

# QUALITY

## Employer's Completion Process

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**Revision Changes:**

Revision	Status / Description of Changes
3.0	<p>General process update; Supervisor Representative (SR) role clarified Section 3.0 – New definitions added. Section 6.0 Contract Closeout Checklist Forms:</p> <ul style="list-style-type: none"> <li>• Forms C2, C3, C4, C6, C20 text / questions amended;</li> <li>• Forms C3, C7, C30 – form title amended;</li> <li>• Form C9 – Contract Closeout Checklist – Technical Information (New form)</li> <li>• Form C10 – Contract Closeout Checklist – Third Party Agreements (New form)</li> </ul>
4.0	<p>General process update Details added for ECP process for Sectional Completions Section added for ECP outstanding items register Additional definitions added</p>

5.0	<p>Process update</p> <p>Major Key Dates involving Completion added</p> <p>Practical Completion added</p> <p>Outstanding items register removed. Punchwork in use instead</p>
6.0	<p>Process update in order to include:</p> <ul style="list-style-type: none"> <li>- Post-Handover Works</li> <li>- Partial ECP Completion per site location (under the same contract)</li> <li>- Check for design completion (FDS) on C2 form</li> </ul>
7.0	<p>Process update:</p> <ul style="list-style-type: none"> <li>- Definitions</li> <li>- Removal of practical completion</li> <li>- Section 4.3. Outstanding Items – Punchwork</li> </ul>
8.0	<p>ECP Form C8 <i>Systemwide (interfaces with civil contracts)</i> is made obsolete as Civils work (<i>i.e. Tunnelling</i>) is complete.</p>
9.0	<p>Process updates:</p> <p>Section 4.2. – SR added as the ECP tracker owner alongside the PM</p> <ul style="list-style-type: none"> <li>- Punchworks review by CEG for inclusion in COWL</li> </ul> <p>Section 4.3. – Unique Punchwork numbers for each Punchwork / Outstanding item</p> <ul style="list-style-type: none"> <li>- Punchworks review by CEG for inclusion in COWL</li> </ul>
10.0	<p>Process updates:</p> <ul style="list-style-type: none"> <li>- Definitions</li> <li>- Section 4.1. Content aligned with the current C Forms listed in section 6</li> <li>- Section 4.2. Visual process overview added</li> <li>- Section 4.3. Responsible party for punchwork/EOWL close out updated</li> <li>- Section 4.4. Section of ECP items dispensation process added</li> <li>- Section 5 – Reference to CDM Procedure added</li> <li>- Section 6 – Reference to template for ECP dispensation added</li> </ul>

## **Contents**

<b>1 Purpose .....</b>	<b>5</b>
<b>2 Scope.....</b>	<b>5</b>
<b>3 Terms &amp; Definitions.....</b>	<b>5</b>
<b>4 Procedure.....</b>	<b>8</b>
<b>4.1 General.....</b>	<b>8</b>
<b>4.2 Employer's Completion Process .....</b>	<b>10</b>
<b>4.3 Punchwork items .....</b>	<b>11</b>
<b>4.4 Dispensation for ECP outstanding items .....</b>	<b>12</b>
<b>4.5 Partial ECP Completion per site location (under the same contract) .....</b>	<b>12</b>
<b>5 Reference Documents.....</b>	<b>13</b>
<b>6 Standard Forms / Templates .....</b>	<b>13</b>

Learning Legacy Document

## 1 Purpose

This procedure describes the Employer's Completion Process (ECP) which will demonstrate that CRL has exercised due diligence prior to acceptance of the construction Contracts at Crossrail Central Section Works. These are to be certified by the Contractors and Delivery Team (DT) as being complete and compliant with the requirements of the Programme, Works Information and relevant Third Party requirements.

The Employer's Completion Process also supports the *Supervisor's Rep* in the issue of the final COWL/ Defects List. This procedure should be read in conjunction with the *Completion of the Works (Project Manager's Duties) procedure [Ref 1]*.

## 2 Scope

This procedure covers acceptance of the Completion of all the Central Section Works and supporting documents and records. This procedure applies to:

- Completion of the whole of the Works (including Post-Handover Works)
- Sectional Completions
- Partial ECP Completion per site location (under the same contract)

This procedure is to be followed for Civil, Stations and Railway systems (Routeway / Systemwide) Contracts. Contract Closeout Checklists listed in Section 6 shall be developed to address the scope of Works in line with the Programme.

The contractual certification of Completion by the Project Manager is covered within the *Contract Administration Manual (CAM) [Ref 2]* and *Completion of the Works (Project Manager's Duties) procedure [Ref. 1]*.

The commercial close out of the Contracts, including any settlements, final accounts, reconcilitaion of CRL financial systems (SAP, PRISM etc.) is independent of the ECP and is covered within CAM [Ref. 2]

## 3 Terms & Definitions

CAM	Contract Administration Manual ref. CRL1-XRL-W-GML-CR001-50001
CAR	Corrective action request
CM	Completion Manager
CMDL	Contract Master Deliverable List
Completion (contractual term)	<p>Is when the Contractor has:</p> <ul style="list-style-type: none"> <li>• Done all the Work required by the Works Information by the Completion Date and</li> <li>• Corrected notified Defects which would have prevented the Employer from using the Works or others from doing their Work.</li> </ul> <p>Note: Completion of the Whole of the works includes the Post-Handover Works (if applicable).</p>
Contract	NEC 3 Works Contract between CRL and the relevant Contractor

Contract Closeout Checklist	Forms C0 – C30 as listed in section 6
Contractor	Appointed to undertake and complete a Works Contract
COWL	Consolidated Outstanding Works List. A list of items required to complete Works in an area, system or subsystem prior to Completion.
CRL Function	CRL Function as listed in item 4.1.4
Crossrail Central Section Works	The railway between Westbourne Park in the west and Pudding Mill Lane and Victoria Dock portals in the east, plus part of the south eastern section from Victoria Dock Portal to the Plumstead Portal, including the Interfaces with Western and Eastern surface railways, LU and DLR
Defect (contractual term)	A Defect is <ul style="list-style-type: none"> <li>• a part of the <i>works</i> which is not in accordance with the Works Information or</li> <li>• a part of the <i>works</i> designed by the <i>Contractor</i> which is not in accordance with this contract or the Applicable Law or the <i>Contractor's</i> design which the <i>Project Manager</i> has accepted.</li> </ul>
Defects List	A list of Defects arising out of the final COWL
Delegate	A competent individual authorised by the Functional Lead to sign off Closeout Checklists.
Delivery Team (DT)	Delivery Team – the team delivering the Crossrail Central Section Works.
ECP	Employer's Completion Process – Explained by this document
ECP Tracker	Consolidated excel list of all ECP questions listed on Contract Closeout Checklist forms. The ECP Tracker is to be set up on SharePoint by the CM and passed to DT for Supervisor's Rep maintenance, update and close-out.
EOWL	A report created to support Handover Leads and project teams by giving them easy overview of all outstanding issues in a single report against each Element.
FDC	Framework Design Consultant
Functional Lead (FL)	Head of CRL Function
Handover	Works handover to the final owner
HoD	Head of Discipline at the Chief Engineering Group
Infrastructures Managers (IMs)	As defined in 'The Railway and Other Guided Transport Systems (Safety) Regulation 2006' an Infrastructure Manager is any person or organisation that: <ul style="list-style-type: none"> <li>• is responsible for developing and maintaining infrastructure (not including a station) or for managing and operating a station; and</li> <li>• manages and uses that infrastructure or station, or allows it to be used for operating a vehicle.</li> </ul>
NCR	Non-Conformance Report

