

CIR20 - 129

REV: 02

**Biostabilisation Plant  
Leachate Management Plan  
CIR20-129**

Clean (Irl.)Refuse & Recycling Co. Ltd  
Ballinagun West,  
Cree,  
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Co. Clare

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Originator .....

Signed of by .....

Date Released.....

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**Purpose**

Outline Leachate Management Plan

**Scope**

Biostabilisation Plant

**Reason For Issue**

First Release

**Responsibility**

Operational Director

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## Introduction

A wide range of effluents can be produced by a composting facility, while some are potentially polluting, all can be reused in the composting process during the feedstock preparation stage or be used to maintain moisture levels in the composting biomass in the curing building. While some effluents can be collected and treated or reused together, others must be collected separately. They include:

- Biostabilisation Plant
  - Leachate from the receiving areas
  - Dry fermentation leachate
  - Composting tunnel leachate
  - Biofilter condensate
- Truck Wash
- Storm water run-off from traffic surfaces
- Clean storm water from roofs

## Biostabilisation Plant

In order to mitigate the environmental impact of liquids generated in the Biostabilisation Plant, measures will be taken in the infrastructural design and daily operation of the Biostabilisation Plant to manage the liquids generated. The facility will generate a number of effluents that will require management:

- (1) Leachate from the receiving areas: Wheel wash effluent & reception building wash down  
As a steam cleaner will be used to clean the wheels of exiting vehicles, potentially harmful disinfectants will be avoided. Due to the MBT nature of the facility, this wash down plus the general building floor wash down will be discharged to leachate tank No.1.
- (2) Dry fermentation percolate  
In order to drain off excess percolate, a series of stainless steel gutters each with grating are built into the fermentation chamber floor. They absorb excess liquid from percolate sprinkling and route it in a controlled way to a gas tight pipe collection system. From the collection pipes the percolate is routed to the insulated covered transfer pump duct into an insulated percolate storage unit. The entire piping system is routed in a frost-proof zone outside the fermentation chamber area. The entire system is closed to ensure that the percolate cannot leave the system in an uncontrolled manner.
- (3) Composting tunnel leachate  
The leachate from the tunnels is valved in order to segregate the leachate generated from MBT material from source separated material. The leachate from the MBT material is directed to leachate holding tank No.1 while the leachate from source separated material is directed to a second tank (leachate tank No. 2).
- (4) Biofilter condensate  
The biofilter condensate will be discharged to leachate tank number 2.

As described, there are two separate leachate tanks that will handle MBT and source separated liquors independently. Each will have a set of duty and stand-by pumps to return the respective effluents to the process where applicable. In the case of leachate tank No. 1 containing MBT leachate, this can only be applied to the composting tunnels handling MBT digestate while the

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contents of leachate tank No. 2 can be readily used as a moistening agent in both the MBT composting tunnels and the source separated composting tunnels. In relation to ABPR concerns, as the effluents are re-used in the process prior to pasteurisation, no by-pass occurs.

**Truck Wash**

A proposed truck and wheel wash area will include a leachate holding tank and will be located at the east perimeter to the front of the north face of the waste processing buildings relatively close to the weighbridge. A contained area for truck wash activities will minimise the interaction with the hardstanded area across the site and reduce the leachate production and the potential for entering the surface water drains. Leachate will be collected and then removed from the facility by a tanker and disposed of appropriately by an approved waste contractor.

**Storm water run-off from traffic surfaces**

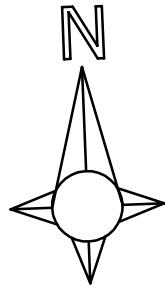
The traffic surfaces can become potentially contaminated with soil and debris. Consequently, resultant rainfall onto these surfaces can pick up this material as it travels to catch basins on site. To reduce potential debris from spreading out of the bio-stabilisation tipping and mixing building, the proposed facility will allow delivery vehicles to tip materials from outside the building and into bunkers housed below inside the building.

**Clean storm water from roofs**

The clean water from building roofs would be collected and combined with treated storm water from traffic surfaces prior to release to the environment.

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Proposed Interceptor  
Envirocare Ref W1/190

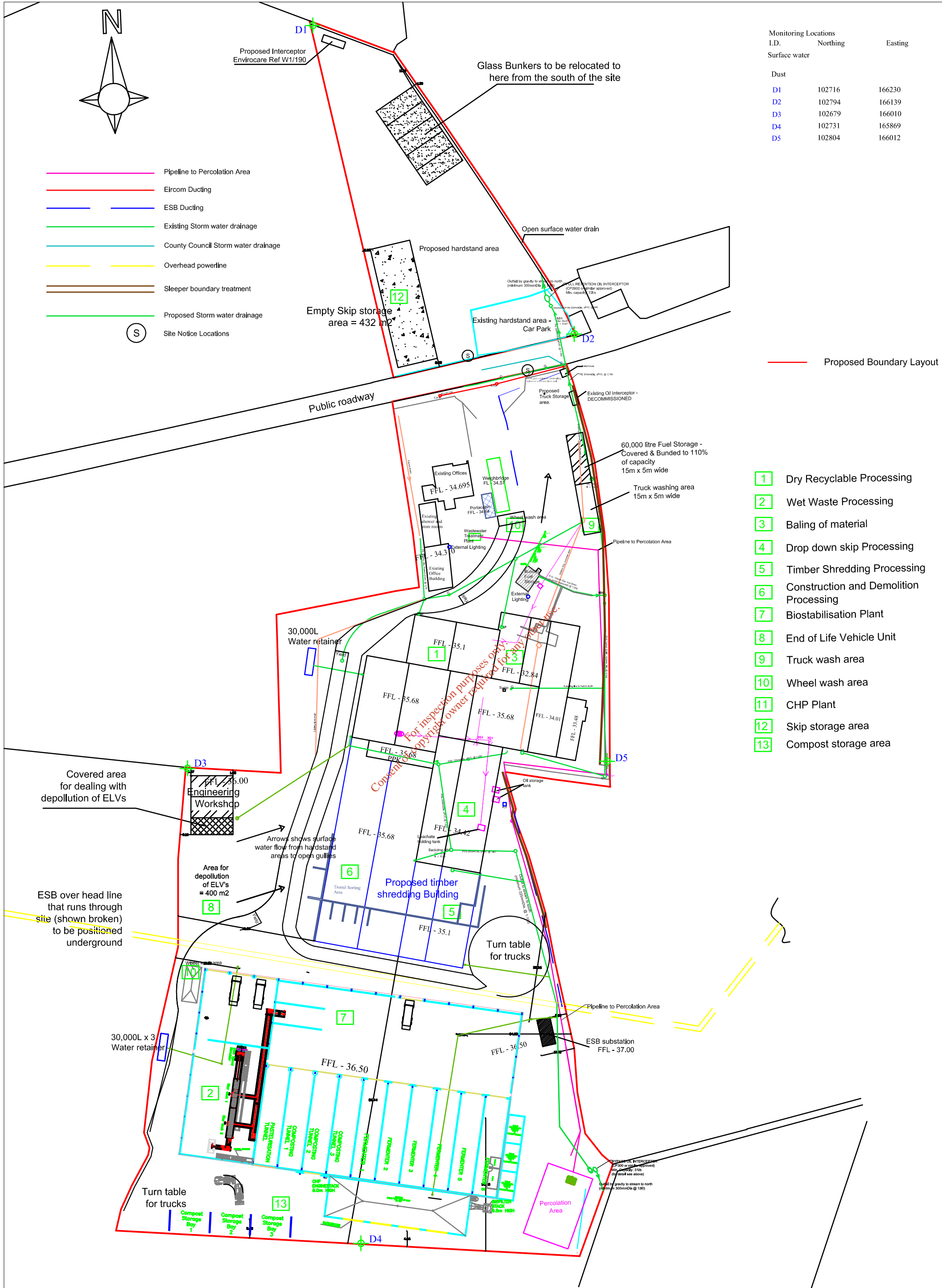
Glass Bunkers to be relocated to  
here from the south of the site

