

# HAMILTON TECHNICAL SERVICES

CIVIL AND ENVIRONMENTAL ENGINEERING CONSULTANTS

PROPOSED DEVELOPMENT  
ON LAND TO THE EAST OF  
THE A 59, Nr CLITHEROE.

FOUL WATER DRAINAGE STRATEGY

Re; Planning Approval N° 3/2015/0426  
Condition N° 6.

# HAMILTON TECHNICAL SERVICES

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06<sup>th</sup> January 2016

Dear Sirs,

**PROPOSED DEVELOPMENT ON  
LAND TO THE EAST OF THE A59, Nr CLITHEROE  
AT PENDLE VIEW FISHERIES.  
FOUL WATER DRAINAGE STRATEGY.**

Hamilton Technical Services have been commissioned, through BTI Building, who are project managers for this development, to compile a foul water drainage strategy, in support of a Planning Application for the development of the above site to provide new vacation properties and other associated facilities.

This report has been compiled in response to Condition 6 of Planning Approval N° 3/2015/0426

## **Present Site Details**

The site lies on the eastern side of the A59, close to and immediately east of its junction with Hey Road, south of Clitheroe, Lancashire. The site comprises an area of approximately 4.60Ha. The site is located at Nat Grid Ref 374249E, 438292N and the land within the site area is generally level, with a raised area in the north-west corner of the site.

The site area is bounded to its northern, eastern and southern sides by agricultural land. West of the site, lies the A59 and beyond that a mixture of commercial and residential properties.

A location plan showing the site position is appended to this report, showing the existing land with nearby buildings and hard standings, roads etc.

The site area is presently in use as a fishery and has been for some years. The majority of the site boundaries, with the exception of the southern, are well clothed by trees, shrubberies and hedgerows. The majority of the site is taken up by the main fishing lakes, with a number of smaller working ponds in the north-west corner, all surrounded by grassland. Higher ground lies to the north, east and south east of the site and a number of small watercourses drain from the higher ground into the on-site lake system.

The surface water run-off from the site including the buildings and roads drains into the onsite lakes. The lakes outfall to a watercourse that leaves the south-west corner of the site. It meets and crosses under the A59 a short distance outside the site boundary. The stream crosses the A59 by means of a concrete culvert and then continues to run to the south of and parallel to Hey Road in a westerly direction. This watercourse becomes Barrow Brook some way downstream.

## Development Proposals

The proposed redevelopment of the site is to be carried out in such a manner as to provide a parkland and woodland feel and is therefore intended to be less dense than could be expected.

The major proportion of the re-development will be carried out to the western and southern sides of the existing lakes/reservoirs. It is in these areas that most of the new lodges, camping pods, restaurant and car parks will be provided. Along the eastern side of the main lake will be another area where lodges will be introduced along the bank area.

A copy of our plan numbered C-0678-01, incorporating the illustrative site layout prepared by NU Architects, is attached to this report and shows our proposed foul water drainage proposals for the development. These proposals include the following measures.

Foul water from the development will be collected, due to the site topography, by two new systems of foul water drainage, one serving the new lodges set around the eastern and southern shores of the main lake and the second serving the new lodges, pods and restaurant situated to the west and north sides of the main lake.

The treated foul effluents will then be discharged to the main outfall stream leaving the south-west corner of the site. The treatment systems will be provided by WPL Ltd or an alternative approved manufacturer. We have attached a copy of the WPL, Hipaf sewage treatment plant brochure to illustrate the type of plant to be installed. The two plants will be individually designed to process the effluent from their respective catchments and to produce a final effluent that complies with the requirements of the Environment Agency.

The foul discharges from the lodges adjacent to the eastern and southern shore of the main lake will be dealt with as follows. Lodges 7 to 16 will each be fitted with Saniflow or similar maceration units that will then pump the foul water up into the gravity system as indicated on the attached plans. The remaining lodges numbered 17 & 18 and the converted cottage will drain into the new collector system by gravity. The collector drain will run parallel to the lake shore, along the existing access road, before discharging into the new sewage treatment plant situated on the south side of the outlet from the main lake. Clean treated effluent will then discharge into the outlet flow from the lakes. The Treatment Plant serving the eastern portion of the site will be a WPL Hipaf model HP 130FEP080020 F.

