commenced since mid-March 2021 for both Intake and Outfall pipes at locations that are situated at about 210m and 260m away from the existing seawall cope line respectively. In general, two phases of works are involved: 1) construction of **Temporary Vertical Shafts**, temporary ELS system, to facilitate retrieval of Tunnel Boring Machines (TBMs) for pipe jacking construction of intake and outfall pipelines, and 2) construction of Marine **Intake** structure and Marine **Outfall** diffusers.

Before the commencement of marine works, a series of preparatory works needed to be completed in advance which include marine ground investigation, design of permanent and temporary marine structures, formulation of method statements, engagement of marine works sub-contractor, baseline environmental monitoring (incl. water quality and coral) and pre-fabrication of outfall shaft caisson. Statutory requirements have been satisfied, including vetting of silt curtain deployment plan, renewal of sediment quality report and dumping ground allocation as well as granting of **Marine Dumping Permit** and **Marine Department Notice**.

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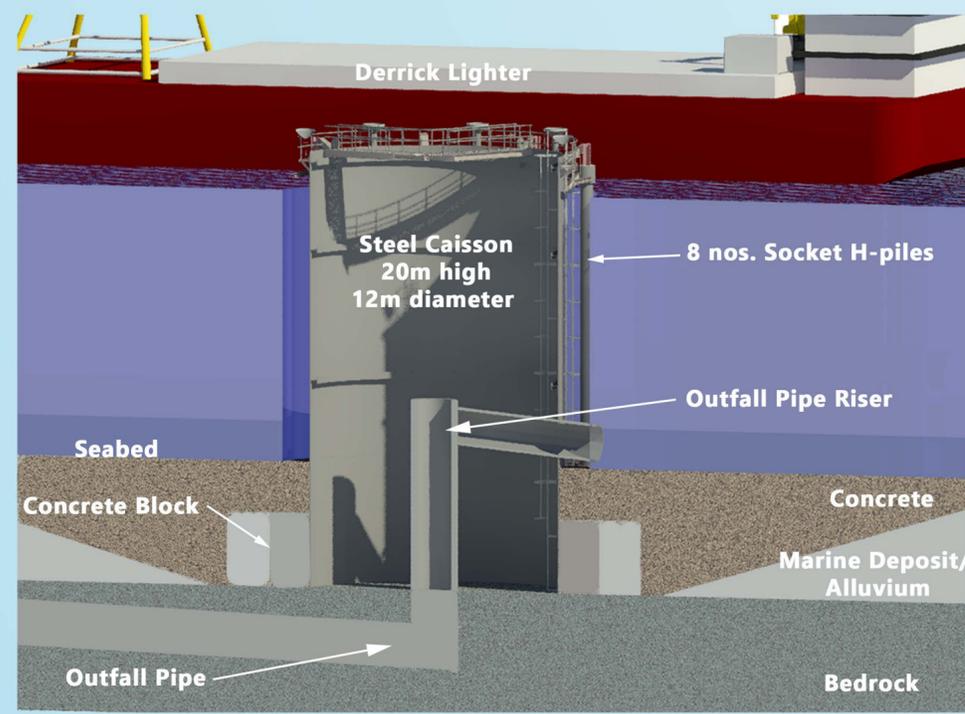
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MARINE WORKS



