



Review of Soil Waste Management in the Greater Dublin Area

Market Analysis Report

August 2016

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Soil Waste Market Review

Soil Recovery Market Analysis Report

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1 INTRODUCTION

RPS was appointed by the Construction Industry Federation (CIF) to complete an up to date analysis of the waste capacity market for the safe treatment of soil wastes.

The objective of the study is to provide the CIF with the evidence required to support future discussion and communications with members and other key stakeholders on the issues faced by the construction industry relating to the management and recovery of soil wastes. The completed study will support the identification of solutions to address the capacity gaps in the short-term.

The RPS project team, led by Warren Phelan, were requested to review existing soil recovery facilities available to accept soil wastes and quantify the capacity available to meet current and future market demand. Data for 2015 was to be sourced where available and this would be supported by the latest soundings from members operating in the market.

For the purpose of the report soil wastes are defined as clean inert soil and stone waste arising from construction activities. Typically this material is coded under the List of Waste classification system as 17 05 04¹ but there are other codes² which may be applied to represent the same or similar materials.

The geographical focus of the study area is the Greater Dublin Area, specifically the counties of Kildare, Louth, Wicklow and Meath, and the four local authority areas of County Dublin.

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¹ 170504 (code) soil and stones other than those mentioned in 17 05 03 (description)

² Such as 17 05 06 and 20 02 02

2 BACKGROUND

After severe recession the construction sector in Ireland began to stabilise in 2013 and has grown steadily from €11 billion to a projected €15 billion value in 2016.

Apart from the availability of finance, there are resource capacity issues that if not addressed now, will limit the provision of infrastructure and housing in Ireland. The need for very significant new funding for both infrastructure and housing is well documented in various Government strategies over the past year. The Infrastructure and Capital Investment Plan of September 2015 (readopted by the new Government) earmarked a total planned public sector investment of €42 billion between now and 2021 together with over €2 billion in social housing. This latter figure for housing increased to €3.8 billion in the recent Social Housing Strategy of the new Government who will undertake to build 35,000 new social housing units. In overall housing provision terms public and private, there is a commitment that ‘some 25,000 new homes will be built every year by 2020 with higher targets thereafter, to address unmet needs’.

The recent growth in construction activities has brought to a head an unexpected supply chain issue. Currently contractors and haulers in the market are experiencing a significant short fall in available capacity for soil wastes arising from construction activities. The reclamation of soil wastes (hereafter soil recovery) is a defined waste activity with active sites required to have a waste authorisation in place. The type of authorisation typically depends on the scale of capacity at the site, the larger the site the more significant the regulatory burden (refer to Section 3 for more details on the different types of waste facilities).

The activity of recovering soil waste is typically known as backfilling and the scale of activity was addressed in the recent Waste Management Plan for the Eastern Midlands Region. The Plan provides an analysis of the market and a clear policy direction on the issue. At the time it was found that backfilling activities made up a significant treatment capacity in the EMR and the analysis of the 2012 data showed plenty of available capacity. The plan noted that the “relatively low level of utilisation” was a reflection of “the depressed activity in the construction sector in Ireland”. Since the analysis carried out in the plan the construction sector has increased significantly to the extent that market operators are faced with a deficit of capacity for backfilling activities.

In terms of the providing future capacities the EMR waste plans provide guidance on the type of soil recovery sites required and other considerations. In summary these are:

- The authorisation of future backfilling or soil recovery capacity in the region should be co-ordinated by regulatory bodies so the right scale and balanced capacity is developed. Imbalances in a region are to be avoided where possible as well as inadequate supply;
- The plan favours the development of large longer life restoration sites, such as old quarries, ahead of shorter span sites (e.g. permitted or registered sites) for soil recovery activities; and
- The environmental protection criteria as set out in the plan which guide the siting of new facilities must be complied. The regulatory threshold for environmental protection has been increased and applicants must demonstrate the protection of environmental receptors from future site activities.

The development of future soil recovery facilities is identified in the regional waste plans as a role for industry operators. The waste plans do not identify sites suitable for the development of soil recovery activities which is the responsibility for the site developer. However the waste plan clearly supports the development of new capacity with a preference for large restoration sites which would typically require a waste licence.

The turnaround in market activity in the construction sector has led to a direct increase in the quantities of construction and demolition wastes (CDW) and in particular soil wastes. Table 2-1 shows the scale of growth which has been experienced nationally and in the Greater Dublin Area from 2013 to 2015.

Table 2-1 CDW and Soil Waste Collected 2013 - 2015³

Unit = Million Tonnes	2013	Difference	2014	Difference %	2015	Difference %
National						
Total CDW	2.926	-7%	3.787	29%	5.1	35%
Soil Stone	2.02	-10%	2.86	42%	3.5	22%
Study Area (GDA)						
Total CDW	1.718	-	2.6	51%	3.565	37%
Soil Stone	1.14	-	2.02	51%	2.57	27%

Table 2-1 shows that from 2013 to 2015 the quantity of soil waste collected has increased by 1.5 million tonnes nationally. This represents a 75% increase in tonnage over this period. Examining the collected waste data reported for the study area a similar trend is in evidence.

Over the period soil waste quantities collected grew by 1.43 million tonnes which is an increase of 126%. This surge in tonnage reflects the strong construction growth in the residential and commercial sectors particularly in Dublin City Centre and environs.

It is important to note that the collected data for 2015 has not yet been validated and may contain a margin of error which will not become apparent until the final approved datasets are made available. However this is not expected to detract from the fundamental findings derived from the data. The recent rise and continued growth in construction activities has led to significant increases in the generation and collection of soil wastes albeit from a very low baseline. Future growth is expected to continue and the possible scenarios are outlined in Section 4.

³ Data for 2014 and 2015 was provided by the National Waste Collection Permit Office and the 2015 numbers remain to be validated at this stage (June 2016)

3 SOIL RECOVERY FACILITIES MARKET ANALYSIS

All waste disposal or recovery activities are required to hold a waste authorisation. The type of authorisation is generally depended on the scale of the activity, among other considerations such as the nature or character of the waste. Where an activity does not require a Waste Licence, or an Industrial Emissions Licence, it would require either a Waste Facility Permit (WFP) or Certificate of Registration (CoR).

In this section an in-depth look at the soil recovery facilities operating in the study area has been undertaken. Licensed, permitted and certificate of registration sites have been examined using the best available capacity and intake data.

One of the challenges faced in the completion of the study was sourcing recent data. The most recent construction and demolition waste data published by the EPA, who are responsible for publishing the national waste statistics, was for the 2011 reporting period. The regional waste management plans which were published in May 2015 included collection data for CDW including soil waste although the data relates to the 2012 reporting period. The lack of consistent and regular data reporting on the activities of the sector is of concern considering the waste related issues which the industry are currently faced with.

The aim for this report was to use 2015 data which waste facility operators and collectors are required to have reported on by the end of the first quarter in 2016. RPS compiled up to date data from the following sources:

- The EPA online waste licensing system which hosts annual environmental reports, waste licenses and other reports for all waste licensed facilities; and
- The National Waste Collection Permit office online system which hosts information on the waste permitted and registered facilities;

Both of these sources provided useful information for the study. However the sourcing of up to date (i.e. 2015) capacity and intake data for permitted and registered sites is not readily available to the public. The waste reporting system for these types of facilities has recently transitioned to a fully online system and commercial sensitivity issues remain to be resolved around the publication of datasets. Information for these facilities provided in this report has been compiled and aggregated to protect current concerns in the market over commercial sensitivities. This data remains to be fully validated and signed off by the local authorities.

The thorough sourcing of 2015 data has helped ensure the analysis of active soil recovery capacity provides valuable findings for the CIF and its members. With waste data there is always a time-lag in the reporting of data to allow for compilation submission and validation. The efforts made by the project team have ensured the findings are as up to date as possible.

The facilities analysed for this report are presented in Figure 3.1 with the identity of the facilities listed in Appendix A.