Monitoring Locations		
I.D.	Northing	Easting
Surface water		
Dust		
D1	102716	166230
D2	102794	166139
D3	102679	166010
D4	102731	165869
D5	102804	166012

- Pipeline to Percolation Area
- Eircom Ducting
- ESB Ducting
- Existing Storm water drainage
- County Council Storm water drainage
- Overhead powerline
- Sleeper boundary treatment
- Proposed Storm water drainage
- S Site Notice Locations

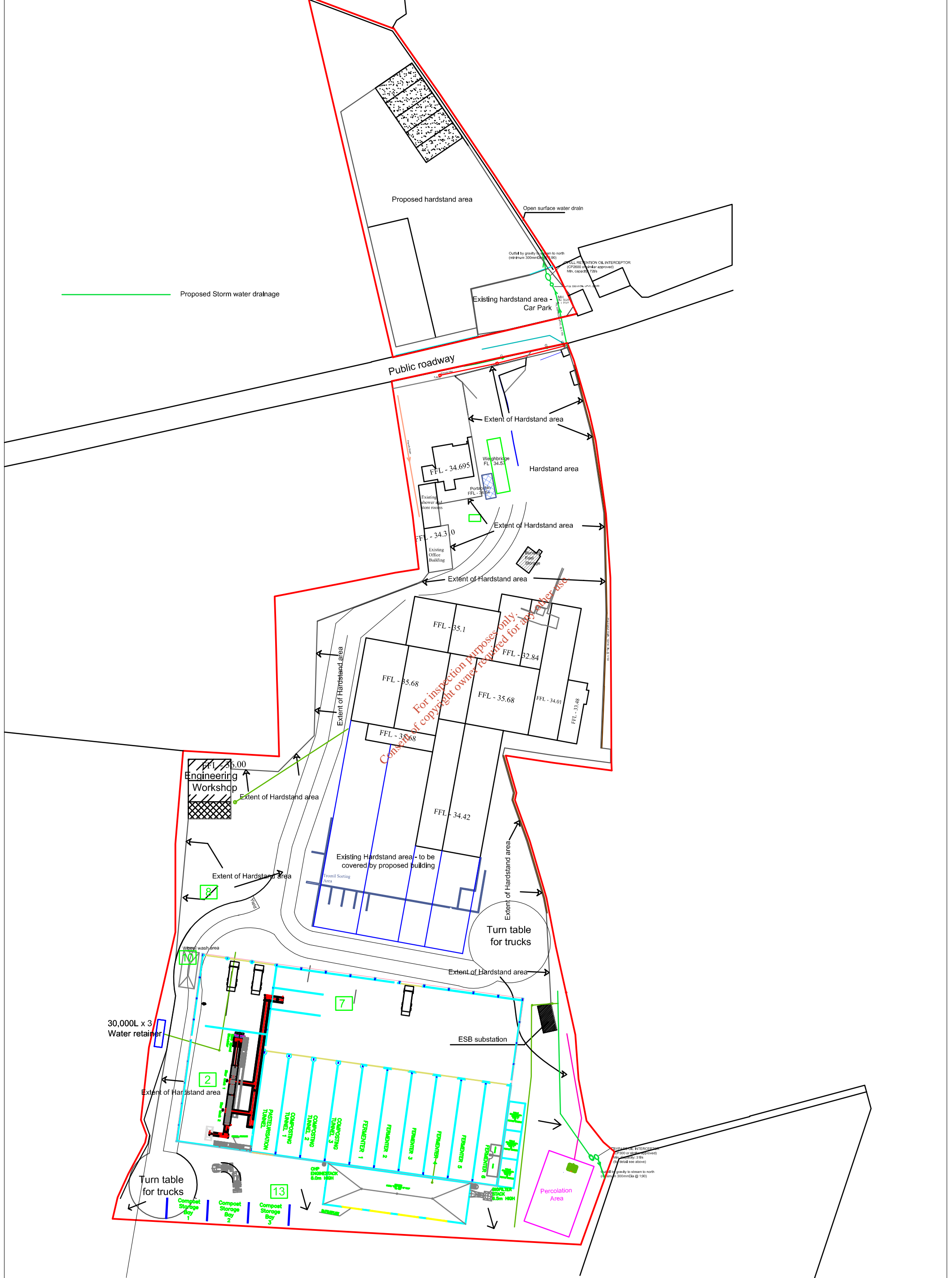
— Proposed Boundary Layout

- 1 Dry Recyclable Processing
- 2 Wet Waste Processing
- 3 Baling of material
- 4 Drop down skip Processing
- 5 Timber Shredding Processing
- 6 Construction and Demolition Processing
- 7 Biostabilisation Plant
- 8 End of Life Vehicle Unit
- 9 Truck wash area
- 10 Wheel wash area
- 11 CHP Plant
- 12 Skip storage area
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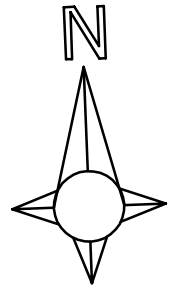


