

APPENDIX 10

TRAFFIC MODELLING REPORT

ENVIRONMENTAL PROTECTION  
AGENCY WASTE LICENSING  
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**TRAFFIC IMPACT ASSESSMENT**  
**Proposed Waste Recovery/Transfer and**  
**Sludge Drying Facility**

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SWS ENVIRONMENTAL SERVICES  
SHINAGH HOUSE  
BANDON  
CO. CORK

**SWS Environmental Services**

MEMBER OF



Title: Transport Impact Assessment  
Project: Waste Recovery/Transfer and Sludge Drying Facility  
Client: AVR – Environmental Solutions  
Issue: Submission Issue  
Job No.: 2004\_121

Prepared & Checked by: ON Date: August 2004

Authorised for Issue by: AF Date: September 2004

## Executive Summary

This Traffic Impact Assessment has been prepared by South Western Environmental Services on behalf of AVR – Environmental Solutions Limited.

The scope of this report is to evaluate the traffic and transportation impact of the proposed development at Foxhole, Youghal Co. Cork.

All data has been collected and analysed using procedures in accordance with National Road Authority guidelines, *Design Manual for Roads and Bridges* and best practice.

An assessment of the road network surrounding the proposed development has shown that the proposed junction arrangements and on site facilities can fully accommodate the traffic generated by the proposed development.

The key aspects of the development with regards to traffic are as follows:

- Segregated service vehicle and staff/visitor entrances.
- Designated car parking for disabled persons, visitors, HGV's and staff.
- Dedicated internal pedestrian movement on formalised footways.
- Dedicated cycle facilities.

This proposal has due regard to sustainability issues in respect of public transport and other non-car modes. In addition the volume of increased vehicular (car) trips is negligible.

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## 1.0 Introduction

1.1 This Traffic Impact Assessment has been carried by South Western Environmental Services on behalf of AVR – Environmental Solutions Limited. The purpose of this report is to identify and comment upon the transportation aspects of the proposal by AVR – Environmental Solutions Ltd. to develop a Materials Recovery Facility and a Sludge Drying Facility at Foxhole, Youghal, Co. Cork.

1.2 The assessment of the proposal is based on site observations and information in the Environmental Impact Statement (EIS) undertaken by Fehily Timoney & Company for Cork County Council as part of the *Intensification of use of Youghal Landfill*.

1.3 Accordingly, this report reviewed the traffic characteristics of the proposed facility, assesses the relationship with traffic activity in the vicinity of the site, and then examines the potential impact of a resultant increase in the traffic generated by the facility.

1.4 The data collected was analysed as follows:

- Trip generation, assignment and distribution,
- Existing and proposed access arrangements to the site,
- Sustainable modes accessibility to the site,
- Internal layout and parking,
- Effect on the local road network of the expected volume of vehicles generated by the proposed development,
- Servicing.

1.5 The recommendations included in this report are based on a full analysis of data available at the time of compilation this report.

## 2.0 Existing Situation

### 2.1 Site Description

- 2.1.1 The site was visited on 29<sup>th</sup> July 2004 to gather specific information about the local road network including junction layouts, speed limits, peak hours and road geometry. From observations at similar type facilities and the proposed throughput at the Waste Recovery/Transfer and Sludge Drying Facility it is possible to estimate hourly traffic generation at the site for a typical one-day operation.
- 2.1.2 The site of the proposed development is located in the Commercial and Industrial zone of Youghal (I – 04). The site for the proposed facility is approximately 2 km north of Youghal town. The site is linked to the N25 (Youghal Bypass) via the R634. The site actually lies off an abandoned section of the T12. This road was formally the main Youghal – Dungarvan road.
- 2.1.3 The existing junction to the site is solely used for access and is a cul-de-sac with a speed limit of 30 miles/hour.
- 2.1.4 Photographs of the existing site entrances are found in Appendix A.
- 2.1.5 A site location map is attached in Appendix B.

### 2.2 Surrounding Road Network, Existing & Predicted Traffic Generation

- 2.2.1 The R634, formerly the N25 National Primary Route is an all purpose non-national road of type S2 (NRA TD 9/00).
- 2.2.2 The Youghal Bypass, N25 is a National Primary Route and main Cork to Waterford road. It is also classified as the E30 Euroroute.
- 2.2.3 The surrounding transports routes are shown in a plan attached in Appendix C.

- 2.2.4 The abandoned section of the T12 which is the road which links the R634 to the site entrance ends in a cul-de-sac; it is shared with a small number of private users.
- 2.2.5 The roadway has an average carriageway width of 5.5m; this width does not facilitate two-way movement for HGV's and consequently two lay-bys have been created.
- 2.2.6 The opening of the N25 (Youghal Bypass) has resulted in a significant decrease in the volume of traffic using the R634.
- 2.2.7 Traffic flow rates on the T12 are relatively low at present; there is minimal pass-by traffic due to the fact that it is a cul-de-sac, which is shared with only a small number of private users. As the T12 was formerly the main Youghal – Dungarvan road, this suggests that there was once a significant volume of traffic on this road. The proposed facility will not cause the return of these traffic volumes.
- 2.2.8 National Roads Authority (NRA) traffic data in 1999 showed that this portion of the N25 (now the R634) near the entrance to T12, had an annual average daily traffic (AADT) volume of approximately 9,340 vehicles per day of which 13% were heavy good vehicles (HGV's).
- 2.2.9 Traffic data collected as part of the Traffic section of the Environmental Impact Statement (EIS) prepared by Fehily Timoney & Company on behalf of Cork County Council in May 2003 for the *Intensification of Use of Youghal Landfill* shows an annual average daily traffic (AADT) volume of approximately 5,496 vehicles per day of which 22% were heavy good vehicles (HGV's). This equates to the removal of 48% of the total predicted 2003 traffic (i.e. using a growth factor of 3.5% per annum) on this portion of the R634 if the Youghal Bypass had not been built.
- 2.2.10 The peak hour traffic volume (between 9:00 – 10:00) measured at the junction of the T12 and the R634 in May 2003 as part of the Fehily Timoney & Company EIS accessing and egressing the cul-de-sac is presented in Table 1.



Vehicle Type	Traffic Volumes	% Total
Bus	0	0
Heavy Goods Vehicles, more than four axels, (HGV2)	18	42
Heavy Goods Vehicles, between two or three axels, (HGV1)	0	0
Light Goods Vehicles (LGV)	8	19
Car	16	38
Total	42	100

**Table 11.2.1 Peak Traffic Data Accessing and Egressing the T12 off the R634**

2.2.11 Data collected at the Youghal Landfill as part of its licensing procedures indicate that the peak hour for combined HGV1 and HGV2 movement is 12:00 to 15:00 where 6 HGV access the landfill. The busiest hour for cars and other vehicular traffic is Saturday between 9:30 and 12:30 where approximately 60 to 70 vehicles access the landfill.

2.2.12 It can be assumed that most traffic accessing this road are visiting Youghal Landfill and Civic Amenity Site as the NCT Centre generates low volumes, likewise Youghal Shipping uses the lands adjacent to the landfill rarely.

2.2.13 **Construction Phase:** Impact is considered to be negligible during the construction phase of the proposed development due to the fact that the actual that the site is flat and small and, very little spoil movement off-site will be required.