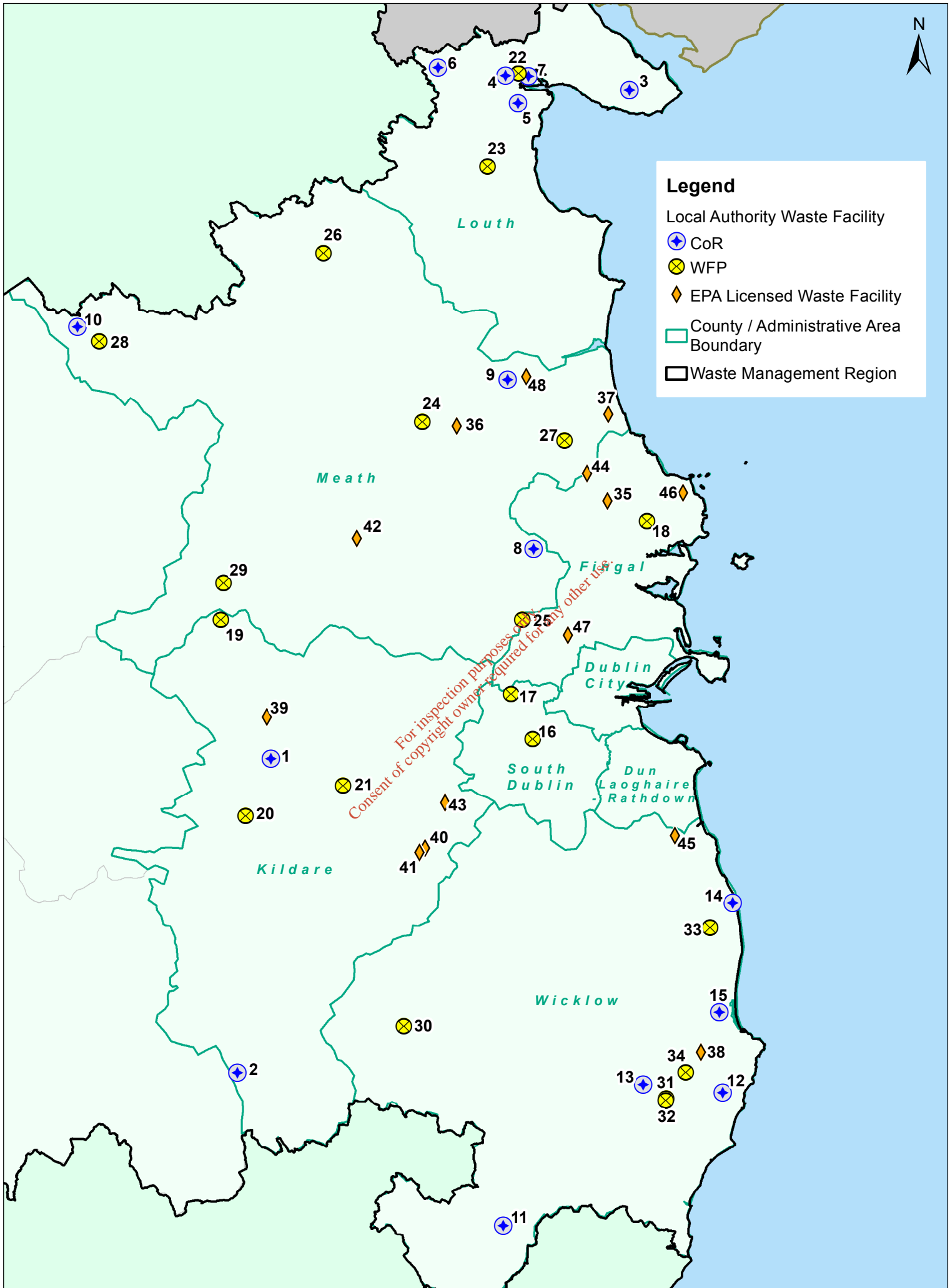


Figure 3.1 Licensed, Permitted and Registered Soil Recovery Facilities

3.1 FACILITIES OPERATING UNDER WASTE LICENCE

The waste activities authorised by the EPA include waste disposal and recovery activities such as landfills, transfer stations, materials recovery facilities, mechanical treatment facilities, thermal recovery facilities, soil recovery sites and hazardous waste disposal facilities. Sites and facilities which are authorised under the waste licensing regime tend to handle a significant tonnage of waste material on an annual basis in comparison to sites authorised through a waste facility permit or certificate of registration. Soil recovery sites authorised by a waste license are larger operations with a significantly greater annual intake and lifetime capacity.

In the study area there are 10 dedicated soil recovery facilities which are in the waste licensing system. These facilities are at different stages of obtaining regulatory approval with final determinations (authorisations) still to be granted by the Agency for two of the sites. The remaining eight facilities have all been authorised by the EPA and hold a valid Waste Licence. Two of these facilities have yet to commence operations. The details of the facilities in the study area are presented in Table 3-1.

Table 3-1 Soil Recovery Facilities operating under Waste Licence in the Study Area

Facility Name / Licensee	Licence No	Status	Local Authority	Annual Soil Waste Authorised Capacity
Blackhall Soil Recovery (Behans Land Restoration Limited)	W0247-01	Active	Kildare County Council	344,000
Clashford Recovery (Clashford Recovery Limited)	W0265-01	Application	Meath County Council	180,000
Fassaroe Waste Recovery (Roadstone)	W0269-01	Active unavailable	Wicklow County Council	550,000
Huntstown Inert Waste Recovery (Roadstone)	W0277-01	Active	Fingal County Council	750,000
Kiernan Sand & Gravel (Kiernan Sand & Gravel Limited)	W0262-01	Active	Meath County Council	167,400
Milverton Waste Recovery (Roadstone)	W0272-01	Authorised Uncommenced	Fingal County Council	400,000
Murphy Concrete Manufacturing (Murphy Concrete Manufacturing Ltd)	W0151-01	Active	Meath County Council	738,000
Murphy Environmental Hollywood (Murphy Concrete Manufacturing Ltd)	W0129-02	Active	Fingal County Council	500,000
Mullaghcrone Quarry (Roadstone)	W0278-01	Application	Meath County Council	150,000
Walshestown Restoration (Walshestown Restoration Limited)	W0254-01	Authorised Uncommenced	Kildare County Council	330,000
Total (Authorised On Paper)				4,109,400
Total (Active)				2,499,400

Table 3-1 provides details of the soil recovery sites and their authorised intake capacity tonnages. The facilities with an application status have yet to receive EPA approval for the proposed activities. Sites which are authorised and actively receiving waste from the market are classified as active with

all sites operational and offering capacity to the market. There are two exceptions, the Fassaroe and the Milverton Facilities, although both sites are authorised they are not currently offering capacity to the market. The Milverton Facility is due to come on stream but not until sometime in 2017 while the Fassaroe Facility will be almost at capacity and any remaining void will not be available to the market.

Currently the largest single authorised annual intake capacity for a facility is 750,000 tonnes and this is held by two facilities, these being the:

- Huntstown Facility in Meath which is operated by Roadstone; and
- Murphy's Quarry Facility located in the Naul, North Dublin operated by Murphy's Concrete.

Together these two facilities hold 60% of the available market capacity on offer in the Greater Dublin Study area. There are four registered companies acting as licensees who operate the facilities currently serving the market (licensees⁴ of facilities at application stage have not been considered). These are:

- Roadstone Limited – licensee of four sites with a total authorised capacity of 1.15 million tonnes although 400,000 tonnes is not available (Milverton);
- Murphys Concrete Manufacturing Limited – licensee of two sites with a total active capacity of 1.25 million tonnes. The site located in North Dublin is lined and only accepts contaminated soil from brownfield sites;
- Behans Quarry – licensee of one site with a total active capacity of 400,000 tonnes; and
- Kiernan Sand and Gravel Limited – licensee of one site with a total active capacity of 167,400 tonnes;

A review of the capacities by licensee shows that two operators currently provide 1.988 million tonnes to the market in the study area for the purpose of soil recovery. This represents 80% of the active licensed capacity available. The facilities are spread across the study area with a concentration to the north of the Greater Dublin Area (refer to Figure 3.1 for location details of all soil recovery facilities).

Table 3-2 Geographical Spread of Backfilling Capacity

County	No of Facilities	Capacity (Authorised and at Application Stage)	Capacity Active and Available
Dublin (Fingal)	3	1,650,000	1,250,000
Meath	4	1,235,400	905,400
Kildare	2	644,000	344,000
Wicklow	1	550,000	-

Table 3-2 shows the geographical spread of facilities and associated capacities by local authority area. This data is also illustrated in Figure 3-2. With seven facilities located in the North Dublin and Meath areas these counties are well served holding 91% of the capacity on offer to the market (over 2.15 million tonnes). By comparison the counties of Kildare and Wicklow are not as well served with no active licensed capacity in the latter and just 344,000 tonnes of annual capacity in Kildare. Examining the intake data at these facilities provides an indication of the demand for soil recovery void capacity. Table 4-3 provides a summary of the intake of facilities which were actively accepting soil waste in 2015.

⁴ Licensees of facilities at application stage include Roadstone Limited and Clashford Recovery Facility Limited

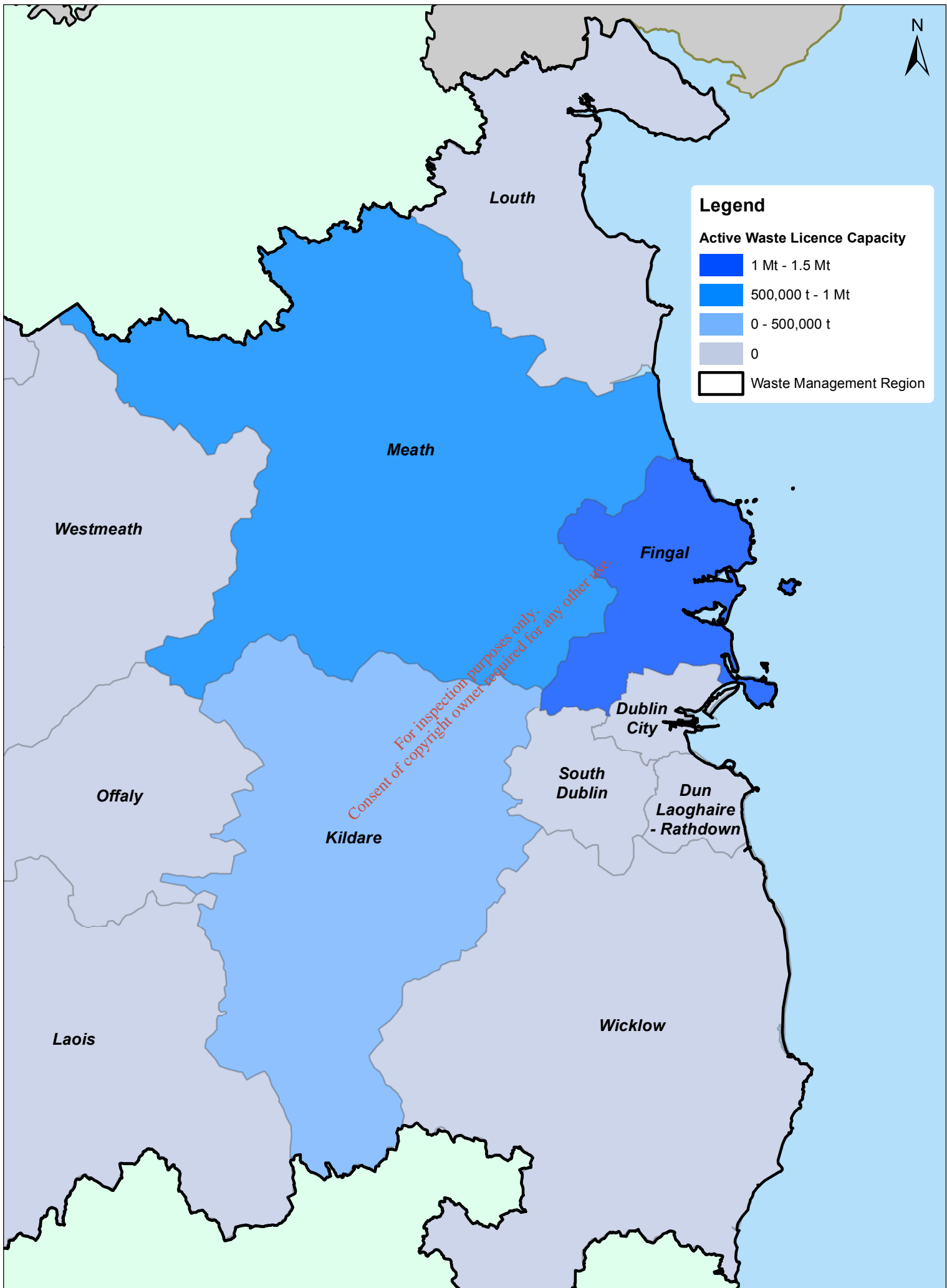


Figure 3.2 Geographical Spread of Active Licensed Capacities

Analysing the data the following observations can be made relating to the most significant active sites:

