

REF: GMT/JS/905/B/04-03

22 June 2010

David Bryce
Department of Planning and Transport
Renfrewshire Council
Renfrewshire House
Cotton Street
Paisley
PA1 1LL



Dear Mr Bryce

Proposal: Engineering Operations Comprising Remediation and Bulk Earthworks

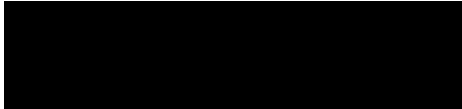
Location: Royal Ordnance, Station Road, Bishopton

Application Ref.: 09/0527/PP

Please find enclosed a package of information which responds to the requirements of condition number 25. This is a suspensive condition which we are keen to discharge in a timely manner. If you need clarification or further information then please let me know. I look forward to receiving your formal confirmation that the condition has been complied with.

Yours sincerely

For Cass Associates



Graham Trehwella

Partner

Encl.

BAE SYSTEMS Environmental Land Quality Management Areas Justification Document


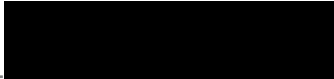

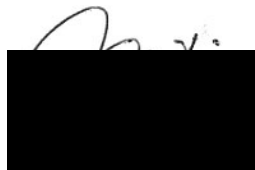
Bishopton



Land Quality Management Areas Justification Document

Bishopton

DOCUMENT CONTROL

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	Report Ref: B0091-0C-R1-1	Issue Date: June 2010
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LAND QUALITY MANAGEMENT AREAS

Planning Conditions

As presented in Renfrewshire Council's decision notice for the remediation and bulk earthworks planning application, (reference 09/0527/PP), planning conditions 25, 26 28 and 38 make reference to Land Quality Management Areas (LQMAs). The reasoning behind the development of LQMA's is summarised in the planning conditions referenced below:

Condition 25

Prior to the commencement of works on site, a plan sub-dividing the site into defined Land Quality Management Areas (LQMA), for the purposes of land contamination assessment and remediation, shall be issued for the written approval of the Planning Authority. Thereafter all works shall be undertaken in accordance with the approved plan.

Reason: To ensure the appropriate sub-division of a) the entire site and b) the proposed phases of investigation, remediation and verification into manageable sub-areas to allow clear management of land quality issues and allow future sign off of related conditions in a staged manner.

Condition 26

Prior to any remediation and earthworks commencing within a specific LQMA as required by Condition 25, the applicant shall provide a revised Interpretative Report for that specified area to the satisfaction of the Planning Authority in relation to proposed land use. This shall include the interpretation of factual data; justification of the interpretations provided; the revision of detailed risk assessment processes and revised Conceptual Site Model(s) with regards to all relevant receptors for the written approval of the Planning Authority in consultation with SEPA.

Reason: To ensure that the factual data is suitably interpreted and assessed to ensure that potential risks to future users and the wider environment are appropriately considered.

Condition 28

Prior to any remediation and earthworks commencing within a specific LQMA as required by Condition 25, the applicant shall provide further options appraisals in relation to the proposed remediation works for each specific LQMA for the written approval of the Planning Authority in consultation with SEPA. This options appraisal shall conform to the requirements of relevant authoritative technical guidance (e.g. paragraph A.13 of PAN 33, and Chapter C of Scottish Executive Paper SE/2006/44) and shall take cognisance of the impacts on receptors during implementation and also wider issues (e.g. the long term performance and post-treatment management requirements, and social and community impacts) as discussed within such documents. The applicant shall provide evidence to ensure that the Best Practicable Technique for Remediation has been selected for each remediation requirement, including the decontamination of buildings by burning.

Reason: To ensure that the Best Practicable Technique for Remediation is utilised to be suitably protective of the local community and environment.

Condition 38

Prior to the commencement of development within a specific LQMA as required by Condition 25, site verification report(s) for that area shall be submitted to, and approved in writing by, the Planning Authority. In areas where no development is to occur, a verification report shall be submitted to, and approved in writing by, the Planning Authority within 3 months of completion of the remediation works to confirm that the required remediation works have been satisfactorily completed. This condition may be discharged on a phased basis where agreed with the Planning authority.

