Table 16 – Sewerage Service Activities

Commentary by REPORTER

1. **Background**

   Network activities provide a good measure of work achieved, provided that they can be related to associated investment. The investment breakdowns included in these reporting requirements provide this linkage, with the separation of base service expenditure from that related to enhancements on table 36.

2. **Key Findings**

   - Key methodologies for Asset Changes and Drainage Area Plans are unchanged. No material issues were found, but checks on source data for asset changes is deemed to require improvement, however the data provided is considered to be within the bounds of the confidence grades. We also consider that greater clarity in the comparison between data from AssetMapper GIS and the indicative calculation of changes to the asset balance during the report year is recommended.

   - No material issues were located in our review of wastewater compliance.

   - Whilst the number of reported collapses are relatively stable, the number of blockages are continuing to reduce year on year, but are still high when compared to E&W water companies.
   - Whilst there was a significant increase in the number of blockages occurring on public laterals reported for AIR15, the trend is not as apparent for AIR16 suggesting a change in reporting practice by the maintenance contractors.

   - The Company are able to report on the time required to repair a blockage (Lines 13a-13c) and NI Water now also collates a list of all the work order numbers on the blockage drafts which are not 'full rate' blockage clearance jobs and these jobs are excluded from the Ellipse data, thus improving the accuracy of the reported data.

   - As the methodology for lines 12 to 13 is able to differentiate between failures on the main sewer and failures on laterals, we support a confidence grade of B3. For Lines 13a to 13c, we support a confidence grade of A2, reflecting the improved interrogation of the Ellipse system.

3. **Audit Approach**

   The responsibility for the compilation of this table is split between numbers of managers who collate information from a number of contributors, each of whom was audited. The audit consisted of an interview with the line owners to discuss the methodology and data used to generate this table. The systems and methodologies used to gather data were reviewed.

4. **Audit Findings**

4.1 **Asset Balance (Lines 1 to 2)**

   The total length of sewers at the start of the report year is consistent with the asset balance at the end of the previous year (Lines 14 and 15) and was carried forward correctly.

4.2 Changes during Report Year (Lines 3 to 11a)

Date provided by Engineering Procurement and Developer Services

The methodology remains the same as for AIR14 where we undertook a comprehensive review of the way data was compiled for these lines. We have confirmed the data reported by NI Water is aligned with the data we reviewed at audit. No issues were located.

Date provided by Customer Services Directorate's external contractor

We have not completed a comprehensive audit of the data provided by CSD's external contractor as the data has not been available to review. We note that the methodology for this data remains the same as in previous years. The data reported by the Customer Services Directorate's external contractor is not material to the total changes made to sewerage infrastructure during the report year comprising in total only 0.2% of the total lengths reported in lines 3-11a.

Comparison to data provided for Asset Balance and Changes during the report year

We recommend that greater clarity is sought after in the comparison between data from AssetMapper GIS and the indicative calculation of changes to the asset balance during the report year. In individual years this can often be explained by work variance and lag times in updating GIS, which are reasonable. However we note that over the last couple of years the data appears to show that greater clarity would be helpful. We note that we have not identified an issue with the data reported as both methodologies have been shown to be reasonable and deemed suitable for the reporting of the data in Table 16. This is purely a recommendation for greater clarity to be sought in AIR17.

Ref #	Description	AIR15 data (km)	AIR16 data (km)	Compound net differences (km)
1	Net change to total length of sewer (Line 14 – Line 1)	171.07	43.62	
2	Total New sewers (Line 3 + Line 8)	149.76	147.04	
3	Total Abandoned "non-critical" sewers and other changes (Line 11 + Line 7)	1.10	0.11	
4	Net change for Total sewers based on Table 16 Block B (2-3)	148.66	146.3	
5	Difference between GIS extract and Changes During Report year data (from Operations)	21.31	103.31	-82.00
6	Net change to length of critical sewer (Line 15 – Line 2)	27.87	78.79	
7	New "critical" sewers (Line 3)	19.54	36.44	
8	Abandoned "critical" sewers and other changes (Line 7)	0.50	0.00	
9	Net change for Total sewers based on Table 16 Block B (7-8)	19.04	36.44	

10	Difference between GIS extract and Changes During Report year data (from Operations)	8.83	42.35	51.18

4.3 Sewer Collapses and Blockages (Lines 12 to 13c)

For AIR16, NI Water has reported 78 collapses per 1000km and 1023 blockages per 1000km. Rising main failures account for 0.7% of collapses. The total number of blockages and collapses used to derive the metrics in Lines 12 and 13, are based on checked and paid contractor invoices for the numbers of blockages and collapses resolved.

