

Our Ref: BF/DF/Councils/Renf/2007  
Your Ref: 06/0602/PP

Director of Planning & Transport  
Renfrewshire Council  
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<b>RENFREWSHIRE COUNCIL</b>									
DEPARTMENT OF PLANNING & TRANSPORT									
17 OCT 2007									
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If telephoning ask for:  
Brian Fotheringham

12 October 2007

Dear Sir

**CONSULTATION ON OUTLINE PLANNING APPLICATION ACCOMPANIED BY AN ENVIRONMENTAL STATEMENT  
REDEVELOPMENT OF ROYAL ORDNANCE FACTORY, BISHOPTON  
OUTLINE PLANNING APPLICATION REFERENCE: 06/0602/PP**

Thank you for your consultation letter in respect of the above proposal.

The following provides a summary of SEPA's comments with detailed comments attached in an appendix.

**Overview**

SEPA acknowledges that the Environmental Statement produced for the outline planning application is detailed, comprehensive and does not attempt to understate the detrimental extent and impact that the proposed regeneration of the former ROF Bishopton site could cause to the environment of the site and surrounding area, if the regeneration works are not properly managed.

SEPA is supportive of development which results in the remediation of contaminated land provided the process to achieve this, safeguards the environment at every step. Given both the scale and the complexity of this proposal it is reasonable that the level of information provided will be dictated by which stage has been reached in the planning and regulatory processes. It is accepted that at this outline masterplan application stage, which seeks approval for the development in principle, there will be areas of information regarding the detailed design which have yet to be established. This is not unusual for a development of this kind. However, SEPA considers that there are areas within the Environmental Statement which require to be expanded to provide greater detail and certainty. This includes sections on the water environment; including engineering and flood risk, and sections on the impact of the remediation processes.

On the basis that the Environmental Statement does not provide sufficient detail on the implementation of the development in relation to the water environment, SEPA objects to this application. SEPA is mindful of the planning process here however, and would be satisfied for these points to be addressed at the detailed planning application stage. SEPA's objection would therefore be addressed by the inclusion of conditions in any outline planning consent granted requiring these issues to be addressed to the satisfaction of the Council, in consultation with SEPA.

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Chairman  
Sir Ken Collins

Chief Executive  
Dr Campbell Gemmel

**East Kilbride Office**

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The conditions should cover the following points:

1. The applicant will submit a revised Flood Risk Assessment demonstrating effective management of the flood risk in line with SPP7: Planning & Flood Risk to the satisfaction of the Planning Authority in consultation with SEPA.

*Reason – to demonstrate compliance with SPP7*

2. The applicant will submit a surface water drainage strategy outlining the structures and methods to be implemented to the satisfaction of the Planning Authority in consultation with SEPA.

*Reason – to ensure that the proposed activities which require authorisation under CAR are capable of being licensed as per best practice in Planning Advice Note 51: Planning, Environmental Protection and Regulation.*

3. The applicant will submit a revised risk assessment regarding the impact of the proposed remediation on the water environment to the satisfaction of the Planning Authority in consultation with SEPA.

*Reason – to ensure that the Council's responsibilities under WEWS concerning the protection of the Water Environment are met*

**In the event that the planning authority proposes to grant planning permission contrary to this advice on flood risk the application must be notified to the Scottish Ministers as per the Notification of Applications Direction 2007.**

SEPA will offer separate comments on the 3 other planning applications lodged with Renfrewshire Council, namely,

06/01119/PP - Remediation and Reclamation Earthworks  
06/1154/PP – Construction of a Landfill Facility  
06/1065/PP – Construction of a Motorway Junction.

#### **The Project**

SEPA acknowledges that a significant driver in the promotion of the site for redevelopment is provided by the Adopted Glasgow and Clyde Valley Joint Structure Plan 2000 and the Finalised 2006 Structure Plan Alteration. The Finalised 2006 Alteration led to the designation of the site as a Community Growth Area. The proposed alteration to the structure plan is currently the subject of consideration by the Scottish Ministers.

The key features of the project are;

- (1) Housing (up to 2500 units).
- (2) Business Development.
- (3) Provision of complimentary community infrastructure e.g. new primary school.

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Underpinning the above aspirations is a remediation and reclamation strategy which will seek to address the contamination issues associated with the former uses of the site.

The masterplan document produced by the consortium has been developed to take cognisance of the existing footprint of the village of Bishopton, the topography of the former ordnance factory site, the extensive contamination present within the site and the need to formulate a strategy which concurs with the themes of sustainable development.

Those aspects of the sustainability which are most relevant to SEPA's interests include,

- Impacts on the Water Environment, foul drainage, surface water, groundwater and flood risk.
- Air Quality, from increased vehicle movement and construction activities.
- Entire spectrum of the site remediation proposals e.g. building decontamination strategy.
- Impacts on the ecological footprint of the site e.g. flora and fauna, from all site activities.
- Construction of a new landfill facility, for containment of soils, etc

SEPA notes that the development will proceed in 6 phases over a minimum 13 year period and associated with each of the development phases will be an integrated site remediation programme appropriate for that specific area of land.

The choice of Bishopton (ROF) as an appropriate location for a Community Growth Area is not an issue directly within SEPA's remit, however the opportunity to remediate and subsequently develop a contaminated brownfield site is in principle preferable to the subsequent release of an equivalent area of greenfield land, on the understanding that all relevant issues are resolved to the satisfaction of SEPA. (as referenced earlier).

SEPA also accepts that the Renfrewshire Local Plan which was adopted in 2006 also identifies this type of site as being preferential for development purposes.

The statements made in Section 16, Page 20 of the Non Technical Summary of the Environmental Statement broadly summarises the diverse and complex difficulties that the redevelopment of the site will pose to all the relevant parties whose statutory duties and interests could potentially be compromised by the proposed regeneration of the former Royal Ordnance Factory site.