2.2.14 **Operations Phase:** The proposed Waste Recovery/Transfer and Sludge Drying Facility will generate approximately 39 HGV trips per day (associated with waste in/out activities) and 10 car trips per day (associated with staff and visitors to the administration building) at full operational capacity. Full operational capacity is when the proposed facility is managing the maximum tonnages of waste under its waste licence, which includes;

- 70,000 tonnes/annum of commercial/enterprise and industrial waste,
- 30,000 tonnes/annum of non-hazardous biological sludge from waste water treatment plants,
- 10,000 tonnes/annum of leachate,
- 500 tonnes/annum of washings.

- 2.2.15 The proposed waste management activities at maximum operating capacity would increase the growthed AADT 2004 figure of 5,688 by an AADT of 42.12 in terms of HGV's, the number of car movements is negligible. Therefore the proposed development generated traffic will not have any significant impact on the surrounding road network. In fact it can be stated that the proposed facility at Foxhole, Youghal will not result in any significant impact on traffic flows along the adjoining roads due to the opening of the N25, Youghal Bypass.
- 2.2.16 The geometry of the T12 does not facilitate two-way movement for HGV's, though it did historically. However this was removed by Cork County Council due to illegal camping activities and fly tipping. Cork Council created two lay-bys. As part of the planning conditions granted for the *Intensification of Use of Youghal Landfill* by An Bord Pleanala Cork County Council is required to upgrade the road to facilitate further two-way movement of HGV's. The proposed upgrading of the T12 by Cork County Council as part of the Youghal Landfill intensification as prepared by Fehily Timoney and Company as attached in Appendix D.

### 3.0 Transport Proposals

#### 3.1 Site Access Arrangements

- 3.1.1 Traffic to the site will be directed from the R634 onto the T12 by signpost.
- 3.1.2 There are two entrances into the proposed facility situated at either end of the of the approximately 173 m frontage. The south west entrance is exclusively for service vehicles while the entrance located to the north east is for access to staff/visitor car parking area.
- 3.1.3 The access junctions have been designed and will be constructed in accordance with the applicable road design criteria set out in the *Design Manual for Roads and Bridges* (D.M.R.B). The extent of available site frontage together with the existing and future, road width ensures that all the appropriate geometry can be achieved.
- 3.1.4 In the interests of safety and security of the site operation it is proposed that gates are positioned at both entrances. An access barrier will be placed at the service entrance. However these have been positioned so as to ensure their operation does not impede traffic flow on the adjoining road.

- 3.1.5 As mentioned above the design has been mindful of the potential realignment of the T12 cul-de-sac at some point in the future. Cognisance has been taken of the intended road realignment imposed by the Cork County Council. Accordingly, the proposed access layout enables connection to the existing alignment of the T12 and also to the new alignment without recourse to extensive reconstruction and without prejudicing the proposed road improvements.
- 3.1.6 The speed limit on the T12 is 30 mph. A visibility envelope in accordance with the limit is achievable over the site frontage at both entrances.
- 3.1.7 A plan indicating visibility envelopes is attached in Appendix E.

## 3.2 Internal Layout

- 3.2.1 It is predicted that there will be 17 employees of AVR – Environmental Solutions Ltd. at full operational capacity. There are 17 proposed car parking spaces including 2 number disabled parking bays and 1 number motorbike parking bay. A number of the employees will work in area of sales and it is envisaged that a maximum of 12 staff will be in the actual proposed development at any one time. Therefore there is sufficient parking for both staff and visitors. This is also conforms to the Car Parking Standards in Appendix IV of the Cork County Development Plan 1996. This will ensure that no over spill onto the public road occurs. The car parking provision is in line with operational expectations to ensure traffic circulation is safe and efficient, and to reduce the likelihood of indiscriminate parking off site on the surrounding roads.
- 3.2.2 The car parking bays which are well laid out to standard sizes (2.5m x 5m).
- 3.2.3 The car park is situated conveniently near the Administration building and is designed in such a way as to separate car visitation from the main site operation. Clearly, minimising the interaction of car and HGV activity is beneficial to the safety and efficiency of the operation.
- 3.2.4 The proposed development is designed to promote safety, with a particular emphasis on safe pedestrian movements between the car parking area and the various buildings within the facility itself. Safety is promoted by means of footways, road markings and signage throughout the proposed facility.

- 3.2.5 As part of the promotion of sustainable modes of transport, cycle racks have been included in the design of the proposed development. These would be located in a well lit, secure area near the Administration building.
- 3.2.6 The segregated entrances fit well with the design of the proposed development. This particular entrance layout configuration enables an efficient circulatory system to operate between the offloading and collection areas whilst maximising the capacity and workable space of the facility within the available site area.
- 3.2.7 Internal Vehicular Movement and Layout attached in Appendix F shows the location of the entrances and provides details of parking facilities.

### 3.3 Service Arrangements

Both the Materials Recovery Facility and the Sludge Drying Facility understandably involve the use of HGV's on a daily basis, therefore it is necessary to examine the arrangements provided for these vehicles within the site itself.

- 3.3.1 The anticipated frequency of visitation, the available frontage, the distance within the site between the weighbridge and the point of entry, and the method of control for recording arrivals and departures are all factors intended to ensure that there is minimal disruption to the adjoining road, thus avoiding any potential hazardous situations, such as queuing on the adjoining road network.
- 3.3.2 There are segregated areas for parking, deliveries or collection and assigned routes to avoid congestion within the facility.
- 3.3.3 The site arrangement has been carefully designed to ensure that all vehicles can enter and leave the site in forward gear and as such there is no requirement for vehicles to perform potentially hazardous manoeuvres on or adjacent to the public road.
- 3.3.4 The swept paths of the HGV's internally have been tested using AUTOTRACK and attached in Appendix F.
- 3.3.5 Given the nature of the operation on the site, it is necessary for vehicles to pass over a weighbridge on entering and leaving the site. The weighbridge is located so as to ensure its use will not impede the passage of other vehicles circulating entering or leaving the site, as shown in **Appendix E**. In particular, the weighbridge for entry

vehicles has been positioned so as to achieve very adequate staking distance from the entrance.

### **3.4 Access for Disabled Persons**

3.4.1 There are 2 dedicated disabled car parking spaces provided.

3.4.2 These disabled car parking spaces are located near the main entrance for convenience, ease of access and to minimise conflict with other traffic.

3.4.3 The disabled car parking will be designed to the highest standards, with all suitable footpath and surface dressings designed for ease of mobility.

### **3.5 Sustainable Modes of Transport**

3.5.1 The proposed development is conveniently located near Youghal town and thus is sustainable to employees accessing the site using other modes of transportation other than the car.

3.5.2 Pedestrian and cycle modes are high in the pyramid of sustainability and will be accommodated fully at the proposed development, by means of bicycle racks and a pedestrian entrance into the facility. The bicycle racks will be located in a well lit, secure area near the Administration building.

## 4.0 Road Safety

- 4.0.1 The proposed development layout is designed so that employee and HGV movement safety is a priority, in so far as the internal traffic circulation roads and loading/unloading areas are planned to an acceptable standard.
- 4.0.2 The proposed development is also designed with safety of visitor in mind, in that car parking is satisfactory for the purpose and circulation roads are signed and set out in an acceptable manner.
- 4.0.3 It is important to state that the public are not endangered or inconvenienced due to the proposed development.
- 4.0.4 The capacity of the R634 and T12 is sufficient, so that the proposed development traffic does not cause any additional congestion or detriment to the existing road users.
- 4.0.5 The proposed access arrangements are of sufficient size and specification to allow all sizes of vehicles likely to visit the site to enter and leave in a safe manner.
- 4.0.6 Adequate car parking spaces provided to ensure that overspill from the car park does not occur to the detriment of the existing road users.
- 4.0.7 Signs limiting traffic to a speed of 10mph will be posted at the entrances.