Although the number of collapses per 1000km reported year on year are relatively stable, the number of blockages continues to improve year on year. As demonstrated in Figure 1 below, over the previous 6 year period, NI Water has achieved a circa 40% reduction in blockages

Figure 1 - Sewer blockages per 1,000km
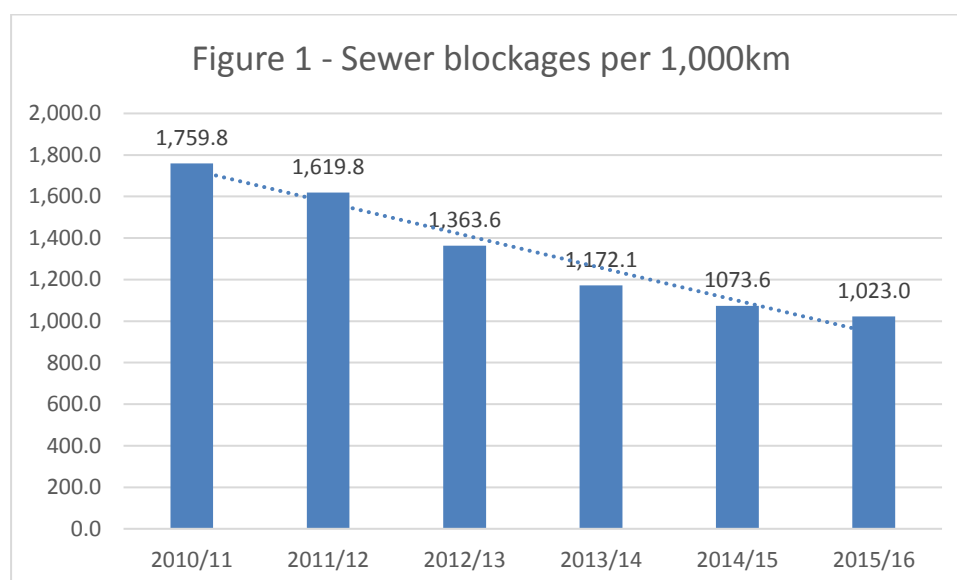
As reported previously, the Company has adopted a more proactive response to repeat blockages, whereby a dedicated CCTV crew has been assigned to each area to complete CCTV inspections on all blockage hotspots and carry out cleaning, desilting and repairs, where problems are identified. Performance in AIR16, suggests this strategy is continuing to deliver results, with a further 5% reduction in blockages reported for the year.

Whilst the above strategy is delivering results in reducing the number of blockages, the number of collapses remain at a relatively stable level, suggesting the structurally deficient sections of their sewerage infrastructure are not being addressed through the blockage hotspot strategy. There may be benefit in implementing a similar strategy to address poor performing lengths of sewer and introduce a proactive, targeted CCTV and re-lining programme.

Although significant improvements are being reported, the number of blockages/collapses is still very high when compared to water companies in England and Wales, where circa 10 collapses and 200 blockages per 1000km are typically reported.

As highlighted previously, NI Water are able to separately identify blockages occurring on the public main sewer and public laterals, and have been reporting on this basis since April 2013. Additionally, NI Water developed a method of estimating the length of lateral sewers, using geospatial technology to create logical lateral sewers from properties to the sewer collection

system. On the basis of this an extra 2155km of sewer has been estimated, although this derived length has not been added to the total length of sewer, which is used as the denominator for this metric. We reviewed the breakdown of blockage and collapse data for 2015/16 and found that 1,699 of the 15,991 blockages (11%) and 47 of the 1227 collapses (4%) occurred on public laterals. When compared to 2014/15, the number of blockages on public laterals has decreased significantly from the 31% reported for AIR15, although the proportion is still higher than reported in the years prior to 2014/15 (circa 2%). Whilst this suggests the number of blockages on public laterals has reduced significantly, it is more likely that the maintenance contractor has not reported on the number of blockages allocated to public laterals as diligently as in AIR15. On the basis of the above findings, it is difficult to suggest that blockages on laterals are an explanatory factor for the large number of blockages reported.

