



2020-02-04

REPORT TO: THE EXECUTIVE MAYOR AND MEMBERS OF THE MAYORAL COMMITTEE
AND THE WATER & WASTE PORTFOLIO COMMITTEE

LC23515

1. ITEM NUMBER MC 04/02/20
2. SUBJECT

FEEDBACK ON THE INTERNATIONAL/OUTSIDE THE BORDERS OF THE
RSA TRIP UNDERTAKEN FROM 19 AUGUST TO 23 AUGUST 2019 TO
PARTICIPATE IN THE INTERNATIONAL EXCHANGE PHASE OF THE
WADER YOUNG ENGINEERS "CHANGEMAKERS" PROGRAMME (YECF)
IN UNITED STATES OF AMERICA (USA).

INGXELO EMALUNGA NEHAMBO KUMAZWE
APHESHEYA/ANGAPHANDLE KWEMIDA YASEMZANTSI AFRIKA
EQHUTYWE UKUSUSELA NGOWE-19 UKUYA KOWAMA-23
KWEYETHUPHA 2019 UKUZE KUTHATYATHWE INXAXHEBA
KWISIGABA SOKUTSHINTSHELANA KWIHLABATHI NGOKUJOLISWE
KWINKQUBO "ENGOPHAWU LOKUTSHINTSHELANA" ZEENJINELI
EZILULUTSHA II-WADER YOUNG ENGINEERS (YECF) ESEMELIKA
(USA)

TERUGVOERING OOR DIE REIS NA DIE BUITELAND/BUITE DIE GRENSE
VAN DIE RSA ONDERNEEM VAN 19 AUGUSTUS TOT 23 AUGUSTUS
2019 OM DEEL TE NEEM AAN DIE INTERNASIONALE UITRUILFASE VAN
DIE 'WADER YOUNG ENGINEERS CHANGEMAKERS'-PROGRAM (YECF)
IN DIE VERENIGDE STATE VAN AMERIKA (VSA).

[L1128/1173]

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3. EVENT SUMMARY

EVENT DETAILS	
CONFERENCE/SEMINAR	<i>The International Exchange phase of the WADER Young Engineers "Changemakers" Programme (YECF)</i>
OTHER	<i>Not applicable.</i>
DATE	<i>19 August to 23 August 2019</i>
VENUE	<i>Columbia University, New York</i>
TOTAL COST TO THE CITY	<i>R 144.00</i>
CITY	<i>New York</i>
COUNTRY	<i>United States of America (USA)</i>

ATTENDEE DETAILS	
NAME AND SURNAME	DESIGNATION
Nichilis Tredoux	ASSISTANT PROFESSIONAL OFFICER (CIVIL ENGINEER)
PROVIDE SUMMARY OF HOST ORGANISATION / CITY	
<i>The Water Technologies Demonstration Programme's (WADER) is a partnership between the Department of Science and Technology (DST) and the South African Water Research Commission (WRC) which acts as an innovation intermediary for the water sector focusing on innovative water and sanitation demonstrations and technical verification in order to fast-track solutions to the market.</i> <i>The Young Engineers "Changemakers" International Exchange forms part of the Young Engineers "Changemakers" Programme (YECF), an initiative of WADER aims to provide opportunities for young South African engineers to partake in testing potential innovative water and sanitation solutions in real world sites and gain the necessary skills required to drive municipalities of the future which are sustainable, liveable and builds socio-technical infrastructure and services.</i> <i>10 young engineers from different municipalities across the country were selected for a one-year training programme, YECF. From 10 young engineers, 4 young engineers were further selected through a competitive process to participate in the international exchange phase of the programme. The international exchange phase is a collaborative programme with WRC's US partners, such as Columbia University, to gain better exposure to "emerging circular economy" innovations, visit relevant water and sanitation organisations overseas and gain exposure to the "ways of working" in other parts of the world.</i> <i>The team (four young engineers) were hosted by world renowned wastewater specialist, Prof. Kartik Chandran at Columbia University, New York.</i>	

4. OBJECTIVE

The objective of the international trip was for Nichilis Tredoux to participate in the International Exchange phase of the WADER Young Engineers "Changemakers" Programme (YECF), to gain better exposure to "emerging circular economy" innovations, visit relevant water and sanitation organisations overseas and gain exposure to the "ways of working" in other parts of the world. This knowledge can then be used to better the City of Cape Town by implementing new technology and innovations.

5. OUTCOMES

- ☐ - Partnership Agreement
- ☐ - Membership Agreement
- ☐ - Grants Agreement
- ☐ - Memorandum of Understanding
- ☐ - Statement of Intent
- ☒ - Other

6. ACTIONS REQUIRED

No actions are required. There are however a few new innovations that can be considered in future projects (refer to Section 9).