# Site Layout Plan showing extent of hardstand areas



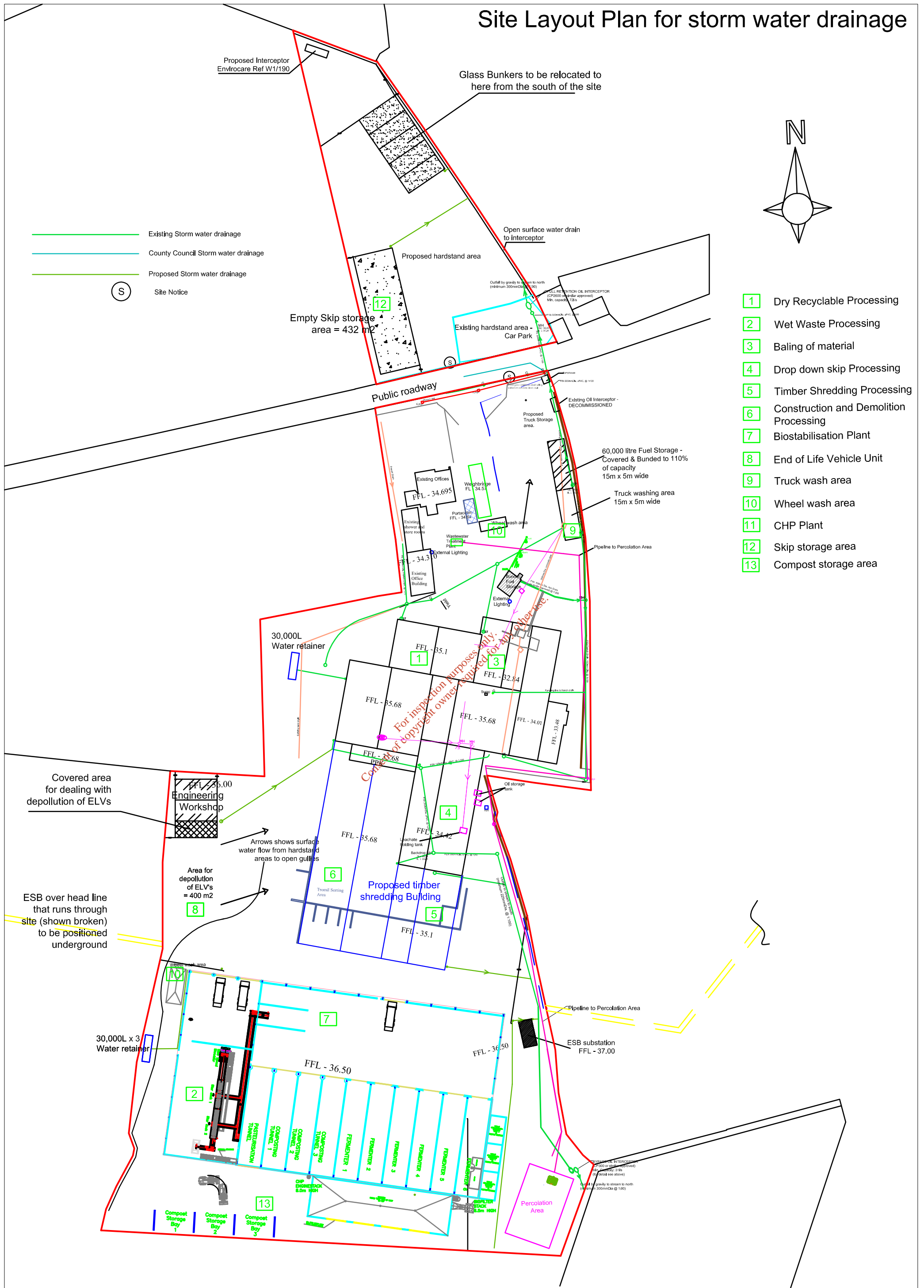
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# Site Layout Plan for storm water drainage

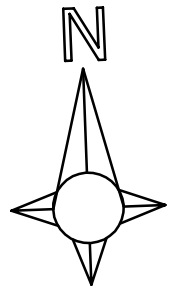
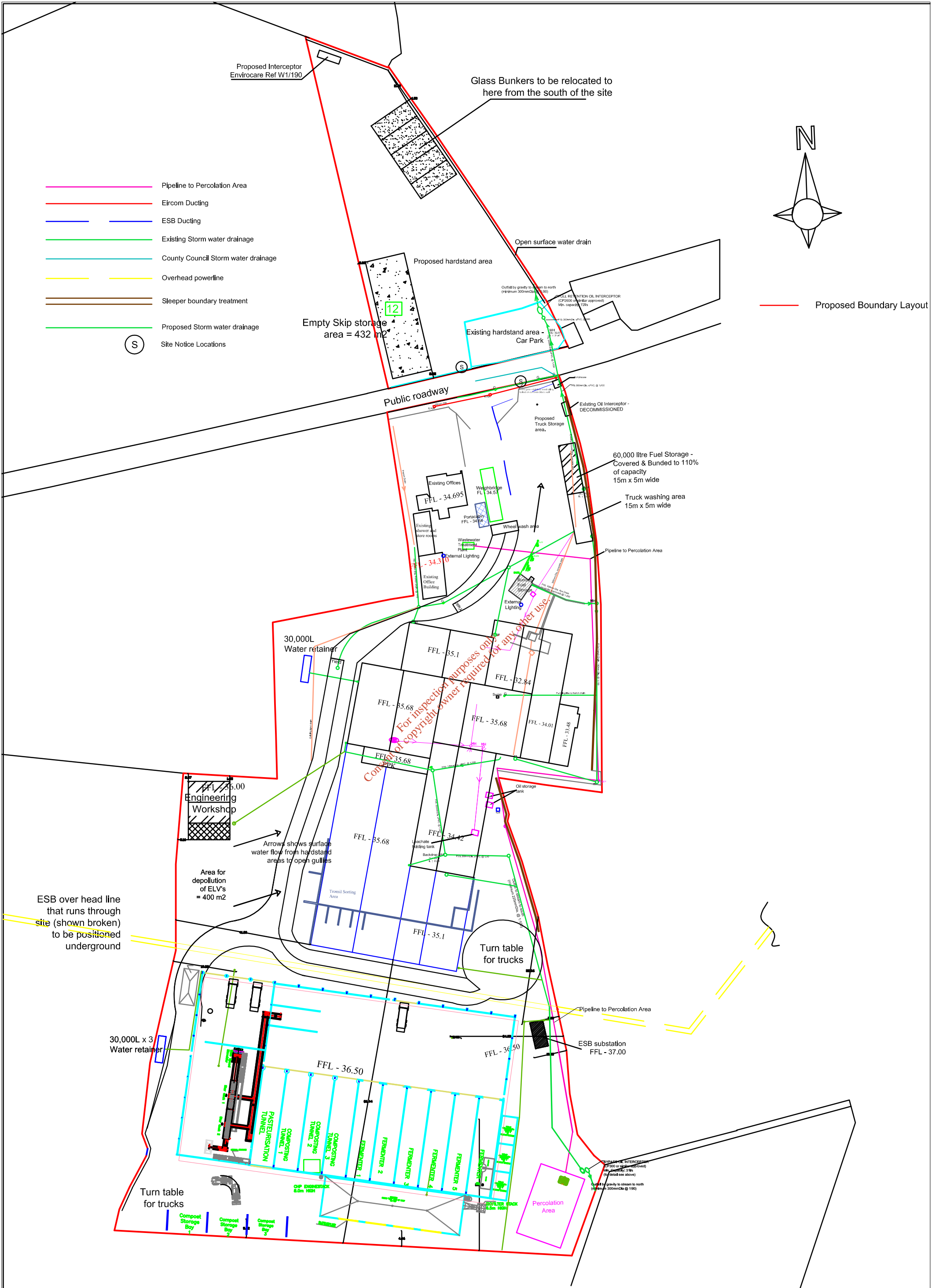