In order to report on the time to repair blockages in Table 16 L13a-13c, NI Water run a monthly report in 'Ellipse' which confirms the length of time a sewer blockage job took to be completed. We found that for reporting purposes, NI Water now collates a list of all the work order numbers on the blockage drafts which are not "full rate" blockage clearance jobs and these jobs are excluded from the above mentioned Ellipse data. Due to the fact that the Ellipse system calculates the length of time a job takes from the time the work request is raised until the work request is closed all jobs exceeding 24 hours are investigated as all follow-on jobs are included in the time the work request is open. These jobs are then reported in the correct category according to the length of time the blockage job actually took to be completed.

As a result of this improvement in process, NI Water has been able to better distinguish between actual blockages, follow on jobs, cancelled jobs or repeat calls, and thus reduce the variance in the number of blockages reported on 'Ellipse' with those based on checked and paid contractor invoices (used to derive Line 12 and 13 data). For AIR16, 16,928 blockages were identified on 'Ellipse' compared to 15,991 blockages that were based on paid contractor invoices, confirming a variance of +/- 6%, a significant improvement on the +/- 25% variance reported for AIR15.

As part of their analysis for 2015/16, NI Water has started capturing data on the timeliness of response within each of the network areas. In summary:

- Area North responded to 44% of all blockages within 4hrs
- Area South responded to 71% of all blockages within 4hrs
- Area East responded to 59% of all blockages within 4hrs, and
- Area West responded to 80% of all blockages within 4hrs.

Interestingly, the maintenance contractor with the slowest response rate (Area North) has tended to provide the better quality sewer flooding incident data that is used to populate Table 3 and 3a, where the opposite is the case for Area West.

4.4 Asset Balance at March 31 (Lines 14 to 15)

The total length of sewers at the end of the reporting period is 15,625.13km, an increase of 0.28% from AIR15. The total length of "critical" sewers is 3,839.64 km at the end of the reporting period which is an increase of 2.1%. The proportion of critical sewers has stayed relatively static at 24.6%.

Based on the formulae, Lines 14 & 15 should be the summation of data entries from Lines 1 & 2 and Lines 3 to 11. However, NI Water does not follow this approach, instead opting to adjust Lines 14 and 15 to corrected figures obtained from their GIS database. This approach has allowed them to mitigate any legacy data issues and report a more appropriate value for

the total lengths reported in Lines 14 and 15. As such, we consider this is a reasonable approach.

We confirmed the data extracted from the database and located no errors.

4.5   Intermittent Discharges (lines 16a to 22)

During 2015/16 the Company has reduced the number of unsatisfactory intermittent discharges at CSOs by 18 (6%) and at other discharges by 8 (5%).

The value reported in line 16a is equal to the number of UIDs (excluding CSOs) reported in AIR11, less the number removed from the network through direct improvement works in AIR15. The net change to the totals in Lines 16a and 16b total are correctly calculated from the recorded changes to CSOs (-18) and other UIDs (-8). The relative change in numbers since AIR11 is presented in the chart below, indicating relatively consistent change over the last 4 years.

The Company provided a full breakdown of the changes to Lines 17a and 17b in their commentary including detailed tables in changes. Checks carried out against the master spreadsheet and for wastewater treatment works confirmed the numbers reported and the net result of the changes to the line totals.

4.6   Drainage Area Plans (lines 23 to 25)

There have been no new drainage area plans completed during the report year. The only change to Lines 23-25 result from one of the drainage areas being consolidated with another. This is due to an area being pumped to another catchment (Pump transfer).

There is some progress being reported by NI Water during AIR16 as the 8 studies in progress are firmly in the needs and options stage with model builds completed. The extended time to discuss NIEA standards that need to be applied is responsible for the outputs not being completed during AIR16.

We can confirm that Lines 20-22 have been completed accurately and reflect the methodology described in NI Water's commentary for Table 16. We note that with the exception of the minor reduction in drainage areas all other Drainage Area Plan information is consistent with AIR15.

NI Water is expecting the 8 DAPs currently in progress to be completed by AIR17.