## 5.0 Conclusions

- 5.0.1 Service access arrangements, likewise other accesses have been analysed to current standards and practices.
- 5.0.2 In relation to the internal layout and arrangements, the proposed layout accommodates segregation of service vehicles thus minimising conflict between pedestrian and vehicular.
- 5.0.3 Cycle racks have been introduced to promote sustainable modes of transportation for employees.
- 5.0.4 Provision is made for disabled persons in the form of 2 number designated car parking spaces near the main entrance, with the associated surface dressings, located near the main entrance in order to minimise conflict with circulating traffic.
- 5.0.5 There is sufficient parking for both staff and visitors. This also conforms to the Car Parking Standards in Appendix IV of the Cork County Development Plan 1996. This will ensure that no over spill onto the public road occurs. The car parking provision is in line with operational expectations to ensure traffic circulation is safe and efficient, and to reduce the likelihood of indiscriminate parking off site on the surrounding roads.
- 5.0.6 Finally, the proposal put forward by AVR – Environmental Solutions Ltd. will provide a sustainable solution in the waste management sector, without having an adverse impact on the local road network. There is an increase in generated traffic flow levels, mostly by HGV's, which is negligible in comparison to passer-by traffic but is well within the traffic carrying capacity of the road network.

## 6.0 List of References

An Foras Forbartha, Feeney, B.P, Car Ownership Forecasts 1995 – 2005, 1984.

Departments of Environment, Traffic Signs Manual, 1994.

Department of Environment, Sustainable Development A Strategy for Ireland, 1999.

Cork County Development Plan, 2003

National Roads Authority, Road Geometry Handbook, 2000

National Roads Authority, Design Manual for Roads and Bridges, 2000

Proposed Intensification of Use of Youghal Landfill, EIS, Fehily Timoney and Company, 2003

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Appendix A

Existing Site Access Arrangements Photographs



Existing Site Entrance



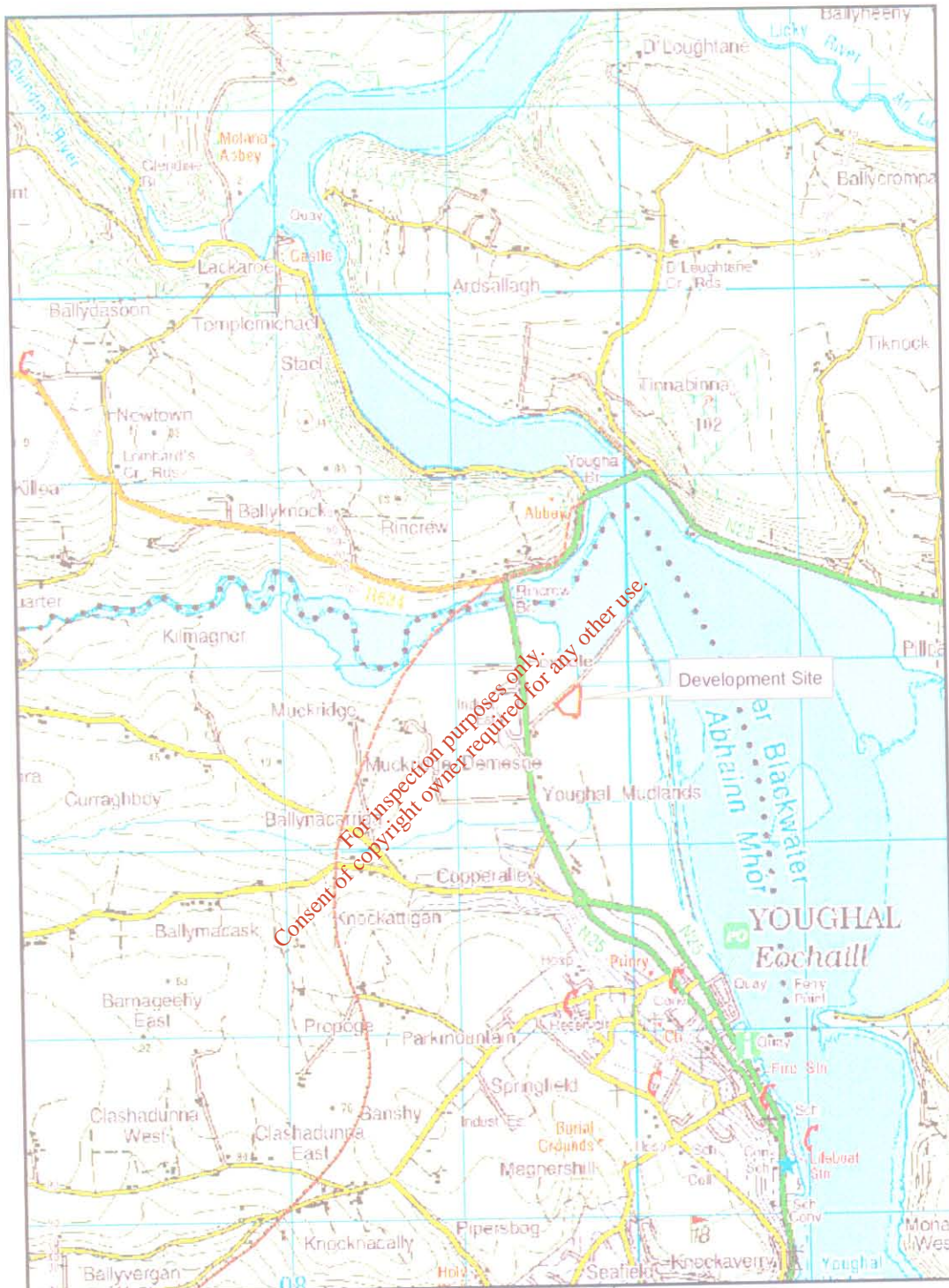
Youghal at Entrance looking north east



Youghal at Entrance looking south west

# Appendix B Site Location Plan

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**Fig. 1.1**  
**Site Location Map**



Scale: 1:30,000



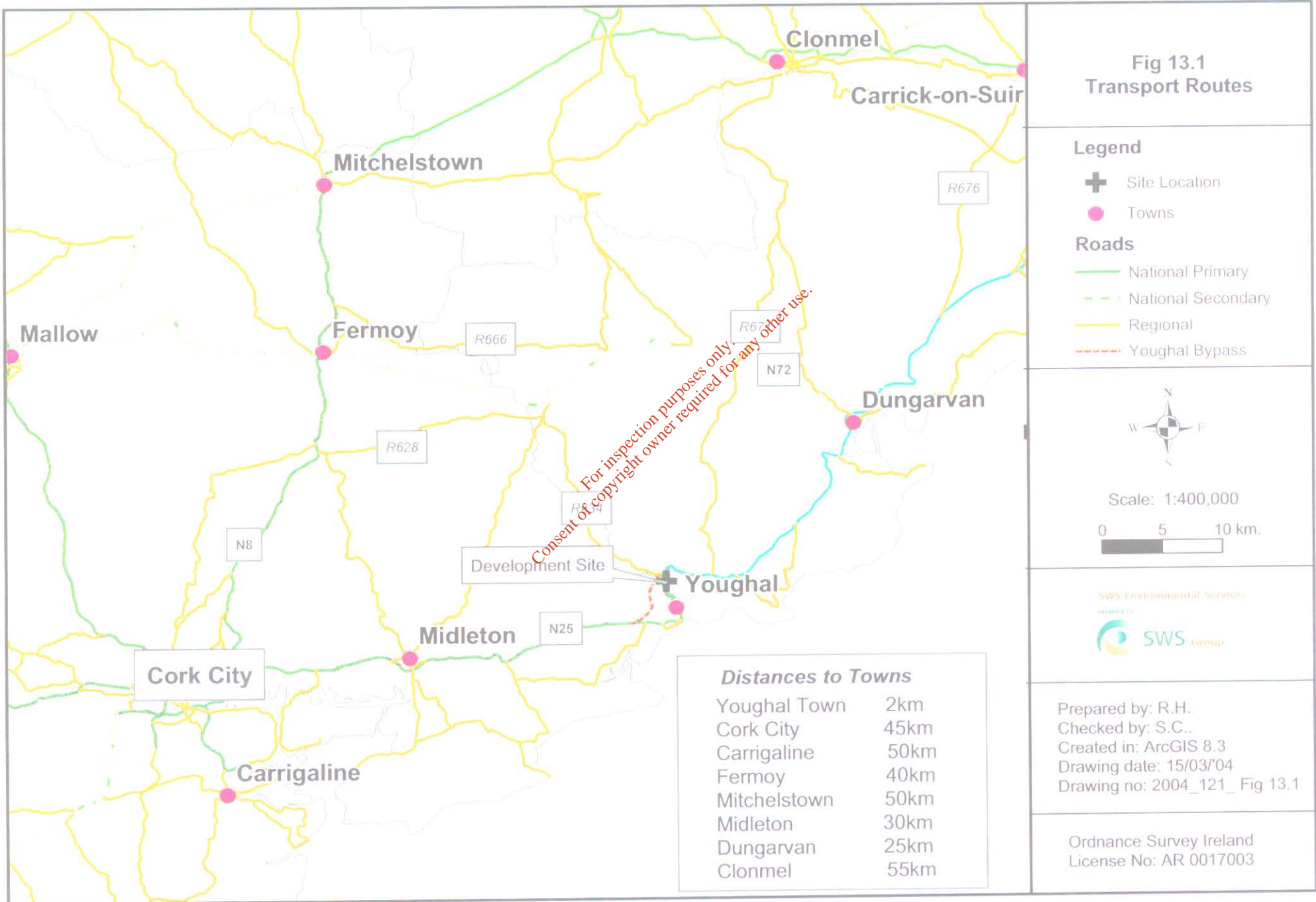
- Legend
- Site Boundary
  - Youghal Bypass

Prepared by: S.C./R.H.  
 Checked by: D.W.  
 Created in: ArcGIS 9  
 Drawing date: 05/03/04  
 Drawing No: 2004\_121\_Fig 2\_1  
 Updated: 27/07/04

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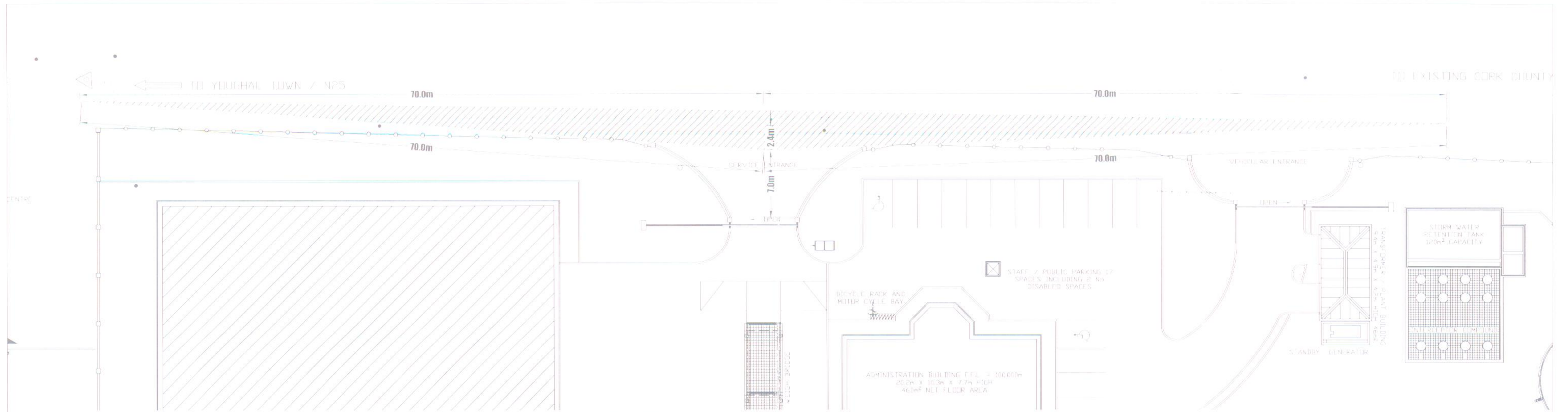
# Appendix C Transport Routes

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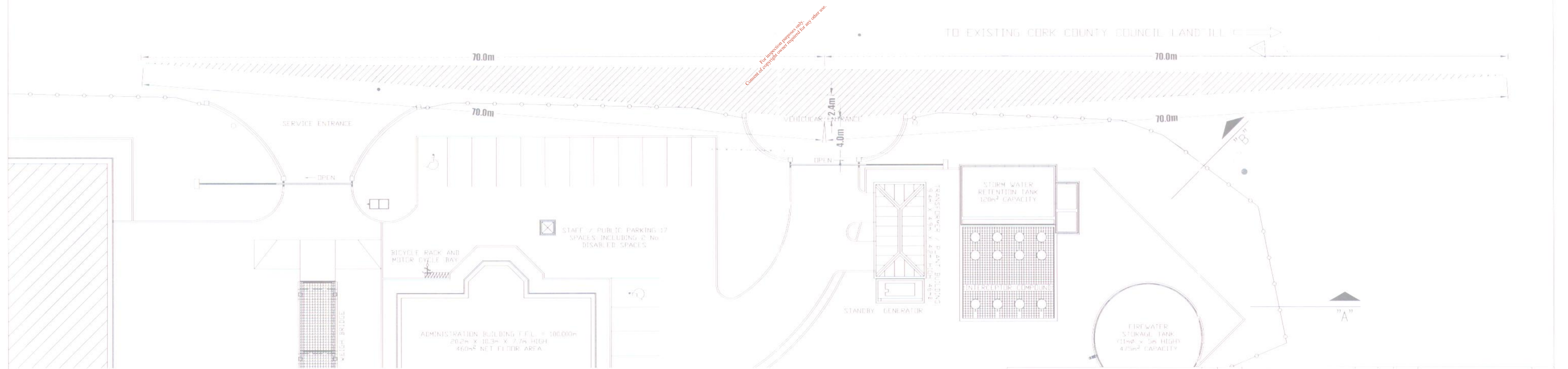


**Appendix D Proposed Upgrading of T12 by Cork County  
Council as part of the Youghal Landfill Intensification**

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**SERVICE ENTRANCE VISIBILITY ENVELOPE**  
Scale 1: 200 (A1)



**VEHICULAR ENTRANCE VISIBILITY ENVELOPE**  
Scale 1: 200 (A1)

Ref: ROAD GEOMETRY HANDBOOK, NATIONAL ROAD AUTHORITY, DECEMBER 2003  
 2. GEOMETRIC STANDARDS FOR DIRECT ACCESS, FIGURE 2/1 AND TABLE 2/1.  
 SPEED ON CUL-DE-SAC ROAD TO LANDFILL TAKEN AS 30 MILES PER HOUR.  
 ALL PLANTING WITHIN VISIBILITY ENVELOPES SHALL BE KEPT BELOW 1.05m IN HEIGHT.

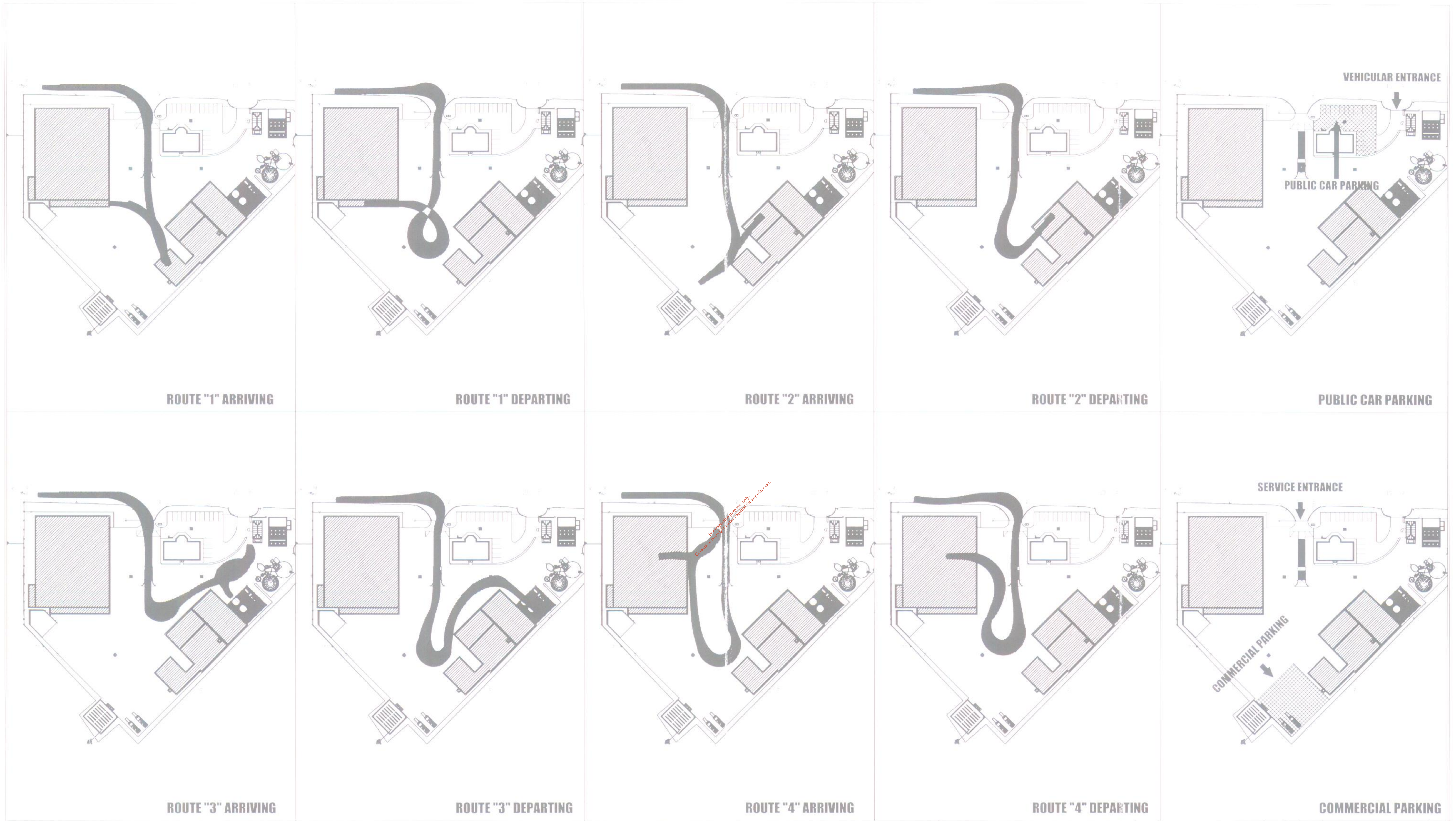


DRAWING STATUS		ISSUED FOR PLANNING								
CLIENT		 AVR - ENVIRONMENTAL SOLUTIONS Ltd.								
PROJECT		PROPOSED WASTE RECOVERY/TRANSFER AND SLUDGE DRYING FACILITY AT FOXHOLE, YOUGHAL Co. CORK								
DRAWN		EG	DATE	MAY '04						
DESIGNED		EG	DATE	12/03/04						
APPROVED		EG	SCALE	1:200(A1)						
CLIENT APPROVAL										
		FILE No.		04/409						
		LAST FILE NAME		04409-322.dwg						
		DRAWING NUMBER		044.09-322						
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## Appendix E    Visibility Envelopes

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ROUTE "1" ARRIVING

ROUTE "1" DEPARTING

ROUTE "2" ARRIVING

ROUTE "2" DEPARTING

PUBLIC CAR PARKING

ROUTE "3" ARRIVING

ROUTE "3" DEPARTING

ROUTE "4" ARRIVING

ROUTE "4" DEPARTING

COMMERCIAL PARKING

**ROUTE "1" SERVING LOADING/LOADING BAY**  
 LARGE ARTICULATED LORRY TO SIDE / LOADING DOCK.  
 ROUTE IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO CORNER OF SLUDGE RECEPTION BUILDING, REVERSE INTO LOADING DOCK BAY, LOAD / UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**ROUTE "2" SERVING SLUDGE RECEPTION BUILDING**  
 LARGE ARTICULATED LORRY TO SLUDGE RECEPTION BUILDING.  
 ROUTE IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO CORNER OF SLUDGE RECEPTION BUILDING, TURN AND ALIGN IN TURNING AREA, REVERSE INTO SLUDGE RECEPTION BUILDING, UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**ROUTE "3" SERVING BIO-SOLIDS DISCHARGE SILOS**  
 LARGE ARTICULATED LORRY TO BIO-SOLIDS DISCHARGE SILOS.  
 ROUTE IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO CORNER OF SLUDGE RECEPTION BUILDING, TURN AND ALIGN TOWARDS TRANSFER PLANT BUILDING, REVERSE INTO BIO-SOLIDS DISCHARGE SILOS, LOAD / UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**ROUTE "4" SERVING WASTE RECOVERY AND TRANSFER BUILDING**  
 LARGE ARTICULATED LORRY TO WASTE RECOVERY TRANSFER BUILDING.  
 ROUTE IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO TURNING AREA, TURN AND ALIGN TOWARDS MAIN ENTRANCE, REVERSE INTO WASTE RECOVERY AND TRANSFER BUILDING, LOAD / UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**NOTES:**  
 THE ABOVE REPRESENTATION FOR TRUCK TURNING CIRCLES AND ACCESS ROUTES IS FOR INFORMATION ONLY AND ARE SUBJECT TO MODIFICATIONS IN REALITY.  
 THE REPRESENTATION IS BASED ON:  
 LARGE FOUR AXLES ARTICULATED LORRY WITH WIDE SPREAD TRAILER AXLES, 5m LONG, 25m WIDE, TWIN REAR AXLE TRAILER WITHOUT TRAILER TURNING FACILITY.  
 TWIN AXLE TRACTOR UNIT WITH SINGLE FRONT AXLE STEERING 12 to 15m SWEEP CIRCLE RADII.