METHOD OF CONSTRUCTION OF OUTFALL SHAFT

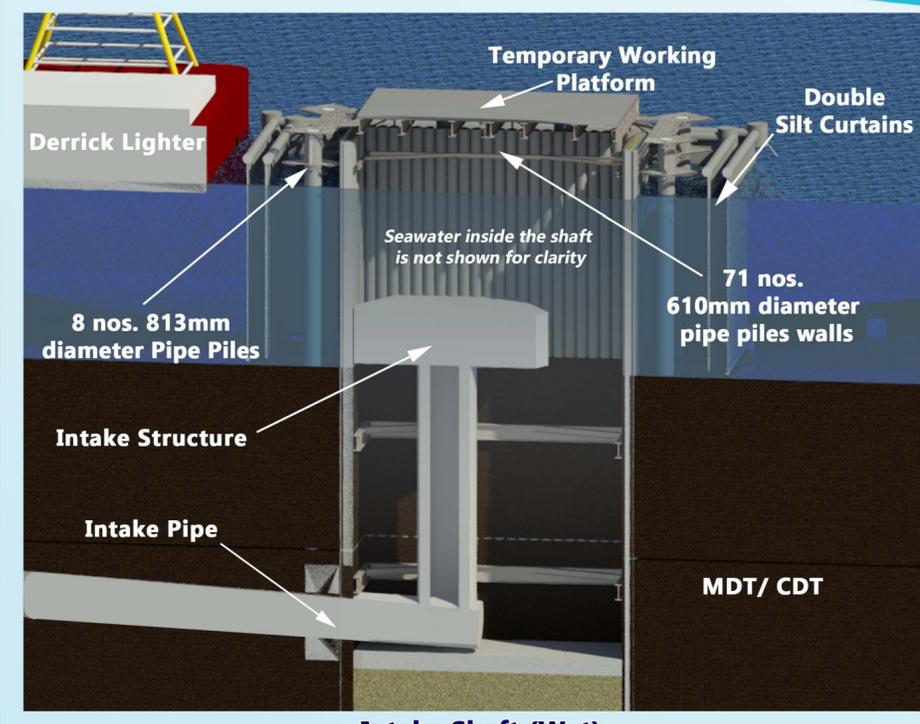
The Outfall Shaft is, on the contrary, a dry shaft - a cofferdam formed by a 20m high, 12m diameter steel caisson which sit on rockhead level under seabed. To found the steel caisson on rockhead, dredging by means of derrick lighter is adopted to remove the top 6m materials from seabed. 8 nos. of socket H-piles, embedded into solid rock, will fix the steel caisson securely in the designed location. Underwater concrete will then be cast by means of tremie method to seal up the interface between the caisson and the rockhead preventing seepage of seawater into the cofferdam.



Outfall Shaft (Dry)

After the cofferdam is pumped dry, further rock excavation in the outfall shaft will be carried out by stitch coring, followed by chain sawing and finally lifted by crane barge. A void of size 8m x 4m x 6m will be formed at the bottom of the caisson. This rock opening will be the final destination for the Outfall TBM where it will be lifted up and removed.

PROGRESS VIDEO FOR OUTFALL SHAFT



Intake Shaft (Wet)

METHOD OF CONSTRUCTION OF INTAKE SHAFT

A rather new approach has been adopted for the Intake Shaft: a wet shaft. As its name implies, a wet shaft does not aim to achieve a dry working environment whereby all the construction works inside the shaft will instead be carried out in a submerged condition. The wet shaft forms by 71 nos. 610mm diameter pipe piles walls, toed-in to completely to moderately decomposed tuff (CDT) at -32mPD, which are supported with 3 layers of waling/struts. The pipe piles walls are to be constructed from a temporary working platform which is in turn supported by 8 nos. 813mm diameter pipe piles driven by vibratory hammer. The shaft is to be excavated by dredging to about 15m below seabed, (i.e. at -27mPD) where the TBM will enter and then be retrieved by crane barge for removal.

PROGRESS VIDEO FOR INTAKE SHAFT



生命第一 LIFE FIRST



The **Life First** campaign aims to enhance safety awareness among the construction industry and raise safety standards on sites.

The campaign was firstly introduced by the **Construction Industry Council (CIC)** in 2020 and received positive feedback from the industry stakeholders. In view of this, the CIC strives to continue the ideas of "Life First" and initiate it again this year in May 2021. By conducting a review, personnel at all levels shall inspect their own works and the potential safety risks involved. Upon 11 May 2021, we are honoured to have the top management to visit the site to kick off the "Life First" Campaign for the Project by giving key safety messages to all levels of the workforce on the site. **Let us say "NO" to unsafe works together.** More related safety initiatives such as safety briefings, safety review meetings, specific high risk activities safety inspection, promotional activities regarding working under hot weather will be conducted. Stay tuned!



Andy Y. Kwok
Managing Director
<Binnies>

Penn C.K. Yeung
Executive Director &
Chief Operating Officer
<JEC>

Kelvin K.W. LO
Director
<WSD>

Danny C.S. HUNG
Executive Director,
Vice President
<CSHK>



Site Safety Visit



VR Safety Training Center

Through this campaign, we aim to raise safety awareness of all colleagues and workers with a view to enhancing site safety by reviewing operations of site specific high-risk activities, including

Working at height



Heavy Machinery



Lifting



Electricity



WATCH THE
EVENT VIDEO

HKIBIM AWARD 2020

SILVER AWARD (GOVERNMENT PROJECTS CATEGORY)



We are honored to receive another recognition regarding the implementation of BIM of the project, namely **HKIBIM Silver Awards 2020 (Government Projects Category)**, which is granted by **HONG KONG INSTITUTE OF BUILDING INFORMATION MODELLING, HKIBIM (香港建築信息模擬學會)**.