The primary foul drainage system will serve the lodges, pods, cottages and the restaurant situated to the west of the lakes and will flow from the northwest corner of the site, in a generally south-westerly direction to a position just downstream of the restaurant building. At this point the drain will turn to flow south to discharge into a new sewage treatment plant located just to the north of the main outlet from the lakes. Clean treated effluent will then discharge into the outlet flow from the lakes. The plant serving the western portion of the site will be a WPL Hipaf model HP 260320060 F.

The lodges numbered 1 – 6 and the converted cottage that lie on the northwest shore of the main lake will drain via a gravity system to a new small pumping station located opposite the restaurant building. The effluent will then be pumped up into the main foul collection system as shown on the attached plans. The pumping station will have twin pumps and an alarm system connected to the site management offices within the restaurant buildings. The foul effluent from the restaurant will also discharge into the collector drains by gravity and the discharges from the kitchen areas will pass through an interception facility to remove fats, grease and oils from the effluent prior to final discharge to the collector drains and thus to the sewage treatment plant.

The two treatment plant systems will each produce a final effluent to the required 20:30:20 standard required by the Environment Agency and each plant and discharge will be under an individual permit from the Environment Agency. Each plant will have a manhole chamber located between the plant and the point of discharge to provide sampling facilities for the owner and the Environment Agency to test the quality of the discharges, to ensure high quality management and maintenance of the facilities.

## **Conclusions**

Through suitable design, detailing and implementation, the above range of measures will enable the proposed foul water drainage of the development to be carried through to completion in a safe and sustainable manner to approved standards.

We would finally restate that all the above measures will be designed to provide an integrated system of foul water drainage with a standard of discharge, from the re-developed site, complying with Environment Agency Standards and with comprehensive approvals in place.

Report compiled by,

*RG Hamilton*

R.G.HAMILTON  
HAMILTON TECHNICAL SERVICES.