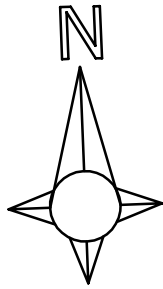
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- County Council Storm water drainage
- Proposed Storm water drainage
- S Site Notice

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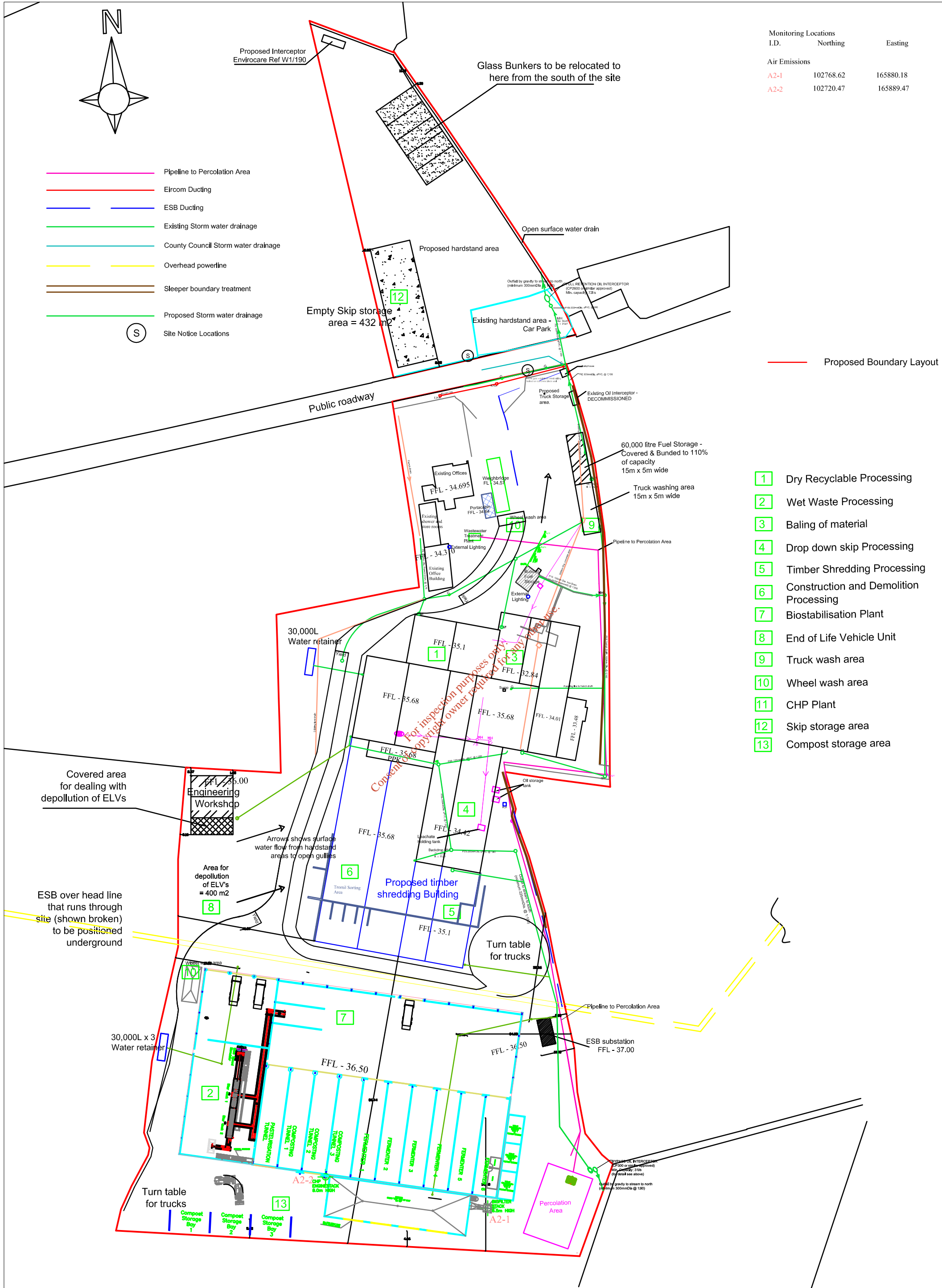
Glass Bunkers to be relocated to  
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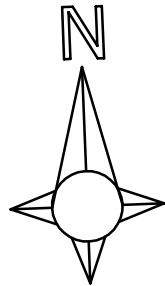
Monitoring Locations		
I.D.	Northing	Easting
Air Emissions		
A2-1	102768.62	165880.18
A2-2	102720.47	165889.47

