

SECTION 14 INCIDENT REPORT (*Waste Management and Pollution Control Act*)

Date and Time of Notification:	Monday 25/01/2021 16:00hrs
Person / Company:	Power and Water Corporation (PWC)
Incident:	Discharge of highly diluted sewage from sewerage network due to wet weather

(a) the incident causing or threatening to cause pollution

i. Description of the waste that was discharged.

Highly diluted sewage.

ii. Indicative wastewater quality for the discharge.

Indicative wastewater quality for this overflow can be found in Table 1. Rainfall leading up to the overflow was 93.8mm for the previous 3 days (Darwin Airport Weather Station – 014015), with high rainfall events occurring within short timeframes – as shown in Figure 1 below. As a result inflows of up to 43ML/day were received at Ludmilla Wastewater Treatment Plant (WWTP) equating to >3x Average Dry Weather Flows (ADWF).

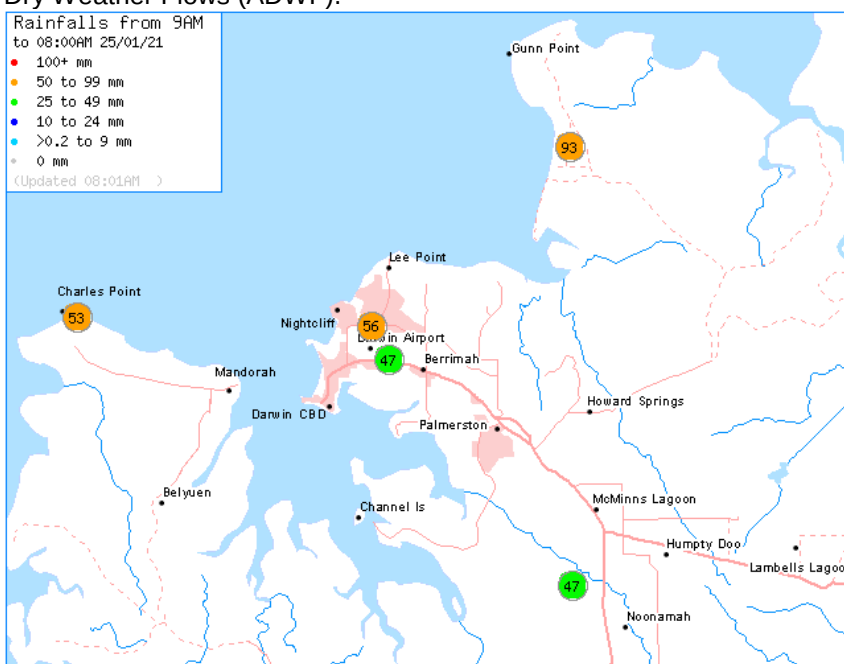


Table 1: Inflows to Ludmilla WWTP

	Median Inflow (ML)	Median E. coli	Median Enterococci
below ADWF	11.401	14,136,000	713,550
>ADWF (11.9ML/day)	13.253	11,616,000	727,000
>2xADWF (23.8ML/day)	29.629	8,164,000	323,000
>3xADWF (35.7ML/day)	44.043	6,488,000	261,300
>4xADWF (47.6ML/day)	51.048	5,634,500	238,100
>5xADWF (59.5ML/day)	99.841	2,359,000	218,700

NOTE:

- Based on 2018 to 2020 (inclusive) inflows to Ludmilla WWTP and monitoring events.
- Average dry weather inflow being 11.9012ML/day in 2018-2020 (inclusive).

iii. Volume of the waste that was discharged.

The volume of waste discharged at each discharge location is unknown. No telemetric monitoring occurs at these locations, with the exception of the sewer relief point located at the corner of Rapid Creek Road and Trower Road. This data will be downloaded and can be supplied at a later date.