**ACCESS ARRANGEMENTS:**  
 SERVICE AND VEHICULAR ENTRANCES SEGREGATED VEHICULAR ENTRANCE FOR 17 No. CAR PARKING SPACES, INCLUDING 2 No. WHEEL CHAIR SPACES, MOTOR BIKES AND CYCLE RACK FACILITIES.

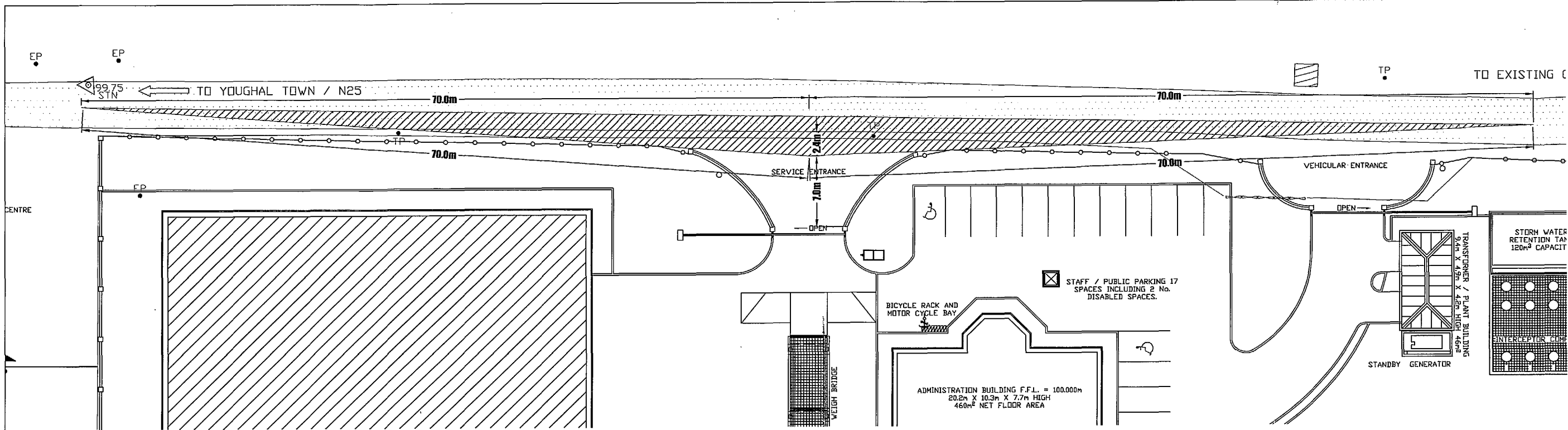
**SIGNAGE:**  
 SIGNAGE IN ACCORDANCE WITH NATIONAL GUIDELINES AND RECOMMENDATION, SHALL BE ERRECTED INTERNALLY TO MARSHALL VEHICULAR MOVEMENTS.

ISSUED FOR PLANNING

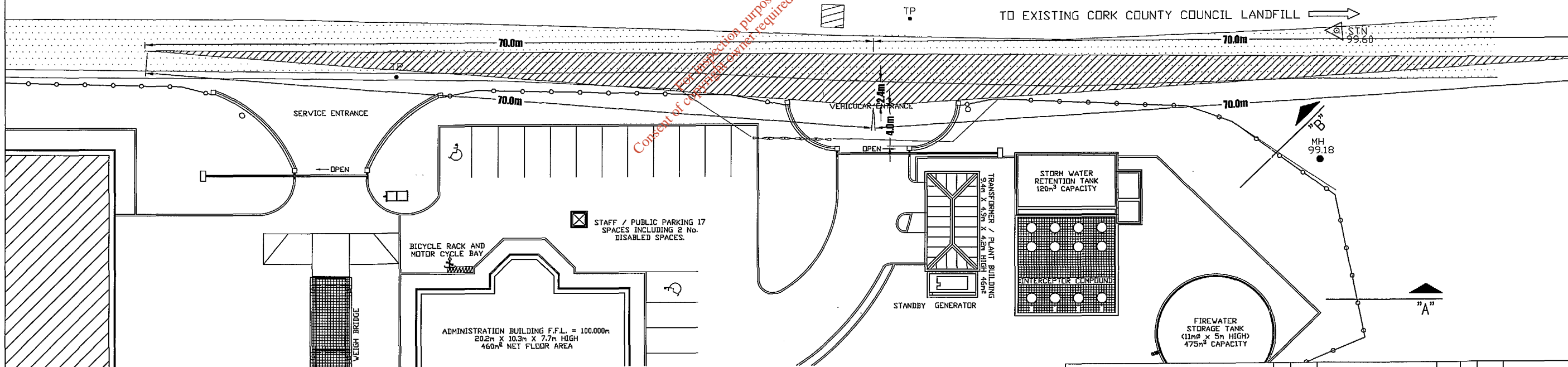
CLIENT  
**AVR**  
 AVR - ENVIRONMENTAL SOLUTIONS Ltd.  
 PROPOSED WASTE RECOVERY/TRANSFER AND SLUDGE DRYING FACILITY AT FOXHOLE, YOUGHAL Co. DUBLIN

APPENDIX  
 INTERNAL VEHICULAR MOVEMENTS & LAYOUTS

A		ISSUED FOR PLANNING		CD'S			
NO.	DATE	REVISION	BY	NO.	DATE	REVISION	BY
DRAWN	CD'S	DATE	MAY 04	<b>FINBARR GANNON &amp; CO. LTD.</b> <b>CONSULTING ENGINEERS</b> 15 PEARSON ROAD, LINDRUM PARK, DUBLIN 15 TEL: 01 409 323 FAX: 01 409 323 WWW.FINBARRGANNON.COM			
DESIGNED	ED	SCALE	NTS (A1)				
APPROVED	FG						
CLIENT APPROVAL				FACE SHEET NO.	04/409		
				LEAD FILE NAME	04409-323.dwg		
				DRAWING NUMBER	04409-323	REV.	A



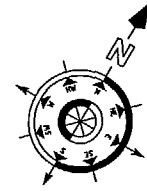
**SERVICE ENTRANCE VISIBILITY ENVELOPE**  
Scale 1: 200 (A1)



**VEHICULAR ENTRANCE VISIBILITY ENVELOPE**  
Scale 1: 200 (A1)

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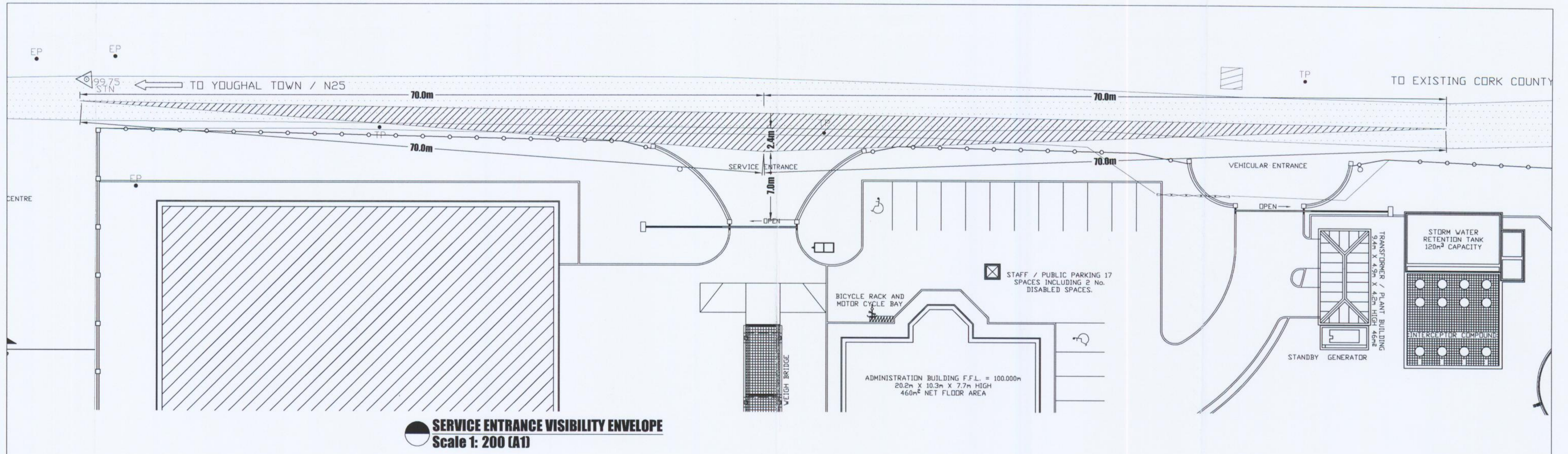
**Ref: ROAD GEOMETRY HANDBOOK, NATIONAL ROAD AUTHORITY, DECEMBER 2003**  
**2. GEOMETRIC STANDARDS FOR DIRECT ACCESS, FIGURE 2/1 AND TABLE 2/1.**  
**SPEED ON CUL-DE-SAC ROAD TO LANDFILL TAKEN AS 30 MILES PER HOUR.**  
**ALL PLANTING WITHIN VISIBILITY ENVELOPES SHALL BE KEPT BELOW 1.05m IN HEIGHT.**



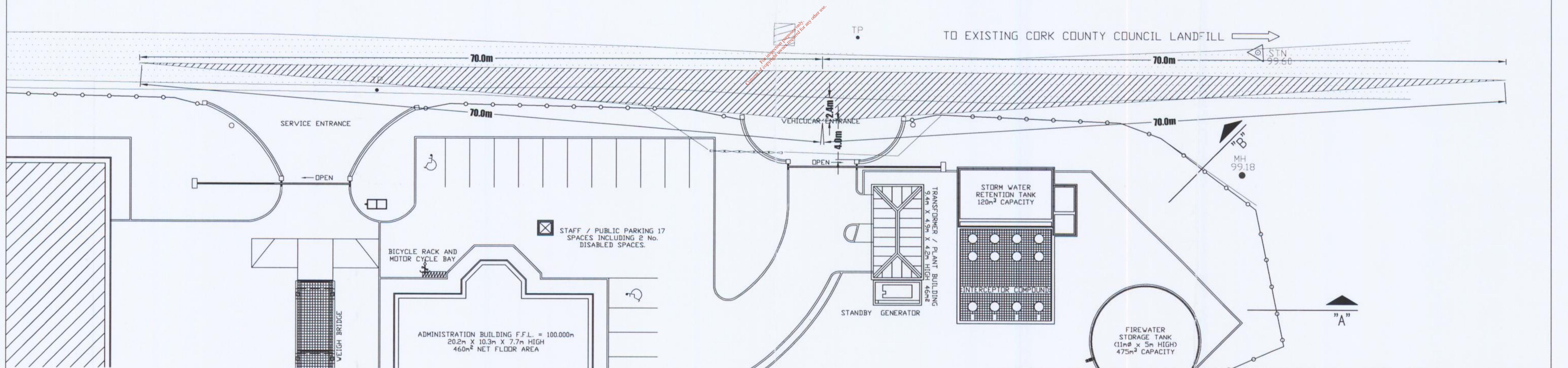
DRAWING STATUS		ISSUED FOR PLANNING					
CLIENT		 <b>AVR - ENVIRONMENTAL SOLUTIONS Ltd.</b>					
PROJECT		PROPOSED WASTE RECOVERY/TRANSFER AND SLUDGE DRYING FACILITY AT FOXHOLE, YOUGHAL Co. CORK.					
APPENDIX							
DRAWING TITLE		VISIBILITY ENVELOPES					
DRAWING STATUS		ISSUED FOR PLANNING		CO'S			
No.	DATE	REVISION	BY	No.	DATE	REVISION	
A	19-09-04	ISSUED FOR PLANNING					
DRAWN		CO'S	CLIENT FILE No.	FINBARR GANNON CONSULTING ENGINEERS			
DESIGNED		EO	DATE	MAY '04			
APPROVED		FG	SCALE	1:200(A1)			
CLIENT APPROVAL				FGCL FILE No.		04/4	
				CAD FILE NAME		0440	
				DRAWING NUMBER		04409-322	

## Appendix F Internal Vehicular Movements & Layout

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**SERVICE ENTRANCE VISIBILITY ENVELOPE**  
Scale 1: 200 (A1)