4.7   Sewerage treatment compliance measures (Lines 23, 24, 24a, 25)

Checks against source data confirmed consistency with the reporting methods and with figures reported by NIEA. In total, 17 WwTWs failed their consent during AIR16, the majority by exceeding the number of allowed fails.

At audit we confirmed the calculations for Lines 23-24a which are outlined in the NI Water commentary for these lines.

Line 25 – Small WwTW compliance
The 2016 small WwTW data is derived using the 2013 baseline adjusted for Rural Wastewater Investment Programme (RWIP) outputs. There is also one less works included in the figures as the works removed was subject to replacement by pump transfer.

The NIEA provided NI Water with the 2013 dataset having inspected all the small works. The NIEA continue to do this on a rolling annual basis. As a result of this activity NI Water receives site inspection reports on a monthly basis.

In order to determine the number of works that are moved from failing to satisfactory an NIEA officer and NI Water meet to prioritise what happens under the following RWIP annual programme. Upgrades are agreed and then once completed they are treated as compliant.

We note that the site inspection reports produced since 2013 have not reclassified works as passing or failing but do raise areas of concern. These areas of concern are then prioritised as part of the following years planning process. The works in most need receiving the funding available for the programme.

At audit we reviewed the data input and planning processes for this line..

4.8 Nominated Sewerage Service Activities (lines 26 to 28)

During our audit of Tables 40 and 40a of AIR16 and associated interrogation of CPMR we were able to confirm the total number of nominated UID, WwTW and small WwTW improvements delivered during the year (line 26 to 28).

For AIR16, NI Water has delivered 26 nominated UID outputs against a PC15 target for Year 1 of 27 outputs. Whilst close to the actual PC15 target, only 7 of the delivered nominated outputs were actual PC15 Year 1 UIDs. The majority of the UID outputs delivered in Year 1 related to PC13 carryover UIDs (14), with an additional PC15 UID delivered early ([x]) and a further 4 new UIDs identified and delivered.

In terms of the WwTW nominated outputs (Line 27), 3 WwTW outputs were delivered in 2015/16, against a PC15 Year 1 target of 3 outputs. As above, of the actual PC15 nominated Year 1 outputs, only 1 was delivered on schedule ([x]). [x] was delivered early in PC13, whilst [x] and [x] were PC13 outputs that were delivered late in Year 1 of PC15. [x] was forecast for delivery, but has been deferred to Year 2 as a result of land purchase issues.

A total of 4 small WwTW nominated outputs were delivered, which is in accordance with the PC15 programme.

We note that NIEA have full visibility of the programme and sign off individual outputs confirming delivery of the outputs reported in Lines 26 to 28.

4.9 WWTW's upgraded to comply with PPC Regulations (Line 30)

This is a new line which reflects a new compliance measure for Wastewater Treatment Works upgraded to comply with PPC Regulations. NI Water currently has 29 qualifying works for this new measure. For AIR16 NI Water reports a zero return as odour modelling needs to be undertaken for 24 of the 29 sites and this has yet to be completed. The remaining 5 sites require documentation to be completed and signed-off by the NIEA. We note that the table of prioritisation for the odour modelling is shown in the Company commentary.

Where works are required, these are scheduled for the final year of PC15.

4.10 Impermeable surface water collection area removed from the combined sewerage network (Line 31)

This line has been populated using data provided by Engineering Procurement (EP) who maintain the CPMR system. We have reviewed the data which has been broken down by capital scheme and confirm that the data reported in Table 16 matches the build-up data provided by the company.

4.11   Additional Sewerage Service Activities (lines 32 to 33)

We confirm that [x   ] - an Integrated Constructed Wetland with a PE of 849 was delivered in year, accounting for the single output claimed in Line 32.

5.   Company Methodology

5.1   Asset Balance (lines 1 to 2)

The Company methodology is to use the data stated for AIR15 Table 16, lines 14 and 15.

5.2   Changes during Report Year (lines 3 to 11)

For Sewerage Infrastructure changes during the report year, the reporting procedure is based on aggregating the data provided to the system holder.

There were no significant changes from the AIR15 submission methodologies.

