

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

Date and Time of Notification:	Thursday 8 th October 2020, 08:58hrs (PRL9387)
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 148mm for the previous 3 days (Darwin Airport Weather Station – 014015), with high rainfall events occurring within short timeframes resulting in flash flooding – as shown in Figure 1 below several downpours ranging from 3 – 177mm were received throughout the Darwin region in a matter of hours on 08/10/20. As a result inflows of up to 62ML/day were received at Ludmilla Wastewater Treatment Plant (WWTP) equating to >4x (58ML/day) Average Dry Weather Flows (ADWF).

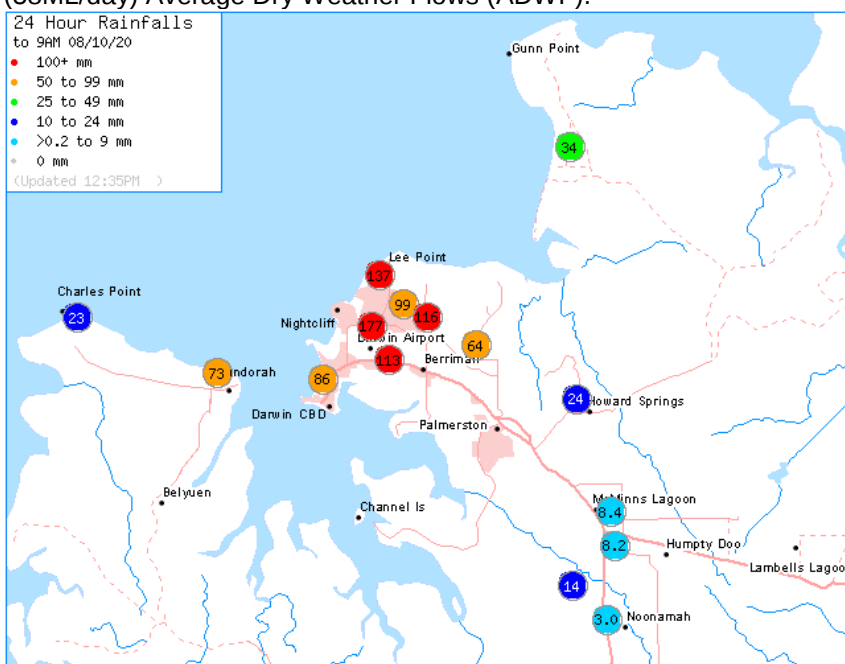


	Table 1: Inflow to Ludmilla Wastewater Treatment Plant <table><tr><th>Inflow volume</th><th>median inflow kL</th><th>median E coli</th><th>90th percentile inflow kL</th><th>90th percentile E coli</th></tr><tr><td>below ADWF</td><td>11,040</td><td>11,199,000</td><td>12,925</td><td>15,531,000</td></tr><tr><td>>ADWF (14.5 ML/day)</td><td>15,274</td><td>9,804,000</td><td>22,206</td><td>17,148,300</td></tr><tr><td>>2x ADWF (29.0 ML/day)</td><td>31,673</td><td>4,894,000</td><td>37,166</td><td>14,385,600</td></tr><tr><td>>3x ADWF (43.5 ML/day)</td><td>43,629</td><td>4,611,000</td><td>50,506</td><td>12,843,600</td></tr><tr><td>>5x ADWF (72.5 ML/day)</td><td>71,558</td><td>5,002,000</td><td>78,578</td><td>5,905,200</td></tr><tr><td>>10x ADWF (145 ML/day)</td><td>102,445</td><td>102,445</td><td>148,575</td><td>13,704,400</td></tr></table> (ADWF= Average Dry Weather Flow ~14.5 ML/day in 2013/14) 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.	Inflow volume	median inflow kL	median E coli	90th percentile inflow kL	90th percentile E coli	below ADWF	11,040	11,199,000	12,925	15,531,000	>ADWF (14.5 ML/day)	15,274	9,804,000	22,206	17,148,300	>2x ADWF (29.0 ML/day)	31,673	4,894,000	37,166	14,385,600	>3x ADWF (43.5 ML/day)	43,629	4,611,000	50,506	12,843,600	>5x ADWF (72.5 ML/day)	71,558	5,002,000	78,578	5,905,200	>10x ADWF (145 ML/day)	102,445	102,445	148,575	13,704,400
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(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 Manhole - 5 Roberts Place, Millner Overflow Relief Gully - 7 Brook Place, Millner Overflow Relief Gully - 32 lakeside Drive, Alawa Inspection opening - 28 Lakeside Drive, Alawa 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 3. Discharge Point: 12.385673 S, 130.864963 E 4. Final Point: 12.385733 S, 130.865954 E Manhole - 5 Roberts Place, Millner 1. Discharge Point: 12.391619 S, 130.867892 E 2. Final Point: 12.391597 S, 130.867937 E Overflow Relief Gully - 7 Brook Place, Millner 1. Discharge Point: 12.388923 S, 130.863967 E 2. Final Point: 12.388923 S, 130.863967 E Overflow Relief Gully - 32 lakeside Drive, Alawa 1. Discharge Point: 12.379891 S, 130.869638 E 2. Final Point: 12.379891 S, 130.869638 E Inspection opening - 28 Lakeside Drive, Alawa 1. Discharge Point: 12.380198 S, 130.869489 E 2. Final Point: 12.380181 S, 130.869408 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> The below sewage overflows occurred on the 8th October 2020 194 Casuarina Drive/Aralia St, Nightcliff. Started 06:00am and stopped 7:10am. Corner of Trower Road and Rapid Creek Road, Rapid Creek. Started 6:20am and stopped 11:25am. 5 Roberts Place, Millner. Started 6:15am and stopped 11:45am. 7 Brook Place, Millner. Started 5:50am and stopped 10:10am. 32 lakeside Drive, Alawa. Started 7:30am and stopped 9:45am. 28 Lakeside Drive, Alawa. Started 7:30am and stopped 9:45am. <i>ii. How PWC were notified, or became aware of the discharge.</i> PWC call centre was notified of overflowing property ORG's and manhole cover, remaining locations were checked routinely by Operations staff. <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)