PM	Project Manager: The DT project role described in the <i>Construction Management Plan [Ref 3]</i>
Post-Handover Works	Work identified in the contract (incl. Supplemental Agreements) to be carried out after works handover to the Infrastructure Manager.
SCCC	Sectional Contract Completion Certificate
Sectional Completion (SC)	Is when the Contractor has: <ul style="list-style-type: none"> <li>• Done all the Work required by the Works Information by the Sectional Completion Date and</li> <li>• Corrected notified Defects which would have prevented the Employer from using the Works or others from doing their Work.</li> </ul>
<i>Supervisor (Italicised)</i>	The role as described in the NEC3 ECC Contract
Supervisor's Rep / SR	Supervisor Representative The role as described in the NEC3 ECC contract. Supervisor's Rep assigned roles and responsibilities under the Contract as described in the Construction Management Plan [Ref 3]
TD	Technical Director
Third Party	Utility Companies, Local Authorities, Tarmac, NR, DLR, LUL, LO
VAP	Verification Activity Plans
WCCC	Whole Contract Construction Certificate
Works Information	Volume 2A, 2B and 2C at relevant annexure to the Contract which includes any information referred to in these volumes

## 4 Procedure

### 4.1 General

4.1.1 The main processes leading to ECP sign off are listed below. The full list is contained within the Contract Closeout Checklists listed in Section 6.

- Confirmation that the health and safety file has been coded 1 and is compliant with CRLs and IMs requirements
- Confirmation that CDM control points have been satisfied in line with procedure *Construction, Design and Management (CDM) procedure [Ref 5]*.
- Confirmation of acceptance for final design statements (FDSb)
- Confirmation of close out for Crossrail Programme Functional Requirements (CPFR)
- Confirmation of close out for design related risks in relation to the contract
- Confirmation of close out for concessions and specified conditions
- Confirmation of close out for Engineering Safety Management (ESM) deliverables
- Confirmation of compliance for interoperability requirements
- Confirmation of completeness and close out for gate impact reports (GIR)
- Confirmation of NCRs close out
- Confirmation of observations close out
- Confirmation of VAP reports close out
- Completeness of red line and as-built drawings
- Confirmation of acceptance by Chief Engineer of the Watch and Events Items
- Confirmation that RAMs documentation is in place coded 1 and DRACAS records up-to-date
- Confirmation that technical content of the Consolidated Outstanding List (Defects List) has been consulted and agreed with Chief Engineer
- Confirmation that the cyber security information has been provided by contractor
- Confirmation that provided assurance deliverables allow for completion of CARE register
- Confirmation that all relevant planning and heritage consents necessary for the Works and related activities have been obtained and complied with.
- Confirmation that all environmental requirements have been complied with.
- Confirmation that all undertakings & assurances have been closed.
- Confirmation of land transfer to the receiving party
- Confirmation of close out for applicable rail interfaces
- Confirmation that contract related deliverables listed on CMDL have been closed out
- Confirmation that all asset tagging and labelling data has been provided and accepted
- Confirmation that as-built 3D model has been delivered and coded 1
- Confirmation that all O&M manuals have been submitted and accepted
- Confirmation that third-party agreements have been satisfied
- Confirmation that C-ICDs / Handover Plan (where applicable) have been accepted
- Confirmation that all work related certification (e.g. construction certificates, IRs, ACs etc.) have been accepted
- Confirmation that any contract scope removal has been formally reassigned
- Confirmation that Care and Maintenance Plan has been prepared (where applicable)
- Confirmation that interfaces with utility providers have been closed out
- Confirmation that the Training Strategy, Plan and its deliverables have been provided and accepted



4.1.2 The above is demonstrated by a sign-off of a Contract Closeout Checklists for each Contract, completed by each CRL Function (Ref Section 4.1.4). The templates for the Contract Closeout Checklists are in Section 6 (Ref A – M)

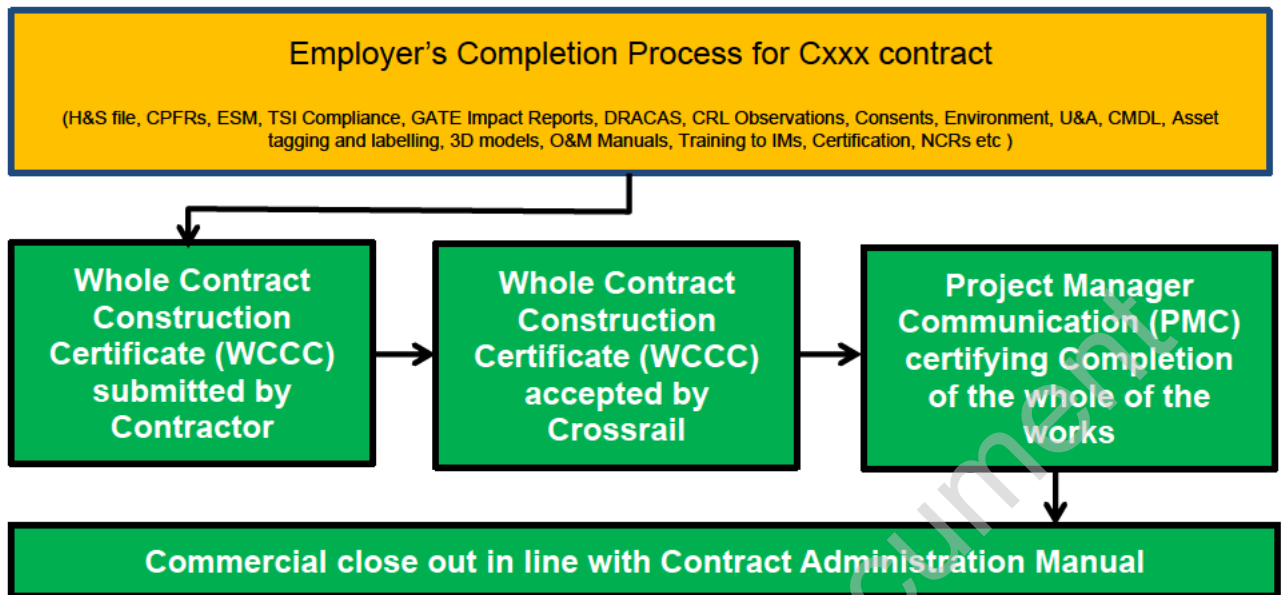
4.1.3 The Contract Closeout Checklists list a series of questions generated by each CRL Function for their respective sign-off. These questions demonstrate that all requirements within their respective functional responsibility have been satisfactorily addressed. This ensures accountability for acceptance of the completed Works is consistently maintained.

4.1.4 The following Contract Closeout Checklists are required to be reviewed and signed off by FLs prior to Works acceptance by the Project Manager:

Requirements for Contract Closeout Checklists review and sign off by FLs				
Contract Closeout Checklist	Function	CRL Functional Lead	Completion of the whole of the Works (including Post-Handover Works)	Sectional Completion
C1	Health & Safety	CRL H&S Head of Assurance	Required	Required
C2	Technical Compliance	CRL Chief Engineer supported by HoDs	Required	At discretion of Functional Lead
C3	Planning, Heritage and Highways	CRL Head of Sustainability & Consents	Required	At discretion of Functional Lead
C4	Environment	CRL Head of Sustainability & Consents	Required	At discretion of Functional Lead
C5	Undertakings & Assurances	CRL Head of Sustainability & Consents	Required	At discretion of Functional Lead
C6	Land and Property	CRL Head of Estates	Required	At discretion of Functional Lead
C7	Rail Interfaces (LUL, DLR, NR, LO)	CRL Rail Interface Manager / Engineer / Project Manager / Care & Custody Manager	Required	At discretion of Functional Lead
C8 *	Systemwide (interfaces with civil contracts) – No longer applicable (Obsolete)	NA	NA	NA
C9	Technical Information	CRL Chief Engineer	Required	At discretion of Functional Lead
C10	Third Party Agreements	CRL Head of Agreements	Required	At discretion of Functional Lead
C20	Completion	CRL Completion Manager	Required	Required
C30	Authorisation to Accept WCCC or SCCC	CRL Completion Manager	Required	Required

\* Form C8 (Systemwide interfaces with Civil contracts) is now obsolete as Civils work (i.e. Tunnelling) is complete.

## 4.2 Employer's Completion Process



- 4.2.1 Approximately **six months** (or as soon as practicable) before the date of each Contract Completion, the Crossrail Completion Manager (CM) shall issue *ECP Notification – Form C0* [See Section 6] to the relevant CRL Functional Leads (FLs), PM and Supervisor Rep (SR). The latest CRL programme provided by CRL planning department is to be used for the notification of dates for Contract Completion or Sectional Completion.
- 4.2.2 The FLs are then responsible for finalising/reviewing their specific sign-off questions / issues noted on *Contract Closeout Checklist Forms C1- C10* [See Section 6 for templates] within **14 days**. Any changes or additions to the sign-off questions are to be communicated to the CM.
- 4.2.3 The CM shall consolidate all sign-off questions relevant to the specific Contract approaching Completion or Sectional Completion onto an ECP Tracker for that Contract.
- 4.2.4 Approximately **70 days** (or as soon as practicable) before Contract Completion, the CM shall organise a meeting with the PM, and / or the Supervisor Rep (SR) and FLs (at their discretion) to table the consolidated ECP Tracker and to provide an opportunity to clarify any issues / aspects of the sign off questions.
- 4.2.5 Following the meeting, the CM shall update the Contract specific ECP Tracker with any changes identified and then forward to the PM / Supervisor Rep (SR) to maintain the tracker in SharePoint.
- 4.2.6 The PM / SR shall progressively manage the close-out of the ECP Tracker questions over the period of closure of the Contract. The ECP Tracker shall be updated by the Supervisor's Rep after each ECP progress meeting and made available to the FLs and the CM in SharePoint. FLs shall progressively sign-off their respective questions on the Contract Closeout Checklists in line with the updated ECP Tracker subject to satisfactory provision of evidence by the PM or Supervisor's Rep. This is to demonstrate the Closeout Checklist items have been satisfactorily addressed.
- 4.2.7 Approximately **14 days** (or as soon as practicable) prior to Contract Completion the CM, FLs (at their discretion), PM / Supervisor Rep (SR) shall attend the final Completion readiness review meeting in accordance with the *Completion of the Works (Project Manager's Duties) procedure (Ref 1)*, at which the latest revision of the ECP Tracker shall be tabled. Attendance by the FLs is not required if their relevant actions/issues have all been closed-out. All outstanding actions /

COWL items (proposed Defects List) are to be highlighted at this meeting and the PM shall notify the NEC *Supervisor*, Technical Director, Chief Engineer and the Head of Quality of the issues.

*Chief Engineer / delegate* to review / agree the list of punchworks listed on COWL.

- 4.2.8 Once all the outstanding issues have been closed, the PM shall request from the CM authorisation (Form C30 [Ref. M]) to sign the *Whole Contract Construction Certificate (WCCC)* [Ref N] / *Sectional Contract Construction Certificate* [Ref O]
- 4.2.9 Subject to the ECP Contract Closeout Checklists being closed out by the PM / Supervisor Rep (SR) to the satisfaction of the FLs and the CM, the CM shall sign *Form C20 – Contract Closeout Checklist – Completion* [See Section 6] followed by a *Form C30 – Authorisation to Accept Whole/Sectional Contract Construction Certificate* [See Section 6] and issue the *Form C30* to the PM and Supervisor Rep (SR).
- 4.2.10 The signed copies of All C-Forms for each Contract shall be scanned and uploaded to eB as one document by the CM. The latest ECP Tracker updated by the Supervisor's Rep (SR) shall be added to the C-Forms in eB.

### **4.3 Punchwork items**

#### **4.3.1 Punchwork items – ECP items within contractor's scope**

- In line with the procedure “Snagging and Outstanding Works (Punchworks)” ref. CRL1-XRL-O4-GPD-CR001-50010 [See Section 5 – Ref 6] and Works Information Vol. 2B, Contractor is to use punchwork platform for recording contract's outstanding work / documentation. Each item agreed, is to be added to the final COWL (Defects List). Individual items on punchwork lists should have a unique reference on eB for outstanding works / documentation or NCR reference for non-conformances so that these items can be effectively managed and closed during the defect's liability period.

#### **4.3.2 Punchwork items – ECP items outside contractor's scope**

- Punchwork platform is also to be used where during the ECP close-out process the Contractor has completed all the Works and provided all the deliverables required by the Contract / Works Information but the ECP process remains open due to matters requiring CRL internal close-out only.
- The open ECP matters requiring CRL internal close-out are to be logged onto Punchwork by the Supervisor's Rep (SR) or his/her delegate as 'CRL1' items. Punchwork number generated must be unique for each of the Punchwork / Outstanding item.
- Prior to adding ECP items to the Punchwork, the CRL Project Manager / Supervisor's Rep (SR) is to consult the *Supervisor* / Chief Engineer or his delegate in order to obtain his/her acceptance that the outstanding ECP items are outside of contractor's scope and are for CRL internal close-out. Therefore, they should not affect acceptance of contractor's WCCC.
- Crossrail Handover team will monitor closure of all open 'CRL1' Punchwork items. Any pending or outstanding Punchwork will form part of the Element Outstanding Works List (EOWL) report. For further details, please refer to the Element Outstanding Works List (EOWL) QRG ref. [CR-XRL-Z3-GUI-CR001-50507](#) [See Section 5 – Ref 4] and communication ref. CEC [CRL1-CEC-00500](#) Element Outstanding Works List (EOWL).
- Registering on Punchwork the open ECP matters, which fall outside of Contractors control and require CRL internal close-out, allows for the sign-off of the ECP. At this stage, the dispensation form described in item 4.4 below is to be prepared and presented to the Programme Director. Once accepted the ECP C30 form will follow confirming ECP close-out and authorising acceptance of the WCCC / SCCC.

#### 4.4 Dispensation for ECP outstanding items

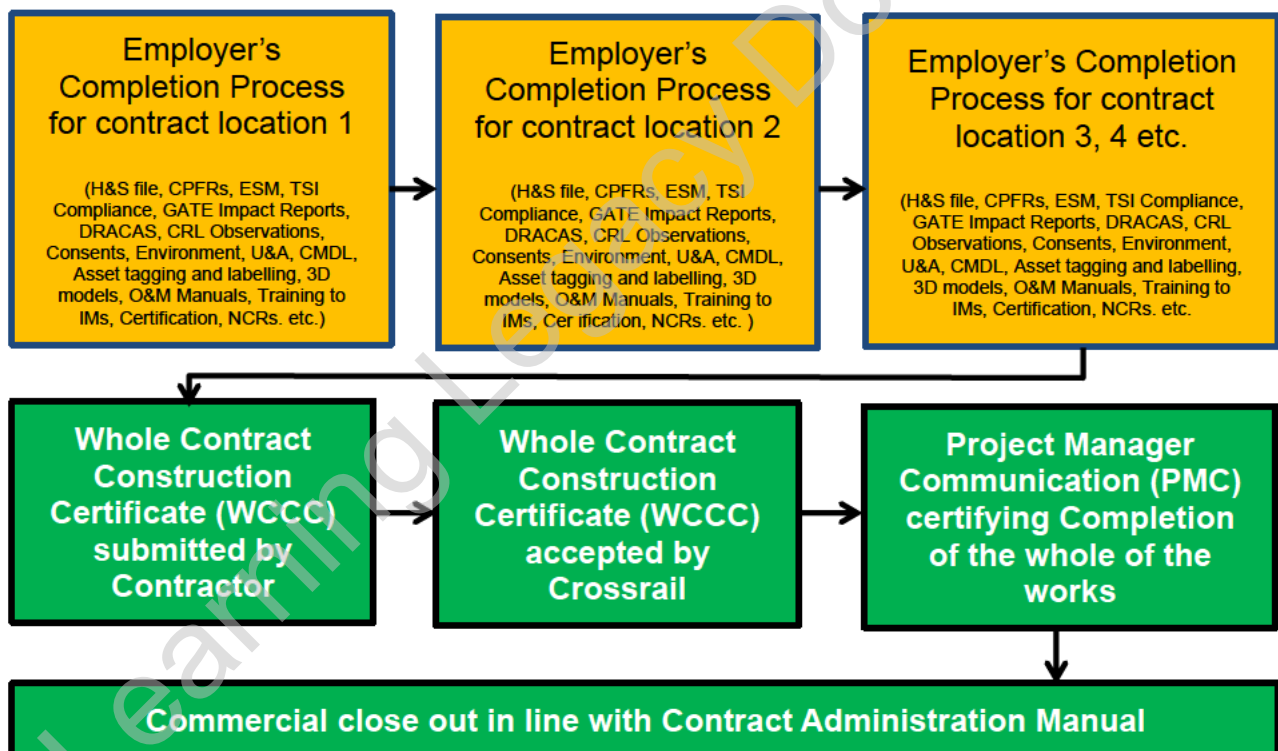
In instances where the ECP items remain open for extensive period of time due to pending third party acceptance (e.g. IMs) or fall outside of contractor's scope and at the same time all contractors' deliverables have been accepted by CRL delivery team or agreed to be added to the Defects List, the Programme Director may decide to provide a dispensation for these ECP items.