5.3   Sewer Collapses and Blockages (lines 12 to 13)

The number of sewer collapses and blockages per 1000km is calculated based on other data as follows:

- line 12 (sewer collapses) = [table 46 line 32 (rising main failures) + table 46 line 33 (gravity sewer collapses)] / [table 16 line 14 (length of sewers at end of year)]

- line 13 (sewer blockages) = [table 46 line 36 (sewer blockages)] / [table 16 line 14 (length of sewers at end of year)]

5.4   Asset Balance at March 31 (lines 14 to 15)

Lines 14 and 15 are taken directly from the Company's GIS system. The queries used to extract the data for line 15 are based on the WRc methodology for critical sewers, where there is a degree of extrapolation and estimation based on the difference between the GIS data available and actual infrastructure.

We note that this year the GIS queries have been automated rather than manually extracted. There is no change in the data extraction other than removing the need to manual query the database.

5.5   Intermittent Discharges (lines 16 and 17)

The methodology for Lines 16a and 16b remains unchanged from that agreed in AIR11 when a baseline number of UIDs was initially determined. This value has been applied as a baseline value since AIR11, with values for subsequent years being calculated through adjustment of known improvement works only. The actual list of UIDs is subject to ongoing verification by NI Water and NIEA but the baseline remains fixed. Data is compiled and extracted within a single, controlled spreadsheet.

The methodology for Lines 17a and 17b remains unchanged from last year. Information is based on the total number of sewerage system overflows from wastewater pumping stations and treatment works which were initially compiled from Company GIS systems and now monitored and controlled within a live spreadsheet. Information for Lines 17a and 17b is extracted from the Asset Performance Team Data which is updated throughout the year. Changes to the master spreadsheet are initiated through either a change in consent (via NIEA), a correction to an existing consent (via NI Water Environmental Regulation Team), changes resulting from a project (via EP), or site observations made by NI Water Operations. In addition, changes are only made to the database when signed up to by the business unit which allows robust control of the information. Details of the additions and removals are fully

documented in Company commentary.

NI Water has continued their methodology from last year. The information for Line 16a and 17a (historic from AIR11) is only based upon combined pumping station overflows. Foul-only pumping station overflows are not included as they do not have a formal NIEA classification. Similarly, overflows within the boundaries of WwTWs are not included in Line 16a as it is expected that they would be classified as improvements to works. The total number of overflows at works are however included in Line 17a. There is a possible discrepancy in information, but year on year reporting is consistent. An estimate of the number of foul-only pumping station UIDs and WwTW UIDs is not known.

For Lines 16a - 17b, the Company carries out a number of cross checks against source data and with relevant internal departments to check and challenge information included in the database. Evidence of quality control was observed in the master spreadsheets which contain cells to highlight when a works consent condition or status has changed. Changes from year to year are generally clear and auditable.

5.6 Drainage Area Plans (lines 18 and 22)

For drainage area planning the system holder, who is new for this reporting period, manages the process of procuring the modelling work that NI Water utilise to undertake their DAPs. The records to demonstrate increases in the data is typically provided through letters of appointment and the delivery of the consultants reports.

5.7 Sewerage treatment compliance measures (Lines 23, 24, 24a, 25)

Data for Lines 23, 24 and 24a are taken directly from listed consent data and collated for all wastewater treatment works. The data is compiled and queried within a single spreadsheet to enable percentages to be calculated. Consent data is updated at the start of the year and based on those defined by NIEA.

For the purposes of the line total, the total number of WwTW with numeric consent is taken as 230 (excluding the 6 PPP sites) and is an identical list to that defined by NIEA. A site is deemed to have failed its consent if it exceeds the number of allowed fails or it exceeds the upper tier limit value (if specified) in accordance with NIEA definitions. The total number of consent failures is based on records of all samples taken and is recorded and extracted from LIMS.

Population equivalents (PE) applied to Lines 24 and 24a are based on those defined in the latest works consent by NIEA and hence differ slightly from those listed by NI Water in other line totals (which are based on current best estimates). In AIR15, the PEs are based the PE data used at AIR13. The line totals hence include those sites with a consented PE of >250, even if that site has subsequently been reduced to <250 actual PE. Non-resident (tourist) populations are included in line with NIEA reporting and in accordance with the reporting guidelines. Sampling periods for consent compliance are based on calendar year.

5.8 Line 25 – Small WwTW compliance

The 2016 small WwTW data is derived using the 2013 baseline adjusted for Rural Wastewater Investment Programme (RWIP) outputs.