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- ESB Ducting
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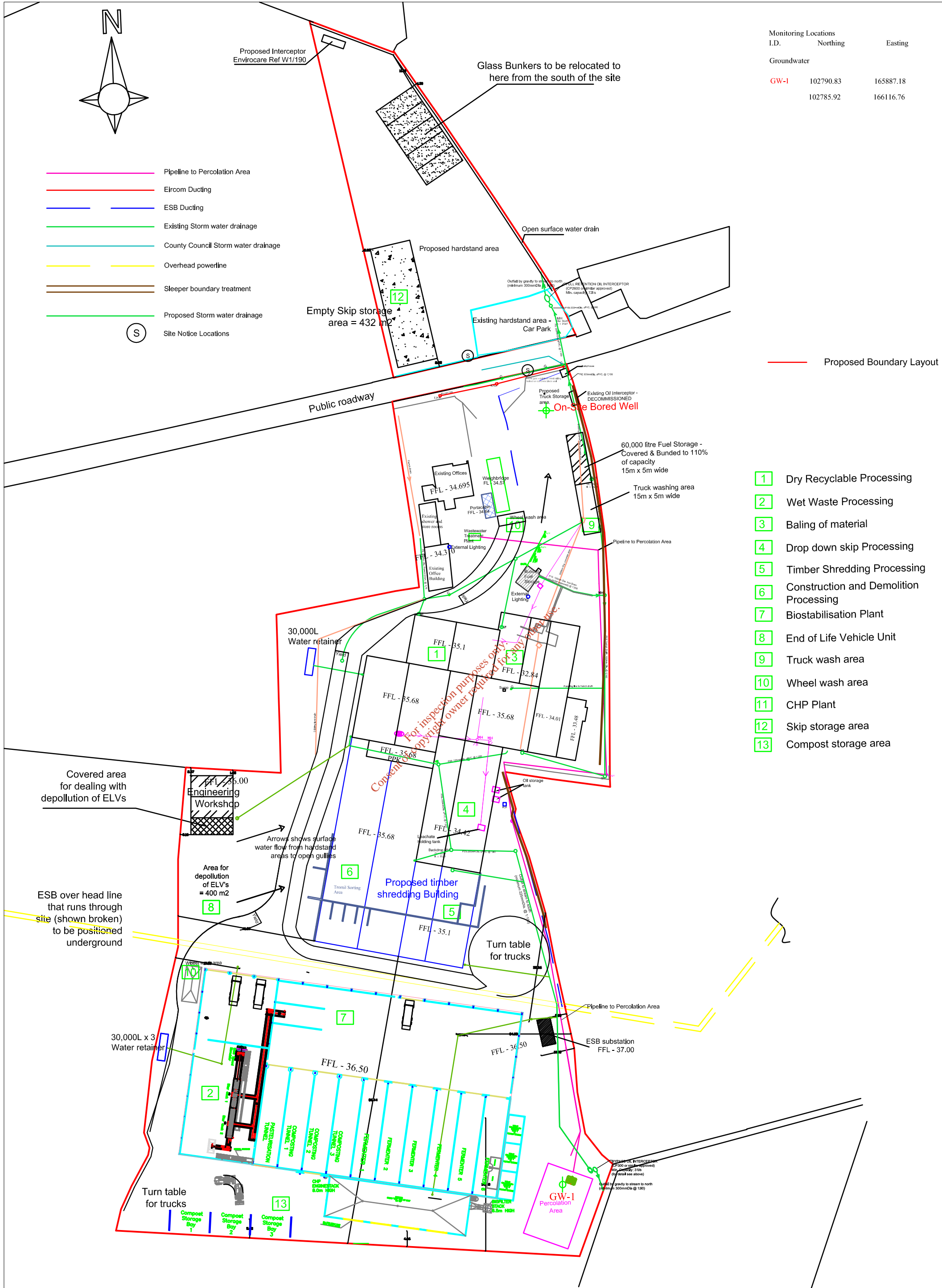
Glass Bunkers to be relocated to  
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Monitoring Locations		
I.D.	Northing	Easting
Groundwater		
GW-1	102790.83	165887.18
	102785.92	166116.76

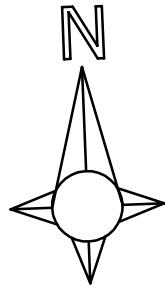
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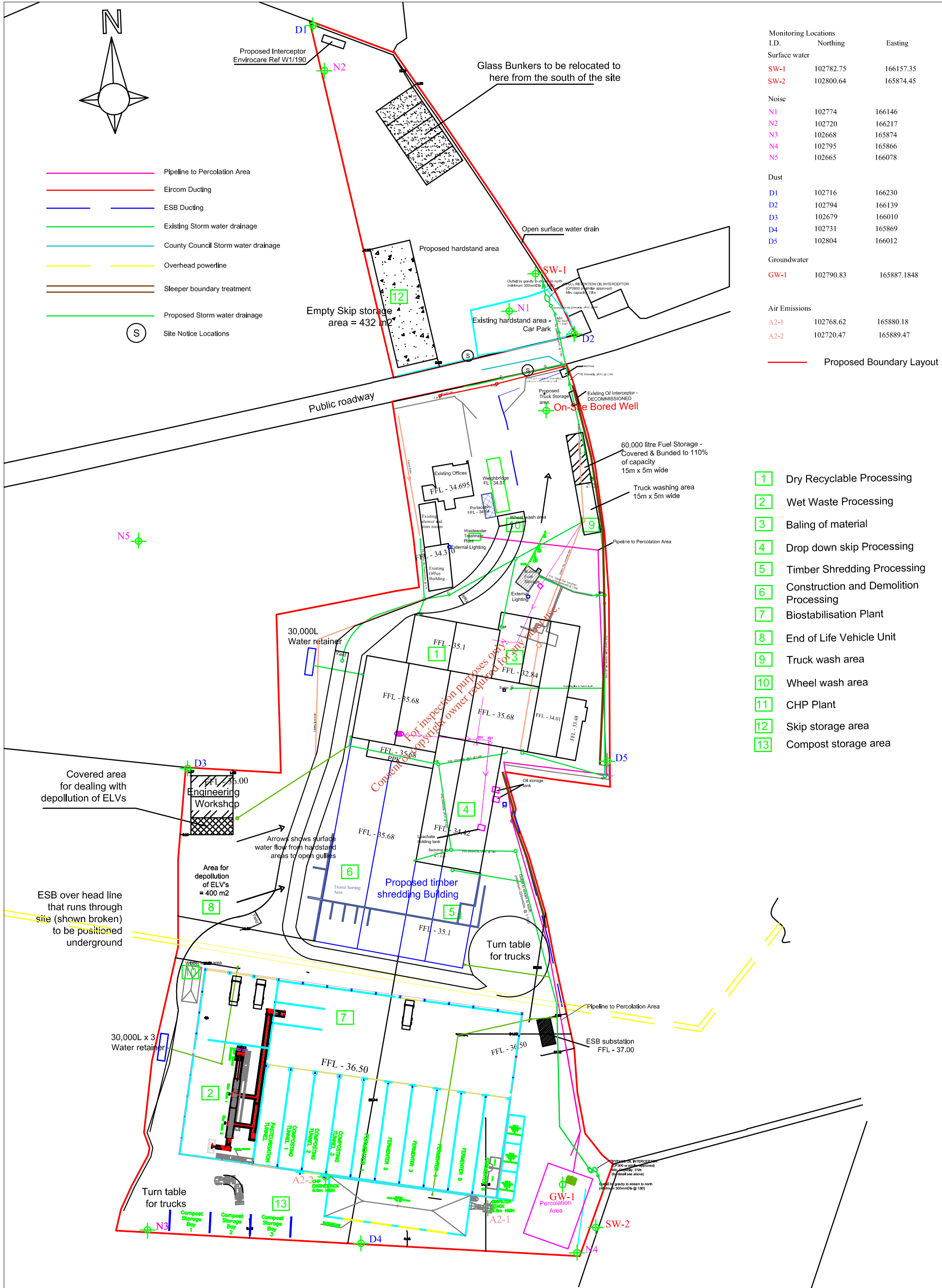
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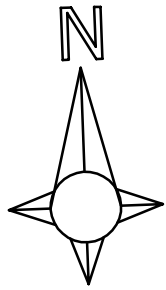
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Monitoring Locations		
I.D.	Northing	Easting
Surface water		
SW-1	102782.75	166157.35
SW-2	102800.64	165874.45
Noise		
N1	102774	166146
N2	102720	166217
N3	102668	165874
N4	102795	165866
N5	102665	166078
Dust		
D1	102716	166230
D2	102794	166139
D3	102679	166010
D4	102731	165869
D5	102804	166012
Groundwater		
GW-1	102790.83	165887.1848
Air Emissions		
A2-1	102768.62	165880.18
A2-2	102720.47	165889.47