- Murphy's Facility in Meath was the most active facility receiving the largest quantity of soil waste in 2015. The facility accepted over 630,879 tonnes of soil waste representing 85% of its authorised capacity over the calendar year. This facility's intake in 2015 increased by 15% compared to the corresponding total for 2014.
- The Huntstown Facility in North Dublin only began operations in 2015 which limited its intake capacity accepting over 175,000 tonnes during the year. It is expected that the 2016 intake will grow significantly on this figure and soundings from the market indicate the facility will accept its full capacity limit.
- The Blackall Soil Recovery Facility which is authorised to accept 344,000 tonnes of soil wastes for restoration purposes, took in over 378,000 tonnes of this type of material exceeding its capacity in 2014. The 2015 AER has not been submitted to the EPA so no input data was available.
- Murphy's Facility in North Dublin increased its total intake from over 30,000 tonnes to over 66,000 in 2015. Expressed as a percentage the increase recorded is significant, however the total tonnage accepted in 2015 represents only 13% of the authorised annual intake. The primary focus of this facility is the acceptance of contaminated soil and stone material so its capacity is not directly comparable to the other facilities.

It's difficult to draw conclusions from the intake data and capacity data available to the market for soil and stone waste materials. Based on the data presented in Table 3-3 there appears to be sufficient capacity to meet market demand. However the data only tells part of the story and careful interpretation is needed otherwise incorrect conclusions can be drawn. As described at the outset the latest intake data is always behind present day activities in the market and as such it provides a snap shot of the market for a particular period. Changes in the market which have materialised since, such as a significant increase in waste tonnages or supply capacities coming on stream or off stream, are not necessarily evident in the best available data.

In Table 3-3 the active capacity data for the treatment of soil wastes for 2014, 2015 and 2016 is provided. The calculation of these amounts has taken account of the timing of recent authorisations by the EPA with new capacities coming on-stream and increasing the overall offering to the market. The capacity amounts have also been adjusted to reflect reductions or cessation of market activities at sites which are not reflected in the authorisations. For example capacity for soil wastes are no longer available to the market at the Fassaroe Facility, however the license remains active as it covers other activities at this location.

The total authorised licensed capacity of over 4 million tonnes represents the current on-paper capacity as opposed to the available and active capacity which is presently estimated to be over 2.5 million tonnes. This capacity is offered by five facilities with three of these authorised to accept between 500,000 and 750,000 tonnes annually (or a cumulative total of 2 million tonnes). One of these facilities, Murphys of North Dublin, has on paper a significant capacity which is not being utilised. This is not the case as the facility is primarily designed to take contaminated soil and stone waste materials as opposed to having a primary focus on clean soils i.e. 17 05 04.

If we take a more critical wider view of the data for 2015 a different picture to the one presented by the data begins to emerge. For starters it is assumed that the breakdown of the intake data at the Blackhall Facility is for the 2015 is comparable to that of 2014. In addition it is logical to remove the capacity at the Murphys Facility in North Dublin from the direct analysis of intake versus capacity as it is skewing the available capacity data for non-contaminated (clean) soil wastes.

Table 3-3 Soil Waste⁵ Intake Data for 2014 and 2015 at Soil Recovery Waste Licence Facilities

Facility Name	Status	Local Authority	Annual Authorised Intake Capacity	Annual Soil Authorisation	Soil Intake 2014	Non-Soil Intake 2014	Total	Soil Intake 2015	Non-Soil Intake 2015	Total	Difference (% or tonnes)
Blackhall Soil Recovery	Active	Kildare County Council	400,000	344,000	378,756	18,000	396,756	No data	No data	399,960	+3,204
Clashford Recovery	Application	Meath County Council	180,000	180,000	-	-	-	-	-	-	-
Fassaroe Waste Recovery	Active - soil capacity not available	Wicklow County Council	570,000	550,000	221,968	19,257	241,225	0	18,895	18,895	-222,330
Huntstown Inert Waste Recovery	Active	Fingal County Council	750,000	750,000	-	-	-	175,886	0	175,886	n/a
Kiernan Sand & Gravel	Active	Meath County Council	187,400	167,400	-	-	-	-	-	-	-
Milverton Waste Recovery	Authorised – Not commenced	Fingal County Council	400,000	400,000	-	-	-	0	-	-	-
Murphy Concrete Manufacturing	Active	Meath County Council	750,000	738,000	511,677	37,713	649,390	630,879	118,284	749,163	+15%
Murphy Concrete Manufacturing	Active	Fingal County Council	500,000	500,000	27,552	2,792	30,344	64,177	2,255	66,433	+119%
Mullaghcrone Quarry	Application	Meath County Council	150,000	150,000	-	-	-	-	-	-	-
Walshestown Restoration Ltd	Authorised – Not commenced	Kildare County Council	330,000	330,000							
Total (Active)Capacity 2014					2,208,000			1,317,715			
Total (Active) Capacity 2015					2,388,000	-					1,010,347
Total (Active) Capacity 2016⁶					2,499,400						

⁵ LoW 17 05 04⁶ June 2016

Finally the Huntstown Facility only became operational in 2015 and was actively taking soil wastes for part of the year. Obtaining intake volumes equivalent to the authorised annual intake was unlikely to be reached in the first year of operation. Taking these considerations on board the intake data for 2015 increases to approximately 1.4 million while the available capacity decreases to approximately 1.6 million tonnes, refer to Table 3-4 for details. This closing of the gap between available capacity supply and demand (represented by the intake data) is considered to be a more accurate reflection of activity and trends in the market.

Table 3-4 Wider Analysis of the Soil Waste Supply and Demand Market

Total Active Capacity 2015	Total Adjusted Capacity 2015	Total Reported Intake 2015	Total Adjusted Intake 2015
2,388,000		1,010,347	
Less	~ 1,600,000	Plus	~1,320,000
500,000 (Murphy's)		380,000 (Blackhall)	
375,000 (Huntstown)		Less 66,000 (Murphys)	

Table 3-4 shows for 2015 based on the adjusted capacity and intake figures that the licensed facilities for soil recovery were well utilised and almost completely full. This finding is verified by the Murphys Facility in Meath which has been active for almost 10 years and acts as a control for our analysis. The data for this facility shows that intake has steadily increased at the site reflecting the turnaround in activity and the return to strong growth of the construction sector. In 2015 the annual limit at this facility was reached. These market findings are further supported by current market evidence for 2016. The Murphy's Facility in Meath confirmed in early June that the site will reach its annual tonnage limit in three to four weeks effectively closing the site in early July until January 2017. A copy of the customer letter issued by the facility operator is included in Appendix B. A similar situation is developing at the Huntstown Facility with the latest market reports indicating that the facility is due to close at the by early August.

The strong growth of the construction sector in the study area experienced over the last couple of years continues and has led to a surge in soil wastes generated at construction sites and needing to find a safe and secure destination. The scale of the growth in waste and the resulting need for recovery capacity is evidenced by two of the area's most significant facilities reaching capacity months ahead of year end.

Another factor which must be considered when analysing market capacities is the lifespan of the soil recovery facilities and the years of operation remaining at the sites. An apparently well supplied market can look radically different with the closure or cessation of activities at a number of significant sites.

Table 3-5 provides a summary of the remaining capacity and the expected year of closure at the facilities within the study area assuming intake limits are close to the allowable levels. This information was obtained following an examination of facility annual environmental reports, waste licences, application forms, environmental impact statements and if necessary direct communication with operators and is considered to be accurate.

The available data shows that one of the largest capacities available to the market is expected to close by the end of 2017. This event will remove 750,000 tonnes of capacity from the market and

will increase the pressure further on existing soil recovery sites and on construction activities who have an on-going need for available capacity. With soil waste tonnages generated in the study areas expected to increase in the next 3 – 5 years there is an immediate need to bring additional capacity on-stream. Beyond the closure of this facility, the next closure is not expected until 2022/2023 based on current fill rates and remaining capacity data sourced for the study.

Table 3-5 Waste Licence Soil Recovery Facilities in the Study Area

Facility Name	Licence No	Status	Annual Authorised Intake (Tonnes)	Remaining Capacity ⁷ (tonnes)	Expected Closure (Years)
Blackhall Soil Recovery	W0247-01	Active	344,000	2,677,500 ⁸	2022/2023
Clashford Recovery	W0265-01	Application	180,000	805,200	unknown
Fassaroe Waste Recovery	W0269-01	Active unavailable	550,000	0	unknown
Huntstown Inert Waste Recovery	W0277-01	Active	750,000	~7,000,000	2033
Kiernan Sand & Gravel	W0262-01	Active	167,400	1,110,550	2024
Milverton Waste Recovery	W0272-01	Authorised - not commenced	400,000	1,900,000	2024
Murphy Concrete Manufacturing	W0151-01	Active	738,000	1,500,000	2017/2018
Murphy Environmental Hollywood	W0129-02	Active	500,000	~8,000,000	2028
Mullaghcrone Quarry	W0278-01	Application	150,000	1,800,000	unknown
Walshestown Restoration	W0254-01	Authorised - not commenced	330,000	~3,600,000	2026/2027

Finally there are three non-hazardous municipal landfill facilities in the study area which have an on-going requirement for soil and stone material for daily cover, capping and other remediation activities at the sites. Table 3-6 provides a summary of the intake of this type of material at these sites in 2015. The data shows that the Drehid Landfill took in a substantial volume of soil and construction fines materials compared to the other two facilities. This landfill is currently the largest active landfill in the State with an annual limit of 385,000 tonnes. However from 2018 intake limits are due to drop, to 120,000 tonnes in line with planning and licensing conditions. In the coming years the need for soil wastes at this site is expected to decrease in keeping with the scaled back disposal activities. The current⁹ Annual Environmental Report confirms that approximately 50,000 of soil wastes are stockpiled in reserve at the site which is likely to reduce the future requirement of soil wastes.