The event presents a valuable opportunity for us to showcase the efforts and achievements in promoting the use of BIM in the construction industry. We will continue to try our best to optimize the use of this technology to bring benefits to the project in various stages of the project, including design, construction and operation.

We would also like to send our warmest congratulations to **WSP Hong Kong Ltd** and **“China State Construction Engineering (Hong Kong) Limited”** who have received Grand Award and Gold Award in category of BIM Department / Units / Team respectively in same event.



OCCUPATIONAL HEALTH AWARD

JOYFUL@HEALTHY WORKPLACE BEST PRACTICES AWARD

PREVENTION OF PNEUMOCONIOSIS BEST PRACTICES AWARD



Work and health are closely related. A healthy workplace not only protects the physical well-being and life of employees, it also enhances productivity and competitiveness, and helps to establish a positive image for the organization.

In May 2021, we have received both the **Joyful@Healthy Workplace Best Practices Award** and **Prevention of Pneumoconiosis Best Practices Award** from Occupational Safety and Health Council in recognition of our effort in promoting healthy workplace for everyone who works for the TKODP project.



EXCELLENT TEAM 2020 BY CHINA STATE

It is an honor of the whole project team to receive an award from **China State Construction International Holdings Limited** (one of the mother companies of AJCJV) as the “Outstanding Site Team 2020” in a keen competition against CSHK’s other 10 public works projects. The award recognizes the project team’s excellent project delivery in areas such as **site safety, environmental protection** and **quality of work**.

We are thankful for the valuable comments and suggestions given by the senior management of CS during the site visits. The green garden, pavilion and the aquaponics feature outside the MiC office to create an oasis in the desert of Area 137 fill bank is definitely one of them.



LO PAN RICE SERVICE

Lo Pan Rice Service organized by the Hong Kong Construction Industry Council distributes free meal boxes to the needy such as the elderly, people with **disabilities and low-income families**. This is especially helpful due to economic downturn exacerbated by the Covid-19 Pandemic. As part of TKO Desalination Project ongoing community outreach programme, we have joined the CIC - **Construction Industry Sports & Volunteering Programme (CISVP)**. The project site office raised more than **HKD 20,000 to sponsor 600 meal boxes** for the "Lo Pan Rice Campaign". Team members from the TKO Desalination Project volunteered their time to help in weekly distribution of the meal boxes in April, May and June 2021. Our colleagues feel **joyful and grateful** to be able to give back to their community in small ways like this.



CONSTRUCTION INDUSTRY SPORTS & VOLUNTEERING PROGRAMME
建造業運動及義工計劃

About CISVP

The Construction Industry Sports & Volunteering Programme (CISVP) was established in October 2016 by Construction Industry Council (CIC) to encourage industry practitioners' participation in sports programmes and volunteering services, as well as form their sports and volunteer team in organisations. We believe the CISVP will not only benefit the participants but also contribute to social harmony.