Issue 1; 06/01/2016

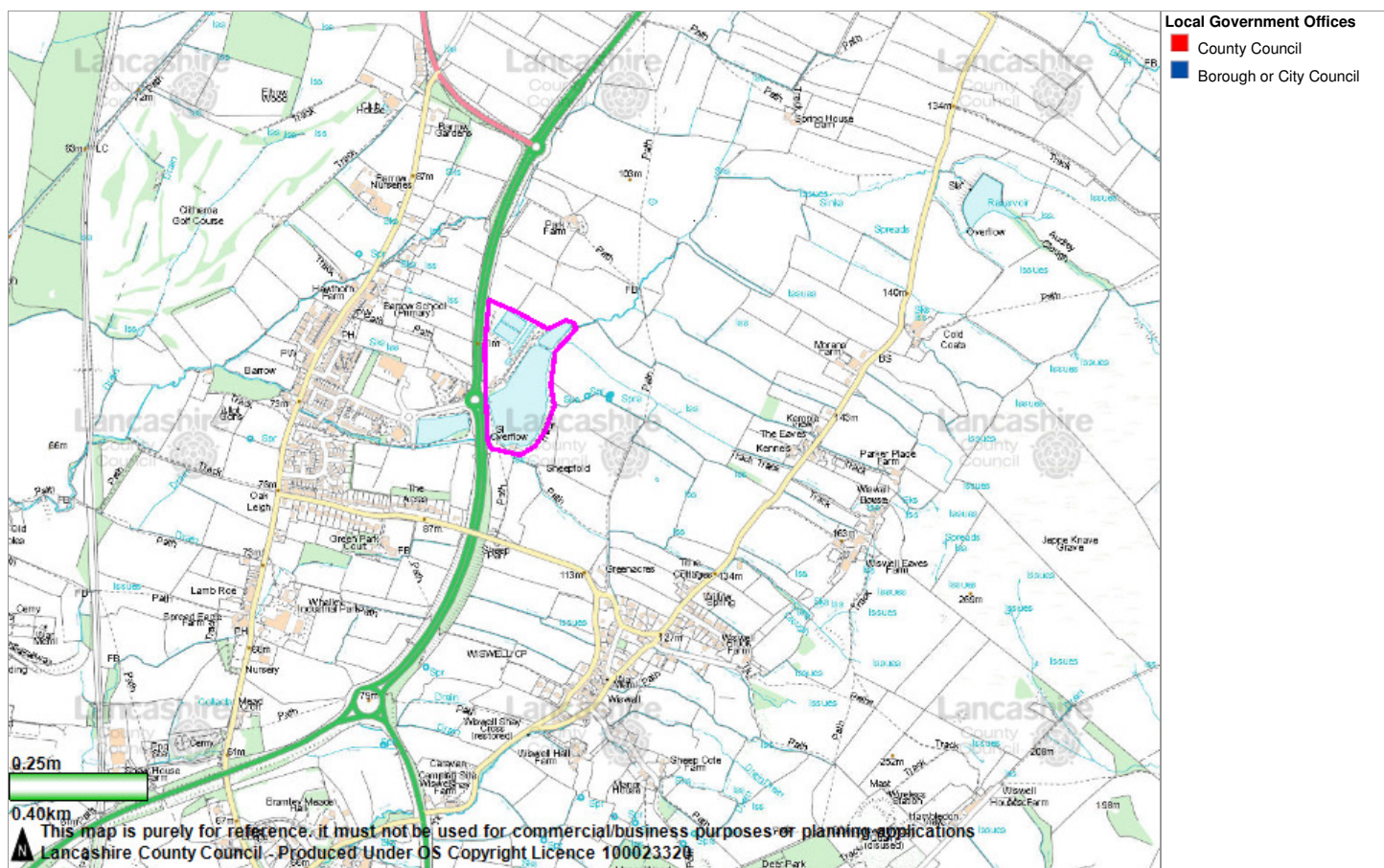
### **List of attached plans;**

- 1 General Location Plan
- 2 Site Plan
- 4 Proposed Site Layout Plan (Showing Outline Drainage)
- 5 Foul Drainage Pt. 1 (Dwg 05)
- 6 Foul Drainage Pt. 2 (Dwg 07)
- 7 Foul Drainage Pt. 3 (Dwg 08)