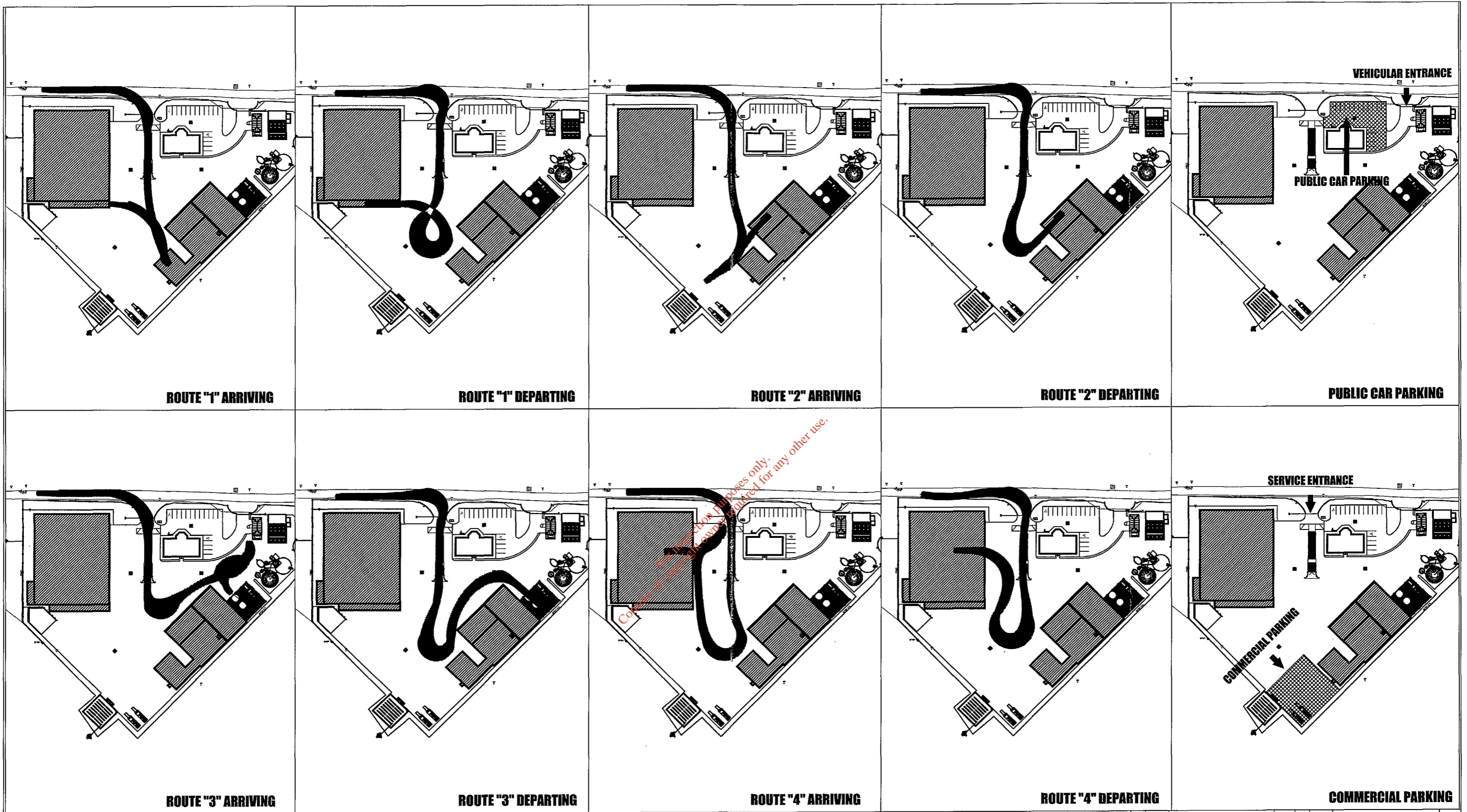


**VEHICULAR ENTRANCE VISIBILITY ENVELOPE**  
Scale 1: 200 (A1)

Ref: ROAD GEOMETRY HANDBOOK, NATIONAL ROAD AUTHORITY, DECEMBER 2003  
**2. GEOMETRIC STANDARDS FOR DIRECT ACCESS, FIGURE 2/1 AND TABLE 2/1.**  
**SPEED ON CUL-DE-SAC ROAD TO LANDFILL TAKEN AS 30 MILES PER HOUR.**  
**ALL PLANTING WITHIN VISIBILITY ENVELOPES SHALL BE KEPT BELOW 1.05m IN HEIGHT.**



DRAWING STATUS		ISSUED FOR PLANNING							
CLIENT		 <b>AVR - ENVIRONMENTAL SOLUTIONS Ltd.</b>							
DRAWING TITLE		PROPOSED WASTE RECOVERY/TRANSFER AND SLUDGE DRYING FACILITY AT FOXHOLE, YOUGHAL Co. CORK.							
APPENDIX									
DRAWING STATUS		ISSUED FOR PLANNING		CO'S					
No.	DATE	REVISION	BY	No.	DATE	REVISION	BY		
DRAWN	CO'S	CLIENT FILE No.		FINBARR GANNON & CO. LTD. CONSULTING ENGINEERS					
DESIGNED	EO	DATE	MAY '04	St. PATRICK'S HOUSE, LOWER GLANMIRE ROAD, CORK. TEL 021-4508424 FAX 021-4509104 E-MAIL office@fgcl.ie					
APPROVED	FG	SCALE	1:200(A1)	FGCL FILE No.		04/409			
CLIENT APPROVAL				CAD FILE NAME		04409-322.dwg			
				DRAWING NUMBER		04409-322		REV. A	



**ROUTE "1" SERVICING LOADING/UNLOADING BAY**  
 LARGE ARTICULATED LORRY TO SIDE / LOADING DOCK.  
 ROUTE: IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO CORNER OF SLUDGE RECEPTION BUILDING, REVERSE INTO LOADING DOCK BAY, LOAD / UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**ROUTE "2" SERVICING SLUDGE RECEPTION BUILDING**  
 LARGE ARTICULATED LORRY TO SLUDGE RECEPTION BUILDING.  
 ROUTE: IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO CORNER OF SLUDGE RECEPTION BUILDING, TURN AND ALIGN IN TURNING AREA, REVERSE INTO SLUDGE RECEPTION BUILDING, UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.


**ROUTE "3" SERVICING BIO-SOLIDS DISCHARGE SILO'S**  
 LARGE ARTICULATED LORRY TO BIO-SOLIDS DISCHARGE SILO'S.  
 ROUTE: IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO CORNER OF SLUDGE RECEPTION BUILDING, TURN AND ALIGN TOWARDS TRANSFORMER/PLANT BUILDING, REVERSE INTO BIO-SOLIDS DISCHARGE SILO'S, LOAD / UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**ROUTE "4" SERVICING WASTE RECOVERY AND TRANSFER BUILDING**  
 LARGE ARTICULATED LORRY TO WASTE RECOVERY TRANSFER BUILDING.  
 ROUTE: IN MAIN ENTRANCE, OVER WEIGH BRIDGE AND THROUGH TRUCK WASH, PROCEED TO TURNING AREA, TURN AND ALIGN TOWARDS MAIN ENTRANCE, REVERSE INTO WASTE RECOVERY AND TRANSFER BUILDING, LOAD / UNLOAD, PROCEED TO TURNING AREA, TURN AND ALIGN FOR TRUCK WASH / WEIGH BRIDGE AND EXIT SITE.

**NOTES:**  
 THE ABOVE REPRESENTATION FOR TRUCK TURNING CIRCLES AND ACCESS ROUTES IS FOR INFORMATION ONLY AND ARE SUBJECT TO MODIFICATIONS IN REALITY.  
 THE REPRESENTATION IS BASED ON:  
 LARGE FOUR AXLES ARTICULATED LORRY WITH WIDE SPREAD TRAILER AXLES, 15m LONG, 2.5m WIDE, TWIN REAR AXLE TRAILER WITHOUT TRAILER TURNING FACILITY.  
 TWIN AXLE TRACTOR UNIT WITH SINGLE FRONT AXLE STEERING, 12 to 15m SWEEP CIRCLE RADIUS.

**ACCESS ARRANGEMENTS:**  
 SERVICE AND VEHICULAR ENTRANCES SEGREGATED VEHICULAR ENTRANCE FOR 17 NO. CAR PARKING SPACES INCLUDING 2 NO. WHEEL CHAIR SPACES, MOTOR BIKES AND CYCLE RACK FACILITIES.

**SIGNAGE:**  
 SIGNAGE IN ACCORDANCE WITH NATIONAL GUIDELINES AND RECOMMENDATION, SHALL BE ERECTED INTERNALLY TO MARSHALL VEHICULAR MOVEMENTS.

DRAWING STATUS		ISSUED FOR PLANNING							
CLIENT		 <b>AVR - ENVIRONMENTAL SOLUTIONS Ltd.</b>							
DRAWING TITLE		PROPOSED WASTE RECOVERY/TRANSFER AND SLUDGE DRYING FACILITY AT FOXHOLE, YOUGHAL Co. CORK.							
APPENDIX									
DRAWING STATUS		ISSUED FOR PLANNING		CO'S					
No.	DATE	REVISION	BY	No.	DATE	REVISION	BY		
DRAWN	CO'S	CLIENT FILE No.		<b>FINBARR GANNON &amp; CO. LTD.</b> <b>CONSULTING ENGINEERS</b> St. PATRICK'S HOUSE, LOWER GLANSHIRE ROAD, CORK. TEL: 021-4508424 FAX: 021-4509104 E-MAIL: office@fgcl.ie					
DESIGNED	ED	DATE	MAY '04	FGCL FILE No.	04/409				
APPROVED	FG	SCALE	N.T.S. (A3)	CAD FILE NAME	04409-323.dwg				
CLIENT APPROVAL				DRAWING NUMBER	04409-323				REV.
								A	