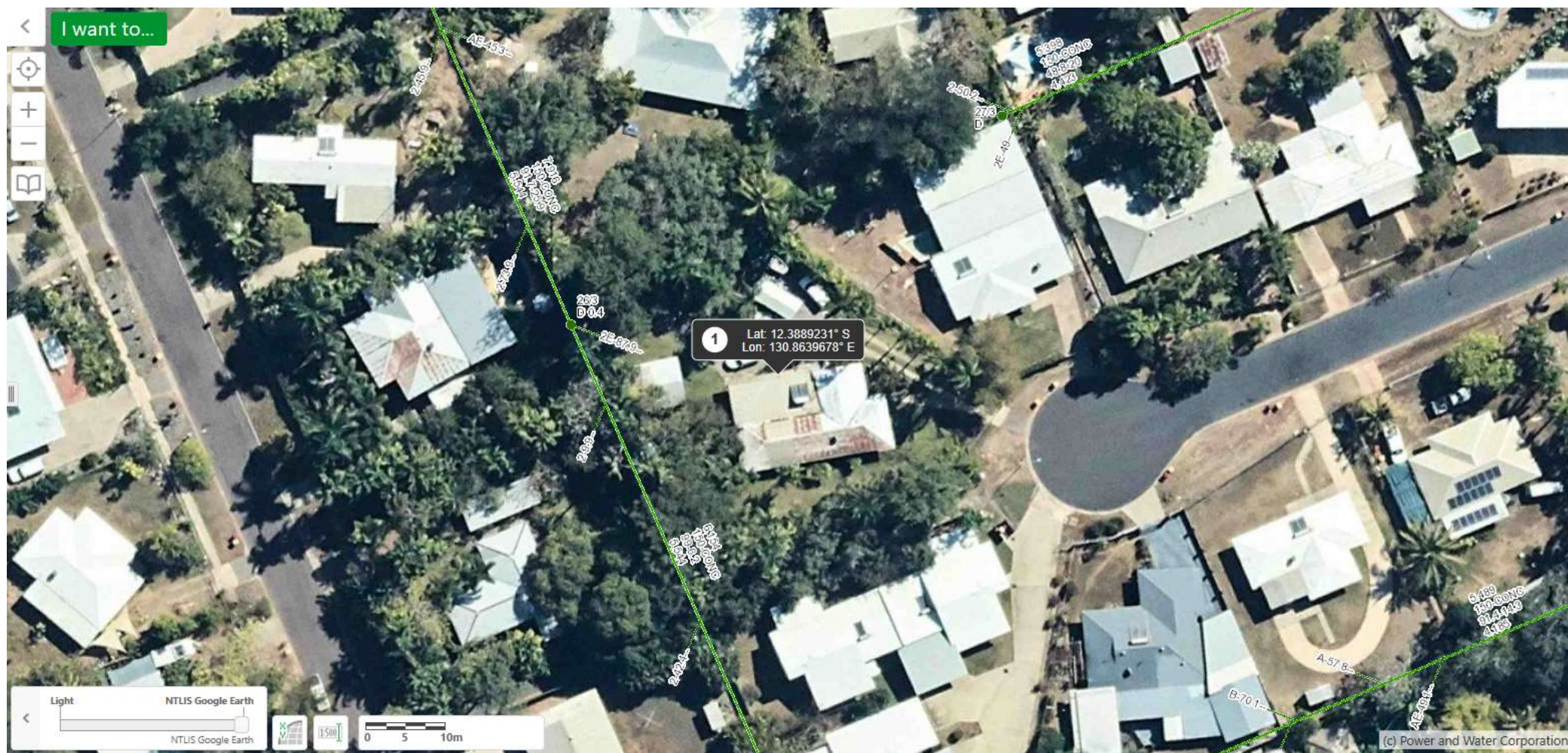
Sewer overflow relief valve - Corner of Trower Road and Rapid Creek Road, Rapid Creek



Manhole - 5 Roberts Place, Millner



Overflow Relief Gully - 7 Brook Place, Millner



Overflow Relief Gully - 32 lakeside Drive, Alawa



Inspection opening - 28 Lakeside Drive, Alawa