Reason: To ensure that all appropriate steps have been taken in respect of remediation; that the required levels of remediation have been achieved in the interests of environmental and public safety; to ensure that all remediation is properly validated and recorded

Criteria for selection of LQMAs

Proposed LQMAs have been defined based on the following criteria:

- All LQMAs lie within the remediation application (ref: 09/0527/PP) boundary of the Site. Only three areas lie out with the remediation application boundary and within the Outline planning application boundary. We acknowledge that we will need to discuss with the council, how any relevant outline conditions are discharged for these areas.
- LQMAs lie entirely within the boundaries of the core development area (CDA), recreational open space (ROS) and retained land (RL).
- Within the Core Development Area (CDA), LQMAs broadly follow the proposed land use classifications as outlined in the master plan.
- Within Recreational open space (ROS), LQMAs broadly follow areas defined by former process and manufacturing areas within the Site.
- Within retained Land (RL), the area has been divided into three areas; which relate to former production/storage of propellants, the former WWI filling factory at Georgetown and the areas around the Picrite Lagoons and former tips.

We understand that LQMAs are fixed, however, if there is a need in the future to slightly modify an LQMA due to exceptional circumstances, we acknowledge that this would need to be approved by the Council.

LQMAs - Whole Site

Using the above criteria, the Site has been sub divided into 34 No. LQMA's. which are detailed in the table below. The location of each LQMA is also shown on the enclosed Figures. Within this document, there is a brief discussion given for the delineation of each LQMA.

Selected SUDs ponds have also been designated as individual LQMAs, and these include LQMAs 31, 32 and 33, which are located within the Core Development Area (CDA). Remaining SUDs ponds lie wholly within LQMAs.

LQMAs - Block 1

BAE Systems current strategy is to undertake residential and commercial development in the southern area of the Core Development Area (CDA), namely LQMAs 5 and 6, with residential development in LQMA 11, located in the northern area of the CDA, Figure 1.

To facilitate this development strategy, currently there are eight LQMAs within Block 1 which require further investigation and assessment, before a revised remediation options appraisal can be presented. The LQMAs which currently form part of Block 1 are shown in Figure 2 and are listed below:

- LQMA 02 - Proposed flood compensation storage area
- LQMA 03 - Proposed Landfill
- LQMA 04 - Borrow pit for supply of construction materials
- LQMA 05 – Southern residential, commercial, mixed use & southern access road
- LQMA 06 – Recreational open space and southern access road
- LQMA 7 - Residential (Village Centre) and Recreational Open Space (ROS)
- LQMA 10 - Footprint for recreational mound feature and adjacent SUDs pond
- LQMA 11 – Northern Residential
- LQMA 14 – Commercial development
- LQMA 21 – Agricultural Land Outside Factory Fence
- LQMA 33 - Residential (Village Centre) and Recreational Open Space (ROS)
- LQMA 34 – Houston Haul Road

To facilitate development of these residential and commercial development areas, there will also be a requirement for sustainable urban drainage (SUDs) ponds to be constructed. The location of these large scale features are also shown in Figures 1 and 2.

LQMA Assessment Strategy documents

Following the creation of defined LQMA areas, LQMA assessment strategy documents will be prepared and discussed with the regulator prior to the commencement of further works within these areas. The key purpose of these documents will be to demonstrate that the overall investigation design will enable an adequate level of detailed risk assessment to facilitate remediation and earthworks within a given LQMA.

It is envisaged a site assessment strategy document for an LQMA would contain the following information:

- The environmental setting including the former and proposed land uses of the LQMA,
- Summary of previous site investigative works undertaken in the LQMA,
- Identification of any contamination issues within the LQMA,
- Conceptual site model (CSM) for the LQMA, and
- Proposed site investigation design and rationale to enable further risk assessment and, if necessary, remediation options appraisal to be undertaken.

LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
LQMA 01	ROS	Flood Storage Compensation Area for whole Site.	17.21	<p>Area designated as LQMA, as it will form the flood compensation storage area for the entire Site.</p> <p>Area formerly part of Factory II-Rocket propellant production.</p>
LQMA 02	ROS	Flood Storage and Compensation Area for landfill.	6.99	<p>Area designated as LQMA, as it is currently proposed to be the flood compensation storage area to mitigate flooding within landfill area.</p> <p>Area has historical and current farming land use- no factory production within this area.</p>
LQMA 03	ROS	Landfill Area.	19.93	<p>Area designated as LQMA, as it will be developed to enable creation of landfill facility.</p> <p>Area was formerly used for ammunition breakdown and RDX/Tetryl production.</p>
LQMA 04	ROS	Borrow Pit (to be restored)	9.31	<p>Area designated as LQMA , as it will be used as a borrow pit, which will then be restored.</p> <p>Former use as agricultural land within the factory.</p>

LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
LQMA 05	CDA	Southern Residential and Commercial Areas.	32.71	<p>Area designated as LQMA, based upon land uses as shown in original master plan. This zone includes a remediation buffer zone of 130m.</p> <p>Area was formerly used for picrite, RDX\Tetryl and acid production.</p>
LQMA 06	ROS	ROS Adjacent to Southern Access Road	10.87	<p>Area designed as LQMA as it will require development during southern access road construction. This area lies within ROS, bounded by the CDA and RL.</p> <p>This area was formerly used for picrite and acid production.</p>
LQMA 07	CDA	Residential (Village Centre) and Recreational Open Space (ROS).	32.22	<p>Area designated as LQMA, based upon land uses as shown in original master plan. This zone will include a remediation buffer zone.</p> <p>This area was formerly used for gun propellant storage and rocket propellant production. Area also contained miscellaneous admin, labs and works buildings.</p>
LQMA 08	ROS	SUDs ponds.	14.17	<p>Area designated as LQMA, as recreational mound and large SUD's feature requires development in this area.</p>