- 8 Foul Drainage Pt. 4 (Dwg 09)
- 9 WPL Hipaf Treatment Plant Brochures



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## Pendle View Fisheries



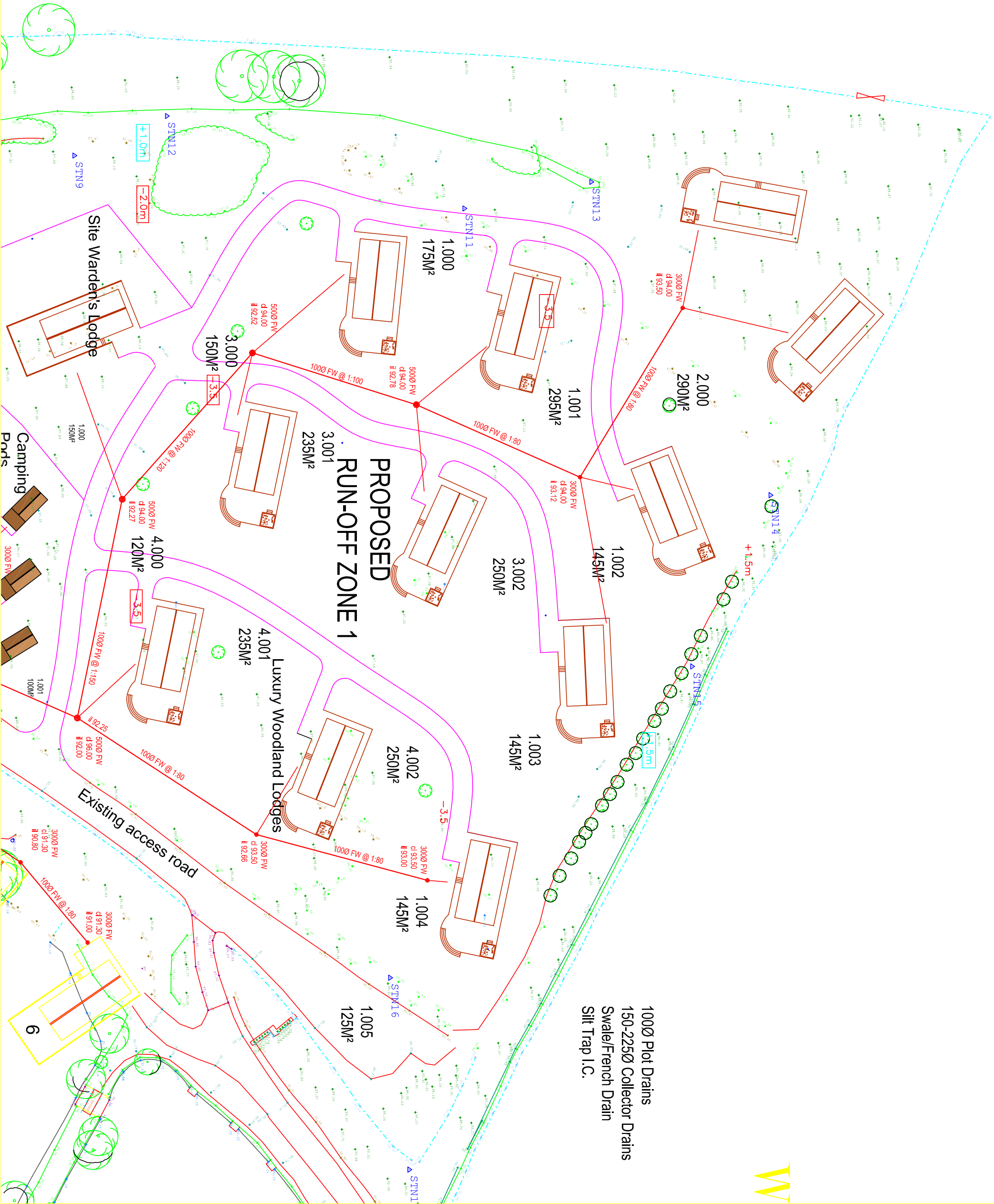
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**Local Government Offices**