(b) the place where the incident occurred*i. Description of the PWC asset from which the discharge occurred.*

Sewer overflow relief valve – 194 Casuarina Drive/Aralia St, Nightcliff (jetty end)
 Sewer overflow relief valve - Corner of Trower Road and Rapid Creek Road, Rapid Creek
 Sewer overflow relief valve – 24 East Point Road, Parap
 Manhole - 5 Roberts Place, Millner
 Manholes (2) - Corner Gregory Street & East Point Road, Parap
 Ludmilla sewage pumping station
 Lakeside Drive sewage pumping station
 Rapid Creek sewage pumping station
 Vestey's sewage pumping station

ii. GPS coordinates of the discharge point from the PWC asset, and the final coordinates of the final discharge point.

As per mapped locations below, please click on location descriptions below for mapping of overflow locations:

[Sewer overflow relief valve – 194 Casuarina Drive/Aralia St, Nightcliff \(jetty end\)](#)

1. Discharge Point: 12.381805 S, 130.841327 E
2. Final Point: 12.381806 S, 130.840992 E

[Sewer overflow relief valve - Corner of Trower Road and Rapid Creek Road, Rapid Creek](#)

1. Discharge Point: 12.385673 S, 130.864963 E
2. Final Point: 12.385733 S, 130.865954 E

[Sewer overflow relief valve – 24 East Point Road, Parap](#)

1. Discharge Point: 130.8376568E, 12.4342520S
2. Final discharge point: 130.8358461E, 12.4336630S (Vestey's Lagoon)

[Manhole - 5 Roberts Place, Millner](#)

1. Discharge Point: 12.391619 S, 130.867892 E
2. Final Point: 12.391597 S, 130.867937 E
2. Final Point: 12.379891 S, 130.869638 E

	Manholes (2) – Corner Gregory Street & East Point Road, Parap 1. Discharge Point A: 12.4320022 S, 130.8378083 E and 1. Discharge Point B: 12.4321384 S, 130.8379457 E 2. Final Point: 12.4316500 S, 130.8362400 E Ludmilla sewage pumping station, Namarluk Drive, Ludmilla 1. Discharge Point: 12.4144849 S, 130.8503154 E 2. Final Point: 12.4144254 S, 130.8458232 E Lakeside Drive sewage pumping station, Lakeside Drive, Alawa 1. Discharge Point: 12.3805474 S, 130.8656243 E 2. Final Point: 12.3804945 S, 130.8656257 E Rapid Creek sewage pumping station, Rapid Creek Road, Rapid Creek 1. Discharge Point: 12.3805474 S, 130.8656243 E 2. Final Point: 12.3804945 S, 130.8656257 E Vestey's sewage pumping station, Lot 5736 Atkins Road, Parap 1. Discharge Point: 12.4310872 S, 130.8362240 E 2. Final Point: 12.4316500 S, 130.8362400 E <i>iii. Indicate any locations nearby to the discharge point where public can gain ready-access, such as public open spaces through which the discharge moves.</i> Public access is available to discharge locations throughout Darwin although due to wet weather conditions present the likelihood of people visiting these areas is low. Where possible signage was utilised to alert the public and deter access to sites. Clean up consistent with Sewage Spills/Overflow Response Work Instruction as appropriate to the location, and to minimise risk to the environment.
(c) the date and time of the incident	<i>i. The time and date of commencement and cessation of the discharge.</i> For the below sewage overflows that occurred from manholes on the 25th January 2021, no telemetric monitoring occurs at these locations. The start and stop times are unknown, but stopped approximately lunchtime 31/01/2021 as rainfall eased within the respective Darwin catchments. - Manhole - 5 Roberts Place, Millner - Manholes (2) – Corner Gregory Street & East Point Road, Parap For the below overflows, that started on the 25th January 2021, start and stop times and dates are as follows; - Sewer overflow relief valve – 194 Casuarina Drive/Aralia St, Nightcliff (jetty end). Started approx. 07:10hrs, 25/01/2021. Stopped approx. 08:00hrs, 01/02/2021. - Sewer overflow relief valve – Cnr. of Trower Rd and Rapid Creek Started approx. 07:00hrs, 25/01/2021. Stopped approx. 08:00hrs, 01/02/2021. - Sewer overflow relief valve – 24 East Point Road, Parap Started approx. 07:15hrs, 25/01/2021. Stopped approx. 08:00hrs, 01/02/2021. - Ludmilla SPS - Started 02:22hrs, 24/01/2021. Stopped 00:02hrs, 04/02/2021. - Lakeside Drive SPS - Started 23:14hrs, 24/01/2021. Stopped 12:36hrs, 03/02/2021. - Rapid Creek SPS - Started 00:12hrs, 25/01/2021. Stopped 04:10hrs, 31/01/2021. - Vestey's SPS - Started 00:32hrs, 25/01/2021. Stopped 13:30hrs, 31/01/2021.