HKIE TECHNICAL SEMINAR

THE CLIMATE-INDEPENDENT WATER SUPPLY FOR HONG KONG



MR. LIN TANG TAI
SENIOR ENGINEER OF WSD



MR. ROGER WU CHUNG WAI
CHIEF RESIDENT ENGINEER OF BINNIES

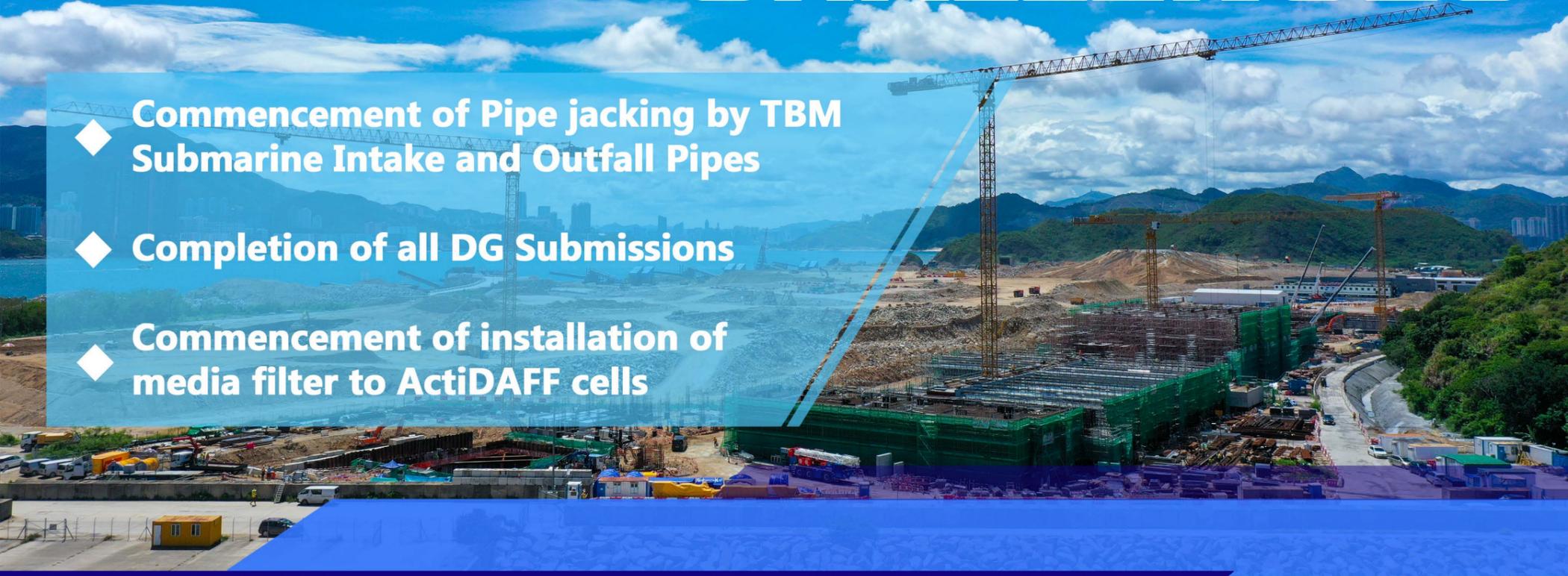


MR. JOSE BIDAURRAZAGA
DESIGN MANAGER OF AJC JOINT VENTURE

Water Supplies Department (WSD) promulgated the **Total Water Management Strategy** (the Strategy) in 2008 which mapped out the strategy for sustainable use of water. WSD then completed a review on the Strategy in 2019. The construction of the first stage of the desalination plant in Tseung Kwan O is one of the measures to build resilience in fresh water supply. Reverse Osmosis (RO) technology is adopted to remove dissolved salts and impurities from seawater. **Mr. TT LIN**, Senior Engineer/Consultant Management of WSD, **Ir Roger WU**, Chief Resident Engineer of Binnies Hong Kong, and **Mr. Jose BIDAURRAZAGA**, Design Manager of Acciona-JEC-China State Joint Venture jointly conducted a webinar to HKIE Civil Division on 15 April 2021 to present how WSD decided to implement the Tseung Kwan O Desalination Plant (the Plant), and introduce to the HKIE members the first stage of the Plant and its design under the Contract. The participants had an overwhelming response during the Q&A session, which opens up a platform for our Project Team to **share our knowledge and unique experience to the industry**.

COMING 3-MONTH CHALLENGES

- ◆ Commencement of Pipe jacking by TBM Submarine Intake and Outfall Pipes
- ◆ Completion of all DG Submissions
- ◆ Commencement of installation of media filter to ActiDAFF cells



COVID-19 VACCINE INJECTION

One for all or All for one?

To further strengthen the preventive measures of COVID-19 and to facilitate our Project Team members to receiving vaccination conveniently, with the support from WSD and Development Bureau, group booking service for the COVID-19 Vaccination Programme has been launched in April 2021. 17 nos. of Project Team Members including RSS and AJCV joined the group booking service at **Community Vaccination Centers** to receive vaccination.

By May 2021, **over 26%** of our site personnel have completed 2nd dose of vaccine, as compared against 15% dosage rate of Hong Kong around that time. To encourage more colleagues to actively participate the COVID-19 vaccination programme, Binnies has offered souvenir special made bracelet and AJCV has offered cash lucky draw, which will be held on 30 June 2021, to their colleagues who have received vaccination.

Big thanks to all, particularly to the first ten site personnel who got vaccination to protect themselves and the community!