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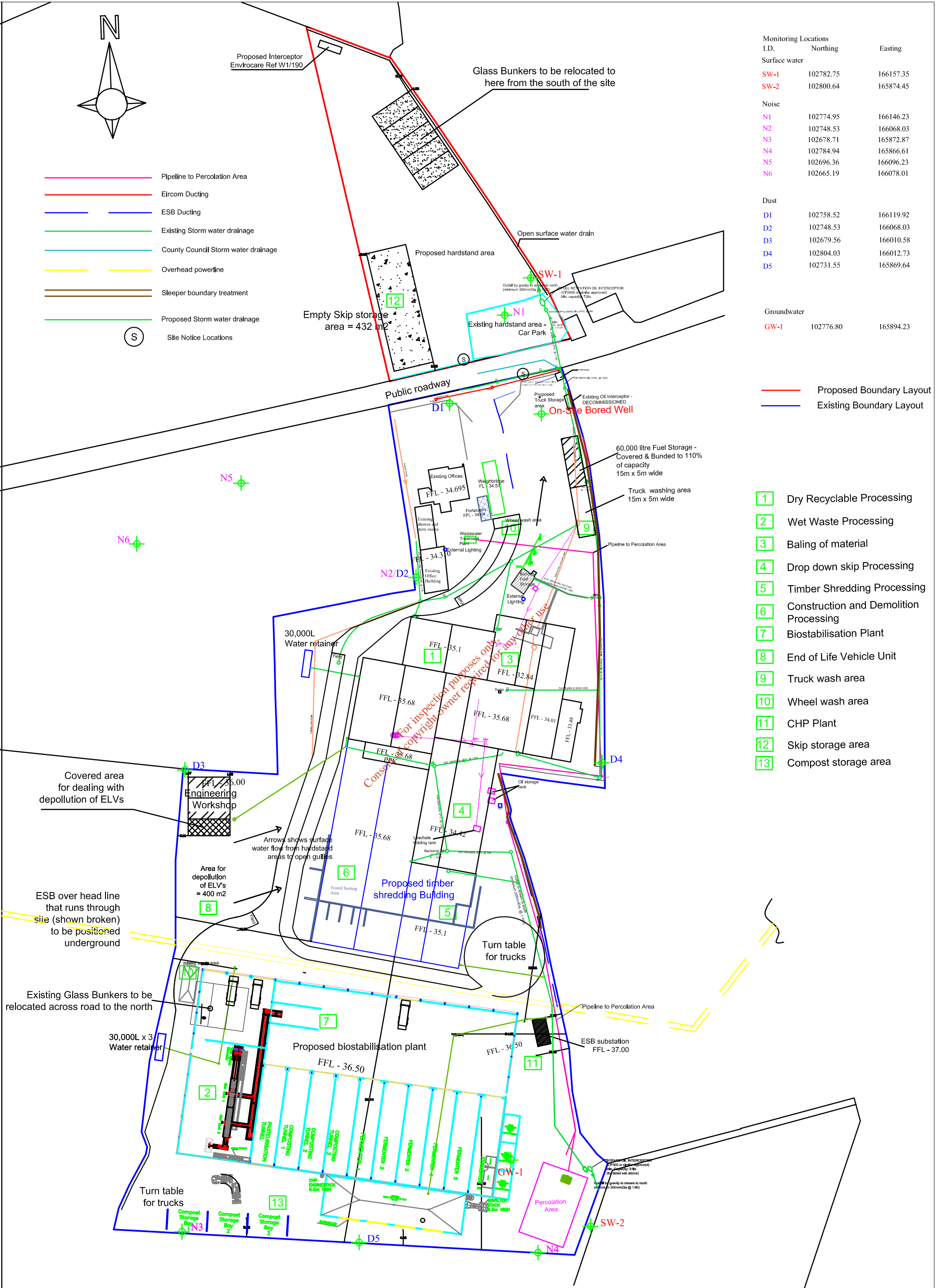
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I.D.	Northing	Easting
Surface water		
SW-1	102782.75	166157.35
SW-2	102800.64	165874.45
Noise		
N1	102774.95	166146.23
N2	102748.53	166068.03
N3	102678.71	165872.87
N4	102784.94	165866.61
N5	102696.36	166096.23
N6	102665.19	166078.01

Dust		
I.D.	Northing	Easting
D1	102758.52	166119.92
D2	102748.53	166068.03
D3	102679.56	166010.58
D4	102804.03	166012.73
D5	102731.55	165869.64