From the Masterplan Statement it is clear that the applicant has highlighted a number of influences and constraints which have helped to shape the masterplanning process.

These include: Planning Policy and Guidance, Development Mix and Density, Ground Conditions, Topography, Remediation and Site Reclamation, Surface Water Drainage, Trees and Woodland, Ecology, Primary Infrastructure and importantly the aspirations of the Bishopton Community and other local Stakeholders

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Of the above issues, only some are directly relevant to SEPA's remit and our detailed response will focus on those most pertinent to SEPA. In reviewing this proposal it is relevant to refer to the Government's Policy and Advice, which highlights the interaction between planning and environmental regulation.

In particular, Scottish Planning Policy 1: The Planning System states that 'Protecting and enhancing the quality of the environment, in both urban and rural areas, is a key objective of the planning system', it also recognises that 'Environmental justice requires us to recognise the cumulative impact of environmental disbenefits and work towards ensuring people do not live in degraded surroundings. It also means not making unrealistic demands on the environment to absorb waste and pollution'.

Planning Advice Note 51: Planning, environmental protection and regulation (PAN 51) is particularly relevant in assisting an understanding of the interaction between planning and environmental controls. Para 38 states 'when the structure plan strategy is based on the re-use or improvement of formerly developed land it will be important to demonstrate in general terms that the environmental protection issues have been considered alongside the planning issues'.

PAN 51 Para 45 provides that "Determinations on individual planning applications should be made on planning grounds. Planning powers should not normally be used to secure objectives which can be achieved under other legislation. The granting of planning permission does not remove the need to obtain other statutory consents, nor does it imply that these other consents will necessarily be forthcoming. Legal or administrative measures outwith the planning system may exist for controlling a particular aspect, but that aspect may still be a factor to which weight is given in deciding the planning application. If a consideration is material in planning terms, it must be taken into account in reaching a decision on a planning application or appeal".

PAN 51 Para 69 provides that "Planning authorities, the environmental protection bodies and the regimes which protect people and the environment have heavy responsibilities. The regimes reflect not only the complexities of the issues, but also the fact that the environment is not compartmentalised according to neat administrative demarcation lines".

This is particularly relevant to potential wellbeing of the existing population of Bishopston.

Pan 51 Para 69 further states "to a certain extent, it is inevitable that the protection of the environment will sometimes require more than one regime to be applied. A major task of this PAN has therefore been to acknowledge the complex nature of the environmental protection issues and seek to ensure that arrangements are in place which minimise the risks to public health and to the environment. It is the responsibility of planning authorities and the environmental protection bodies to collaborate in the task of protecting the environment, and to apply controls so that duplication is minimised and overlap is avoided whenever possible".

It is clear from the above that there is an overlap between planning and environmental regulatory controls and puts an added responsibility on SEPA and the Local Authority to ensure collaborative working in these areas. The impact from a proposed development can still be a material planning consideration insofar as it relates to land use despite being a SEPA regulated activity. It is on this basis that SEPA has commented on particular environmental issues.

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Director of Planning & Transport  
Renfrewshire Council

12 October 2007

The applicant has recognised the diversity of the environmental constraints associated with the site which require to be fully assessed and addressed to the satisfaction of all parties either prior to or during the initial construction phase(s) of the redevelopment of the site.

To achieve these goals will involve considerable input from all relevant stakeholders, to ensure that all works necessary at the site conform to the aims of the masterplan framework.

The significant scale of the redevelopment works proposed at ROF Bishopton will inevitably impact on the preliminary timescales envisaged by the applicant and SEPA would recommend that the precautionary principle is applied to these aspirational dates, as the full extent of the environmental constraints at the site have not have been fully assessed.

SEPA accepts that delivery of the development goes beyond solely the physical and environmental constraints which exist at the site (e. g socio-economic issues), however, notwithstanding the importance of these other factors, SEPA attached detailed response is focused on these specific areas.

I trust these comments are of assistance, SEPA would welcome the opportunity to discuss the issues raised.

Yours faithfully



Robert Kerr  
Head of Environmental Protection and Improvement  
South West Area

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## Appendix

### Detailed Review of Environmental Statement (ES)

Of the key issues highlighted in Chapter 2 of the ES those most relevant to SEPA's interests have been identified as:

- Effects on Air and Climate
- Effects on Geology and Soils
- Effects on Water
- Effects on Landscape and Visual Impact
- Effects on Flora and Fauna

It is primarily in relation to these topics that SEPA will offer comment, and in particular whether the level of detail, etc provided in the ES is sufficient to address SEPA's interests.

SEPA acknowledges that separate planning applications have been lodged for the 'Remediation and Reclamation Earthworks Strategy' and 'The Construction of a Landfill Facility' and that the level of detail included in the accompanying ES's submitted for these specific aspects of the site redevelopment will be more fully discussed in those documents.

SEPA will however offer its opinions on how these key strategies fit into the overall regeneration plans for the site.

#### 1. Land Contamination

The ES recognises that the nature of the activities undertaken at the site for a period of over 80 years has inevitably shaped the physical appearance and condition of the site,

The fundamental crucial factor of the regeneration of the Royal Ordnance Factory is the responsibility of the developer to ensure that during the construction and post construction phases of the project the site is decontaminated in a safe and responsible manner which guarantees that there is no risk to public health and to the water environment of the site and its surroundings throughout the duration of the regeneration works. The developer must also be capable of providing the assurances to all relevant parties that no residual risk remains at the site from the key strategies being proposed to regenerate the site.

As previously stated, the 'Remediation Strategy' is subject to a separate ES and SEPA will also offer detailed comments on that specific consultation document.

The ES confirms that over a period of several years the increased production of propellants for the ordnance manufacturing industry led to the gradual expansion of the site, which resulted in the construction of structures and an ever increasing diversity of the types, quantities, etc of the chemicals used at the site. Increased infrastructure (buildings, narrow gauge rails) also exacerbated the movement of the materials and indirectly led to the spreading of contaminants throughout the site.

The contaminants associated with these various processes are therefore widespread and are located with the structures, soils and vegetation of the site.

The Land Use plan takes into account that the physical form of the development is influenced by other factors e.g. unsuitable geotechnical conditions, the surface water drainage network (including areas of open water and ditch network), the existing access and 'as built' footprint of Bishopston.

Reclamation and remediation works are proposed to be completed in advance of the construction activities at each of the development phases and will therefore be undertaken progressively as the site moves forward through phases 1-6, over the 13 year development period of the site.

The strategies as detailed in Chapter 3, pages 27-31, clearly recognise the complexity of the remediation works required at the site, as well as identifying the applicable legislation, the

authorisations or licences which might be required and statutory bodies who will require to be consulted.

The ES also acknowledges that where appropriate certain activities will not be permitted to proceed until the appropriate licences have been applied for and obtained by the developer. Depending on the issues involved with specific licence applications, SEPA may choose to advertise these applications to allow the public, to make representations in respect of these matters.

SEPA will expect to play an active role in future discussions on these issues.

SEPA would however emphasise that the local authority, namely Renfrewshire Council, is the primary regulator with regard to contaminated land issues in accordance with the terms of Part IIA of the Environmental Protection Act 1990.

## **1.1 Effects on Air and Climate**

### **a) Emissions from Transport Use;**

It is SEPA's opinion that the developer should consider conducting ambient air quality background monitoring to assess for potential effects on local air quality due to the close proximity of the proposed development to the M8 motorway and the proposed new motorway junction.

The developer should use this data to validate the ADMS model mentioned in the report and assess potential pollutant concentration levels which are potentially in excess of any of the Air Quality Standards.

The importance of considering Air quality issues is set out in the Scottish Executive Guidance PAN51 (2006) and the NSCA Guidance: Development Control: Planning for Air Quality and SPP17: Planning for Transport.

### **b) Fugitive emissions from regeneration works;**

The proposed redevelopment of the site will broadly consist of three phases, namely, remediation, decontamination and construction. All three phases have the potential to impact on air quality in the vicinity of the site and its surroundings.

The ES highlights the significant potential problems that could occur at the site throughout the duration of the project, and in particular the proposed strategy to burn buildings is a sensitive issue and is likely to create a degree of concern from the adjacent receptors (i.e. existing householders).

Appendix 9.3 Air Quality Assessment Remediation through burning contains detailed information on this issue.

The outcome of the modelling studies carried out on behalf of BAE Systems by Enviro Consulting Ltd states that in their opinion, provided the appropriate mitigation measures are stringently followed and, as importantly, that the meteorological conditions are monitored prior to ignition of the structures, then the risk to sensitive receptors is well within the statutory requirements, and that the levels will remain within the requirements of the relevant Air Quality Objectives. The disposal of explosives by burning is subject to the provisions of the Clean Air (Emissions of Dark Smoke) (Exemption) Regulations 1969 (S1/1969/1263). The Local Authority is the lead regulator for this issue.

## **1.2 Site Preparation and Development**

It is accepted in the ES that the potential for dust emissions to occur at the site is considerable, due primarily to the magnitude of the proposed regeneration project.

Extensive mitigation measures, good housekeeping, continuous monitoring and education of all site operatives will be mandatory to ensure that the impact on existing residents and the adjacent environment is satisfactorily managed.

Further detailed discussions in relation to the need for additional monitoring and modelling will be required between Renfrewshire Council and SEPA to satisfy our concerns in respect of air quality issues.

SEPA will also seek details of the type of contingency measures that would be in place, to protect the public and the surrounding environment, in the event that an unforeseen event occurs, e.g. sudden shift in wind direction.

SEPA has recently produced in conjunction with the other national environment agencies new guidelines on Controlled Burn - PPG No 28, which is available from our website at [www.sepa.org.uk](http://www.sepa.org.uk) SEPA would encourage the applicant to incorporate the mitigation measures highlighted in this PPG note to prevent damage to the environment from this type of activity.

### **1.3 Geology and Soils**

SEPA, as previously stated, accepts that decontamination of the site should be viewed in a positive manner. It is for the developer, the local authority and SEPA to ensure that the techniques used to achieve this goal are justified, safe, sustainable and cost effective. In terms of the preliminary site investigation works, the applicant has followed the industry protocol and the appropriate preliminary site investigation (Stage 1 SI) has been completed. The delivery of the site investigation report will allow the relevant authorities to determine if the residual contamination at the site has been adequately identified and categorised.

As part of the ES submission, additional documents, namely Appendix 11.1 Preliminary Risk Assessment for Land Contamination (2005), Appendix 11.2 Stage 1 Site Investigation Outline Strategy, Appendix 11.3 Factual Report of Stage 1 Site Investigation, Appendix 11.4 Generic Quantitative Risk Assessment Report and Appendix 11.5 Outline Remediation Strategy (2006), were prepared to assist in understanding the initial scope of the SI stage 1 and SEPA would offer the following comments on those appendices.

Comments provided below are made in the context outlined in SEPA'S letter dated 3 October 2006 (copy enclosed). No specific consultation enquiries from the Planning Authority or Contaminated Land team have been received. As such our comments are of a broad nature relating to the assessment of risk to the water environment from contamination arising from the former use of the site.

A staged approach of investigation, assessment and remediation at the Bishopton site has been the subject of previous discussions with the regulators prior to the submission of the planning application. This approach is considered a suitable, robust and efficient manner through which to manage the risks from historical contamination at the site. It is recognised that the significant volume of supporting material presented within the outline planning document represents an intermediate stage in the overall assessment process and that further information will be needed to support the development as it progresses to more detail. The information relating to contamination was generally very well communicated, technically robust and presented in a clear manner.

However SEPA consider that to date there has been insufficient assessment of the risks to the water environment; and that within the framework of a phased approach, the assessment of the risks to the water environment is lagging behind other aspects of the works. More emphasis needs to be placed on the water environment in determining the remediation requirements to make the site suitable for use.

The risks to the water environment need to be assessed early on in the development process to ensure that the findings inform the development, both in terms of acceptability and for defining the remediation requirements. It is appreciated that investigation works need to be done in an efficient manner however more weight needs to be placed on the water environment to ensure a clear understanding of the risks is achieved at the appropriate time. SEPA would expect that if planning permission is duly granted for the site that these outstanding matters are addressed by the use of suitable conditions.

### **1.4 Outline remediation strategy**

The comments made above have a bearing on the remediation strategy, particularly on the lack of emphasis placed on the water environment in determining what remediation is required. SEPA will provide detailed comment on the remediation works in our response to the detailed planning application for the remediation and reclamation earthworks (Planning Application Reference No 06/1119).

The framework (phasing, sequence etc) appears generally acceptable however further assessment, investigation and appraisal of remediation techniques is required following the proposed Stage 2 investigation. Only general information is provided within this outline strategy in terms of actual remediation areas and activities.

The remediation works while addressing the risks to human health also need to ensure that the risks to the water environment are addressed in order to make the site suitable for use.

## **2. Effects on The Water Environment**

One of SEPA's primary responsibilities is to maintain and wherever possible improve the quality of all of Scotland's Waterbodies, inclusive of groundwater. SEPA is tasked to undertake these actions as part of the requirements of the Water Framework Directive (WFD). This Directive is transposed into Scots Law by WEWS, under which Planning Authorities are also a 'Responsible Authority' and are required to exercise their designated functions so as to secure compliance with the requirements of the Directive.

From the initial monitoring studies carried out at the site it is accepted that the residual contamination at the site is currently the cause of detriment to the water environment. SEPA is therefore in principle supportive of a remediation strategy which will result in an overall improvement to the water quality of the surface waters and groundwater in the area. The concept to remove the source of the contaminants is accepted, however, the crucial aspect which will determine the success of the scheme is the production of a robust, sustainable Management Plan (MP), which ensures that throughout the remediation process, the risk to the water environment is characterised, evaluated and managed.

The ES recognises that the MP will require to be fully compliant with the provisions of the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR) and also take due cognisance of current best industry practice and SEPA's PPG notes.

SEPA would emphasise that the Management Plan must be seen as a 'live document' and the onus lies with the developer to ensure that all contractors are fully aware of the collective and individual responsibilities they have in preventing pollution of the water environment throughout the duration of the project. SEPA would also expect to be consulted on the MP, for review and comment prior to the enabling works commencing at the site.

### **2.1 The Water Environment (Controlled Activities)(Scotland) Regulations 2005 (CAR) (as amended)**

In terms of the CAR Regulations, it is an offence to undertake certain activities, referred to as 'controlled activities', without the appropriate authorisation, these include;

- Discharges to all wetlands, surface waters and groundwater
- Disposal to land (replacing the Groundwater Regulations 1998);
- Abstractions from all wetlands, surface waters and groundwater's;
- Impoundments (dams and weirs) of rivers, lochs, wetland and transitional waters;
- Engineering works in inland waters and wetlands;

A CAR authorisation is intended to control impacts on the water environment and mitigate the effects on other water users. It does not cover wider impacts which may be associated with a development, such as visual impact or damage to terrestrial ecosystems.

Consequently, other forms of control in addition to CAR may be required from other authorities to address these impacts, for example:

- Planning permission
- Permissions associated with conservations areas or protected species

For a more detailed overview of CAR and its provisions, please refer to 'Introduction to the Controlled Activities Regulations ([www.sepa.org.uk/pdf/wfd/regimes/intro\\_car.pdf](http://www.sepa.org.uk/pdf/wfd/regimes/intro_car.pdf)).

Three different types of authorisation under CAR allow for proportionate and risk based regulation. The three levels of authorisation are:

- General Binding Rules
- Registration
- Licence

General Binding Rules (GBR) represent the lowest level of control. They form part of the Regulations and cover specific low risk activities. GBR activities taking place in accordance with the rules do not require an application for authorisation from SEPA; compliance with a GBR is considered as authorisation. The operator is not required to contact SEPA and, therefore, there are no associated charges.

In certain instances, SEPA will require to be satisfied that it is appropriate for an activity to be authorised by GBR, when consulted on the corresponding planning application during the planning process.

The GBR activities specified by Schedule 3 of CAR (see <http://www.opsi.gov.uk/legislation/scotland/ssi2007/20070219.htm>), which could be relevant for the works planned at the site are;

- Discharge of surface water run-off;
- Discharges into a surface water drainage system;
- Dewatering of excavations;
- Small-scale abstraction from boreholes where this is for testing or sampling;
- Construction or maintenance works which come into contact with groundwater;
- Construction of minor and temporary bridges;
- Operating plant or machinery in, or in the vicinity of water, whilst carrying out another GBR activity.

Registrations allow for the registration of small scale activities which individually may pose a small environmental risk, but, cumulatively, can result in environmental harm. Operators must apply to SEPA to register these activities e.g. use of a septic tank soakaway arrangement.

Licences allow for site specific conditions to be set to protect the water environment. Licences divide licence activities into simple licence and complex licence activities dependant on risk.

It is inevitable that the regeneration of the ROF Bishopton site will involve a significant number of activities which will require to comply with CAR. It will be the responsibility of the applicant to understand the implications of the works planned at the site and to ensure compliance with the appropriate level of CAR. It will therefore be the responsibility of the applicant to justify to SEPA through the provision of the appropriate relevant level of information that a proposed activity is licensable under CAR, as this will permit SEPA to inform the Planning Authority on whether the proposed works are in principle acceptable to SEPA.