The NIEA provided NI Water with the 2013 dataset having inspected all the small works. The NIEA continue to do this on a rolling annual basis. As a result of this activity NI Water receives site inspection reports on a monthly basis.

In order to determine the number of works that are moved from failing to satisfactory an NIEA officer and NI Water meet to prioritise what happens under the following RWIP annual programme. Upgrades are agreed and then once completed they are treated as compliant.

5.9   WWTW's upgraded to comply with PPC Regulations (Line 30)

This is a new line which reflects a new compliance measure for Wastewater Treatment Works upgraded to comply with PPC Regulations. NI Water maintains records of which sites are applicable to this line and the works to be undertaken to at each site. These records are reviewed and signed off by the NIEA. As part of this tracking a prioritisation table for the odour modelling is maintained as shown in the Company commentary.

5.10   Nominated & Additional Sewerage Service Activities (lines 26-28 & 32-33)

All relevant data is extracted directly from CPMR.

5.11   Impermeable surface water collection area removed from the combined sewerage network (Line 31)

Data is collected and provided by Engineering Procurement (EP) based on the records available from CPMR.

6.   Confidence Grades

Lines 1 to 2

The Company has not changed the confidence grade for these lines from those reported at AIR14. We consider the values reported for AIR15 are still appropriate for AIR16.

Lines 3 to 11a

The Company has retained the confidence grades applied at AR15. After high level consideration of the data methodology and audit discussions at our three audit meetings, we believe that the assigned confidence grades are appropriate based on the methodology used to produce the data, which has remained unchanged from previous submissions.

Lines 12 and 13

The Company has assigned a confidence grade of B3 to lines 12 and 13, on the basis the data is derived from checked and paid invoices, and relies on the total length of main (L14 CG B3) in its calculation. On this basis we support a B3 confidence grade.

The Company initially assigned a confidence grade of A1 for Line 13a, 13b & 13c, as the data is derived directly from Ellipse, reflecting the improved methodology. However, as there is a +/- 6% variation in the number of blockages identified on Ellipse with those based on paid contractor invoices, we recommended an A2 confidence grade. We understand the Company has subsequently updated Table 16 Lines 13a-c to reflect this.

Lines 14 and 15

The Company has not changed the confidence grade for these lines from those reported at AIR15. We consider the values reported for AIR15 are still appropriate for AIR16.

Lines 16a and 16b

The Company has not changed the confidence grade for these lines from those reported at AIR15. We consider the values reported for AIR15 are still appropriate for AIR16.

Lines 17a and 17b

The Company has not changed the confidence grade for these lines from those reported at AIR15. We consider the values reported for AIR15 are still appropriate for AIR16.

Lines 18 to 22

The Company has assigned an A1 grade (0% to 1%) to Lines 18 and 19, an A2 grade (1% to 5%) for Lines 20 to 22 and a B3 grade (5% to 10%) for Line 22. These confidence grades have been derived by NI Water on the basis of the methodology and where other data is used (such as the population data for Line 22) the confidence grade of that data has typically dictated the grade applied to the lines reported. After high level consideration of the data methodology and audit discussions, we believe that the assigned confidence grades are appropriate.

Lines 23, 24, 24a

The application of A1 to Line 23-24a is considered appropriate as the numbers used to calculate the percentages are theoretically exact counts with no assumptions. The line is reporting a percentage of total consented PE values, the values of which are agreed with NIEA. From the Company's point of view, these values are essentially fixed (there is no data manipulation or estimation done by NI Water in producing the figures) and hence can be considered 'accurate' values. We therefore consider the A1 confidence grades to be appropriate.

Line 25

This new line has been assigned a confidence grade of A1. This is based on the agreement between NIEA and NI Water. We confirm that this confidence grade is appropriate.

Lines 26 to 28

NI Water has reported a confidence grade of A2 for all nominated output related data, as it is derived directly from CPMR and the beneficial use date is embedded into CPMR to ensure output has been handed over to Operations.

Line 29-33

The confidence grades reported for lines 29-33 are considered appropriate based on their respective data methodologies.

8. **Consistency Checks**

- Lines 12 and 13 are consistent with lines 35 and 37 of table 46 and line 14 of table 16.

- The population equivalents used for categorisation of consents in Lines 23-24a do not match those used in Table 17b as they are based on consented populations defined by NEIA.