	<i>ii. How PWC were notified, or became aware of the discharge.</i> Multiple PWC high-level alarms alerted operations staff of a number of overflows, and the need to open overflow relief valves. The overflowing manhole covers are checked routinely by operations staff following prolonged or intensive rainfall events. <i>iii. The process by which the discharge occurred.</i> Due to significant rainfall in the Darwin catchment over the past few days, and in particular significant downpours within short periods of time, sewage volumes within the sewerage system have increased significantly due to inflow and infiltration of stormwater. As a result of this, sewer overflows have occurred from sewer infrastructure. Power and Water also undertook opening sewer relief points to relieve pressure in the system and manage potential human health/environmental impacts. <i>iv. The reason why the discharge occurred.</i> As per (c) iii. Sewerage network infrastructure has been designed to overflow with the best public health and environmental outcomes possible. Design focuses on not overflowing directly inside houses; rather discharge is designed to occur in a controlled manner at locations which can be accessed for infrastructure repair and clean up and with minimal public health or environmental impacts.
(d) how the pollution has occurred, is occurring or may occur	As per (c) iii & (c) iv. The risks of environmental harm from the overflows is low as the wastewater discharged was highly diluted and discharged into a receiving environment also swollen with intense rainfall and urban stormwater runoff. Minimal environmental harm resulting from the discharge is anticipated as the effluent discharged was highly diluted due to the intense rainfall and discharged into areas already significantly impacted due to catchment/ stormwater runoff due to intense rainfall. It is not possible to prevent overflows in extreme rainfall events and the system is designed to permit overflows rather than resulting in structural collapse and public health impacts from sewage backing up in homes.
(e) the attempts made to prevent, reduce, control, rectify or clean up the pollution or resultant environmental harm caused or threatening to be caused by the incident	<i>i. Confirmation signage and fencing has been erected, as appropriate.</i> Where possible signage and fencing was installed to alert the public and prevent access to the sites as per Sewage Spills/Overflow Response Work Instruction. <i>ii. Decontamination of the site as appropriate.</i> Clean up consistent with Sewage Spills/Overflow Response Work Instruction as appropriate to the location, and to minimise risk to the environment.
(f) the identity of the person notifying the NT EPA	PWC Environmental Team on behalf of Water Services

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Sewer overflow relief valve - 194 Casuarina Drive/Aralia St, Nightcliff (jetty end)



Sewer overflow relief valve - Corner of Trower Road and Rapid Creek Road, Rapid Creek