An understanding of the costs and timescales involved in the processing of authorisations should be acknowledged by the applicant; again further details are to be found at [www.sepa.org.uk/wfd/regimes/charging.htm](http://www.sepa.org.uk/wfd/regimes/charging.htm).

SEPA has the option to advertise CAR applications, if it is deemed necessary to advise the public, etc. of the type of activity proposed and to allow the public to make representations regarding these matters, e.g. the activity is to take place in a particularly sensitive location.

## **2.2 Surface Water Drainage Arrangements**

Sustainable Drainage Systems (SUDS) are drainage systems designed to contribute to the achievement of sustainable development. Rather than traditional pipe and sewer arrangements, the philosophy of SUDS is to replicate as closely as possible the natural drainage from a site before development.

They aim to mimic natural drainage, where rainfall soaks into the ground and saturates soil and vegetation before significant runoff occurs. The systems are designed both to manage the environmental risks resulting from urban runoff and to contribute wherever possible to environment enhancement.

The performance and operation of SUDS depend upon careful planning and implementation during the construction phase.

The use of inappropriate plant, failure to protect the SUDS system from construction runoff and detritus, and a lack of integration of landscaping with construction, can all be the cause of poor performance of SUDS.

Under CAR, most discharges of surface water do not require to be authorised provided they fully comply with the rules of the relevant General Binding Rule, e.g. GBR 10 - Rule 1.

If the surface water runoff is from areas constructed after 1 April 2007 or from a construction site operated after 1 April 2007, sites must be drained by a Sustainable Urban Drainage System (SUDS).

In this regard, the applicant will have to satisfy the requirements of SEPA, the Planning Authority and potentially Scottish Water on all matters relating to water quality and water quantity.

The preliminary discussions regarding SUDS essentially focussed on the delivery of a non-adopted SUDS layout, designed in accordance with the original version of the CIRIA SUDS Design Manual for Scotland and Northern Ireland. The recently published CIRIA SUDS Manual (C697) should be referred to in subsequent discussions for SUDS.

SEPA acknowledges that the ground conditions, topography and existing waterbodies at the site will hinder and shape the scope of the detailed SUDS strategy for the site.

In terms of the long term sustainability and maintenance of the SUDS scheme it should be acknowledged that the Scottish Executive have instructed Scottish Water as part of the WEWS Act to prepare a strategy for adoption and maintenance of public SUDS in Scotland.

The Sewers for Scotland Manual Version 2, is due to be published in late 2007 and from that date the manual will set a framework for the designs, etc. which will be deemed adoptable standards and will present the opportunity for public SUDS to be vested by Scottish Water.

The definition of adoptable SUDS will not include private SUDS that are located entirely within the curtilage of a property or SUDS that convey only road drainage.

SEPA accepts that the initial SUDS layout was designed in accordance with the best practice, etc available at the time of the preparation of the ES.

SEPA would now recommend that the detailed SUDS design for the site should be a matter for further dialogue with all the relevant authorities, with particular weight being given to the assessment of constructing a SUDS strategy which meets the aspirations of Renfrewshire Council, SEPA, the applicant and Scottish Water and all other relevant authorities.

SEPA would discourage the use of the existing waterbodies at the site as a direct part of the SUDS treatment process, the SUDS treatment arrangements should be 'offline' from the streams and ponds at the site. The treated surface water could then be discharged to these waterbodies with the prior approval of the Local Authority, in terms of runoff rate.

The creation of public SUDS potentially offers the most robust, sustainable approach for a development of this scale and SEPA would encourage that this important aspect of the development layout of the site is acknowledged, addressed and progressed by the applicant.

### **2.3 Flood Risk**

SEPA has made previous initial comment following pre-application discussions on the strategic approach to managing flood risk at the site as outlined in our memo dated 20 January 2006 (copy enclosed).

Whilst SEPA has expressed a preference for the complete avoidance of the risk of flooding (and hence avoid the need for in river engineering works), which is the first principle in terms of flood risk management (and confirmed by SPP7 Planning and Flooding), the development strategy for the area will necessitate significant alterations to the existing operation of the drainage catchment of the Craigton Burn.

Given the nature of the topography in the area in relation to the development area, 'like for like' compensatory storage was not feasible, hence the need for compensatory storage to be provided somewhat remote from the area where the flood alleviation is being provided. The only mechanism by which adequate flood management can be demonstrated is by detailed hydraulic modelling.

With regard to the above, SEPA has previously agreed the flood risk mitigation strategy for the site and the general modelling approach. The modelling has been carried out in a robust and systematic manner, and in general terms, provides a robust assessment of flood risk at the site although some further clarification of the effectiveness of the flow control device is required. The flood mitigation proposals for the development site also appear robust, however the details of the proposed flood mitigation strategy in relation to the modelling exercise is somewhat limited, and in this area SEPA does have some concerns as to how the proposals will be effectively implemented on site. SEPA requires this matter to be addressed as part of the detailed planning application.

Whilst confirmation of the details of the compensatory storage area, channel design and finished floor levels relative to design water levels could be finalised at detailed planning stage, SEPA would expect this information to be provided in the revised Flood Risk Assessment (FRA). In this respect, it would be beneficial to provide further information in terms of the details of the revised channel cross sections/long profiles (to include 'environmental' considerations previously discussed) as well as details of the proposed compensatory storage area (cross sections through the structure, details of control structure etc.).

SEPA would request Renfrewshire Council to condition these aspects to ensure that the measures are implemented effectively (by post development survey) and are in place prior to redevelopment of the site.

### **2.3.1 Technical Issues**

As stated previously the modelling appears to demonstrate that the overall flood strategy aims have been effectively managed in that for the '200 year' event the water levels immediately downstream of the proposed compensatory storage area will be the same, if not slightly reduced, than the current situation. However, SEPA would wish to ensure that a range of other, more frequent flood events (for example, 10, 50 and 100 year events), are also adequately controlled through the flow control structure.

SEPA would also request that some sensitivity checks are performed on the modelling of the structure (as a culvert) to demonstrate that the results are robust, and not just a function of the coefficients used.

Whilst it is stated in the Report that further consideration of the flume to be installed is required, it is essential for the 'installed' performance of the structure to accord with the design performance in the FRA – SEPA may request further information if the design of the flume appears to change significantly to that presented in the FRA.

Furthermore, it would also be useful for the revised FRA to outline the volumetric loss of storage in the Craigton Burn, in relation to the new compensatory storage area being provided on the Dargavel Burn.

### **2.3.2 Freeboard/Flood alleviation**

At present no development levels appear to have been provided, and it is therefore difficult for SEPA to judge the level of protection in relation to previous comments relating to limiting of culvert flows in the Craigton Burn and other sensitivity tests (flow variations) to capture uncertainty within an appropriate freeboard.

It is noted that flood alleviation bunds are possibly to be provided along the Craigton Burn. SEPA would wish to ensure that the primary flood protection for the development will be achieved by ensuring ground levels/development platforms are sufficiently above the design water levels.

It is unclear as to how the freeboard for the development has been derived. A 500mm freeboard has been provided to cater for the potential increase in flow capacity of the upstream railway culvert. It is assumed that this 500mm will also cater for normal uncertainties associated with freeboard (settlement, design uncertainties etc).

### **2.3.3 Management/Maintenance**

SEPA will seek to ensure, either through a Section 75 agreement or by a condition on detailed planning permission, that the compensatory storage area is protected in perpetuity and that adequate maintenance of the flow control structure is undertaken. This is important to ensure the long term viability of the solution. Furthermore, SEPA will seek to ensure that appropriate measures are put in place to ensure appropriate management and preventative measures are adopted to ensure the re engineered Craigton Burn channel (and the channel of the Dargavel Burn downstream of its confluence with the Craigton Burn) remains stable.

The development of the conveyance channel should be engineered more sympathetically. Good practise for channel engineering is available from the River Restoration Centre. All matters relating to the required modifications of the watercourses, including the use of flow control structures will qualify as licensable activities under CAR as outlined earlier and will require the applicant to justify their proposals and obtain the appropriate licences for these activities.

### **3. Effects on Fauna and Flora**

From SEPA's perspective the major receptors identified within the scoping study which could be impacted upon are;

- Potential impacts associated with changes to watercourses, waterbodies, watertable and drainage regime.
- The potential for disturbance to wildlife corridors from the new development, including new access routes, and remediation.

SEPA would defer primary responsibility for the majority of ecological matters associated with the site to Scottish Natural Heritage (SNH) and Renfrewshire Council.

#### **3.1 Otters**

Any construction works envisaged in and around the vicinity of otter holts and/or which specifically involve engineering activities adjacent to 'wildlife corridors' will require to be discussed with SEPA and SNH.

The construction of bridges, culverts, roads and bank modifications may require to be licensed under CAR, and although the CAR licence application process is regulated by SEPA, it is inevitable that dialogue between SNH and SEPA will be necessary to ensure no conflict of interest.

#### **3.2 Reptiles, Amphibians and their associated habitats**

SEPA is in principle supportive of any opportunity that exists to increase the biodiversity of the site, including the creation of suitable habitat for the above types of creatures.

SEPA would reiterate the need for full and detailed assessments of the existing situation, as well as ongoing discussion, planning and implementation of works, in accordance with the requirements of SNH and SEPA.

#### **3.3 Water Voles**

All works in the vicinity of waterbodies which will be licensed by SEPA under CAR will require to take into account the concerns and recommendations of SNH, especially if any proposed engineering works, could potentially prejudice their interests, in respect of their statutory duty to protect and improve the existing habitats occupied by protected species, e.g. colonies of water voles.

SEPA is supportive of the principle of creating additional sites for water voles, however the creation and management of these 'wetlands' will require further discussion.

The ES accepts that with a project of this scale, it would be naïve to assume that there will be no negative impacts on the flora and fauna at the site, however it also predicts that the risks can be suitably managed and more importantly the opportunity exists through regeneration of the site to create new enhanced habitats, albeit by the potential displacement of otters, etc from their current habitats..

SEPA would reiterate that while the concept could potentially be accepted, it is imperative that the full extent of the impact on protected species, etc is acknowledged and that the appropriate level of mitigation and habitat enhancement is recognised and addressed.

SEPA would confirm that the level of information contained in the Tables (pages 297-310) is a helpful practical tool in determining the potential impact on the flora and fauna at the site.

#### **3.4 Effects on Watercourses**

The ES acknowledges the significant pollution problems and the associated impact on the flora and fauna that can occur with a civil engineering project of this magnitude, further exacerbated by the existing contamination which exists at the site and the implications associated with the extent of the remediation works that will also be undertaken.

The ES highlights the need for Method Statements, use of SEPA's PPG notes, monitoring of watercourses, good housekeeping, etc. that are proposed during the works and SEPA accepts that this

standard approach is applicable for this project, however the level of detail, micro-siting and education of all contractors is fundamental to the success of these measures..

As previously mentioned, all modifications (even though they may involve long term habitat enhancement) to existing waterbodies, inclusive of the riparian zone, will require to be discussed, justified, agreed and authorised under CAR. The loss of many minor ditches and the Cordite Burn are obvious examples and further details on the extent of these proposed works is required.

It should therefore not be assumed that realignment of watercourses at the site has been approved by SEPA and that although the rationale, in terms of flood risk strategy, necessitates the need for a strategic site solution, SEPA would confirm that until the relevant CAR applications are received, and duly granted by SEPA, then the proposed alterations to the watercourses, etc. within the site should be clearly viewed to be the applicant's preferred options and that SEPA will offer detailed comments on these planned works on receipt of the detailed level of information. However, SEPA recognise that it is imperative that there is no conflict between Planning and Environmental Controls. As previously stated, SEPA requires sufficient information at the detailed stage to ensure that the works proposed at the site are capable of being authorised under CAR.

SEPA does accept that the potential exists to improve the aquatic ecosystem throughout the site for fish migration, etc. and that the ES highlights the need for discussions with SEPA and SNH on the timing of works, design of fish passes, etc., however as the majority of these issues were assessed before the implementation of CAR, SEPA would recommend that the applicant reassesses the implications of this statutory legislation, in relation to the extensive engineering measures proposed at ROF Bishopton.

### **3.5 Mitigation, Compensation and Enhancement**

The strategy included in the ES accepts that the proposed regeneration of the site will inevitably have an impact on the existing wildlife at the site.

In some instances, this may be short-term, however, for certain creatures the redevelopment of the site will inevitably endanger their existence. SNH are the lead authority regarding the majority of these issues and SEPA will seek their advice and support with regard to all engineering works which could conflict with the priorities of SNH. It will be the responsibility of SNH to licence activities involving translocation of wildlife, etc, as these areas are clearly outwith SEPA's remit.

The outline strategy for the creation of an extensive wetland habitat in the vicinity of the Dargavel Burn corridor will have to be discussed further with SEPA and SNH, as it encompasses aspects of legislation controlled by both agencies and a clear understanding of the aspirations, etc of all parties will be required before this scheme can be progressed.

### **3.6 The ES Addendum Report-October 2006**

The above report identifies the presence of an otter holt within one of these three fire ponds at the site. The impact and extent of the construction activities in the vicinity of the holt will require to be controlled as the otter is a European Protected Species and as such is protected by both the Wildlife and Countryside Act (1981) and the Conservation (Natural Habitats, etc.) Regulations 1994, as amended by the Nature Conservation (Scotland) Act 2004.

SEPA recognises that these matters are essentially managed by SNH, however aspects of the engineering activities, including construction drainage arrangements will be the responsibility of SEPA, in accordance with the terms of the Water Environment (Controlled Activities) (Scotland) Regulations 2005.

The applicant has included a detailed strategy, including extensive mitigation measures, etc. however despite these considerable efforts, it appears inevitable that the maintenance of the fire ponds as an area of otter activity may prove difficult to achieve.

SEPA would therefore recommend that no assumptions or decisions are reached on this specific issue, unless and until SNH clarify their views on the matter.

Our Ref: TQ\R&\BISH\061003\CM\MD  
Your Ref: I:\S-admin\SM  
2006\GW\letter\sepa, rof &

Renfrewshire Council  
Council Headquarters  
South Building  
Cotton Street  
PAISLEY  
PA1 1UG

If telephoning ask for:  
Murray Dobson

3 October 2006

**FAO: Head of Regulatory Services**

Dear Sirs

**FORMER ROYAL ORDNANCE FACTORY, BISHOPTON  
RE: REDEVELOPMENT AND REMEDIATION OF THE SITE.**

We refer to your letter of 19 September 2006 in connection with the above and to your previous letter of 26 July 2006 (as reissued by email on 28 August 2006).

Firstly we apologise for our delay in responding to your email of 28 August and would advise that this has been a result of a change of personnel within our Contaminated Land team.

We note your request to identify a clear understanding of what the respective roles of SEPA and the Council will be in the course of the ROF Bishopton site's redevelopment and remediation.

The intention to deal with any potential contamination issues at the site within the context of the planning process, as set out in Planning Advice Note (PAN) 33, is also noted.

As such, it is SEPA's view that information presented in support of the planning application(s) for this site, should be dealt with no differently to any other planning application(s), with the Local Authority as lead regulator, assuming responsibility for the review of the documentation. In this regard, SEPA welcomes being consulted on the development, where the planning authority has determined there to be the potential for the site to impact on the Water Environment.

We are also anticipating working on the application alongside Renfrewshire Council in a number of areas and we agree that some of these will be dealt with by SEPA, either in our regulatory capacity or through the non-statutory consultation process. These are:

- As regulator of waste disposal and management arrangements including, but not exclusively, the proposed landfill;
- As licensing authority regarding prescribed processes and substances;
- Consideration of any Radioactive Substances Act authorisations that are in place; and
- The protection of the Water Environment.

Cont'd / . . .

Renfrewshire Council  
Council Headquarters

3 October 2006

We would hope that there would be continued close liaison between both Authorities in these areas particularly where there is interaction with other elements of the review process.

Site investigation information, presented in support of the planning application, has been forwarded to us and we are currently undertaking our review of this information on the understanding that there may be a potential to impact the Water Environment. However no specific enquiry has as yet been received. We would request that you identify any specific aspects of the report that you would like us to consider in particular with respect to the potential for impact on the Water Environment.

It is understood that you do not consider the site to constitute statutorily Contaminated Land in its current closed state, due to the fact that no significant pollutant linkages have been identified. We would note that there would be a requirement for Renfrewshire Council to identify the site as Contaminated Land before the site, or parts of the site, could be designated as a Special Site (i.e. before it would fall within SEPA's remit). As such, at the present time, we consider that reference to the site, or parts of the site, as a "Special Site" in terms of Part IIA of the 1990 Act, and apportionment of the review workload between authorities within that context would not be appropriate, since that regulatory route has not been pursued by Renfrewshire Council.