The other sites, Ballynagran and Knockharley, have similar annual disposal tonnage limits and the intake of soil waste materials is relatively low at both sites. Although these sites have a need for soil

⁷ Start of 2016

⁸ 2014 Data

⁹ AER 2015

waste materials their primary activity is the disposal of non-hazardous waste. These facilities provide an outlet for soil wastes materials but the scale of demand is not significant relative to the volumes arising from construction sites in the study area.

Table 3-6 Soil Waste Intake Data¹⁰ at Active Landfills in the Study Area

Landfill	Local Authority	Authorised Annual Tonnage	Tonnage Accepted	Description
Ballynagran	Wicklow	175,000	26,940	Soil and Stones
Drehid	Kildare	385,000 ¹¹	307,785 ¹²	Soil and Fines Materials
Knockharley	Meath	200,000	21,046	Soil and Stones

3.2 FACILITIES OPERATING UNDER WASTE FACILITY PERMIT

The Waste Management (Facility Permit and Registration) Regulations 2007/08 sets out the classes of activity requiring WFPs or CoRs. In the context of soil recovery facilities, WFPs are issued for one class of activity. Class 5 (Third Schedule, Part 1 of the Regulations) is for the recovery of excavation or dredge spoil, through deposition, for the improvement or development of land, and allows for a maximum of 100,000 tonnes over the lifetime of the permit.

The CoR authorisation covers smaller scale soil recovery activity, up to a maximum of 25,000 tonnes. Soil recovery activities are typically authorised under the Third Schedule, Part II, Class 5 of the Regulations. The CoR sites in the study area are addressed in Section 3.3. For WFPs, as well as CoRs issued for soil recovery activities, the capacity is typically a lifetime capacity, and when reached, the facility must close.

A total of nineteen active permitted facilities have been identified, within the study area, mainly for class 5 activity, and a small percentage for class 6. Class 6 activities include the recovery of inert waste, other than excavation or dredge spoil (e.g concrete, rubble, ceramics) for the improvement or development of land, and allows for a maximum of 50,000 tonnes over the lifetime of the permit.

The lifetime of a permit is typically five years and renewal dates are set five years from the date of issue. The renewal dates for the nineteen facilities range from 2015 to 2020, meaning that this existing group of facilities will offer varying and diminishing capacities between now and 2020.

In terms of location, the facilities offer a good geographic spread across the study area and are not concentrated in a particular area, see map in Figure 3.1. These facilities are collectively providing a total authorised capacity of over 1.3 million tonnes for the final recovery of C&D wastes, predominantly soil and stone type waste. This authorised capacity represents the capacity on paper of the facilities in the study area and not the capacity available to the market. This is an important distinction which can lead to a misrepresentation of actual market capacity.

¹⁰ From 2015 AERs

¹¹ This is due to drop to an annual disposal limit of 120,000 tonnes from 2018 onwards

¹² Its not clear from the AER the soil waste portion of this tonnage

Table 3-7 Capacity and Intake Data at Permitted Soil Recovery Sites

Local Authority	No. of Facilities	Total Authorised Capacity (tonnes)	Total Intake 2015 (tonnes)	Total Remaining Capacity (tonnes)
Fingal County Council	1	24,000	0	0
Dublin City Council	0	0	0	0
South Dublin County Council	2	205,000	0	41,000
Dún Laoghaire Rathdown County Council	0	0	0	0
Meath County Council	6	304,092	76,496	64,266
Louth County Council	2	200,000	33,250	53,000
Wicklow County Council	5	375,000	450	210,360
Kildare County Council	3	209,000	39,600	29,000
Total	19	1,317,092	149,796	397,626

Of the total authorised capacity figure, it is estimated that the total remaining capacity is approximately 398,000 tonnes from the data available. This is based on remaining capacity data reported by operators to the NWCPO. As Table 3-8 shows 12 of the 19 operators in the study area responded to the query on remaining capacity as part of their annual return. The remaining seven operators have not reported this information which is a requirement of their annual reporting obligations. For this reporting indicator the data available provides a 63% completion rate. Due to the incompleteness of the data the remaining capacity figure is assumed to represent an under-reporting of the true situation.

Table 3-8 Data Completion Rates for WFPs

Local Authority	No. of Facilities	Remaining Capacity Reported (No of Facilities)	Completion Rates %	Intake Data Reported (No of Facilities)	Completion Rates %
Fingal County Council	1	0	0%	0	0%
South Dublin County Council	2	2	100%	0	0%
Meath County Council	6	3	50%	4	66%
Louth County Council	2	1	50%	2	100%
Wicklow County Council	5	4	80%	2	40%
Kildare County Council	3	2	66%	3	100%
Total	19	12	63%	11	57%

The reported waste intake tonnage at these facilities is approximately 150,000 tonnes which is the total for 11 of the 19 facilities or in other words at 57% completion rate, see Table 3-8. No intake data for 2015 was reported or is available for the remaining 12 facilities.

A full set of data for 2015 intake, ideally validated, would inform this study of the capacity that was used in 2015 and the capacity which remains available. This would add valuable information into a complete market assessment and support accurate forecasting of the capacity requirements over the short to medium term.

From the facility data compiled and analysed the following findings of relevance have been observed:

- The authorised capacity is primarily for Class 5 activities with some facilities also having a class 6 activity (non-soil and stone) on their authorisation. From the available data it can be confirmed that only two of the 19 permit holders are also authorised for class 6 activity. The combined total authorised capacity for these two sites is 160,000 tonnes and it is not known to what extent this capacity is used for soil recovery activities. It is expected that the majority of that would still be given over to class 5 activity.
- Class 5 activity relates to excavation or dredge spoil and would be expected to include LoW codes 17 05 04 (C&D soil & stone), 20 02 02 (municipal soil & stone) and 17 05 06 (dredging spoil). 20 02 02 is listed for two of the nineteen facilities, and 17 05 06 is listed under two of the nineteen (different facilities in both cases). Class 5 activities are authorised at all sites indicating that the primary source of materials accepted at these sites is from the construction sector.
- For five of the nineteen facilities, the renewal date has passed and three of these do not feature in the remaining capacity figure of 397,626 tonnes as no data was reported, which would be consistent with the dates. However, two of the five, have reported a remaining capacity, totalling 29,266 tonnes. This could be explained by the continued activity of these facilities into early 2016. At the time of preparing the report both facilities may have ceased activity meaning that this remaining capacity would no longer be available to the market.
- 75,000 tonnes of the permitted capacity figure relates to a newly permitted site within Wicklow County Council; it is understood that this capacity will be available for class 5 activity although this has not been confirmed by the relevant local authority¹³.
- One of the facilities identified is a hurling club, authorised for 9000 tonnes, under class 5 with the full 9000 reported as remaining capacity, which is consistent with the renewal date of 2020. It is not unusual for sporting clubs to obtain a waste authorisation to carry out improvement works on local lands and pitches. In the case of authorisations like this it's thought that the site capacity will be filled by private means and will not be open to the wider market.

As previously described the remaining capacity of almost 400,000 tonnes is considered an under – reporting. To improve the accuracy of the remaining capacity data further analysis was undertaken of those facilities which failed to report on this indicator and the renewal date of the permit is due between 2016 and 2020. Having examined those particular facilities, their intake data and the date of issue of the permits, it is thought that at the end of 2015 the remaining market capacity was in the region of 600,000 tonnes. This figure can't be verified fully but is considered to be accurate using the best available data.

¹³ Wicklow County Council

3.3 FACILITIES OPERATING UNDER CERTIFICATES OF REGISTRATION

Facilities operating under Certificate of Registration authorisations cover smaller scale soil recovery activity, up to a maximum of 25,000 tonnes (Class 5, Third Schedule, Part II of the Regulations). Similar to waste facility permits the capacity approved is a lifetime capacity, and when reached, the facility must close.

The National Waste Collection Permit Office operated website¹⁴ lists fifteen facilities as operating under certificates of registration within the GDA study area, and as being authorised to accept LoW code 170504.

Thirteen of these facilities are authorised for class 5 activity, and two of this thirteen are also authorised for class 6 (Third Schedule Part 2 of the Regulations). Two facilities did not have copies of their certificates of registration available on the website, so their classes of activity and authorised tonnages could not be determined.

The reported data for thirteen facilities are collectively providing a total authorised capacity of 211,200 tonnes for the final treatment / recovery of C&D wastes, predominantly soil and stone type waste. However, taking into account reported and estimated remaining capacities, our best estimate is that there is some 110,000 tonnes of capacity remaining at these facilities. From the analysis the following observations are made:

- The total authorised capacity figure must be measured against the capacity that is already used, in order to understand the current available capacity within the market. Only four of the fifteen CoR facilities reported remaining capacity data. Combined this data totalled 39,000 tonnes. An estimate of remaining capacity at the other facilities has been made based on years remaining to completion. The revised remaining capacity is estimated to be 110,000 tonnes in total.
- Not all facilities listed are open to the market as merchant facilities. Some of the facilities may have been opened to support a particular operator e.g. the Ready Mixed Concrete (Ireland) Ltd CoR facility in Louth or to suit a particular local project, e.g. the GAA and horse racing clubs who have obtained an authorisation simply require an area of land filled and improved. These facilities are unlikely to provide any meaningful capacity the construction industry.
- The CoR capacity is shared to a small degree with facilities also authorised for class 6 activity (non-soil and stone). Two of the certificates of registration holders are also authorised for class 6 activity although the extent of which this impacts on the capacity to accept 17 05 04 material is not clear. The combined total authorised capacity for these two sites is 50,000 tonnes, and it is expected that the majority of that would still be given over to class 5 activity.
- The CoR class 5 capacity is primarily used for 17 05 04 (C&D soil & stone) and all facilities listed accept this material. These facilities also accept soil & stone arisings from non-construction sectors i.e. municipal and dredging, however, the rate of sharing with other codes is not known.
- Of the CoR facilities listed, only four have over one year left in their authorisation and nine have less than one year left. Two facilities have passed their anticipated 'renewal date', and it is assumed that these facilities have ceased operations. This illustrates the temporary nature of these facilities and how facilities fill up and authorisations reach the end of their

¹⁴ <http://facilityregister.nwcpo.ie/details.aspx>

lifespan with the facilities subsequently closing. There is a corresponding requirement for new facilities to come online.

- The quality of the CoR data is mixed, as evidenced for example by rounding of numbers for input data and the listing of facilities that are past their renewal dates and there are inconsistencies with the way in which the CoR activities are authorised by the various Local Authorities.
- Similar to waste facility permit data, the CoR remaining capacity and intake data is not readily available.
- There are no facilities authorised within County Dublin.

Table 3.9 Facilities Authorised by Certificates of Registration per Local Authority Area

Local Authority	No. of Facilities	Total Authorised Capacity (tonnes)	Total Intake 2015 (tonnes)	Total Remaining Capacity (tonnes)
Fingal	0	0	0	0
Dublin City Council	0	0	0	0
South Dublin	0	0	0	0
Dún Laoghaire Rathdown	0	0	0	0
Meath	3	41,000	5670	25,500
Louth	5	125,000	No data	No data
Wicklow	5	55,000	9,000	12,000
Kildare	2	50,000	4,960	1,500

The certificates of registration facilities are small activities, operating below limits of 25,000 tonnes per annum and 10,000 tonnes per annum KTA for classes 5 and 6 respectively¹⁵. The scale of the operations suit local projects as opposed to provide long-term and secure capacity for large scale construction activities. A turnover of facilities is required to support the needs of smaller scale construction activities at the local level.

3.4 MARKET ANALYSIS FINDINGS

This section provides a summary of the detailed analysis of the soil recovery facilities as outlined in Sections 3.1 to 3.3. The overall findings feed into the final report conclusions in Section 6.

3.4.1 Licensed Facilities

The quality of the data available for waste licensed facilities in the study area is robust and reliable and facilitated a detailed analysis of the soil waste capacities, intake and lifespan of these sites.

The latest data shows that licensed capacities are the most significant in terms of available capacity serving the construction sector. The current market capacity is in excess of 2.4 million tonnes per annum. However the capacity status is fluid. The current pressures in the waste capacity market are likely to lead to new facility applications and potentially changes to existing licences. There are also two applications at the application stage, and being processed under the waste licencing system.

¹⁵ Of the Third Schedule, Part II of the Waste Management (Facility Certificate of Registration and Registration) Regulations 2007, and as amended in 2008

There is a need to update waste licence data annually to ensure the latest information is available to members and industry stakeholders.

The analysis of the data shows that waste licence sites are of the scale of capacity required by the market. Seven out of ten sites have annual authorised capacity of 300,000 tonnes or more with two facilities authorised to accept over 700,000 tonnes of soil wastes each year. These large scale facilities offer certainty to market operators in terms of price, outlets and construction activity. A healthy supply of licence capacity for soil wastes is required to support the expected growth in construction activities over the long-term.

3.4.2 Permitted Facilities

Overall the remaining capacity on offer to the market is small relative to current growth in soil wastes due to a resurgent construction sector responding to a critical demand for housing and a healthy environment of commercial space developments. This capacity if available to the market would be expected to be consumed quite quickly and offers at best a short –term contribution to resolving the current capacity crisis.

Finally the quality of the data is of mixed quality and there are significant gaps with respect to the remaining capacity and the waste intake reported. This indicates that reporting of data in the first instance by the permit holders is inconsistent and cannot be relied upon fully as part of the market analysis. There is currently limited availability of data publicly, particularly and fundamentally AER data, which is crucial to conducting an exercise such as this. This makes the obtaining of data and market reviews difficult, slow and cumbersome. Furthermore, the data has not been validated resulting in a lower level of confidence and margins of error in the data overall.

3.4.3 Registered Facilities

The capacity on offer to the market from the certificates of registration sector has a number of constraints associated with it. The gross annual capacity it offers is relatively limited as each facility is limited to an annual intake of 25,000 tonnes per annum (Class 5) and several of the facilities reviewed are not even authorised to this level. CoR facilities tend to have a relatively limited lifetime and are authorised for a maximum of 5 years. Similar to the waste facility permit data, the quality of the data is mixed with significant gaps with respect to the remaining capacity and the waste intake reported. The comments already made in the waste facility permit section in this regard apply equally to the certificates of registration data.

Taking the factors discussed above into account, a gross annual capacity of 110,000 tonnes is estimated to be on offer from this sector.

4 FORECASTS

Predicting waste growth is a challenging exercise due to the multitude of factors influencing the generation of waste to more or lesser degree. In this section projections for soil wastes have been estimated to allow analysis of future capacity needs over the short to medium term.

4.1 Growth Factors and Drivers

The National Waste Collection Permit Office provided data on soil and stone materials and on construction and demolition waste collected nationally and in the GDA Region. This data is presented in Table 4.1

Table 4.1 Soil and Stone Wastes Collected 2012-2015

	2012	2013	2014	2015
National Soil Stone	2,254,000	2,020,000	2,860,000	3,500,000
GDA Soil Stone		1,140,000	2,020,000	2,570,000

As demonstrated in Table 2-1 the scale of growth in collected soil waste over the period 2013 to 2015 has been significant. The rise in construction activity has directly led to a rise in waste with economic growth, government policy, the type of construction activity all influencing the qualities of waste.

In the absence of an agreed primary driver and for the purpose of this report it has been assumed the Increases in construction related wastes, including soils, are linearly co-related with the Total Construction Output factors. This annual indicator records the economic value of construction related output in the economy and the date shown in Table 4.2 was reported in the 81st Euroconstruct report¹⁶. This annual report records previous output as well as projecting the predicted rate of change to 2018.

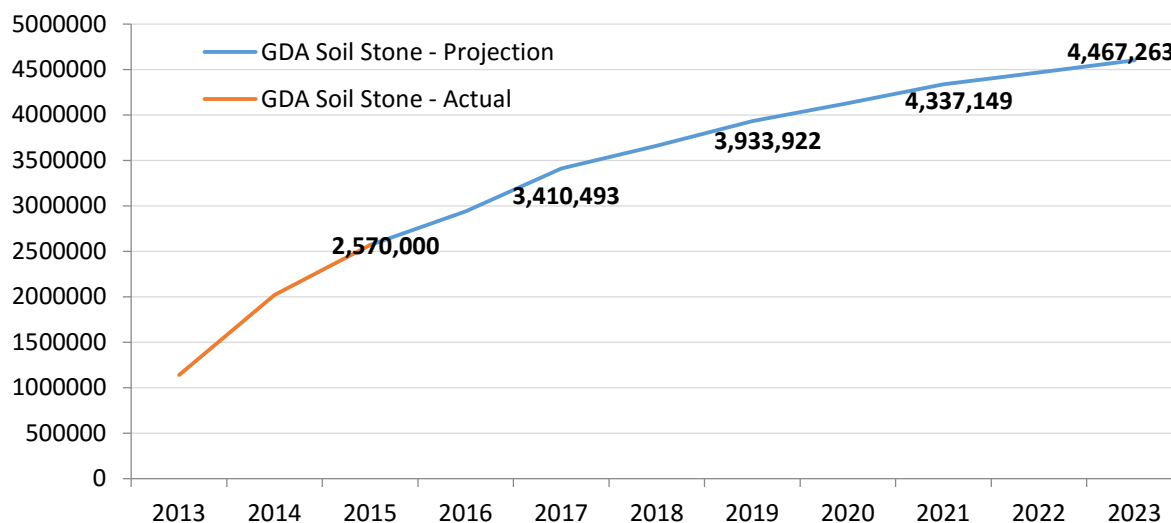
Table 4.2 2012-2015 Total Construction Output (% change in real terms)

	2012	2013	2014	2015	2016 Forecast	2017 Forecast	2018 outlook
Ireland	-14.1%	2.5%	9.2%	4.8%	14.4%	16.0%	7.4%

Combining the arisings with growth projections allows a projection of arisings into the future as presented in Figure 4-1. In order to project beyond 2018, the following growth factors were applied:

- 5% per annum from 2019 – 2021
- 3% per annum from 2022 – 2023

¹⁶ Table 2 of 81st Euroconstruct Summary Tables June 2016 Dublin

Figure 4-1 Recorded and projected soil and stone arisings in the GDA Region

4.2 FORECASTS - CAPACITY

A forecast of the annual intake capacities available in the market to 2023 has been prepared based on best data available and Figure 4.2 presents the projected data.

Detailed data is published for the facilities operating under EPA waste licence and the forecasts presented assume facilities will continue to accept at the maximum authorised rate until those facilities are full and cease to accept waste.

All facilities with an authorisation have been included in the forecasts however those at application stage have been omitted as their future approval is not certain.

Facilities operating under certificates of registration and waste facility permit have not been included as the data is unreliable presently, in particular remaining capacity and lifetime data. As identified previously the available capacity to the market from these facilities is currently small.