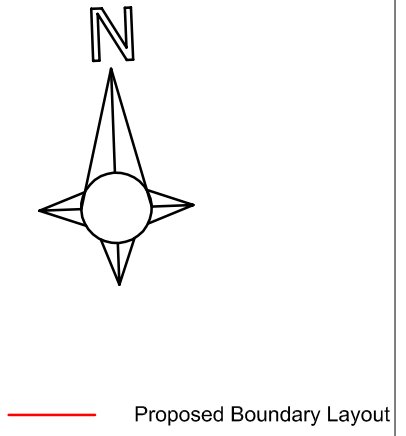
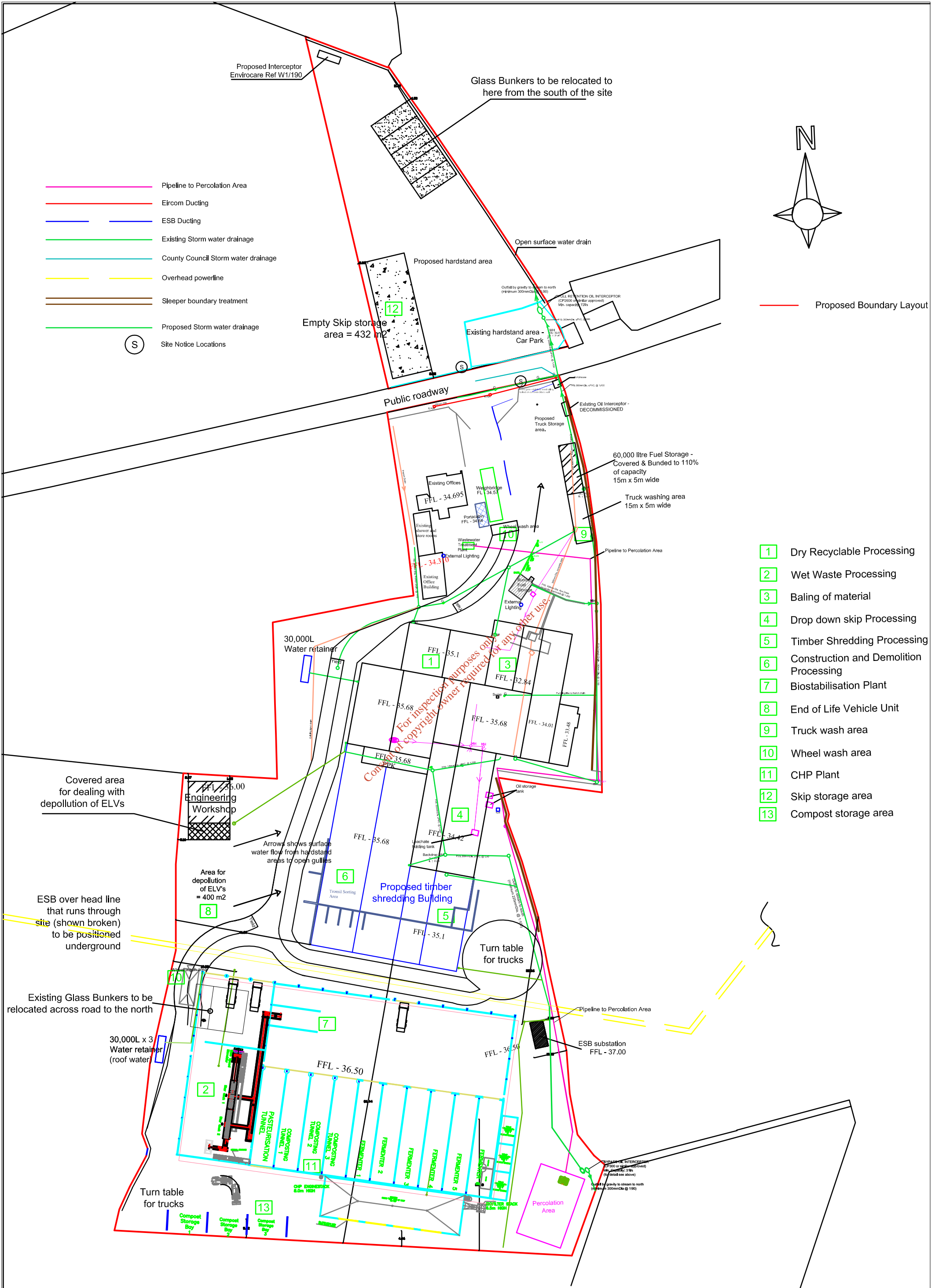
Groundwater		
I.D.	Northing	Easting
GW-1	102776.80	165894.23

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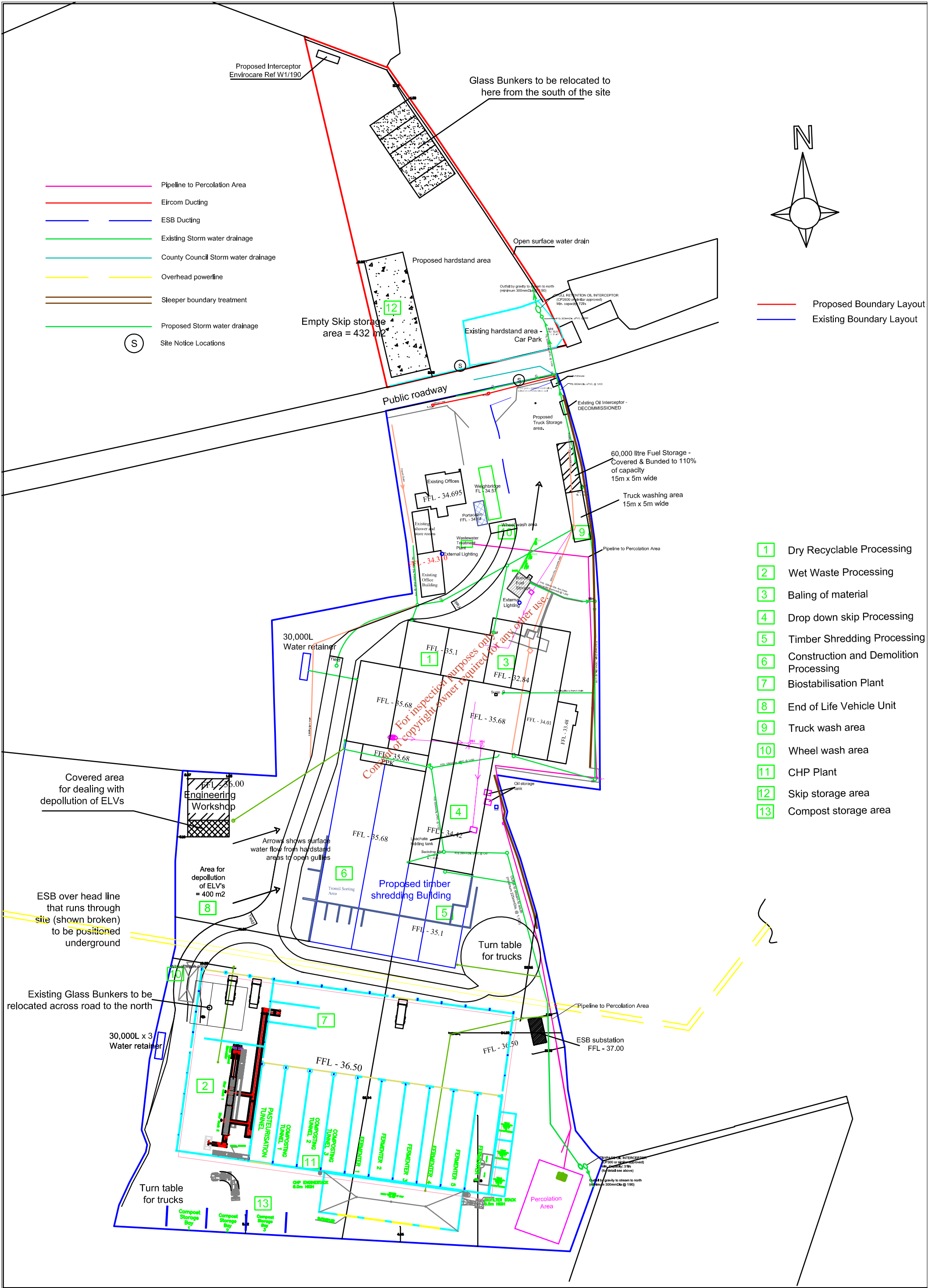