Staff Got Vaccinated in Early April



FIRST TEN PERSONNEL GOT VACCINATED

Name	Company
Pérez Grande, Francisco	Acciona
陳順	中國建築
陳家柱	中國建築
WU Chung-wai, Roger	Binnies
KOK King-ming, Raymond	Binnies
畢小奇	中國建築
TSANG Kin-man	Binnies
WONG Sze-wai, David	Binnies
MAK Chun-yuen, Patrick	Binnies
鄒國仙	中國建築



Got Vaccination by Group Booking Service

SHARING IS LEARNING

As one says, "Sharing is the ultimate form of learning". Since March 2021, we have launched a in-house knowledge sharing programme, namely "Sharing is Learning", to all staff and stake holders of the project. It offers a platform for our colleagues to share the experience and knowledge of their professional expertise and at the same time encourages collaboration among the team. Topics we have covered so far are listed below:-

Series 1
Project Programme by P6
Ms. Man Leung
Binnies RE (General/Programme)
23th March 2021

Series 2
BEAM Plus
Mr. Raymond Kok
Binnies RE (BIM/BEAM)
23th April 2021

Series 3
BIM to Field & Scan to BIM
Ms. Yanist Kwan
Binnies SSOE (BIM)
21th May 2021

Series 4
Experience
Sharing

SEAWATER DESALINATION TREATMENT PROCESS FOR POTABLE WATER



Speaker:
Brandon Kwok
Assistant Resident Engineer (Process),
Binnies Hong Kong Limited

Seminar Highlights:

- Pretreatment
- Reverse Osmosis Separation
- Post Treatment
~ Remineralization & Disinfection



Series 3 BIM TO FIELD & SCAN TO BIM



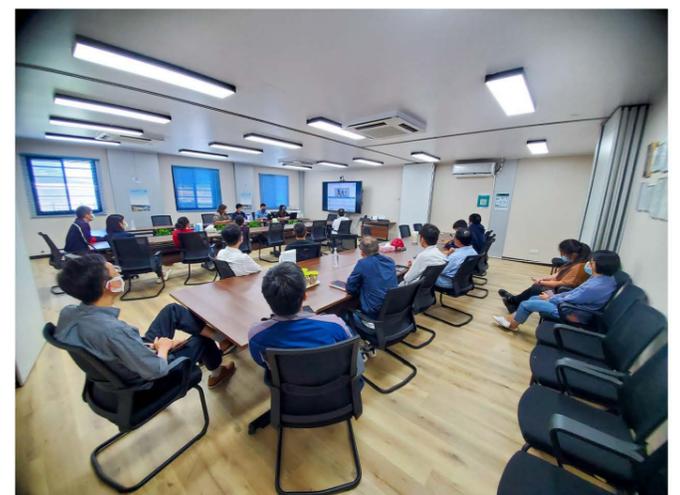
Speaker:
Yanist Y.Y. Kwan
Resident Senior Survey Officer (Engineering),
Binnies Hong Kong Limited

Seminar Highlights:

- BIM to Field
- Scan to BIM
- Introduction of scan to BIM
- Point Cloud Survey in this contract
- Workflow of verifying As-built Model with Scan Data



Series 3 - BIM to Field & Scan to BIM



Sharing Section via Zoom and Face-to-Face

The next topic is **Seawater Desalination Treatment Process for Potable Water** by ARE (Process) – Mr. **Brandon Kwok** to be held on 25 June 2021 (Fri) at 13:00.

Knowledge is mighty, but it is much more powerful when it is shared!

Join us! Share your knowledge and you will get more in return!

HONG KONG GREEN ORGANISATION CERTIFICATION 2021

The **Hong Kong Green Organisation Certification (HKGOC)** is led by the Environmental Campaign Committee (ECC) alongside the Environmental Protection Department and in conjunction with nine organisations in Hong Kong. Starting from 2020, the HKGOC consists of four Certificates, namely "Wastewi\$e Certificate", "Energywi\$e Certificate", "IAQwi\$e Certificate" and "Carbon Reduction Certificate". The HKGOC aims to benchmark organisations in green management, to encourage participating organisations to adopt environmental practices in different aspects and to recognise their efforts in and commitments to the environment. We are proud to announce that the TKODP team has been awarded the **Energywi\$e Certificate and Wastewi\$e**. Both of **Excellent Level!** We are now entitled to use the logos and certificates of HKGOC to promote our corporate social responsibility in environmental protection.



**Wastewi\$e Certificate
Excellent Level**



**Energywi\$e Certificate
Excellent Level**