 County Council

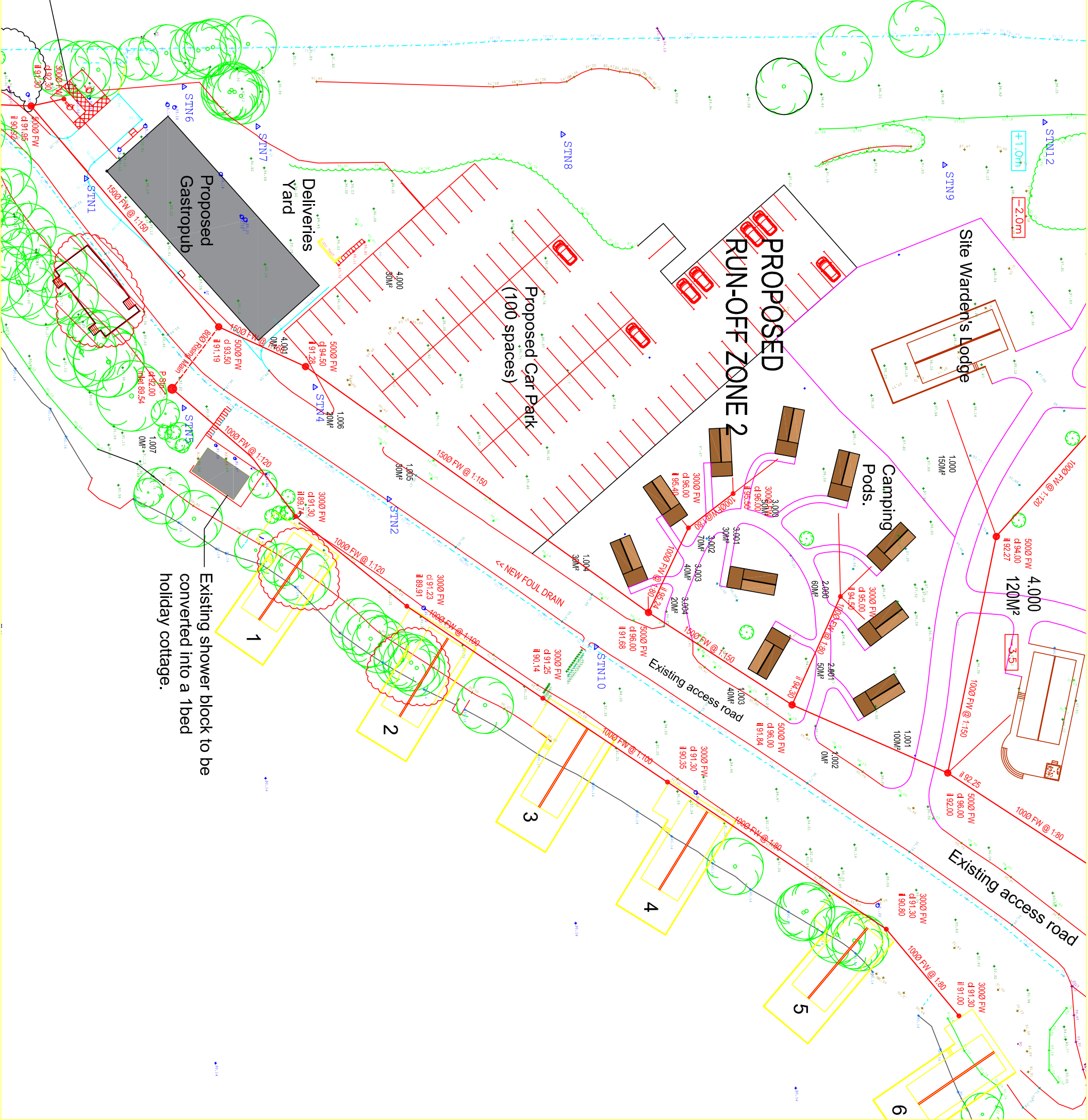
 Borough or City Council





100Ø Plot Drains  
150-225Ø Collector Drains  
Swale/French Drain  
Silt Trap I.C.

| Rev Details                                                                                                                            |              | By               | Date            |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|-----------------|
| Hamilton Technical Services<br>Civil & Environmental Engineering Consultants                                                           |              |                  |                 |
| 1 Chiltern Ave., Euxton,<br>Chorley, Lancs.,<br>PR7 6NU<br>email: hamiltonservices@gmail.com<br>Tel: 01257 278888<br>Mob: 07977 689913 |              |                  |                 |
| Client: LODGE INNS LTD.<br>BT                                                                                                          |              |                  |                 |
| Project: LEISURE DEVELOPMENT AT<br>PENDLE VIEW FISHERIES<br>CATHIEFORD                                                                 |              |                  |                 |
| Title: ZONE 1<br>FOUL WATER<br>DRAINAGE PROPOSALS                                                                                      |              |                  |                 |
| Drawn: C - 06/78 - 05                                                                                                                  | Issue: 05    | Date: 02/12/2015 | Scale: 1:200@A0 |
| Author: RGH                                                                                                                            | Checker: RGH | Approver: RGH    |                 |

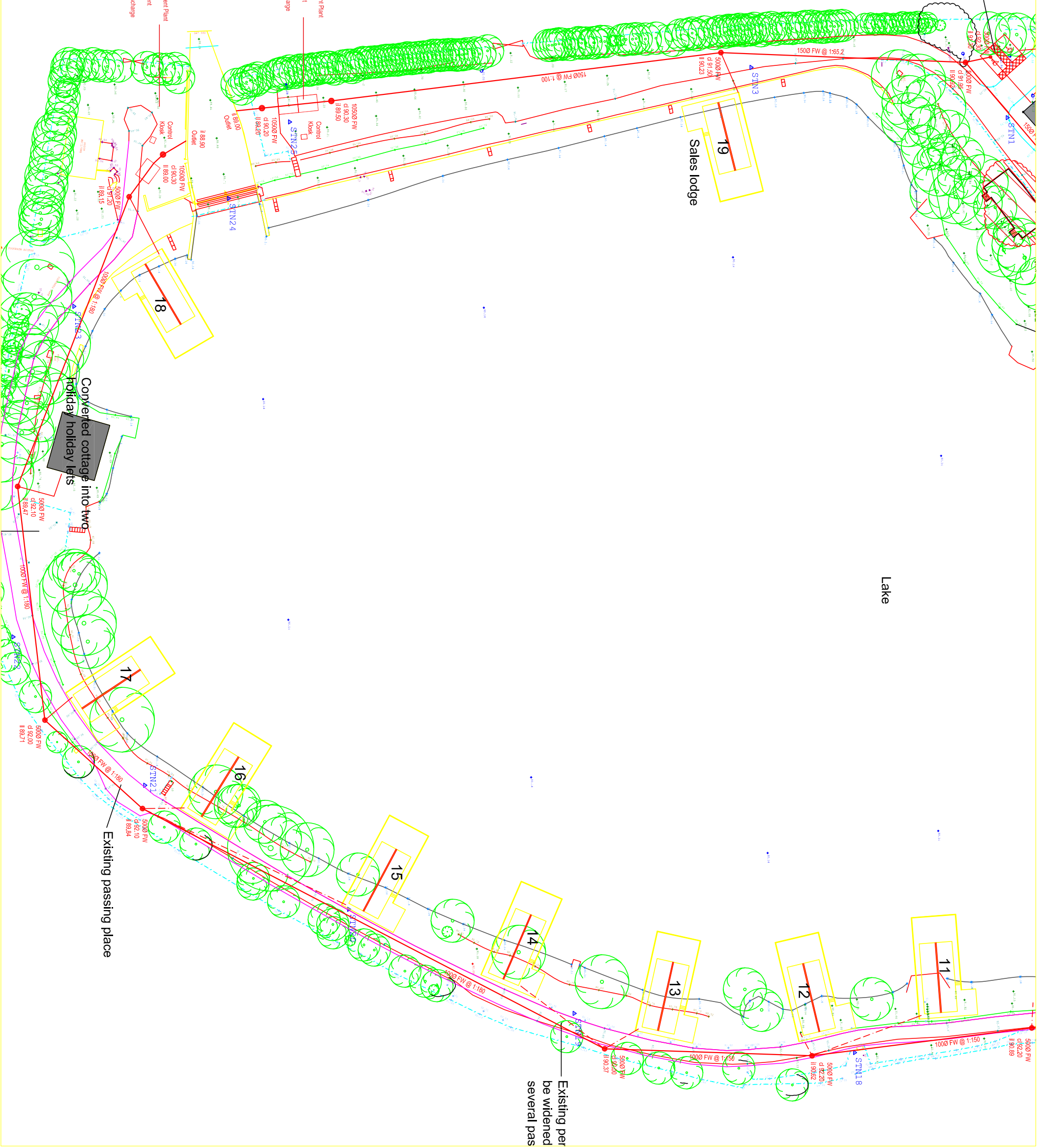


Existing Septic tank to be removed and replaced by new grease removal system.

Existing shower block to be converted into a 1bed holiday cottage.

| Rev Details                                                                                                                                                                                                                                                                                                                                                                      |                      | By              | Date       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|------------|
|                                                                                                                                                                                                                                                                                                                                                                                  |                      |                 |            |
| <div><div><div>Hamilton Technical Services</div><div>Civil &amp; Environmental Engineering Consultants</div></div><div><div>1 Chiltern Ave., Euxton,</div><div>Chorley, Lancs.,</div><div>PR7 6NU</div><div>Tel: 01257 278838</div><div>Modc: 07977 689913</div><div>email: <a href="mailto:hamiltontechservices@gmail.com">hamiltontechservices@gmail.com</a></div></div></div> |                      |                 |            |
| Client: LODGE INNS LTD.                                                                                                                                                                                                                                                                                                                                                          |                      |                 |            |
| Project: LEISURE DEVELOPMENT AT PENDLE VIEW FISHERIES CALTHORPE                                                                                                                                                                                                                                                                                                                  |                      |                 |            |
| Title: ZONE 2 FOUL WATER DRAINAGE PROPOSALS                                                                                                                                                                                                                                                                                                                                      |                      |                 |            |
| Project: C - 0678 - 07                                                                                                                                                                                                                                                                                                                                                           | Revision: 02/12/2015 | Drawn: 12/01/20 | Check: RGH |

Existing Septic tank to be removed and replaced by new grease removal system.



| Rev | Details | By | Date |
|-----|---------|----|------|
|     |         |    |      |