9. **Company Commentary**

We have not noted any material areas where NI Water have not addressed the requirements laid out in the reporting guidance.

Date: July 2016
Prepared by: C Gittings and G Hawken

DRAINAGE AREA STUDY PROGRAMME

STATUS AT APRIL 2016

CATEGORY A. - DASs COMPLETED SINCE 2003

Catchment	Domestic Population	Completion Date
Initial DAS		
[x]	2163	July 05
[x]	5512	June 05
[x]	5388	June 05
[x]	2256	June 06
[x]	4492	June 06
[x]	1833	June 06
[x]	1079	February 06
[x]	1347	February 06
[x]	2870	February 06
[x]	1511	August 06
[x]	2197	August 06
[x]	1194	August 06
[x]	2624	August 06
[x]	792	November 06
[x]	10952	November 06
[x]	2819	October 06
[x]	3570	Octoctober 06
[x]	6084	November 06
[x]	2163	November 06
[x]	6470	March 06
[x]	2331	March 06
[x]	3862	March 06
[x]	9577	December 05
[x]	2430	June 06
[x]	1936	July 06
[x]	6807	July 06

Catchment	Domestic Population	Completion Date
[x]	11974	September 05
[x]	1874	October 06
[x]	27683	April 09
[x]	2015	April 09
[x]	1785	April 09
[x]	36814	November 08
Revisited DAS		
[x]	100,000	February 10
[x]	8500	April 10
[x]	40769	October 09
[x]	12894	October 04
[x]	2831	April 06
[x]	35856	November 03
[x]	3284	August 03
[x]	14612	July 04
[x]	22,730	November 06
[x]	4342	April 03
[x]	26512	April 03
[x]	2724	November 03
[x]	3000	February 04
[x]	2927	February 04
[x]	13869	September 03
[x]	15463	September 03
[x]	75529	November 06
[x]	28170	August 03
[x]	5734	March 08
[x]	31983	March 08
[x]	10592	June 05
[x]	30154	November 06
[x]	16281	November 06
[x]	17568	April 09
[x]	6000	April 09
[x]	59813	October 2010

CATEGORY B - CATCHMENTS SUBJECT TO COMPLETED SCOPING STUDIES

Catchment	Domestic Population	Completion Date
[x]	1550	June 2010
[x]	3852	June 2010
[x]	1892	June 2010

Catchment	Domestic Population	Completion Date
[x]	2091	June 2010
[x]	3624	June 2010
[x]	4130	June 2010
[x]	1977	June 2010
[x]	3029	June 2010
[x]	3276	June 2010
[x]	1858	June 2010
[x]	1569	June 2010
[x]	2240	June 2010
[x]	4029	June 2010

CATEGORY C - DASs CURRENTLY IN PROGRESS (Stage 1 Complete)

Catchment	Domestic Population	Completion Date
Initial DAS		
[x]	6576	On Hold*
[x]	2028	On Hold*
[x]	2276	On Hold*
[x]	3561	February 2011
[x]	4500	On Hold*
[x]	1748	On Hold*
[x]	3118	On Hold*
[x]	1883	February 2011
[x]	1261	On Hold*
[x]	2159	On Hold*
[x]	1785	On Hold*
[x]	1280	On Hold*
[x]	1026	On Hold*
[x]	2235	On Hold*
[x]	15486	February 2011
[x]	3339	On Hold*
[x]	1434	On Hold*
[x]	6052	December 2011
[x]	31785	
[x]	3662	
[x]	4744	
[x]	4006	
Revisited DAS		
[x]	66885	March 2011

Catchment	Domestic Population	Completion Date
[x]	22784	June 2011
[x]	12724	March 2011
[x]	43,620	On Hold*
[x]	21749	
[x]	28170	
[x]	14612	

* Subject to Agreement with NIEA

CATEGORY D - DAS YET TO COMMENCE

Catchment	Domestic Population	Completion Date
Initial DAS		

CATEGORY E - DASs REQUIRING REVISIT

Catchment	Domestic Population	Completion Date
[x]	4260	On Hold*
[x]	12000	November 2010
[x]	239457	
[x]	8275	

* Subject to Agreement with NIEA

*Residential populations, extracted from NIAMP2 (2002)