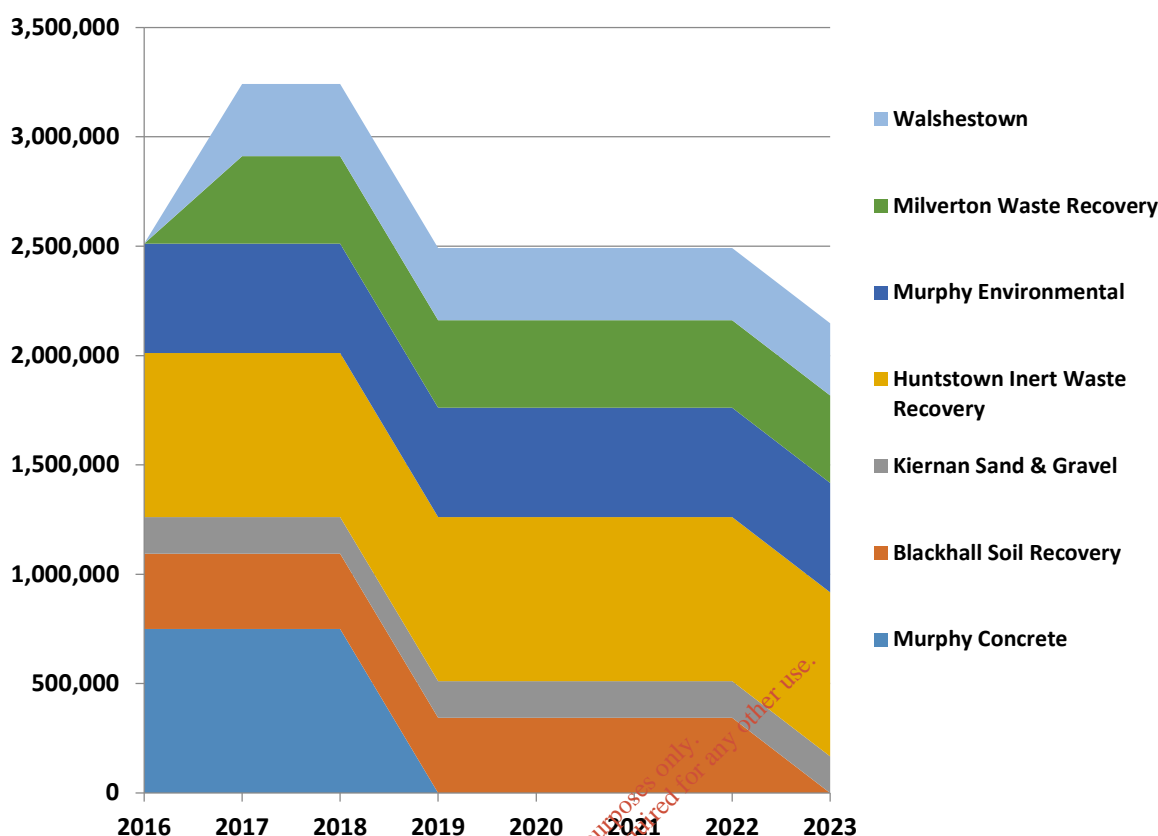
For two facilities, Milverton and Walshestown, which have the necessary authorisations in place it has been assumed that the capacity will become available to the market in 2017.

The figure illustrates the relative scales of the various facilities and the capacities offered at individual sites to the market. The largest facilities, Huntstown and the Murphy's facilities are clearly identifiable from the other operations.

The available data applied shows that licensed capacity will peak from the years 2017 to 2018 with a significant drop in capacity in 2019 with the expected closure of the Murphy's facility in North Dublin. From 2019 to 2022 the capacity remains stable at approximately 2.5 million tonnes with a further drop anticipated in 2023 with the expected closure of the Blackhall Soil Recovery site.

Figure 4-2 illustrates the current capacity situation which needs to be kept under review as the granting of authorisations for new facilities will change the profile of the capacity forecast.

Figure 4-2 Available Annual Capacities of Soil Waste Recovery Sites in the GDA



4.3 CAPACITY GAP PROJECTION

Combining the soil waste and capacity projections generated in Sections 4.1 and 4.2 provides an illustrated projection of the likely capacity shortfall. This data is provided in Table 4.4.

Table 4.3 Anticipated shortfall in capacity for soil and stones in GDA

	2016	2017	2018	2019	2020	2021	2022	2023
Shortfall	428,680	169,093	421,469	1,354,613	1,546,913	1,748,829	1,876,036	2,351,059

In Figure 4-3 the soil waste and capacity projections are presented together and over the period there is capacity shortfall most notably from 2019 onwards. The gap in capacity could be considered the most conservative scenario as it does not take into account permitted and registered capacities which will provide some capacity to the market. Similarly the approval of the Clashford Recovery and the Mullaghcrone Facilities would provide an additional 330,000 tonnes to the market reducing the scale of the capacity shortfall. However if the projected volumes of waste materialise as predicted new facilities or increases in the annual authorised limited at existing large sites will be required to ensure the capacity supply meets demand over the medium term. Planning applications for soil recovery capacities at two locations in the study area have been lodged which if approved will require submittal of a waste licence application. These facilities combined have the capacity to accept over one millions tonnes of soil wastes per annum assuming both approvals (planning and

licensing) are achieved. The uncertainty lies in when these capacities will become available as current processing timelines with the Agency can be extremely lengthy.

Figure 4-3 Shortfall between capacity and arisings in the GDA Region

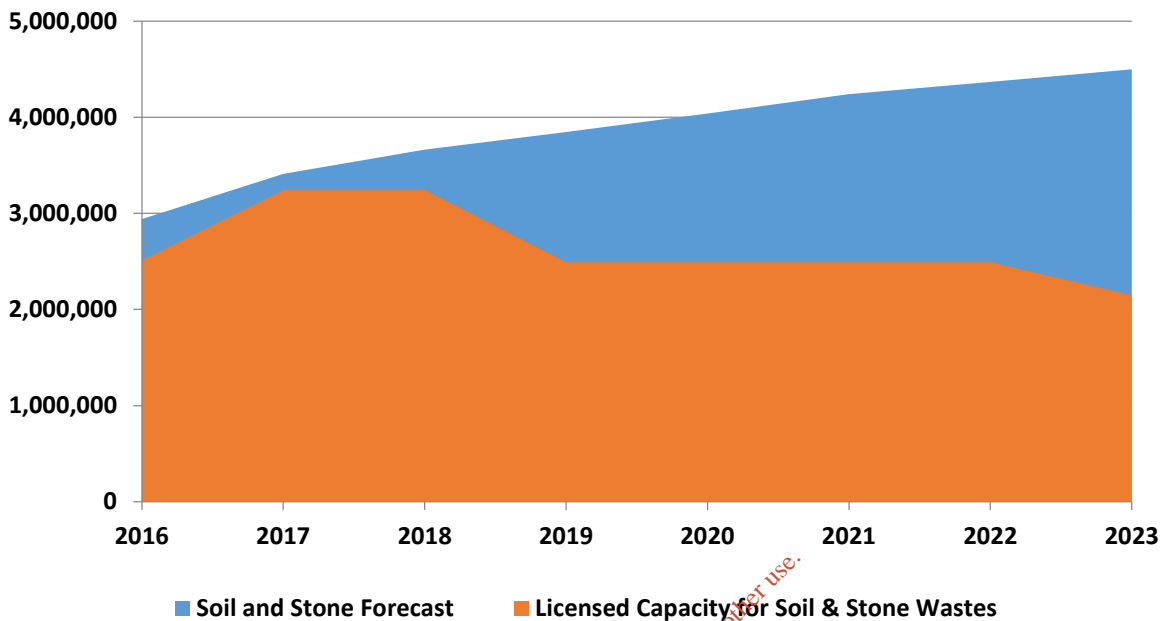
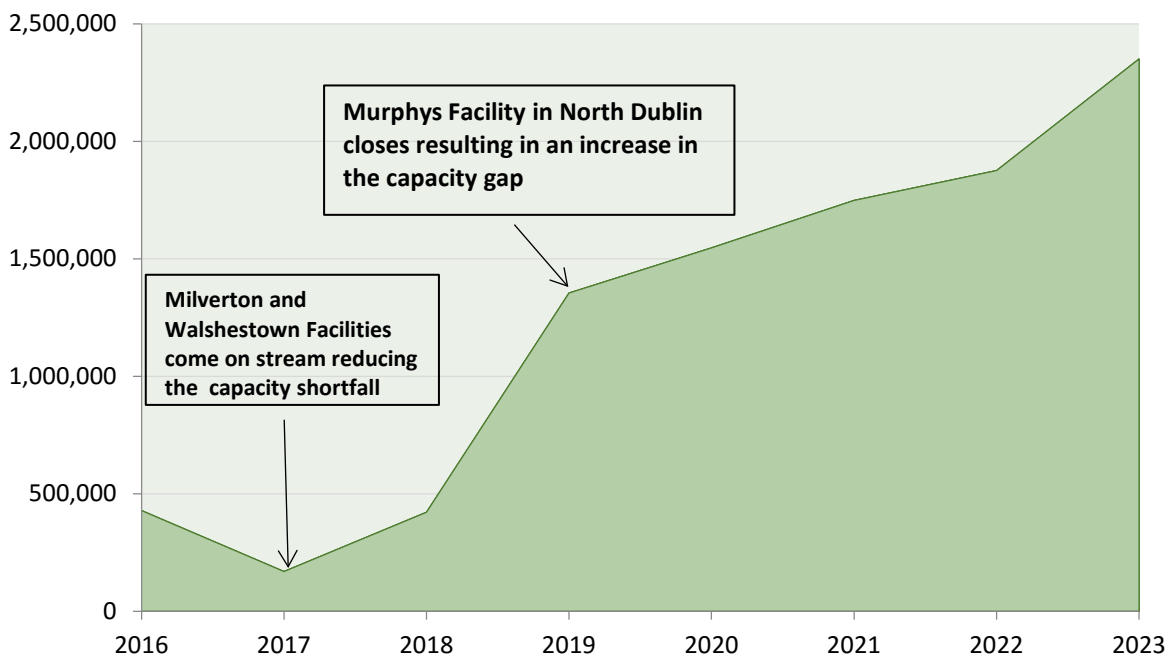


Figure 4-4 provides a focus on the scale of the predicted shortfall in capacity which shows a significant increase in the capacity shortfall from 2018 onwards with the closure of the Murphy's facility in North Dublin. By 2023 the capacity gap is estimated to be 2.3 million tonnes (noting all of the assumptions and conditions applied to the modelling as previously identified). The predicted capacity shortfall clearly has the potential to be a significant constraint for market operators and construction activities in the study areas in future years. Regular updates of the forecasting model are recommended so as to track the impact of capacity developments in the market.