	<b>Page Title:</b> Existing Monitoring Locations	<b>Project:</b> Clean Ireland Waste Licence Application	<b>Client:</b> Clean Ireland Refuse Ltd, Cree, Co. Clare	<b>Drng. No.:</b> C(IRL)WL-06 Rev 2	<b>Drawn by:</b> Pádraig Neylon, B.Sc (Surveying) Benvoran, Cooraclare, Co. Clare.	<b>Date:</b> 20 / 11 / 09	<b>Scale:</b> A3 - 1: 1000	
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	<b>Page Title:</b> Existing Site Layout Plan	<b>Project:</b> Clean Ireland Waste Licence Application	<b>Client:</b> Clean Ireland Refuse Ltd, Cree, Co. Clare	<b>Drng. No.:</b> C(IRL)WL-02Rev1	<b>Drawn by:</b> Pádraig Neylon, B.Sc (Surveying) Benvoran, Cooraclare, Co. Clare.	<b>Date:</b> 20 / 11 / 09	<b>Scaler:</b> A3 - 1: 1000	



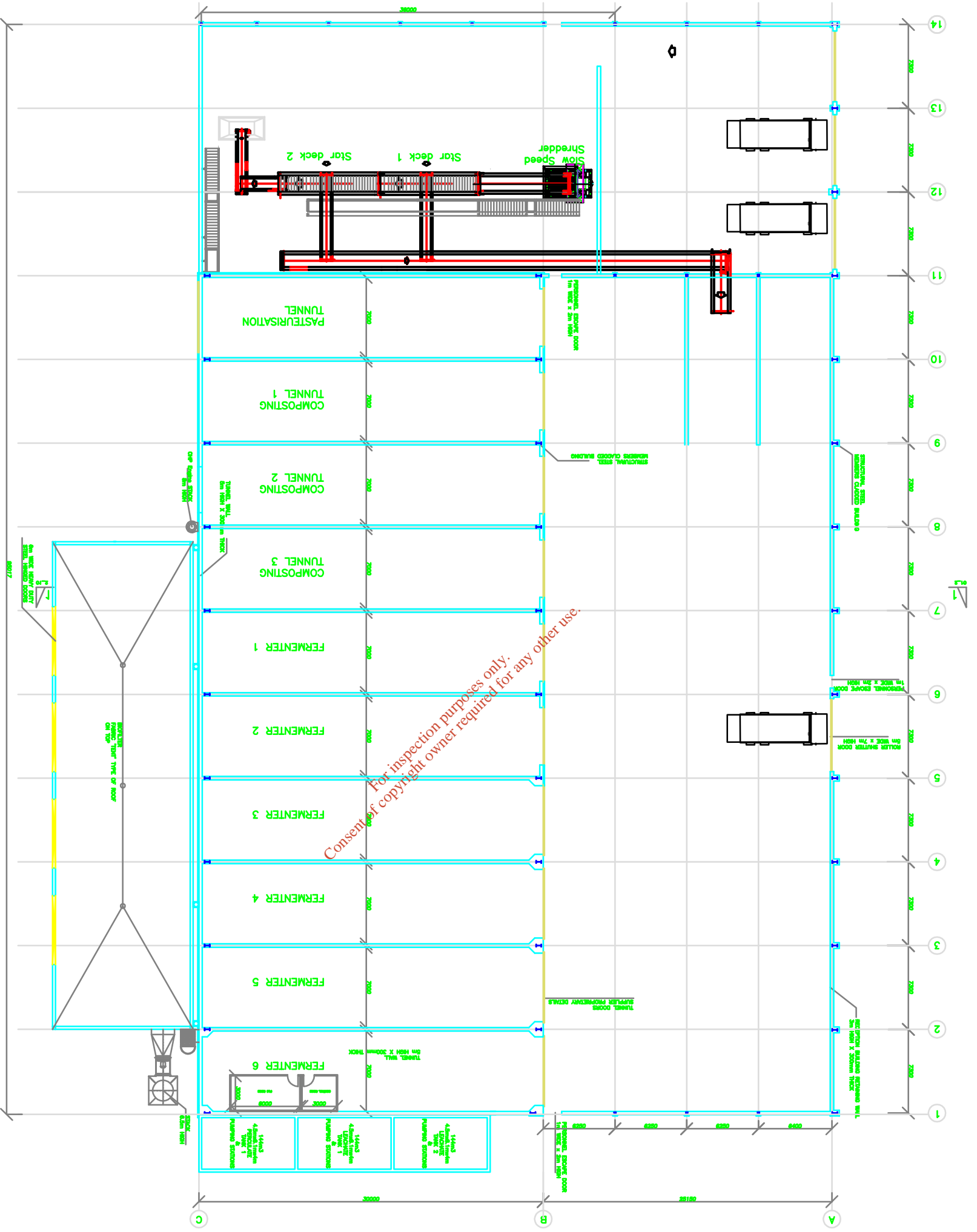
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	<b>Page Title:</b> Existing Site Layout Plan	<b>Project:</b> Clean Ireland Waste Licence Application	<b>Client:</b> Clean Ireland Refuse Ltd, Cree, Co. Clare	<b>Dr. No.:</b> C(IRL)WL-01 Rev1	<b>Drawn by:</b> Pádraig Neylon, B.Sc (Surveying) Benvoran, Cooraclare, Co. Clare.	<b>Date:</b> 20 / 11 / 09	<b>Scaler:</b> A3 - 1: 1000	
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<p><b>Project:</b> EIS/WL Application  <b>Client:</b> Clean (Ir) Refuse &amp; recycling Ltd.  <b>Dwg Ref:</b> CIRL&gt;VL-27Rev1  <b>Date:</b> 20/11/2009 Scale 1:1000</p>	<p><b>REVISIONS:</b></p>
<p>Geareagh Road, Ballinacorney,        IRELAND, County Cork        Tel:+353 (0) 21 46 21 11        Fax:+353 (0) 21 46 21 12        www.celticcomposting.co.uk</p>	
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