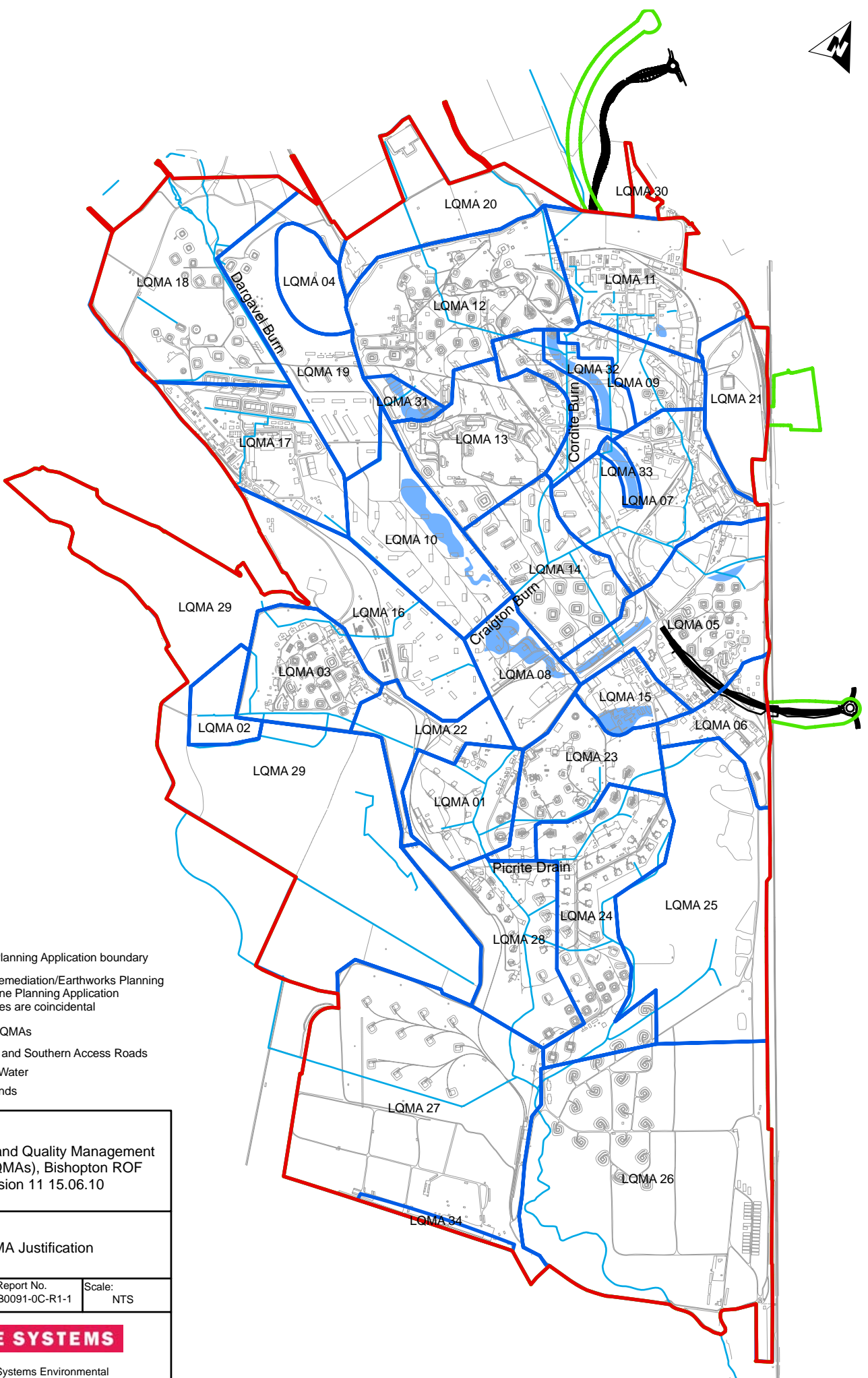
LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
				This area was formerly used for gun propellant processing and rocket propellant production.
LQMA 09	CDA	Areas of Residential and Recreational open space. LQMA 09 will be sub-divided into 09A and 09B and will be reported as one LQMA. LQMA 09 is bisected by LQMA 32.	25.11	Area designated as LQMA, based upon land uses as shown in original master plan. This zone does include a 130m remediation buffer zone. This zone also contains large SUD's feature which may need to be considered on its own merits. Area formerly used for gun propellant, NC and guncotton production.
LQMA 10	ROS	Recreational Landscape Mound 2 and SUD's Pond.	24.80	Area designated as LQMA, as it contains footprint of recreational mound feature and area of large SUD's pond. Area formerly used for gun propellant processing and storage.
LQMA 11	CDA	Northern Residential Area (including 130m buffer zone).	28.13	Area designated as LQMA, based upon residential land use shown in original master plan. This zone does include a 130m remediation buffer zone. Area used as former acids, NC and gun cotton sections.
LQMA 12	CDA	Residential and Recreational open space areas.	44.31	Area designated as LQMA, based upon residential land use shown in original master plan. This zone does include a

LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
				<p>130m remediation buffer zone.</p> <p>Former NG production, including paste dying and storage.</p>
LQMA 13	CDA	Residential development.	27.28	<p>Area designated as LQMA, based upon residential land use shown in original master plan. This zone does include a 130m remediation buffer zone.</p> <p>Former gun propellant production areas within site.</p>
LQMA 14	CDA	Commercial development.	23.01	<p>Area designated as LQMA, based upon commercial land use shown in original master plan. This zone does include a remediation buffer zone</p> <p>Former gun propellant processing and storage. Also some Ball powder processing.</p>
LQMA 15	CDA	Commercial development.	8.2	<p>Area designated as LQMA, based upon commercial land use shown in original master plan. This zone does include a 130m remediation buffer zone.</p> <p>Former gun cotton and NC production, laterally white phosphorous and CCC filling.</p>
LQMA 16	ROS	Former Burning Ground Areas	30.91	<p>Area designated as LQMA, as area contains former burning grounds.</p> <p>Former burning ground areas, originally gun propellant production.</p>

LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
LQMA 17	ROS	Former NC/Lance	23.89	Area designated as LQMA, as it contains area of former factory with similar processes. Former acids, NC and guncotton production, with lance missile disposal.
LQMA 18	ROS	Former FII NG and Boghall	44.16	Area designated as LQMA, as it contains area of NG production and contains Boghall Dump.
LQMA 19	ROS	Former Gun Propellant Areas	25.50	Area designated as LQMA, as it contains former NG and gun propellant production.
LQMA 20	ROS	Agricultural Land Inside Factory Fence	21.30	Designated as LQMA, as area has a current agricultural setting inside factory boundary. No production has been undertaken in this area.
LQMA 21	ROS	Agricultural Land Outside Factory Fence	14.09	Area designated as LQMA, as is outside the factory fence and has a farming land use. No production has been undertaken in this area of the site.
LQMA 22	ROS	Former Misc. Storage Areas	12.36	Area designated as LQMA, as it contains a number of former storage areas, including ash deposits along perimeter roads.

LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
LQMA 23	ROS	Former NG Area	19.80	Area designated as LQMA, as it contains former NG production areas.
LQMA 24	RL	Former rocket propellant.	34.19	Area designated as LQMA, as it contains former rocket propellant production and processing, within retained land.
LQMA 25	RL	Former Picrite Lagoons/Dumps	53.62	Area designated as LQMA, as it contains former picrite lagoons. Waste tips and dumps are also located within this LQMA. Area is contained within Retained Land.
LQMA 26	RL	Former Georgetown filling factory	93.83	Area designated as LQMA, as it represents former WW I Georgetown Filling factory, which lies within the retained land boundary. Area contained road magazines.
LQMA 27	ROS	Former Georgetown filling factory	80.65	Area designated as LQMA, as it contains former Georgetown area, out with retained land. Area formerly part of WW1 filling Georgetown Factory. This area includes former tips and dumps. Area contains former Rail magazines. (It is proposed that there is managed access to this area of the site).

LQMA Reference No.	Development Zone	Brief Description of LQMA	Approximate Area (ha)	Rational Behind Selection of LQMA
LQMA 28	ROS	Former rocket propellant production.	26.81	Area designated as LQMA, as it lies within former rocket propellant production , out with Retained Land (RL). Area contains former road magazines.
LQMA 29	ROS	Barochan Moss and agricultural areas.	105.85	Areas of Site which have no former explosive production history.
LQMA 30	ROS	Agricultural land	1.7	Area of agricultural land out with development area.
LQMA 31	CDA	Residential and Recreational open space areas	3.2	SUDs pond located within proposed residential development area.
LQMA 32	CDA	Areas of Residential and Recreational open space	5.6	SUDs pond within proposed residential development area.
LQMA 33	CDA	Residential (Village Centre) and Recreational Open Space (ROS).	1.9	SUDs pond within proposed residential and commercial development area.
LQMA 34	ROS	Former Georgetown-WW1 Filling Factory	2.08	Houston Road Entrance (haul road)



- Outline Planning Application boundary
- Where Remediation/Earthworks Planning and Outline Planning Application Boundaries are coincidental
- 34 No. LQMAs
- Northern and Southern Access Roads
- Surface Water
- SUDs ponds

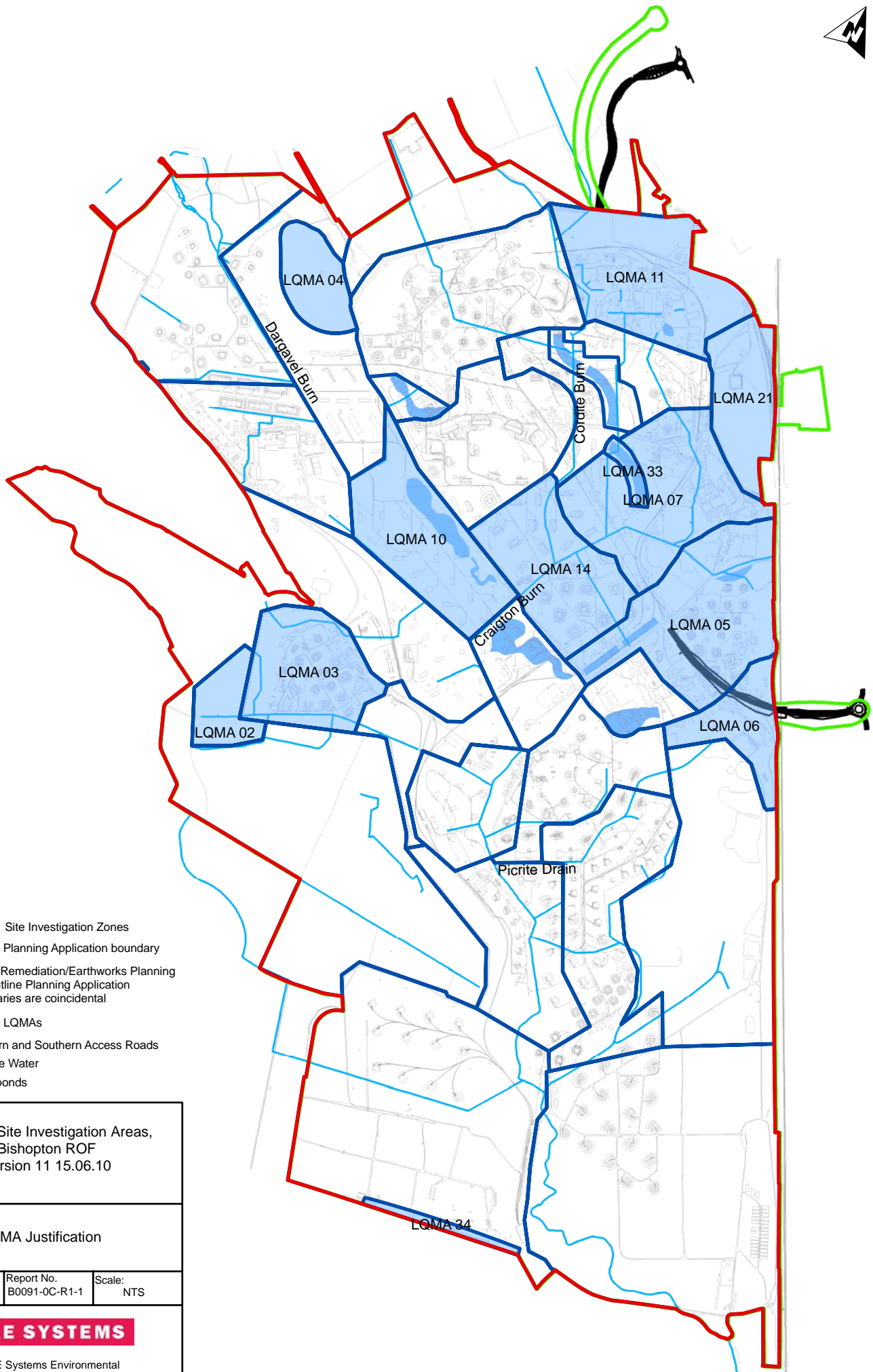
Figure Title:
Proposed Land Quality Management Areas (LQMAs), Bishopton ROF
 Version 11 15.06.10

Project:
LQMA Justification

Project No: B0091-0C	Report No. B0091-0C-R1-1	Scale: NTS
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 Station Road, Bishopton, Renfrewshire, PA7 5NJ
 Tel. 01505 832025 Fax. 01505 832052



- Block 1 Site Investigation Zones
- Outline Planning Application boundary
- Where Remediation/Earthworks Planning and Outline Planning Application Boundaries are coincidental
- 34 No. LQMAs
- Northern and Southern Access Roads
- Surface Water
- SUDs ponds

Block 1 - Site Investigation Areas,
Bishopton ROF
Version 11 15.06.10

Project:
LQMA Justification

Project No: B0091-0C	Report No. B0091-0C-R1-1	Scale: NTS
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BAE SYSTEMS

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