Figure 4-4 Predicted Soil Waste Capacity Shortfall



5 ALTERNATIVES

The potential capacity shortfall could be ameliorated by application of methods to extend the existing capacities as well as examining alternative options for the management of soil and stone wastes. These options are discussed in the following sections of this report.

5.1.1 Extension of Existing Capacity

As previously identified increasing existing capacity limits at existing soil or C&D waste recovery facilities could provide a solution to the current shortfall in the market. Any of the existing waste licenced facilities with capacity to expand, or with a readiness to increase their annual limit, could choose to apply for an extension to their existing licenced capacity, depending on demand and the market conditions as they see it.

This would require some capital expenditure on their part to extend the infrastructure as well as an appetite to partake in the regulatory process. In a 2014 publication, titled Guidance for Licensees on Requests for Alterations to the installation/facility, the EPA set out the options available to licensees who wish to alter existing licence conditions. This includes increasing the annual tonnage intake at the facility. The document sets out whether the proposed change to a licence requires a technical amendment or a review to a waste licence. The latter is a more rigorous process and takes considerably longer. The guidance note indicates that a change to the annual intake tonnage would trigger a waste licence review. It is recommended that further discussion with the EPA is organised on the options available taking account all of the factors including the scale of the current capacity issue in the market.

A potential restriction to this process could be the consented planning permission condition which may relate to the capacity of the site. For example if the original capacity set under planning has been reached a new planning application which would be required to increase the annual intake tonnage further.

Similarly permitted facilities could choose to apply for a licence, if the site was suitable and had the capacity to expand. In the study area facilities which were previously permitted (Behans Land Restoration Limited and Clashford Recovery Limited) have obtained or have applied for a waste licence authorisation.

5.1.2 Article 27 By-product Notifications

By-product notifications (under Article 27 of the EC Waste Directive Regulations 2011) provide an opportunity for the reuse of surplus clean soil & stone material arising from construction activity. Classification of material as by-product, brings significant economic benefits as the material can be handled outside of waste legislation. The environmental benefits are also considerable as the process facilitates beneficial re-use of existing secondary resources which plays a role in Ireland's implementation of the Circular Economy.

There are several examples of surplus clean soil & stone from construction projects which have been successfully notified as by-product. Each individual case was carefully examined by the EPA, with a significant emphasis placed on the intended destination of the material, to ensure that the environment was adequately safeguarded in the long term. This regulatory burden presents a

challenge at individual project level and there is already a significant bottle neck with respect to the timeline for the processing of notifications by the EPA. A check of the current Article 27 register at time of print, indicates that there is a queue of 203 pending notifications sitting with the licencing unit of the EPA. A co-ordinated approach for multiple projects on a regional or even national scale, and which has the potential to reduce or at least spread this regulatory challenge, is worth exploring

5.1.3 Article 28 End-of-Waste

End-of-Waste is a status conferred on a waste that has undergone a recovery process, including recycling, where the waste has been deemed to comply with specific criteria in accordance with a specific set of conditions. Once end of waste status has been achieved, the material is no longer considered a waste, and waste legislation no longer applies.

Currently there is no end of waste criteria under preparation by the European Commission for C&D type wastes. In the absence of end of waste criteria at community level Member States may decide on end of waste on a case by case basis. The EPA is the decision making authority for end of waste in Ireland. To date there have been no end of waste decisions under Article 28.

It should be noted however, that end of waste status can only be conferred on a waste that has exited a recycling or recovery process. The processing of the waste is a waste activity and requires waste authorisation. The advantage of End-of-Waste status would be that the processed waste becomes a product that can be placed on the open market and is not restricted to authorised waste facilities. Overall, End-of-Waste does not offer a realistic solution currently for soil and stone arisings.

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6 CONCLUSIONS AND RECOMMENDATIONS

The purpose of the study was to quantify to the CIF the scale of the problem facing its members in the management of soil wastes. This evidence based approach involved the reviewing of soil waste collection data for the study area and a comprehensive review of the facilities accepting soil wastes and their capacities in market.

The first and possibly the most important conclusion is to confirm that there is a soil recovery capacity issue in the study area and coercive awareness of the issue is needed. A modelling exercise was completed as part of the study to assess the potential capacity shortfall between predicted waste growth and licensed capacity on offer. By 2023 a capacity gap of over 2 million tonnes is estimated highlighting the potential scale of the problem to be addressed. The capacity situation is fluid with new licensed facilities anticipated to come on stream. The findings of the analysis exercise coupled with the latest soundings from the market indicate a significant shortfall in market capacity for soil wastes, particularly clean soil and potentially contaminated materials, which needs to be brought to the attention of regulators and policy makers without delay.

The latest data for collected soil was reviewed for the study with figures sourced from the National Waste Collection Permit Office. The data shows strong growth in construction and demolition wastes including soil wastes reflecting the rise in construction activities since 2014 in particular in the Greater Dublin Area. The growth experienced in waste tonnage has been very significant over the period 2013 to 2015 and illustrates how quickly soil wastes grow in tandem to an expanding sector. The absence of regular data reporting on this waste stream over the period has meant there has been minimal monitoring of the capacity shortfall situation which has since developed. Without consistent information policy makers and regulators are reliant on anecdotal evidence from the market and historical data which does not accurately reflect the existing situation.

It can be concluded that the change in waste arisings from construction activities has been abrupt and the excess capacity reported at the time of the regional waste plans has been eroded. The market analysis completed for the regional waste plans is time stamped by the data and the findings reflect the situation at the time. The turnaround since has gone largely unnoticed by regulatory authorities and the lack of data indicators has not helped. This lack of regular reporting needs addressing so future market changes can be tracked and similar capacity situations avoided.

From the analysis of the different types of authorisations it can be concluded that waste facility permits and CoRs are not long-term solutions for capacity issues. This is particularly the case for high volume and large-scale construction activity areas which generate considerable quantities of wastes. These areas require secure and long-term capacity outlets. Sites authorised under the waste facility permit and certificate of registration systems are limited by regulation to a relatively small tonnage (100,000 and 25,000 tonnes respectively) over the lifetime of the facility (maximum 5 years). These facilities remain part of the capacity landscape but their ability to address capacity issues is limited. It is concluded that these types of site are more suited to serving the needs of construction activities at a local level, in areas or counties where construction activities are moderate compared to large urban centres. These types of facilities are not suited to serving the long-term needs of construction activities in high density urban and suburban areas with growing populations and commercial activities.

It is concluded from the analysis that the preferred solution for providing soil waste capacity is through the waste licensing system. The scale of capacity offered annually and permanence of these

sites are required to meet the needs of the growing construction sector in the study area. These sites favour locations such as exhausted quarries or pits and many of the existing licensed sites are sited at such locations. This approach is favoured by the regional waste management plan with policy preference for large central sites which require restoration through the placement of clean soil returning the site back to its original profile.

Based on the extensive review of waste and capacity data available it can be concluded that there is a lack of licensed capacity in the Greater Dublin Area to meet current and forecasted growth. This is evident by the early 2016 closure in the area of the two largest soil recovery sites which primarily serve construction activities in Dublin city. New capacity is due to come on stream but this is offset by the closure by 2018 of one of the largest facilities currently operating in the region. There is a clear need to bring additional capacity on stream to alleviate the current shortfall as well as providing security over the medium to long-term. The failure to do so will likely lead to increased costs along the waste supply chain and may also lead to an increase in unauthorised activities such as illegal dumping.

It is noticeable that there appears to be a lack of new licensed capacities coming on-stream despite a clear market need. Consultation with soil and stone operators indicates that barriers to the development of new licensed facilities include higher operational costs and regulatory obligations associated with these sites. In addition establishing a permitted site is viewed as being a more viable opportunity. Such sites are less onerous both financially and operationally and are often not subject to the same level of enforcement or quality controls of intake materials. The inconsistent approach governing the control and acceptance of intake materials at permitted sites needs attention to ensure enforcement of all soil and stone operators in the market is fair and consistent.

There are challenges to face in developing these sites from selecting an appropriate site, to carrying out the required environmental assessments, to obtaining the necessary planning and waste approvals. Prior to applying for a waste licence for a new facility, planning permission must be obtained for the proposed development in advance. Once this is in place a waste licence application can be made to the EPA.

Waste licence application timelines can be very long with the no set time to process, review and approve a waste licence. Obtaining licensing approvals can take between 2 to 5 years based on previous soil recovery applications which have been through the system. The current timelines are overly long and are a barrier to the development of licensed capacity. The timelines for processing applications needs to be raised and discussed with the Agency.

Aside from developing new sites there are options open to existing licensed soil recovery sites to increase their annual capacity limits. This would typically require preparation and submittal of a waste licence review application which can be a challenging process and take a minimum of 12 months (and up to 24 months). A technical amendment to a waste licence is a quicker and less onerous option but there is no certainty that the EPA would agree that it is the appropriate process to follow. It can be concluded that there are options for existing facilities which need to be explored in full by the key parties.

Based on the analysis and conclusion of this study the following recommendations are proposed to progress discussions on the soil waste capacity issue in the market which ultimately lead to solutions being found.