7. IMPLICATIONS

- | | | |
|---|--|------------------------------|
| 7.1 Constitutional and Policy Implications | No ☒ | Yes ☐ |
| 7.2 Environmental implications | No ☒ | Yes ☐ |
| 7.3 Financial Implications | No ☒ | Yes ☐ |
| 7.4 Legal Implications | No ☒ | Yes ☐ |
| 7.5 Staff Implications | No ☒ | Yes ☐ |
| 7.6 Risk Implications | No ☒ | Yes ☐ |

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8. RECOMMENDATIONS

It is recommended that:

- a) the feedback report on the International Exchange phase of the WADER Young Engineers "Changemakers" Programme (YECP) undertaken by Nichilis Tredoux from 19 August to 23 August 2019 **be noted**.
- b) the report be referred to the Water & Waste Portfolio Committee for noting.

Kundululwe ukuba:

- a) **Makuqwalaselwe** ngxelo emalunga nehambo ejoliswe kwisigaba sokuTshintshelana kuMazwe eHlabathi i-WADER Young Engineers iNkqubo "engoPhawu lokuTshintelana" (YECP) eqhutywe ngu-Nichilis Tredoux ukususela ngowe-19 ukuya kowama-23 kweyeThupha 2019.
- b) Ingxelo mayidluliselwe kwiKomiti engeMicimbi yezaManzi noCoceko ukuze iyiqwalasele.

Daar word aanbeveel dat:

- a) Daar kennis geneem word van die terugvoeringsverslag oor die internasionale uitruilfase van die 'WADER Young Engineers Changemakers Programme' (YECP) van 19 Augustus tot 23 Augustus 2019 onderneem deur Nichilis Tredoux.
- b) Die verslag vir kennisname na die portefeuljekomitee vir water en afval verwys word.

9. GENERAL DISCUSSION

The International Exchange phase of the WADER Young Engineers "Changemakers" Programme (YECP) exposed Nichilis Tredoux to a number of new innovations and technologies, which can be applied in the City of Cape Town, but it also gave him the opportunity to share knowledge with the New York engineers.

The City of Cape Town can learn a lot from New York, but New York can learn just as much from the City of Cape Town. In some ways the City of Cape Town is a lot more advanced, specifically with our water management systems and new water resource development. New York however, does not yet have water supply issues as is currently the case in Cape Town. New York has other issues relating more to water quality.

New York has two main issues, which drove innovation in New York, namely:

- *The poor water quality in the Hudson river and the surrounding areas, due to pollution from wastewater and stormwater discharges into the rivers.*
- *50% of their sewer system is still combined with their stormwater system, which causes their wastewater treatment plants to overflow during high rain fall events into the rivers and sea.*

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To address the poor water quality in the Hudson river and the surrounding areas, New York invested a lot of money in their Wastewater Treatment Plants (WWTPs) to better the quality of the wastewater effluent going into the rivers and the sea. New York also invested money in projects to reduce the stormwater runoff going into the sewer system, to reduce the wastewater overflow events into the rivers and the sea.

With New York investing a lot of money in their WWTPs, a lot of new innovations and technology were implemented and tested. The Stamford WWTP is one of the WWTP who had a lot of success with the implementation of new innovations and technology. The Stamford WWTP can produce effluent with a Turbidity (fluid clearness measurement) of less than 2 NTU without Membrane Bioreactors. The SANS 241 standard for potable water is between 1 and 5 NTU.

These new innovations might not be cost effective for our normal WWTPs, but could possibly be cost effective in WWTPs who supply effluent to Reuse Water Treatment Plants, as it could reduce the overall cost of Reuse potable water production.

The innovations to reduce stormwater runoff can also possibly be implemented in new developments and reduce the cost of stormwater infrastructure in Cape Town.

New York can also learn a lot from the stormwater management systems in Cape Town. In the City of Cape Town, we use a number of artificial wetlands to reduce the stormwater runoff and to improve the water quality of the stormwater going into the rivers and sea. New York has not yet utilized artificial wetlands to the extent the City of Cape Town has.

10. ANNEXURES

FOR FURTHER DETAILS, CONTACT:

DATE	2019/10/07		
NAME	Nichilis Tredoux	CONTACT NUMBER	021 400 6630
E-MAIL ADDRESS	Nichilis.Tredoux@capetown.gov.za		
DIRECTORATE	Water and Waste	FILE REF NO	
SIGNATURE :			

 8/10/2019





ACTING EXECUTIVE DIRECTOR

MICHAEL WEBSTER

Michael John Webster

NAME

DATE 2019 -10- 10

COMMENT:



MANAGER: INTERNATIONAL RELATIONS

DR. DENVER VAN SCHALKWYK

COMMENT:

11/10/2019

DATE

NOTED



LEGAL COMPLIANCE

☒ REPORT COMPLIANT WITH THE PROVISIONS OF COUNCIL'S DELEGATIONS, POLICIES, BY-LAWS AND ALL LEGISLATION RELATING TO THE MATTER UNDER CONSIDERATION.

☐ NON-COMPLIANT

COMMENT:

NAME Joan-Mari Holt

TEL 021 400 2753

DATE 16/10/2019

Certified as legally compliant: JMH.
Based on the contents of the report.


CITY MANAGER

DATE

Lungelo Mbandazayo
17 OCT 2019
City Manager

☒ SUPPORTED FOR ONWARD SUBMISSION TO:

MAYCO ☒

RELEVANT SECTION 79 OR 80 COMMITTEE ☒

☐ NOT SUPPORTED

☐ REFERRED BACK

COMMENT: