Planning Services, Adur District Council

Civic Centre,
Ham Road,
Shoreham-by-Sea,
West Sussex,
BN43 6PR

Tel : (01273) 263222 (calls may be recorded)
website : www.adur.gov.uk
e-mail : developmentcontrol@adur.gov.uk

ADUR DISTRICT COUNCIL

ADUR DISTRICT COUNCIL
PLANNING D
PLAN No. A0d013d08
DATE RECEIVED 06 MAR 2008

Application for Planning Permission.
Town and Country Planning Act 1990

Publication of planning applications on council websites

Please note that with the exception of applicant contact details and Certificates of Ownership, the information provided on this application form and in supporting documents may be published on the council's website.

If you have provided any other information as part of your application which falls within the definition of personal data under the Data Protection Act which you do not wish to be published on the council's website, please contact the council's planning department.

Please complete using block capitals and black ink.

It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application.

1. Applicant Name and Address

Title:	
First name:	
Last name:	C/O AGENT
Company (optional):	TESCO STORES LTD
Unit:	
House number:	
House suffix:	
House name:	
Address 1:	
Address 2:	
Address 3:	
Town:	
County:	
Country:	
Postcode:	

2. Agent Name and Address

Title:	MR
First name:	ANTONY
Last name:	COOK
Company (optional):	DPP
Unit:	
House number:	21
House suffix:	
House name:	
Address 1:	THE CRESCENT
Address 2:	
Address 3:	
Town:	BEDFORD
County:	
Country:	
Postcode:	MK40 2RT

3. Description of the Proposal

Please describe the proposed development, including any change of use:

INSTALLATION OF A COMBINED HEAT AND POWER UNIT (CHP) TO PROVIDE A SUSTAINABLE METHOD OF POWERING THE STORE

Has the building, work or change of use already started? ☐ Yes ☒ No

If Yes, please state the date when building, work or use were started (DD/MM/YYYY): _____ (date must be pre-application submission)

Has the building, work or change of use been completed? ☐ Yes ☒ No

If Yes, please state the date when the building, work or change of use was completed: (DD/MM/YYYY): _____ (date must be pre-application submission)

4. Site Address Details

Please provide the full postal address of the application site.

Unit: | House number: | House suffix:

House name: TESCO STORES LTD

Address 1: UPPER SHOREHAM ROAD

Address 2:

Address 3:

Town: SHOREHAM-BY-SEA

County: WEST SUSSEX

Postcode (optional): BN43 6TD

Description of location or a grid reference.
(must be completed if postcode is not known):

Easting: | Northing:

Description:

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? ☐ Yes ☒ No

If Yes, please complete the following information about the advice you were given. (This will help the authority to deal with this application more efficiently).

Please tick if the full contact details are not known, and then complete as much as possible: ☐

Officer name:

Reference:

Date (DD/MM/YYYY):
(must be pre-application submission)

Details of pre-application advice received?

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? ☐ Yes ☒ No

Is a new or altered pedestrian access proposed to or from the public highway? ☐ Yes ☒ No

Are there any new public roads to be provided within the site? ☐ Yes ☒ No

Are there any new public rights of way to be provided within or adjacent to the site? ☐ Yes ☒ No

Do the proposals require any diversions /extinguishments and/or creation of rights of way? ☐ Yes ☒ No

If you answered Yes to any of the above questions, please show details on your plans/drawings and state the reference of the plan (s)/drawings(s)

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? ☐ Yes ☒ No

If Yes, please provide details:

Have arrangements been made for the separate storage and collection of recyclable waste? ☐ Yes ☒ No

If Yes, please provide details:

8. Neighbour and Community Consultation

Have you consulted your neighbours or the local community about the proposal? ☐ Yes ☒ No

If Yes, please provide details:

9. Council Employee / Member

Is the applicant or agent related to any member of staff or elected member of the council? ☐ Yes ☒ No

If Yes, please provide details:

10. Materials

If applicable, please state what materials are to be used externally. Include type, colour and name for each material:

	Existing (where applicable)	Proposed	Not applicable	Don't Know	Drawing references if applicable
Walls			☐	☐	
Roof			☐	☐	
Windows			☐	☐	
Doors			☐	☐	
Boundary treatments (e.g. fences, walls)			☐	☐	
Vehicle access and hard-standing			☐	☐	
Lighting			☐	☐	
Others (please specify)			☐	☐	PLEASE REFER TO ATTACHED PLANS

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement? ☒ Yes ☐ No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

SEE COVERING LETTER

11. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

Type of Vehicle	Total Existing	Total proposed (including spaces retained)	Difference in spaces
Cars	N/A		
Light goods vehicles/ public carrier vehicles	N/A		
Motorcycles	N/A		
Disability spaces	N/A		
Cycle spaces	N/A		
Other (e.g. Bus)	N/A		
Other (e.g. Bus)	N/A		

12. Foul Sewage

Please state how foul sewage is to be disposed of:

- [X] Mains sewer
- [ ] Cess pit
- [ ] Septic tank
- [ ] Other
- [ ] Package treatment plant

Are you proposing to connect to the existing drainage system? [ ] Yes [ ] No

If Yes, please include the details of the existing system on the application drawings and state references for the plan(s)/drawing(s):

13. Assessment of Flood Risk

Is the site within an area at risk of flooding? (Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary.) [ ] Yes [ ] No

If Yes, you will need to submit a Flood Risk Assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? [ ] Yes [ ] No

Will the proposal increase the flood risk elsewhere? [ ] Yes [ ] No

How will surface water be disposed of?

- [ ] Sustainable drainage system
- [ ] Existing watercourse
- [ ] Soakaway
- [ ] Pond/lake
- [X] Main sewer

14. Biodiversity and Geological Conservation

Is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, or on land adjacent to or near the application site?

a) Protected and priority species:

- [ ] Yes, on the development site
- [ ] Yes, on land adjacent to or near the proposed development
- [X] No

b) Designated sites, important habitats or other biodiversity features:

- [ ] Yes, on the development site
- [ ] Yes, on land adjacent to or near the proposed development
- [X] No

c) Features of geological conservation importance:

- [ ] Yes, on the development site
- [ ] Yes, on land adjacent to or near the proposed development
- [X] No

15. Existing Use

Please describe the current use of the site:

CLASS A1 RETAIL

Is the site currently vacant? [ ] Yes [ ] No

If Yes, please describe the last use of the site:

When did this use end (if known)? DD/MM/YYYY (date where known may be approximate)

Does the proposal involve any of the following:

Land which is known to be contaminated? [ ] Yes [X] No

Land where contamination is suspected for all or part of the site? [ ] Yes [X] No

A proposed use that would be particularly vulnerable to the presence of contamination? [ ] Yes [X] No

If you have answered Yes to any of the above, you will need to submit an appropriate contamination assessment.

16. Trees and Hedges

Are there trees or hedges on the proposed development site? [ ] Yes [X] No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? [ ] Yes [X] No

If Yes to either or both of the above, you will need to provide a full Tree Survey, with accompanying plan before your application can be determined. Your Local Planning Authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'.

17. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? [ ] Yes [X] No

If Yes, please describe the nature, volume and means of disposal of trade effluents or waste

18. Residential Units (Including Conversion)

Does your proposal include the gain, loss or change of use of residential units? ☐ Yes ☒ No
If Yes, please complete details of the changes in the tables below:

Proposed Housing

Market Housing	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Social Rented	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Intermediate	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Key worker	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Total proposed residential units $(A+B+C+D)=$

Existing Housing

Market Housing	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Social Rented	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Intermediate	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Key worker	Not known	Number of Bedrooms 1	2	3	4+	Unknown	Total
Houses	☐						
Flats and maisonettes	☐						
Live-work units	☐						
Cluster flats	☐						
Sheltered housing	☐						
Bedsit/studios	☐						
Unknown type	☐						
Totals $(a+b+c+d+e+f+g)=$							

Total existing residential units $(E+F+G+H)=$

TOTAL NET GAIN or LOSS of RESIDENTIAL UNITS (Proposed Housing Grand Total - Existing Housing Grand Total):

19. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss, gain or change of use of non-residential floorspace? ☐ Yes ☒ No

If you have answered Yes to the question above please add details in the following table:

Use class/type of use		Not applicable	Existing gross internal floorspace (square metres)	Gross internal floorspace to be lost by change of use or demolition (square metres)	Total gross internal floorspace proposed (including change of use)(square metres)	Net additional gross internal floorspace following development (square metres)
A1	Shops	☐				
	Net tradable area:	☐				
A2	Financial and professional services	☐				
A3	Restaurants and cafes	☐				
A4	Drinking establishments	☐				
A5	Hot food takeaways	☐				
B1 (a)	Office (other than A2)	☐				
B1 (b)	Research and development	☐				
B1 (c)	Light industrial	☐				
B2	General industrial	☐				
B8	Storage or distribution	☐				
C1	Hotels and halls of residence	☐				
C2	Residential institutions	☐				
D1	Non-residential institutions	☐				
D2	Assembly and leisure	☐				
OTHER	Please specify	☐				
		☐				
	Total					

In addition, for hotels, residential institutions and hostels, please additionally indicate the loss or gain of rooms

Use class	Type of use	Not applicable	Existing rooms to be lost by change of use or demolition	Total rooms proposed (including changes of use)	Net additional rooms
C1	Hotels	☐			
C2	Residential Institutions	☐			
Other	Hostels	☐			

20. Employment

Please complete the following information regarding employees:

	Full-time	Part-time	Total full-time equivalent	Not known
Existing employees	N/A			
Proposed employees	N/A			

21. Hours of Opening

Please state the hours of opening for each non-residential use proposed:

Use	Monday to Friday	Saturday	Sunday and Bank Holidays	Not known
				AS EXISTING
				AS EXISTING
				AS EXISTING

22. Site Area

Please state the site area in hectares (ha) 0.12

23. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

PLEASE REFER TO ATTACHED DOCUMENTATION

Is the proposal a waste management development? ☐ Yes ☒ No

If the answer is Yes, please complete the following table:

	Not applicable	The total capacity of the void in cubic metres, including engineering surcharge and making no allowance for cover or restoration material (or tonnes if solid waste or litres if liquid waste)	Maximum annual operational throughput in tonnes (or litres if liquid waste)
Inert landfill	☐		
Non-hazardous landfill	☐		
Hazardous landfill	☐		
Energy from waste incineration	☐		
Other incineration	☐		
Landfill gas generation plant	☐		
Pyrolysis/gasification	☐		
Metal recycling site	☐		
Transfer stations	☐		
Material recovery/recycling facilities (MRFs)	☐		
Household civic amenity sites	☐		
Open windrow composting	☐		
In-vessel composting	☐		
Anaerobic digestion	☐		
Any combined mechanical, biological and/or thermal treatment (MBT)	☐		
Sewage treatment works	☐		
Other treatment	☐		
Recycling facilities construction, demolition and excavation waste	☐		
Storage of waste	☐		
Other waste management	☐		
Other developments	☐		

Please provide the maximum annual operational throughput of the following waste streams:

Municipal	
Construction, demolition and excavation	
Commercial and industrial	
Hazardous	

If this is a landfill application you will need to provide further information before your application can be determined. Your waste planning authority should make clear what information it requires on its website.

24. Hazardous Substances

Does the proposal involve the use or storage of any of the following materials in the quantities stated below? ☐ Yes ☒ No ☐ Not applicable

If Yes, please provide the amount of each substance that is involved:

Acrylonitrile (tonnes)	Ethylene oxide (tonnes)	Phosgene (tonnes)
Ammonia (tonnes)	Hydrogen cyanide (tonnes)	Sulphur dioxide (tonnes)
Bromine (tonnes)	Liquid oxygen (tonnes)	Flour (tonnes)
Chlorine (tonnes)	Liquid petroleum gas (tonnes)	Refined white sugar (tonnes)

Other: Other:

Amount (tonnes): Amount (tonnes):

25. Certificates

One Certificate A, B, C, or D, must be completed, together with the Agricultural Holdings Certificate with this application form

CERTIFICATE OF OWNERSHIP - CERTIFICATE A

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land or building to which the application relates.

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):
C/O AGENT	[redacted]	03/03/2008

CERTIFICATE OF OWNERSHIP - CERTIFICATE B

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/ The applicant certifies that I have/the applicant has given the requisite notice to everyone else (as listed below) who, on the day 21 days before the date of this application, was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land or building to which this application relates.

Name of Owner	Address	Date Notice Served

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):

CERTIFICATE OF OWNERSHIP - CERTIFICATE C

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/ The applicant certifies that:

§ Neither Certificate A or B can be issued for this application

§ All reasonable steps have been taken to find out the names and addresses of the other owners *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run*)of the land or building, or of a part of it , but I have/ the applicant has been unable to do so.

The steps taken were:

Name of Owner	Address	Date Notice Served

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):	On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):

25. Certificates (continued)

CERTIFICATE OF OWNERSHIP - CERTIFICATE D

Town and Country Planning (General Development Procedure) Order 1995 Certificate under Article 7

I certify/ The applicant certifies that:

§ Certificate A cannot be issued for this application

§ All reasonable steps have been taken to find out the names and addresses of everyone else who, on the day 21 days before the date of this application, was the owner *(owner is a person with a freehold interest or leasehold interest with at least 7 years left to run)* of any part of the land to which this application relates, but I have/ the applicant has been unable to do so.

The steps taken were:

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

AGRICULTURAL HOLDINGS CERTIFICATE

Town and Country Planning (General Development Procedure)Order 1995 Certificate under Article 7

Agricultural Land Declaration - You Must Complete Either A or B

(A) None of the land to which the application relates is, or is part of, an agricultural holding.

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):
C/O AGENT	[redacted]	03/03/2008

B) I have/ The applicant has given the requisite notice to every person other than myself/ the applicant who, on the day21 days before the date of this application, was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

Name of Tenant	Address	Date Notice Served

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

26. Planning Application Requirements - Checklist

Please read the following checklist to make sure you have sent all the information in support of your proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

3 copies of a completed and dated application form: ☐

3 copies of the plan which identifies the land to which the application relates drawn to an identified scale and showing the direction of North: ☐

3 copies of other plans and drawings or information necessary to describe the subject of the application: ☐

The correct fee: ☐

3 copies of a design and access statement: ☐

3 copies of the completed, dated Article 7 Certificate (Agricultural Holdings): ☐

3 copies of the completed, dated Ownership Certificate (A, B, C, or D - as applicable): ☐

27. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.

Signed - Applicant:	Or signed - Agent:	Date (DD/MM/YYYY):	
C/O AGENT		03/03/2008	(date cannot be pre-application)

28. Applicant Contact Details

Telephone numbers

Country code:	National number:	Extension number:

Country code:	Mobile number (optional):

Country code:	Fax number (optional):

Email address (optional):

29. Agent Contact Details

Telephone numbers

Country code:	National number:	Extension number:
01234	358863	

Country code:	Mobile number (optional):

Country code:	Fax number (optional):

Email address (optional): antony.cook@dppllp.com

30. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? ☐ Yes ☐ No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? *(Please select only one)* ☐ Agent ☐ Applicant ☐ Other (if different from the agent/applicant's details)

If Other has been selected, please provide:

Contact name: Telephone number:

Email address:

TRI-GENERATION MISSION STATEMENT

Tesco have increased their commitment to environmental issues and greater emphasis has been placed on the prominence of renewable energy technologies. Scott Wilson are working with Tesco to meet their reduction in carbon targets by providing innovative design solutions for the Shoreham-by-Sea, West Sussex, BN43 6TD store as part of Tesco's national carbon reduction policy. The site is to incorporate an onsite generated combined heat, power and cooling (tri-generation) system intended to reduce the store's carbon emissions. The system is powered by a gas fired CHP from which the waste heat in the engine's cooling water system is transferred into a heating water system from where the high grade heat is fed into an Adsorption chiller and / or the LTHW heating system. The chiller produces low temperature chilled water which is used for water condensing a selection of refrigeration pack units.

Sir Terry Leahy, CEO of Tesco, announced in the Tesco Corporate Responsibility Review 2007, that:

> *"...By next year we will have halved the average energy use of our UK stores compared to the year 2000. We are committed to measuring and publishing our global carbon footprint as a business, including all our existing stores and distribution centres world-wide. And we will* ***reduce emissions from these buildings by at least 50% by 2020****..."*[1].

By utilising CCHP (Combined Cooling Heating Plant) within a single packaged plantroom that contains 1No. 600kWe natural gas powered CHP engine, interfaced with existing LTHW network and 1No. 500kWm adsorption chiller we were able to reduce the Shoreham-by-Sea stores carbon emissions by some 6~15% depending on site conditions. In addition the installation will be able to provide the store with 60 to 70% of locally generated electricity consequently reducing the network demand.

In general terms, Tesco made a voluntary commitment to improve energy efficiency within stores and reduced energy consumption by 3.6% per ft^2 within 2005 (as noted within Tesco Corporate responsibility review 2005). Further, as noted within Sir Terry Leahy's speech on 10th May 2006 confirming Tesco's aim to reduce average energy used within store by 40% by 2010 against a baseline of 2000, and have set aside £100 million to spend in the business on sustainable environmental technology.

Sir Terry Leahy, CEO of Tesco, announced in the Tesco Corporate Responsibility Review 2007, that:

> *"...By next year we will have halved the average energy use of our UK stores compared to the year 2000. We are committed to measuring and publishing our global carbon footprint as a business, including all our existing stores and distribution centres world-wide. And we will* ***reduce emissions from these buildings by at least 50% by 2020****..."*[1].

As such, self imposed targets for renewable generation and CO_2 footprint reductions have been increased.
The table below summarises the reduction in CO_2 emission proposed:

	Current Store		CCHP Connected Store	
	kgCO2/yr	Grid Elec. Demand MWh/yr	kgCO2/yr	Grid Elec. Demand MWh/yr
	3005	6450	2820-2550	2580-2050
CO2 reduction %			6-15	-
Grid Electricity reduction %			-	60-70

[1] source: Tesco website: http://www.tesco.com/climatechange

PLANNING DEPARTMENT
PLAN No. A/a/a/30/08
DATE RECEIVED 06 MAR 2008
COUNCIL

DESIGN AND ACCESS STATEMENT

Proposed Combined Heat and Power Plant (CHP) at Tesco store, Upper Shoreham Road, Shoreham-by-Sea, West Sussex, BN43 6TD

PLANNING DIVISION
PLAN No. A0d013068
DATE RECEIVED 06 MAR 2008

Our Reference: 948008/R0001ac

The following statement provides our analysis with regard to the design and access issues relating to the proposed CHP unit at the Tesco store, Upper Shoreham Road. This statement has been produced in accordance with the requirements of Section 62 and Section 327A of the 'Town and Country Planning Act' 1990 as inserted by Section 42 of the 'Planning and Compulsory Purchase Act' 2004, and Article 4C of the 'Town and Country Planning (General Development Procedure) Order' 1995 (as amended). The statement sets out an assessment of the development based on the criteria included within the non-statutory guidance provided by CABE, as follows:

Use

The application site is within the curtilage of the existing Tesco supermarket at the Tesco store, Upper Shoreham Road. The CHP unit will seek to complement the continued operation of the Tesco store through the sustainable production of energy at the premises that will in turn power the heating, refrigeration and air condition at the store, amongst other processes. As such, the unit will enhance the sustainable methods by which the store operates, lessening the impact on the local and wider environment. Accordingly, the development relates to an established use.

Amount

The application proposes the development of a single CHP system, this will comprise, a plantroom to the rear of the store premises, as well as a cooling tower, the topmost section of which will require a minor alteration to the roof of the store. The amount of plant included is in keeping with the sustainable energy requirements of a store of this size.

Layout

The layout of the proposal will involve both external and internal works at the store. For the purposes of planning (external works), the visible layout will include a single plant room to the west of the store, and a system of cooling towers on the roof, accessible via a catwalk (service platform) around the perimeter of the towers. The development will result in the loss of 3 car parking spaces in the northwest corner of the existing car park.

Scale

The scale of the proposal will be minimal in comparison to the scale of the existing development on site. The scale (size of units, number of towers) will generally be commensurate with the size of the store it seeks to serve. Accordingly, the scale will be

largely in keeping with what is an established commercial premises and will not form a dominant feature.

Landscaping

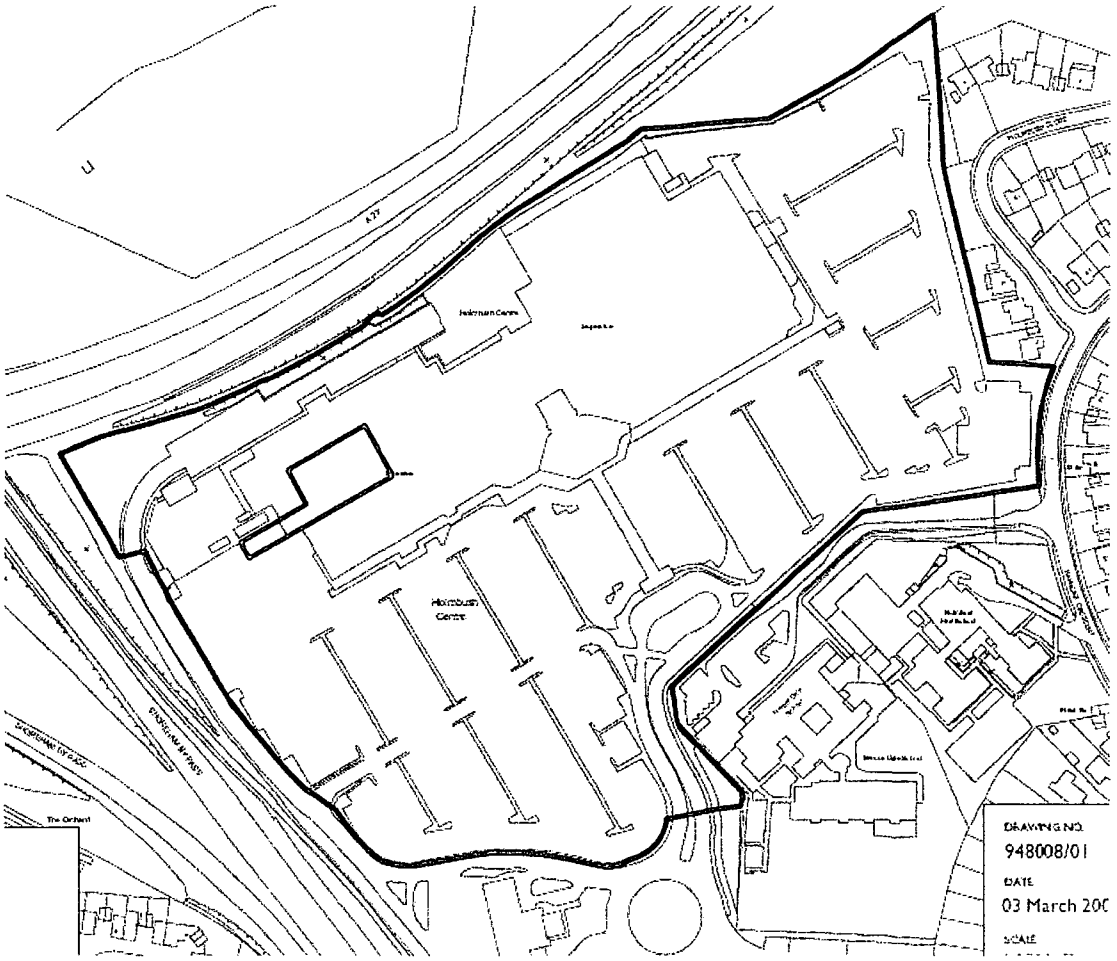
The proposed amendments will not affect any of the existing landscaping features at the store, as the construction concerns either existing hard standing or the roof of the building.

Appearance

The appearance of the CHP system will be functional and basic. However, this will be in keeping with both the proposed purpose of the system. The CHP unit itself will be partially screened via the existing service yard wall and the existing store and will only be largely visible via the western edge of the site.

Access

The proposed CHP system comprises two separate units. The CHP plant room itself will be accessible via the store car park, whilst the cooling tower units will be afforded safe access via a new railed catwalk to be constructed on the roof of the Tesco store, behind the existing parapet.



Picture 1: Location of Tesco Store, Upper Shoreham Road
Red Outline: Location of CHP Unit and cooling towers
Blue Outline: Boundary of Tesco Store, Upper Shoreham Road

Upper Shoreham Road, Shoreham-By-Sea



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TESCO STORE
SHOREHAM

PLANT NOISE ASSESSMENT
REPORT 2313/PNA1

...DISTRIC... COUNCIL
PLANNING D... ION
PLAN No. Aoc/0130/08
DATE RECEIVED 06 MAR 2008

26-November 2007
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RBA ACOUSTICS

TESCO STORE
SHOREHAM

PLANT NOISE ASSESSMENT REPORT
2313/PNA1

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1.0 Introduction

It is proposed to introduce a new Combined Heat & Power (CHP) unit at the Tesco store in Shoreham-by-Sea. This unit will generate both heat and power for the store and will be located at the front of the store.

RBA Acoustics have been commissioned to undertake measurements of the prevailing noise conditions at the site and to provide an assessment of atmospheric noise emissions from the proposed unit for submission to the Adur District Council's Environmental Health Department. This report presents the results of the noise measurements and associated assessment.

2.0 Noise Survey

2.1 General

Monitoring of the prevailing background noise was undertaken over the following period:

08:30 Friday 31 August to 00:45 Monday 3 September 2007

N.B. The battery and memory capacity of the monitoring equipment unfortunately limits the measurement period to the above. However, it is considered the measurements undertaken can be considered representative of the typical environment as worst case (quietest) periods i.e., Saturday night to Sunday morning have been recorded.

During the survey period the weather conditions were considered satisfactory for the noise measurement exercise, it being predominantly dry with little wind.

Measurements were made of the L_{A90}, L_{max} and L_{Aeq} noise levels over sample periods of 15 minutes duration.

2.2 Measurement Location

Measurements were undertaken within the existing service yard with the microphone positioned at a height of approximately 6m above the ground (and hence above the wall around the service yard). This position is considered to be the most representative secure location to both the proposed location of the new plant item and the closest residential window (on Lavender Hill)

This measurement position is illustrated on the attached Site Plan 2313/SP1.

The prevailing noise climate was noted to mainly consist of vehicular movements along the A27 and to a less extent the A270.

2.3 Instrumentation

The following equipment was used for the measurements.

Table 2313/T1 – Monitoring Equipment Used

Manufacturer	Model Type	Serial No.	Calibration	
			Certificate No.	Expiry Date
01dB A&V Type 1 Sound Level Meter	Solo 01	11260	DTE-T-07-PVE-28584	6 March 2008
01dB A&V Pre Amplifier	PRE 21 S	11847		
Gras ½" Microphone	MCE 212	67337		
01dB-Stell Calibrator	Cal 21	50241574	02184	30 Jan 2008

The equipment was calibrated prior to and on completion of the survey. No significant calibration drift occurred.

3.0 Results

The noise levels at the measurement position are shown as time-histories on the attached Graphs 2313/G1.

In order to ensure a worst case assessment the lowest background noise levels measured have been used in our analyses.

The lowest L_{90} dBA noise level measured over the survey period was 43.5dBA which occurred at 04:00hours on Sunday 2 September 2007. During daytime periods (07:00 – 23:00 hours) the lowest L_{90} dBA noise level measured was 53.4dBA between 22:45 and 23:00hours on Sunday 2 September 2007

4.0 Criteria

We have attempted to agree appropriate criteria for the project with representatives of Adur District Council's Environmental Health Department. However, they advised there was no standard criteria for new building services plant.

As such, we agreed that, in the first instance, any noise generated should be designed so that it does not exceed a level equivalent to 5dBA below the lowest background L_{A90} 15 minute sample during operation hours, as assessed 1m from the nearest affected residential window.

Based upon the above, the following criteria are derived:

Table 2313/T2 – Atmospheric Emission Criteria

Daytime use (07:00 – 23:00)	48.4 dBA
Night-time use (23:00 – 07:00)	38.5 dBA

This criterion also ensures that internal noise level recommendations for residential properties relating to break in from noise associated with the unit, as stated in British Standard BS 8233, are met.

5.0 Assessment

Our assessment has been based upon the following information:

5.1 Packaged Plantroom

The packaged plantroom constitutes the main location for plant items associated with the CHP system. However, there are also a number of additional plant items which will be located externally to the packaged plantroom.

The main items of noise generating equipment to be located within the packaged plantroom is listed below:

- 1 No. CHP Units
- 4 No. Pumps
- Air Compressor

The equipment to be located external to the plantroom is detailed in Sections 5.2 and 5.3 while data for the units located within the plantroom is detailed in Sections 5.1.2 to 5.1.4.

5.1.1 Attenuation through Casing

Weatherite Manufacturing have advised the following sound reduction indices for the external skin of the packaged plantroom.

Table 2313/T3 – Casing SRI

Sound Reduction Index (dB) at Octave Band Centre Frequency (Hz)							
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
20	20	26	31	34	37	35	62

5.1.2 CHP Units

According to Cogenco, the suppliers of the proposed CHP unit, the enclosure for the CHP plant (including louvres, exhaust points etc.) is designed to ensure maximum noise levels at a distance of 1m from the unit will be 65dBA or below. Furthermore, we understand the equipment has no tonal components.

From previous projects the following octave band spectrum is anticipated:

Table 2313/T4 – CHP Unit Noise Levels

Unit Sound Pressure Level (dB re 2x 10^{-5} Pa) at 1m								
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dBA**
70	76	66	61	51	47	39	37	65

5.1.3 Pumps

There are 2 No. 11kW pumps to be located within the plantroom. These are rated as 62dBA at 1m.

In addition, there will be 1 No. 18.5kW pump rated as 64dBA at 1m and 1 No. 45kW pump as 70dBA at 1m located within the plantroom.

There is no specific frequency data available for these units. As a result, we have assumed a typical frequency distribution as measured on previous projects.

5.1.4 Air Compressor

An air compressor will also be located within the packaged plantroom. This will have the following sound pressure levels at 1m from the unit as advised by the supplier when operating under full load:

Table 2313/T5 – Air Compressor Noise Levels

Unit Sound Pressure Level (dB re 2x 10^{-5} Pa) at 1m								
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dBA**
56	58	53	57	60	46	39	36	61

5.2 Ducted Sources

In addition to noise break-out via the casing of the packaged plantroom, there will be a number of ducted sources which need to be considered. These are addressed below:

5.2.1 CHP Ventilation Fan Intake

In order to provide ventilation to the CHP enclosure, there will be a fan ducted from the CHP unit to external. This fan has the following in-duct sound power levels.

Table 2313/T6 – CHP Vent Fan

In-Duct Sound Power Level (dB)							
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
85	89	86	88	85	94	79	76

In order to control noise emissions, an atmospheric attenuator will be required – performance specifications for this attenuator are detailed within the attached Atmospheric Silencer Schedule.

5.2.2 CHP Ventilation Discharge

Air will be discharged from the CHP enclosure via a ducted system. In order to control this noise path, an atmospheric attenuator will be required. Performance specifications for this attenuator are detailed within the attached Atmospheric Silencer Schedule.

5.2.3 Plantroom Supply Intake

Air will be discharged from the packaged plantroom via a ducted system. In order to control this noise path, an atmospheric attenuator will be required. Performance specifications for this attenuator are detailed within the attached Atmospheric Silencer Schedule.

5.3 Externally Located Units

5.3.1 CHP Exhaust

The CHP exhaust is advised as being 65dBA at 1m. In the absence of octave band data, we have assumed a typical frequency distribution as measured on previous projects.

5.3.2 Plantroom Supply Fan

The plantroom supply fan will be located on the face of the packaged plantroom and has the following noise data.

Table 2313/T7 – Plantroom Supply Fan Noise Levels

Unit Sound Power Level (dB re 1x 10^{-12} W)								
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dBA**
72	65	71	65	63	61	53	40	68.5

5.3.3 Dry Air Cooler Fans

There will be 6 No. Dry Air Cooler fans – 3 will be intercooler, 3 will be heat dump fans. These have the following noise data.

Table 2313/T8 – Dry Air Cooler Fan Noise Levels

Unit Sound Power Level (dB re 1x 10^{-12} W)								
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dBA**
72	65	71	65	63	61	53	40	68.5

5.4 Adiabatic Cooler

Two adiabatic coolers will be mounted on the roof of the main store both of these have the following sound pressure levels as advised by the supplier when operating under full load:

Table 2313/T9 – Adiabatic Cooler Noise Levels

Unit Sound Pressure Level (dB re 2x 10^{-5} Pa) at 15m								
63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dBA**
40	49	53	55	55	54	52	48	60.0

During night-time periods (23:00 – 07:00 hours) the adiabatic cooler will not operate at full duty due to lower loads and ambient temperatures. A night time setback function can be incorporated into the cooler controls which will

bring the adiabatic mode into operation during these periods. As a result, noise emissions from the unit will be reduced by 8dBA.

5.5 Location of proposed plant items

The attached plan 2313/SP1 shows the proposed location of the various plant items.

5.6 Location of Nearest Residential Window

The worst affected residential windows to the proposed plant are identified as being those along Lavender Hill.

This receptor location has therefore been used in the plant noise assessment and has been determined as being a distance of 160m from the proposed CHP location and 190m from the location of the adiabatic coolers.

The approximate location of these windows is also indicated on the attached Site Plan 2313/SP1.

5.7 Calculation of Noise Levels at Nearest Residential Window

Our calculation method for predicting noise levels from the proposed packaged plantroom and associated plant items at the nearest residential window, based on the information stated above, is summarised below.

Packaged Plantroom Noise

- Source Term SPL
- Conversion to Sound Power Level (using Conformal Area Method)
- Conversion to Reverberant Field within Plantroom
- Attenuation through external skin of plantroom
- Distance Attenuation to assessment location (using 20 Log R)

Ducted Items

- In-duct source noise
- Attenuator insertion loss (if appropriate)
- Grille end reflection
- Directivity Correction
- Distance attenuation to assessment location (using 20 Log R)

External Items – such as Adiabatic Coolers and Dry Air Cooler Fans etc.

- Source Term SPL
- Distance Attenuation to assessment location (using 20 Log R)
  or
- Source Term SWL
- Distance Attenuation to assessment location (using Lw - 20 Log R - 8)

6.0 Predicted Noise Levels

Our calculations indicate the following resultant noise levels at the assessment location.

6.1 Packaged Plantroom

Our assessment predicts a noise level due to the operation of the packaged plantroom of 18dBA at the nearest residential habitable window for both day and night time operation. This is comfortably within the proposed criterion.

6.2 Ducted Sources

Our assessment predicts a noise level due to the operation of the ducted sources associated with the packaged plantroom of 25dBA at the nearest residential habitable window for both day and night time operation. This is comfortably within the proposed criterion.

6.3 Standalone Sources

Our assessment predicts a noise level due to the operation of the standalone sources associated with the packaged plantroom of 24dBA at the nearest residential habitable window during daytime (07:00 – 23:00) operation and 22dBA during night time (23:00 – 07:00) operation. These levels are comfortably within the proposed criterion.

6.4 Roof Mounted Adiabatic Coolers

As indicated on the calculation sheet detailed within Appendix B, our assessment predicts a noise level due to the operation of the external units of 41dBA at the nearest residential habitable window during daytime (07:00 – 23:00) operation and 33dBA during night time (23:00 – 07:00) operation. These levels are comfortably within the proposed criterion.

6.5 Cumulative Effect

The cumulative effect of all sources operating together equates to an overall noise level of 41dBA during daytime (07:00 – 23:00) operation and 34dBA during night time (23:00 – 07:00) operation. These levels are comfortably within the proposed criterion.

6.6 Mitigation

The predicted noise levels at the nearest residential window are within the target level as required by Adur District Council's Environmental Health Department. As such the proposed units should be considered acceptable and no further mitigation is required.

7.0 Conclusion

Measurements of the existing background noise levels at Tesco store in Shoreham-by-Sea, have been undertaken in line with the general requirements of Adur District Council. The results of the measurements have been used in order to assess atmospheric noise emissions from the proposed CHP unit located within the service yard and the roof mounted adiabatic coolers.

The results of the assessment indicate atmospheric noise emissions from the units are in line with the level required by Environmental Health and, as such, should be considered acceptable.

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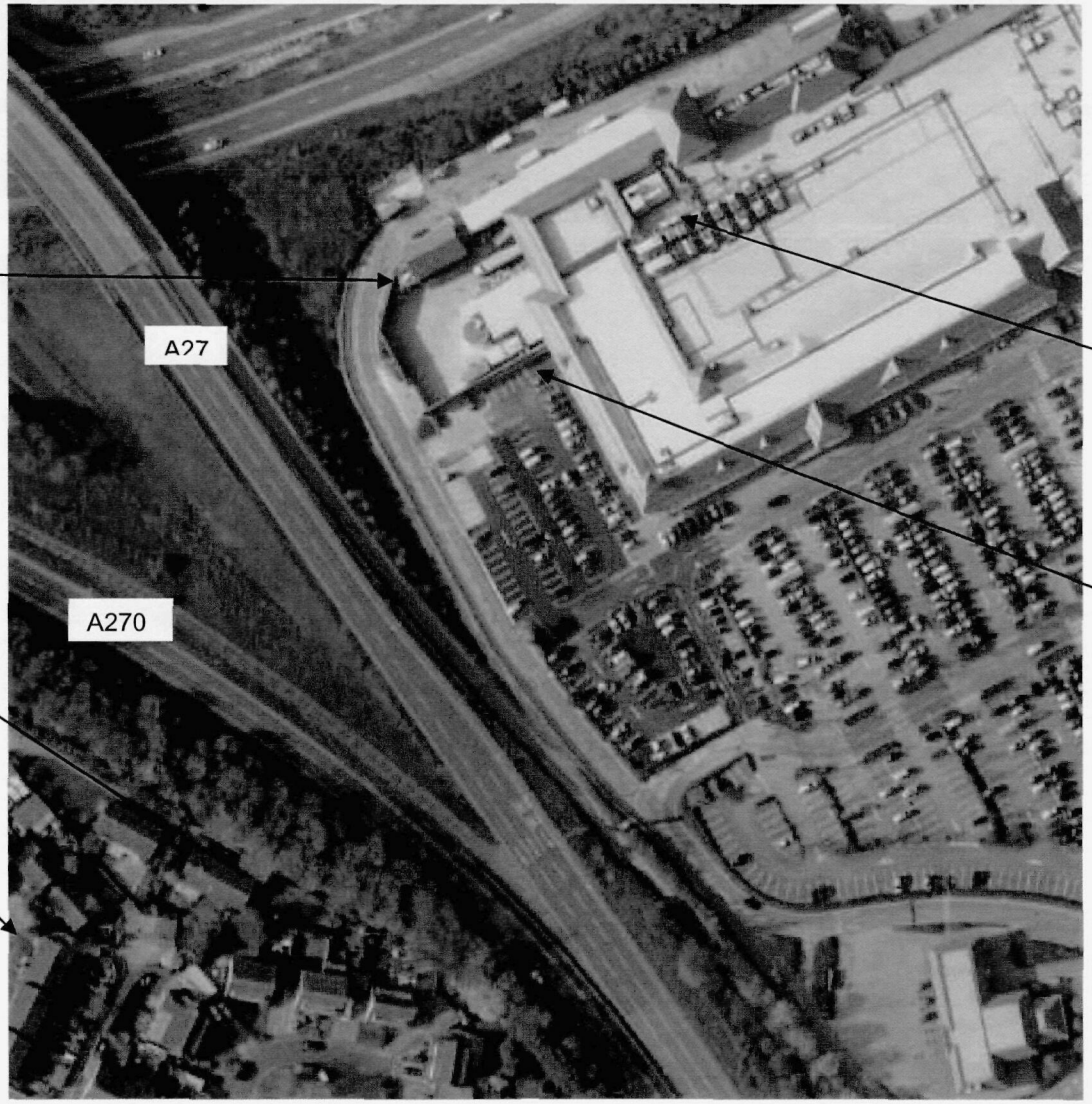
Tesco Store, Shoreham-by-Sea

Atmospheric Attenuator Schedule

2313/AS1

Silencer Ref.	Description	No. Off	Dimensions (mm)			Vol m^3/s	Max PD Pa	Minimum Insertion Loss (dB) at Octave Band Centre Frequency (Hz)							
			W	H	L			63	125	250	500	1k	2k	4k	8k
	CHP 1 Supply Fan Intake	1	As required			-	50	5	11	19	29	36	37	29	18
	CHP 1Supply Fan Exhaust	1	As required			-	50	8	4	1	0	0	0	0	0
	Plantroom Fresh Air Intake	1	As required			-	50	3	5	9	13	15	16	11	9
	Plantroom Exhaust - Roomside	1	As required			-	50	3	5	9	13	15	16	11	9



Site Plan showing measurement position and assessment location	Figure 2313/SP1	RBA richardsonbladonandersen ACOUSTICS
	26 November 2007	
Tesco Store, Shoreham-by-Sea	Not to Scale	

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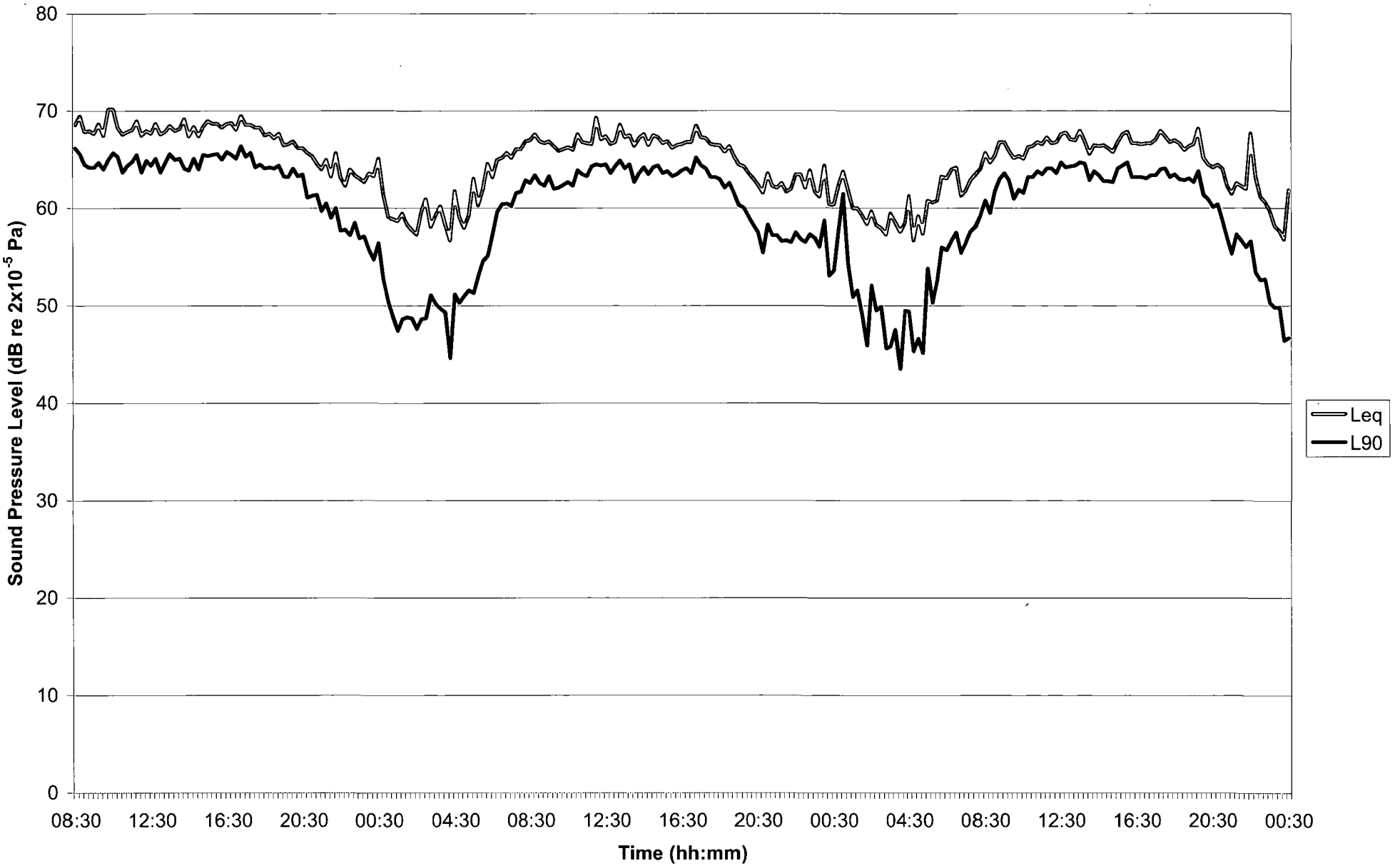
Tesco Store, Shoreham-by-Sea
Time History of Noise Levels 31 August - 3 September 2007



2313/G1

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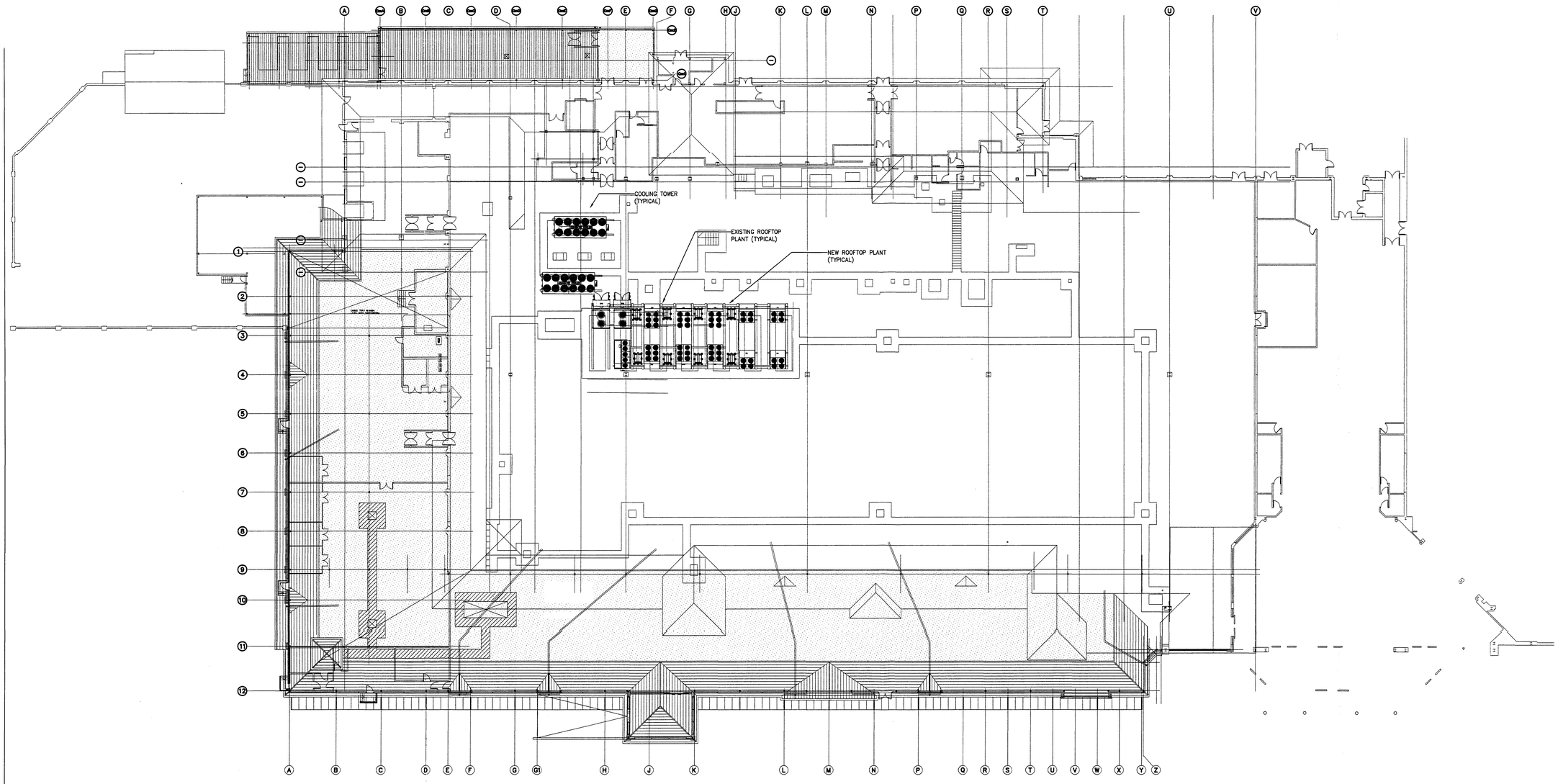

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A	ISSUED FOR PLANNING ONLY	Dec '07	MLB	

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PLANNING DIVISION
PLAN No. A2d013d08
DATE 06 MAR 2008

PROJECT

TESCO SHOREHAM
TRI-GENERATION PROJECT

TITLE

EXISTING ROOF LEVEL
WITH NEW CHP PLANT

DRAWN	AUTHORISED	SCALE	STORAGE	DATE
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PROJECT NO.	DRAWING NO.	REV
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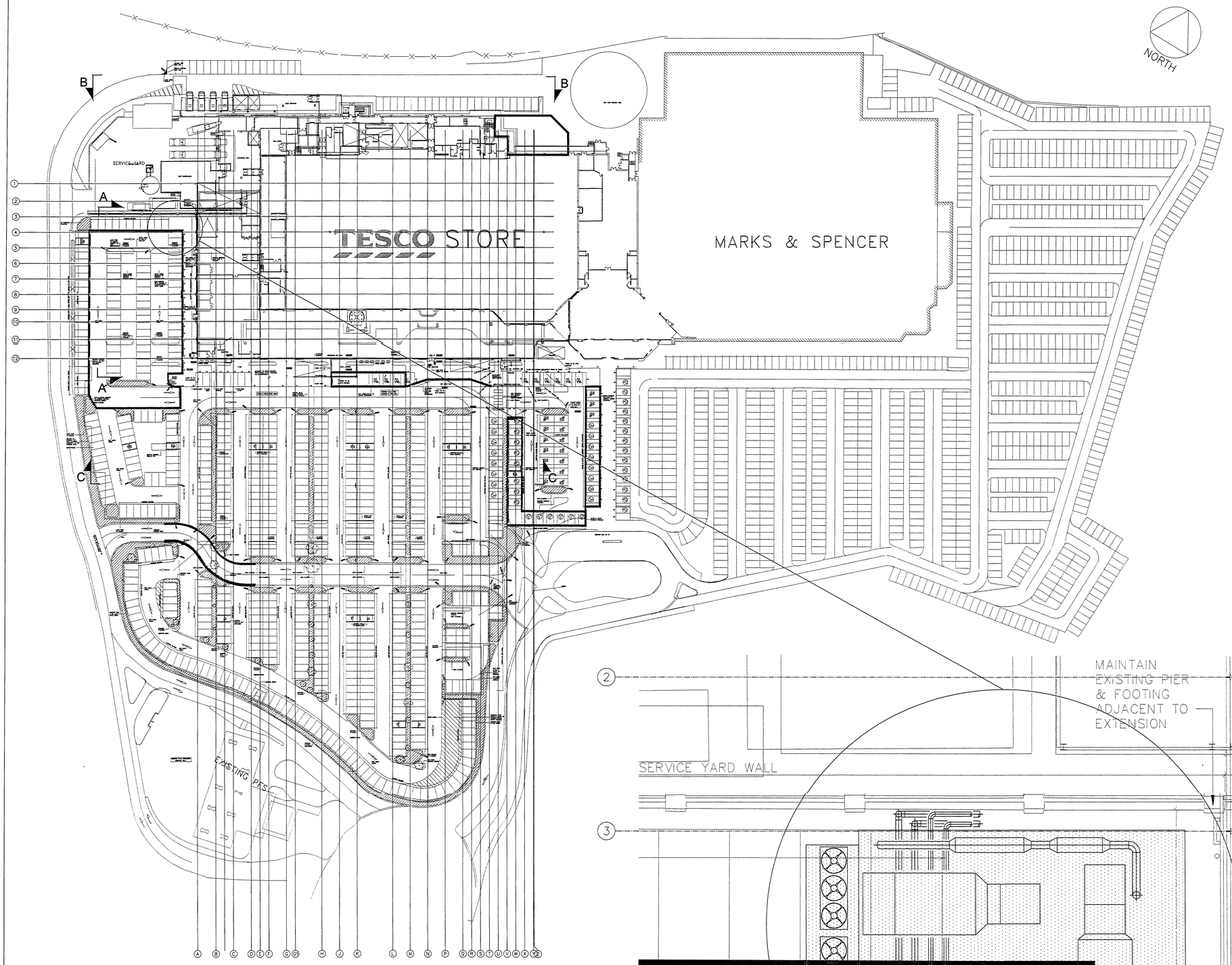
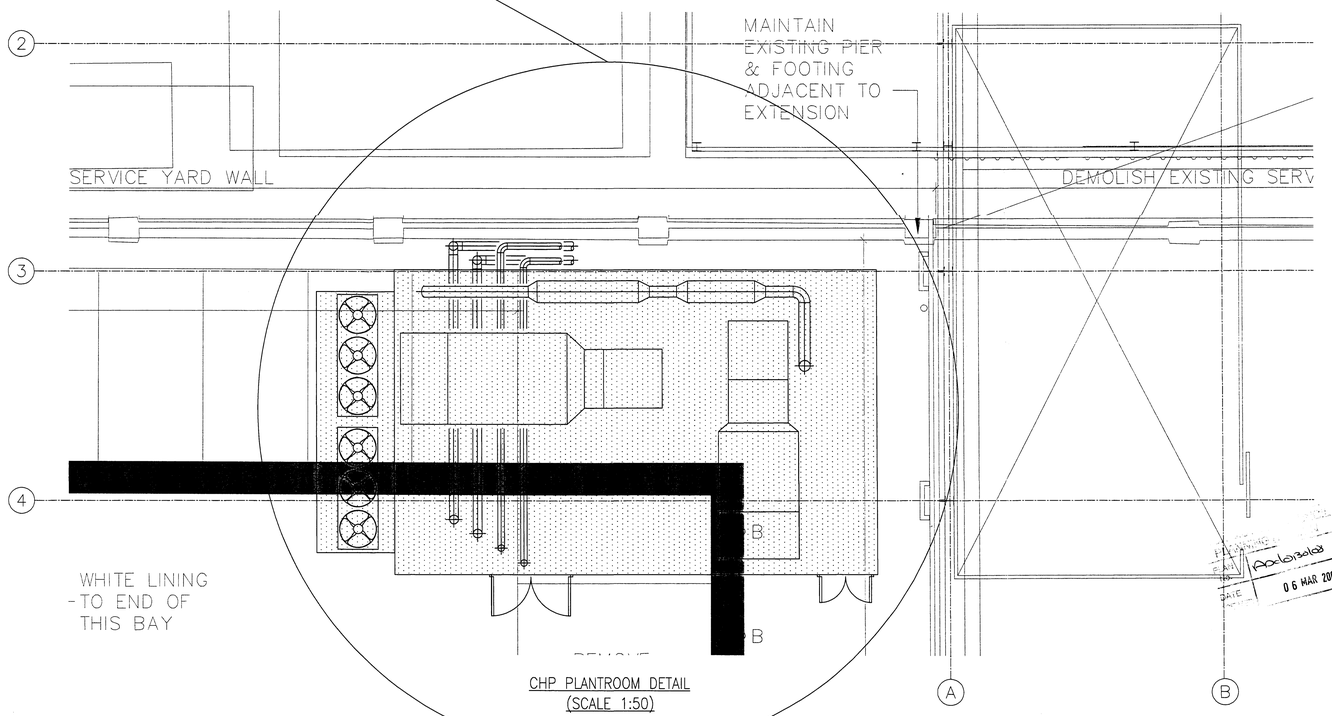


EXISTING SITE PLAN
(SCALE 1:500)



CHP PLANTROOM DETAIL
(SCALE 1:50)