Sewer overflow relief valve – 24 East Point Road, Parap



Manhole - 5 Roberts Place, Millner



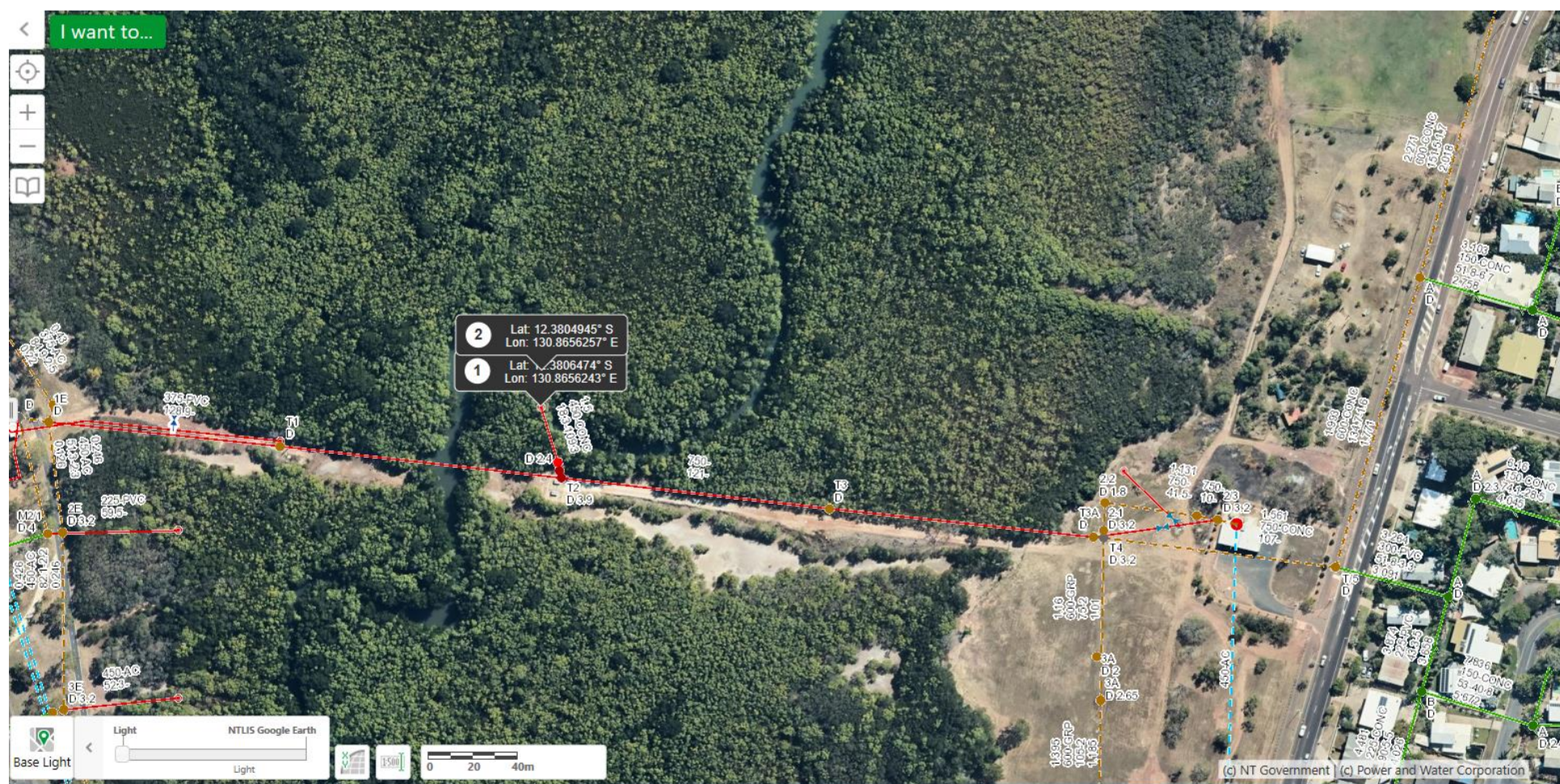
Manholes (2) - Corner Gregory Street & East Point Road, Parap



