

kronoSPAN

chirk

**Site Drainage Survey
April – May 2004**

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Aims and Process Of Site Drainage Survey

Over the period of April / May 04 as per your suggestion and in preparation for our IPPC application we have been carrying out an extensive survey of the existing site drainage system. The object of the exercise was to: -

- **Map as accurately as possible the position of manholes, gullies and drainage runs.**
- **Ascertain the qualities of the liquid flowing through the above.**
- **Record any observations in order to correct physical problems within the drainage system.**

The positions of manholes, drainage runs etc. have been surveyed by an independent third party. A total station theodolite was used in order to give each physical part of the system a co-ordinated position relevant to various survey stations which have been set up on the site. As each manhole was recorded for position, wherever possible the lid was removed and direction and status of flow were noted. When the level of flow allowed, a sample of the liquid therein was taken for in house analysis for levels of suspended solids, formaldehyde and ammonia.

Format of Site Drainage Survey Drawing (Kronospan 8000-63)

Position of drainage details

Once surveyed, manhole and gully positions have been plotted accurately on to the attached site plan. The drainage runs have also been shown. Surface / storm runs are indicated in "blue" and foul lines in "magenta". Each of the manholes as been give an individual identification number also shown on the drawing. The numbers have also been coloured to show the status of liquid passing through it (please see below for details).

Analysis of Samples Taken At Surveyed Manhole Positions

The analysis of each manhole has been shown in a spreadsheet that we have inserted into the top left hand corner of the drawing. Results are shown against each manhole identification number along with any relevant comments and description of the manhole type i.e. Surface Water or Foul. The results are colour coded as below: -

- | | | |
|--|---|-------|
| • Within Consent | - | Green |
| • Out of Consent | - | Red |
| • Insufficient Information / Under Further Investigation | - | Black |

Findings of Survey

In principle the positional information of the survey has both confirmed and refined our understanding of our previous site drainage layout. The discharge points for both surface and foul are as previously determined. Various modifications to manhole positions and drainage runs have been updated.

Blocked and or problem manholes have been highlighted and are in the process of being addressed.

Due to the fact that the survey was carried out during a period of particular low rainfall the number of liquid samples gathered has been compromised. This means that those manholes not yet sampled will be carried out when appropriate. The results have however highlighted problem "cluster" areas. Most of these correspond with obvious operational areas of cause and the remedial action to be taken is dealt with in the section below. Any areas where we have not determined an actual probable cause are being investigated further.

Actions To Be Taken In Various Problem Locations

- **Manhole 161sw (Fire Road) – Existing land drain to be isolated from drainage system. Alternative method of drainage to be investigated and implemented. Action now.**
- **Manhole 167sw (MDF Press Hall) – Continued improvement of house keeping including the now implemented roof-cleaning regime. Action now.**
- **Manhole 108-109sw (Middle Road Chipboard Nairb Area) – Chipboard Nairb to be enclosed to reduce aerial discharge. Enclosure under design.**
- **Manhole 176sw (Vits Office) – Manhole cover to be raised due to the sensitivity of the area. Action now.**
- **A survey of site compressors as highlighted eleven without oil / water separators. As of the 21st of May this will be corrected and a maintenance regime will be introduced.**

All other problem areas to be investigated further.

Summary

The survey as been carried out as comprehensively and as accurately as possible in the time restraints and with the prevailing dry weather conditions. Whilst certain information is still to be firmly established the drawing is being treat as a "live document" subject to continuous update.

As previously stated it has been helpful in establishing problem areas which will now be deal with.

The importance of continual sampling and checking of the drainage networks has been recognised. Our ISO 14001 Management System will be adapted to incorporate an inspection regime.

On behalf of Kronospan Chirk

Liam Cairns

Christian Mulrooney

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