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CLIENT: TESCO

PROJECT:
TESCO SHOREHAM
TRI-GENERATION PROJECT

TITLE:
EXISTING SITE PLAN
WITH NEW CHP PLANTROOM

DRAWN	AUTHORISED	SCALE	STORAGE	DATE
MLB	MLB	1:500		Dec '07

PROJECT NO.	DRAWING NO.	REV
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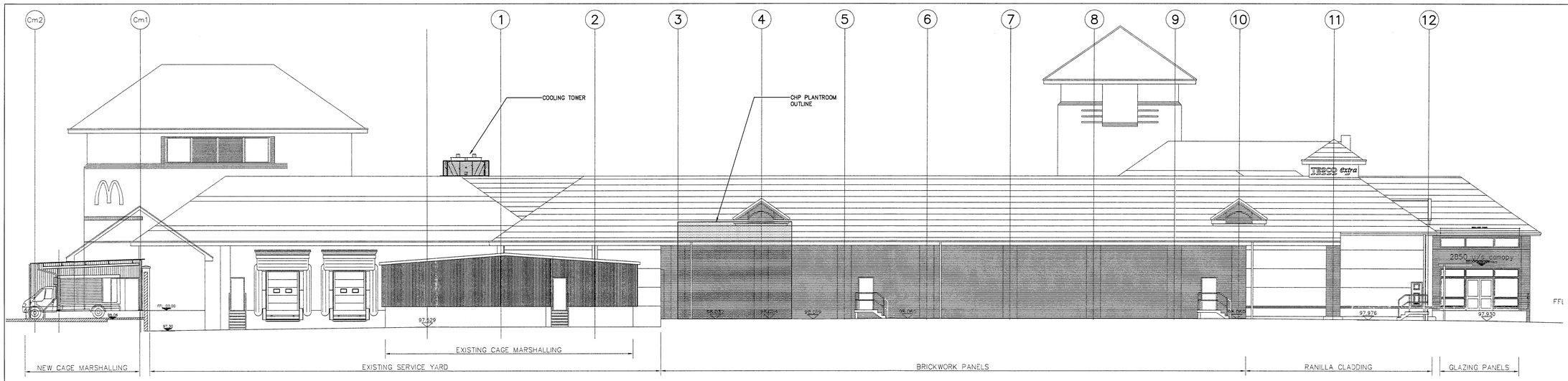
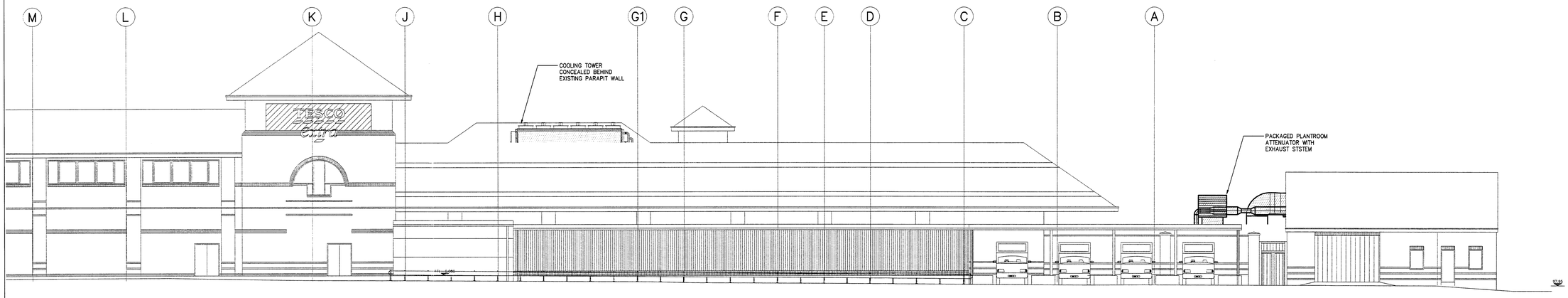
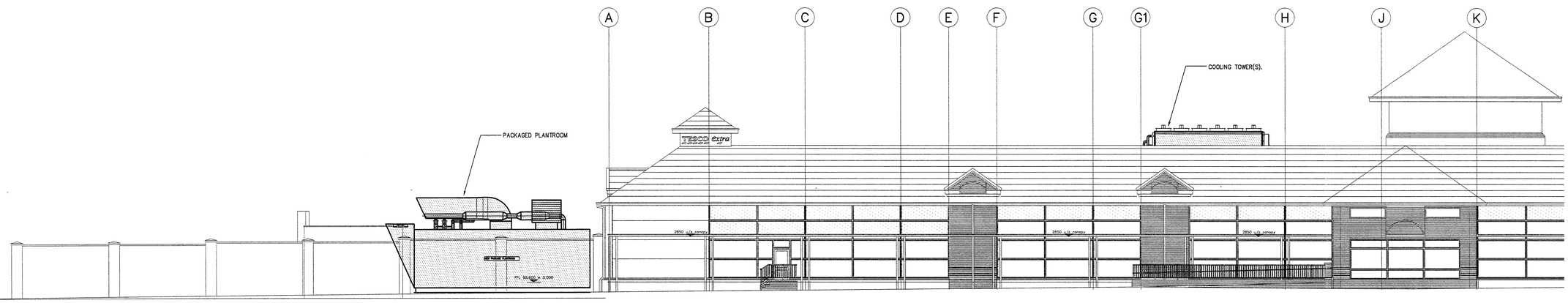


ELEVATION A–A
EXISTING EAST ELEVATION WITH NEW CHP
PLANTROOM & ASSOCIATED PLANT



ELEVATION B–B
EXISTING REAR ELEVATION WITH NEW CHP
PLANTROOM & ASSOCIATED PLANT



ELEVATION C–C
EXISTING FRONT ELEVATION WITH CHP
PLANTROOM & ASSOCIATED PLANT

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PLAN No. Ac0013063
DATE 06 MAR 2008

CLIENT
TESCO

PROJECT
TESCO SHOREHAM
TRI-GENERATION PROJECT

TITLE
EXISTING ELEVATIONS
WITH NEW CHP PLANTROOM

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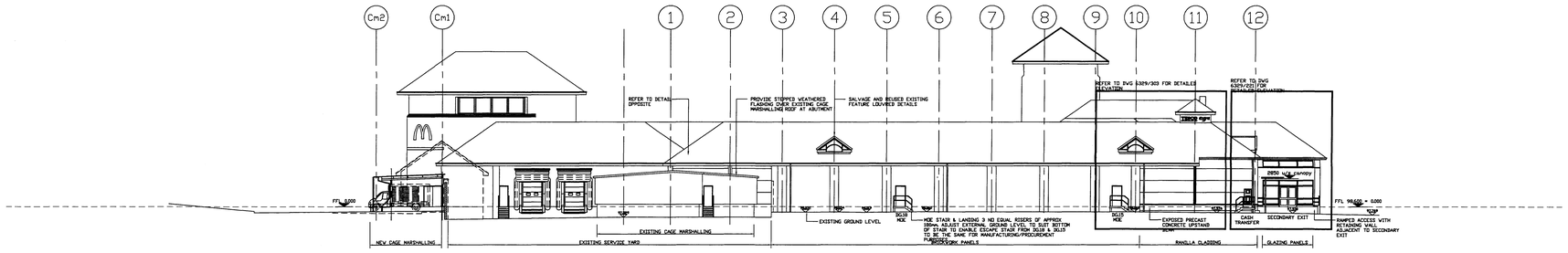
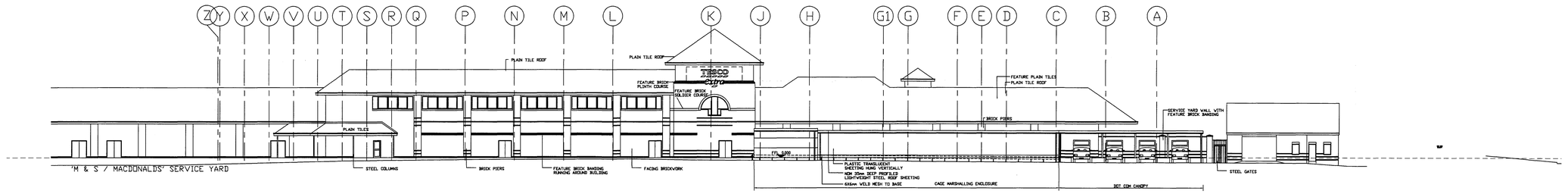
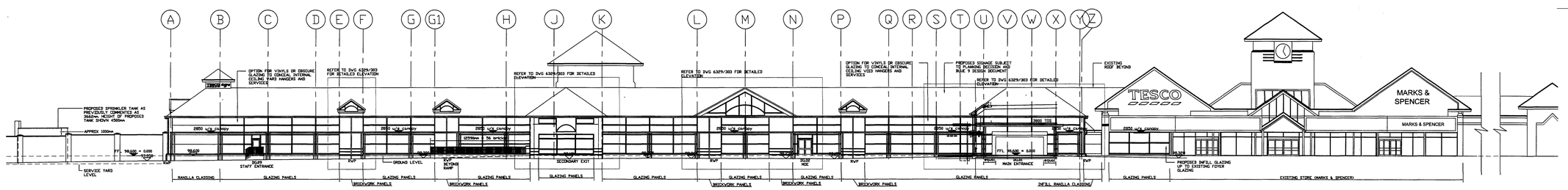


ELEVATION A-A
EXISTING EAST ELEVATION



ELEVATION B-B
EXISTING REAR ELEVATION



ELEVATION C-C
EXISTING FRONT ELEVATION

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TESCO SHOREHAM
TRI-GENERATION PROJECT

TITLE
EXISTING ELEVATIONS

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MLB	MLB	1:200		Feb '07
PROJECT NO. 07071602		DRAWING NO. APL-004		REV A

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