## Hamilton Technical Services

Civil &amp; Environmental Engineering Consultants

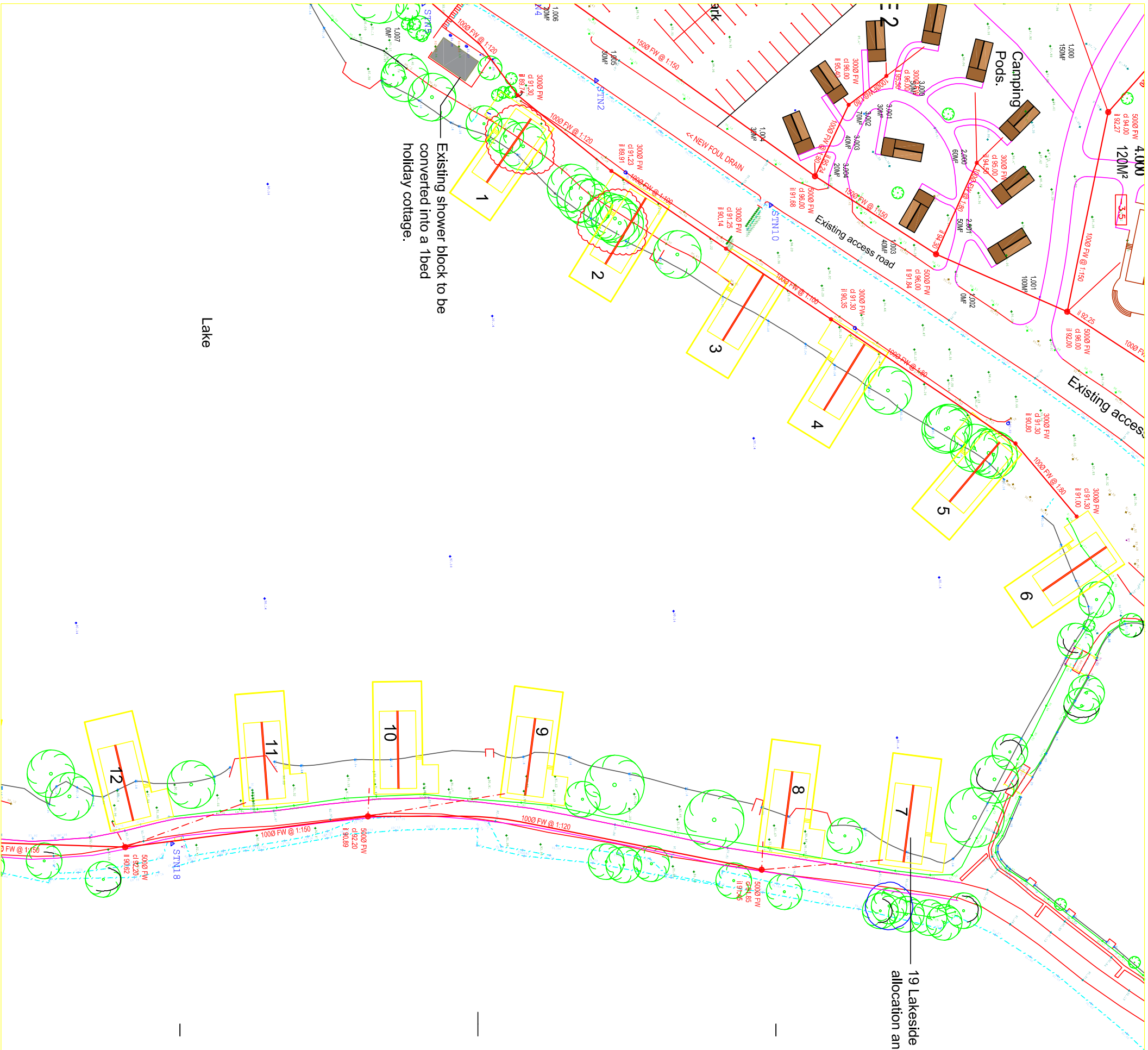
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Project LEISURE DEVELOPMENT AT  
PENDLE VIEW FISHERIES  
CLITHEROE

|                                                                        |
|------------------------------------------------------------------------|
| <p>Title</p> <p>ZONE 3</p> <p>FOUL WATER</p> <p>DRAINAGE PROPOSALS</p> |
|------------------------------------------------------------------------|

|               |       |            |          |
|---------------|-------|------------|----------|
| Orig. No.     | Item  | Date       | Scale    |
| C - 0678 - 08 | -     | 02.12.2015 | 1/250@A0 |
|               | Drawn | RGH        | Check    |
|               |       | RGH        | RGH      |



| Rev | Details | By | Date |
|-----|---------|----|------|
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|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Hamilton Technical Services</b><br>Civil & Environmental Engineering Consultants |                                                                                                                                |
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| Client: LODGE INNS LTD.<br>BT                                                       |                                                                                                                                |
| Project: LEISURE DEVELOPMENT AT<br>PENDLE VIEW FISHERIES<br>CALTHORPE               |                                                                                                                                |
| Title: ZONE 4<br>FOUL WATER<br>DRAINAGE PROPOSALS                                   |                                                                                                                                |
| Project No: C - 0678 - 09                                                           | Issue No: 02/12/2015<br>Revision: 1250@20                                                                                      |