It is worth considering that sites are not determined "Special Sites" on the basis that they are more contaminated than any other. We do note however, that industrial sites dealing with the manufacture of explosives, if identified as Contaminated Land under Part IIA, would be likely to be designated as Special Sites and that the reasoning behind this may be "to deploy the necessary expertise" (Statutory Guidance 2006 Annex 4, Paragraph 11). We also acknowledge that there are a number of substances potentially present on site that are 'non-standard' within the context of Contaminated Land Site Investigations.

On this basis we would propose to provide a reasonable level of support to your review in areas where your expertise is lacking. For example this could include advice on the Human Health assessment criteria used for these 'non-standard' compounds. We will respond to specific consultation enquiries from your Planning Authority or Contaminated Land team arising from their review process, but would request that consideration is given to the factors outlined below prior to consultation with SEPA:

- Does the report contain sufficient information in order to identify and assess all the actual and likely pollutant linkages with respect to the Water Environment?
- What are these actual and likely pollutant linkages?
- Are the actual or likely pollutant linkages addressed in the remediation strategy?
- What specific advice is required from SEPA?

We are aware that this site is large and complex and as such represents an exciting challenge to both Authorities. Appropriate liaison arrangements will be required to ensure that the best environmental outcome is achieved. As such it may be advantageous for both parties to meet at the earliest opportunity to identify and agree the areas where SEPA will be able to provide specific assistance.

Cont'd / . . .

Renfrewshire Council  
Council Headquarters

3 October 2006

We would request that you liaise directly with our Contaminated Land Specialist, Murray Dobson who has been tasked with co-ordinating responses to any specific enquiries that you may have with regards to this site.

Yours faithfully

Carol McGinnes  
Environmental Partnerships Manager

## SCOTTISH ENVIRONMENT PROTECTION AGENCY

### MEMORANDUM

**R O Bishopton Flood Risk Model and Flood Strategy 20 January 2006 (Upton McGougan)**

#### **Overview**

SEPA acknowledges this site is a strategic development site identified in both local and structure plans. The site has an industrial legacy, although much of the site is largely open and 'rural' with the legacy industrial areas in discrete pockets through the 964 hectare site. The site is therefore classed as 'brownfield' which is important in relation to the flood management options available in SPP7 – Planning and Flooding.

Two watercourses flow through the site, the Dargavel and Craigton Burns. SEPA hold no record of flooding and the only flood risk information SEPA hold is the Centre for Ecology and Hydrology Indicative flood maps for the area which appears to indicate a fairly extensive area of floodplain in and around the urban expansion area.

#### **Flood Risk Model**

In general the estimates of design flows for the watercourses within the study area are generally consistent with the estimates made by SEPA. The report clearly states that the estimates are subject to some uncertainties; these uncertainties should be reflected in the freeboard used in the final design development levels.

No adjustment has been made to the Index flood, QMED, based upon local gauge data. Checks made by SEPA suggest that the Index flood used is broadly correct, although the corrected adjustment using the Craigend gauging station on the Gryffe produces a QMed of 2.9 (although other local donor sites produce levels more consistent with the value derived in the report), resulting in a Q200 flow of 9.7m<sup>3</sup>/s. Whilst SEPA is not recommending the application of this estimate, this may reflect an upper error band in the flow estimate and may be considered in the design freeboard.

SEPA notes that the derived flows have an additional 20% 'climate change' factor added to them.

#### **Hydraulic Model**

SEPA would accept the use and application of a 1D steady state model in this instance is likely to produce conservative results in terms of water levels across the site.

SEPA would support the use of maximum values of Mannings 'n' to ensure a robust model is developed.

It is noted that a maximum flow of 10m<sup>3</sup>/s has been used for the Craigton Burn. It would be beneficial to confirm that it is not likely that the railway could be overtopped (or alternative flow pathways are available which could increase the flow to the site), and that the hydraulic capacity of the culvert has been fully assessed for a range of hydraulic criteria.

SEPA would also advise that the effectiveness of the flood management strategy proposed will be dependent upon the operation of a control operated by a third party (ie the railway embankment culvert) in perpetuity. It would be advisable, given the proposal, that some form of management or control on the structure is made so that any works being undertaken by a third party can be managed in relation to the development. Alternatively the full design flow is modelled to ensure that the consequence of any alterations to the culvert can be effectively managed on site.

### **Proposed Strategy**

In the first instance, the most sustainable option is to avoid development of areas identified as being within the '200 year' flood envelope. However it would appear that the flood envelope impacts significantly upon six of the 'development zones' as identified in drawing number 185.0003-F01. The strategy document should outline the reasons and justification for the development being located within the floodplain (as opposed to relocating outwith the floodplain) which would then support the proposed strategy of providing site uplift for flood alleviation. It is also recognised that the proposals would also provide 'level for level', fully effective compensatory storage, by re-profiling the southern areas of the site to ensure that there is no negative flood risk impacts outwith the site (to ensure compliance with SPP7).

SEPA notes that landraising is permissible under SPP7, although the principle of avoidance of risk should take priority, as long as the landraising takes place outwith the undeveloped functional floodplain, and subject to the;

- linked to the provision of compensatory storage,
- providing a neutral or better effect on the probability of flooding elsewhere,
- does not create islands of development,
- and developments are set back from the watercourse.

At present, it is SEPA's understanding that all the above criteria in relation to landraising will be met within the site as a whole. However, these proposals will need to be clearly demonstrated and justified in further studies associated with any management options related to compensatory flood storage, as will the appropriateness of the modelling approach to demonstrate no increase in water levels outwith the site.

Furthermore, these proposals will need to be clearly linked to other issues in which SEPA has an interest, such as contaminated land issues, SUDs and the requirements of the EU Water Framework Directive.

The advice contained in this letter is supplied to you by SEPA under the Environmental Information Regulations 1992 in response to your request of information under these regulations. This information is the information relating to your request held by SEPA as at the date hereof under section 25(1) of the Environment Act 1995.

Marc Becker  
Senior Hydrologist – Flood Risk