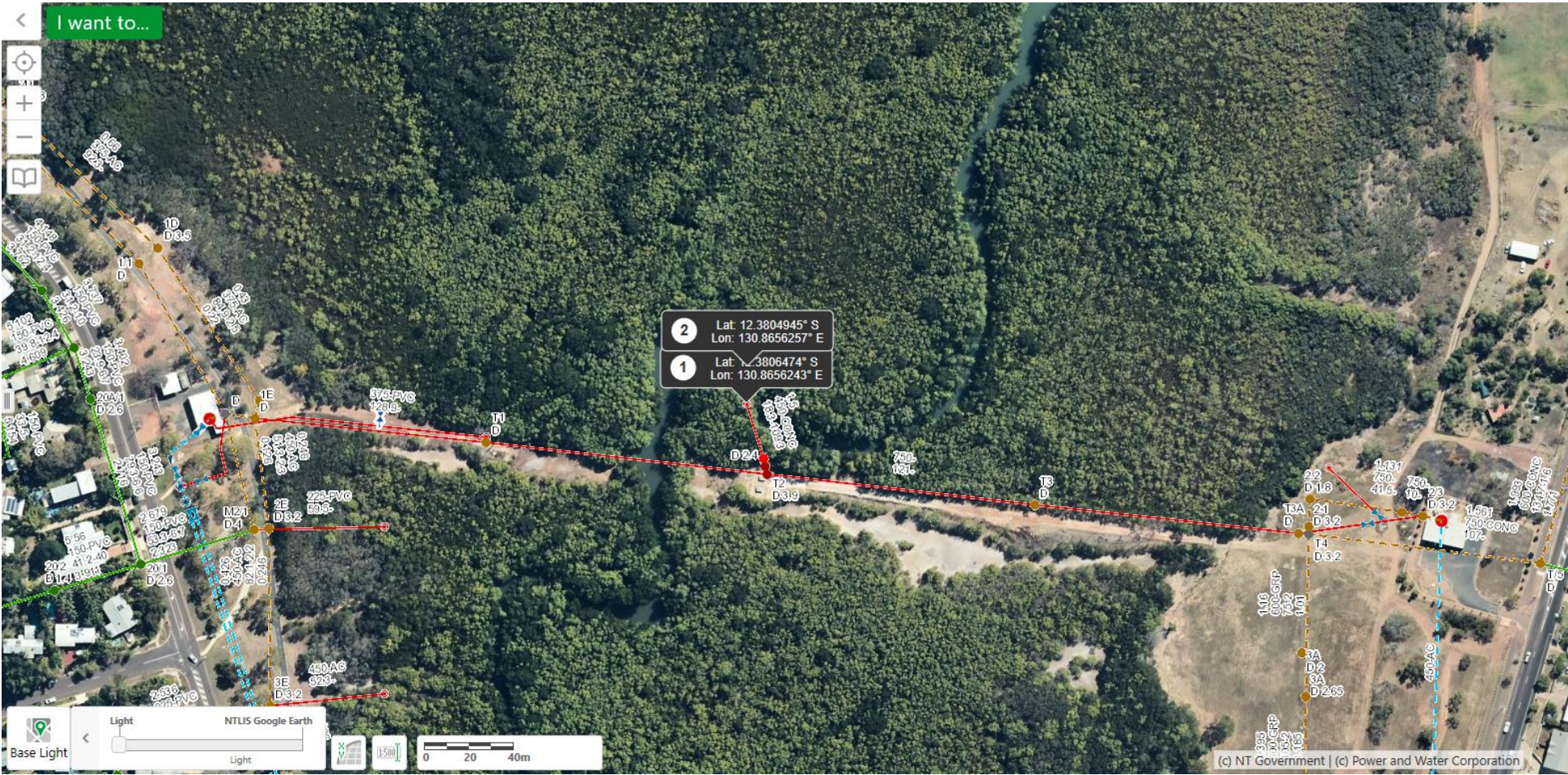
Ludmilla sewage pumping station – end of Nemarluk Drive, Ludmilla



Lakeside Drive sewage pumping station, Lot 9076 Lakeside Drive, Alawa



Rapid Creek sewage pumping station – Rapid Creek Road, Rapid Creek



Vestey's sewage pumping station – Lot 5736 Atkins Road, Parap



Fencing and signage at manholes - corner Gregory Street & East Point Road, Parap
and
5 Roberts Place, Millner



Signage being displayed at sewer overflow relief points - Corner of Trower Road and Rapid Creek Road, Rapid Creek
and
Opposite 24 East Point Road, Parap