1. It is recommended that greater awareness of the capacity shortfall for the recovery of soil wastes is raised by the CIF with all relevant members and key policy and regulatory stakeholders.
2. It is recommended that representatives of the CIF meet with and communicate the findings of this report to the Minister and senior government officials in the Department of Housing, Planning and Local Government and the Department of Communications, Climate Action and Environment. The extent of the problem being faced by construction stakeholders in securing long-term capacity for the recovery of soil wastes is not fully realised by government. The potential impact that this issue will have if not addressed on the construction of new houses, apartments, education and health buildings and key infrastructure for the City and environs it is not fully appreciated. Construction activity may slow to allow for the secure management of soil wastes as temporary stockpiling may not be possible.
3. It is recommended that the findings of this report are communicated by the CIF to senior inspectors in the EPA. The Agency is the authority responsible for issuing, regulating and enforcing waste licenses for soil recovery facilities and it is important that they are informed of the extent of the capacity problem being faced by construction stakeholders. The lack of facilities and capacity in the market has the potential to give rise to an increase in illegal disposal or dumping activities and it is important to engage with the Agency on the broader issue and its potential impacts.
4. It is recommended that the CIF meet and communicate the findings of the report with the waste management office for the Eastern Midlands Region. The central office acts as the lead local authority on behalf of all local authorities in the region to ensure the policies of the waste plan are realised. It is important to establish relationships with the lead local authority office to communicate on the capacity issue and the potential impacts from the continued shortfall from an environmental perspective. The local authorities are responsible for reviewing and issuing soil recovery waste permit and COR authorisations and it is beneficial to build a collaborative relationship with them on the waste issue.
5. It is recommended that the CIF meet with the key facility operators to discuss the capacity problem and engage with them on possibly progressing solutions at large scale existing sites.
6. It is recommended that the CIF explore the suitability of Section 56 of the Waste Management Act as an option to expedite the process of increasing the annual intake tonnage at an existing licensed site. This section is available to local authorities and the EPA to respond to emergency situations to prevent pollution resulting from waste activities.
7. While the current shortfall of market capacity continues, it is recommended that an annual update of available waste license market capacity data is completed to enable the CIF to report back to its membership on the issue as well as engaging with government, the EPA and other key stakeholders.
8. It is recommended that the CIF engage fully with local authorities and in particular the National Waste Collection Permit Office on the issue of waste reporting. The completion of accurate market analysis is dependent on robust datasets and the new online system should be supported by the federation and its membership (through timely and accurate reporting).
9. It is recommended that the CIF consider researching and identifying the critical industry factors which lead to the surge in waste collection arising. The ability to forecast accurately future growth levels in soil wastes can help provide early warning signals to the market and potentially minimise the risk of capacity shortfalls.

APPENDIX A

List of Soil Recovery Facilities in the Study Area

Map of Facilities and Travel Distances from Dublin City Centre

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List of Authorised Soil Recovery Facilities and Sites Accepting Soil Wastes for Final Treatment

Number ¹⁷	Authorisation	Name
Certificates of registration facilities		
1	COR-KE-11-0017-01	Martin Coyne & Adele Clinton
2	COR-KE-12-0021-01	Tom Yates
3	COR-LH-11-0002-01	Ready Mixed Concrete (Ireland) Ltd
4	COR-LH-11-0003-01	Naomh Moinne Hurling Club
5	COR-LH-11-0004-01	Kinler Development
6	COR-LH-12-0002-01	Gibson Brothers (Ireland) Ltd
7	COR-LH-13-0002-01	Gibson Brothers (Ireland) Ltd
8	COR-MH-14-0001-01	Breffni Building & Civil Engineering Ltd
9	COR-MH-14-0002-01	St Mary's GFC
10	COR-MH-15-0001-02	Barry Tighe
11	COR-WW-10-0009-01	Emma Kennedy
12	COR-WW-11-0014-01	James Bradbury
13	COR-WW-12-0016-01	TP & S Delahunt
14	COR-WW-13-0019-01	Cullen Excavations Limited
15	COR-WW-15-0020-01	Neville Byrne
Waste facility permit facilities		
16	WFP-DS-12-0003-02	Roadstone Wood Ltd (Belgard Quarry)
17	WFP-DS-15-0005-01	Esker Lawn Cemetery Limited
18	WFP-FG-10-0007-01	James McNally
19	WFP-KE-08-0354-01	Seamus McCaul
20	WFP-KE-12-0068-01	Arkill Ltd
21	WFP-KE-15-0077-01	Eire Og Corra Choill Hurling Club
22	WFP-LH-09-0002-01	McParland Brothers (Ireland) Ltd
23	WFP-LH-13-0003-01	John O'Neill
24	WFP-MH-10-0004-01	Damian Fitzsimons Transport
25	WFP-MH-10-0008-01	Martin Brady
26	WFP-MH-10-0010-01	Thomas Curtis
27	WFP-MH-11-0009-01	Jim Lenehan
28	WFP-MH-12-0008-01	Coffey Construction (1) Limited
29	WFP-MH-13-0002-01	Phoenix Rock Enterprises Limited,
30	WFP-WW-10-0017-01	Ray Kavanagh
31	WFP-WW-11-0028-01	Vincent Cousins

¹⁷ This number references the numbers assigned in the map in Figure 3.1.

Number ¹⁷	Authorisation	Name
32	WFP-WW-12-0031-01	East Coast Recycling / Transport
33	WFP-WW-13-0003-02	Cullen Excavations Limited
34	WFP-WW-15-0035-01	Ann Dempsey
EPA waste licence facilities		
35	W0129	Murphy Environmental Hollywood Limited
36	W0146	Knockharley Landfill
37	W0151	Murphy Concrete Manufacturing Limited
38	W0165	Ballynagran Residual Landfill
39	W0201	Drehid Waste Management Facility
40	W0247	Blackhall Soil Recovery Facility
41	W0254	Walshestown Restoration Ltd
42	W0262	Kiernan Sand & Gravel Limited
43	W0264	Sand & Gravel Merchants
44	W0265	Clashford Recovery Facility Limited
45	W0269	Fassaroe Waste Recovery Facility
46	W0272	Milverton Waste Recovery Facility
47	W0277	Huntstown Cement Waste Recovery Facility
48	W0278	Mullaghcroone Quarry

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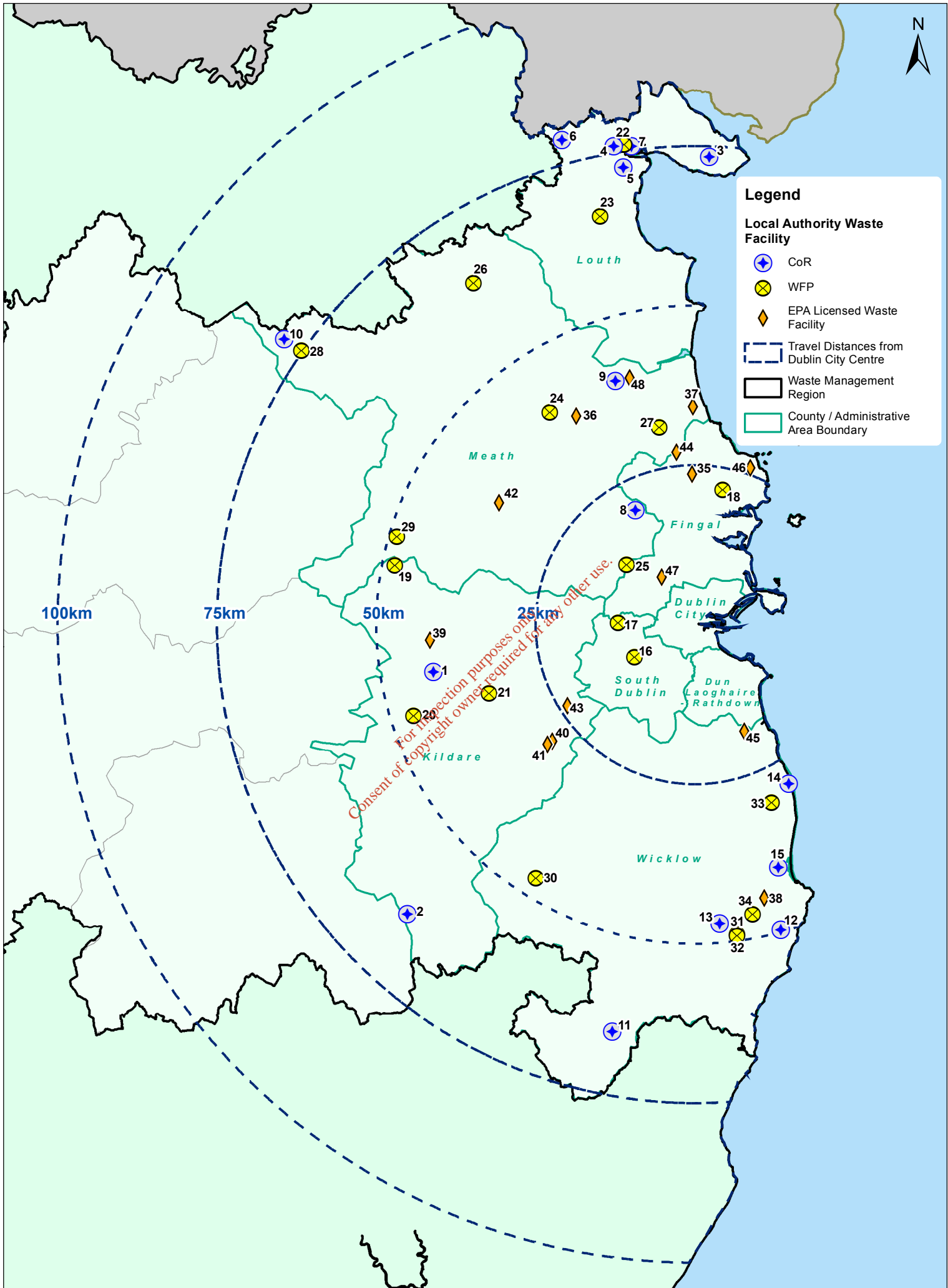


Figure 3.2 Travel Distances to Soil Recovery Facilities from Dublin City Centre

APPENDIX B

Facility Closure Letter

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A Division of Murphy Concrete Manufacturing Ltd.

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RECEIVED 11 JUN 2016

08/06/2016

Dear Customer,

Please be aware that we have almost reached our yearly tonnage limits for 2016.

We have three to four weeks tonnage left approximately.

It is hard to be more accurate as it depends on how many loads come in to our facility over the next few weeks. We are very sorry for any inconvenience caused but we have to operate within our EPA licence limits.

Thank you for your custom throughout the year and we look forward to seeing you all in January next year.

Yours Sincerely,

Lisa Murphy

Office Manager

Murphy Environmental Gormanston

01-8412708

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