The dispensation and the relevant justification are to be recorded on the Dispensation Form [See Section 6 for template]. The Dispensation Form is be filled in by the CRL delivery team providing enough information for the Programme Director to decide on the dispensation.

#### 4.5 Partial ECP Completion per site location (under the same contract)

In instances where the same contract covers number of geographical locations with different completion dates e.g. C360 (shafts) or C530 (Woolwich Station, North Woolwich Portal, Plumstead Portal, Connaught Tunnel) the Project Manger may decide to carry out a separate ECP per location scope.

The certification of contract Completion (Completion of the Whole of the Works) will be certified once all the locations covered by the contract have a signed off ECP.



## 5 Reference Documents

Ref:	Document Title	Document Number:
1.	Completion of the Works (Project Manager's Duties)	<a href="#">CRL1-XRL-O4-GPD-CR001-50017</a>
2.	Contract Administration Manual	<a href="#">CRL1-XRL-W-GML-CR001-50001</a>
3.	Construction Management Plan	<a href="#">CRL1-XRL-N2-STP-CR001-50002</a>
4.	Element Outstanding Works List (EOWL) QRG	<a href="#">CR-XRL-Z3-GUI-CR001-50507</a>
5.	Construction, Design and Management (CDM)	<a href="#">CR-XRL-O3-GPR-CR001-00001</a>
6.	Snagging and Outstanding Works (Punchworks)	<a href="#">CRL1-XRL-O4-GPD-CR001-50010</a>

## 6 Standard Forms / Templates

Ref:	Document Title	Document Number:
A.	Form C0 – ECP Notification	<a href="#">CRL1-XRL-O4-ZTM-CR001-50015</a>
B.	Form C1 – Contract Closeout Checklist – Health & Safety	<a href="#">CRL1-XRL-O4-ZTM-CR001-50016</a>
C.	Form C2 – Contract Closeout Checklist – Technical Compliance	<a href="#">CRL1-XRL-O4-ZTM-CR001-50017</a>
D.	Form C3 – Contract Closeout Checklist – Planning, Heritage and Highways	<a href="#">CRL1-XRL-O4-ZTM-CR001-50018</a>
E.	Form C4 – Contract Closeout Checklist – Environment	<a href="#">CRL1-XRL-O4-ZTM-CR001-50019</a>
F.	Form C5 – Contract Closeout Checklist – Undertakings & Assurances	<a href="#">CRL1-XRL-O4-ZTM-CR001-50020</a>
G.	Form C6 – Contract Closeout Checklist – Land and Property	<a href="#">CRL1-XRL-O4-ZTM-CR001-50021</a>
H.	Form C7 – Contract Closeout Checklist – Rail Interfaces	<a href="#">CRL1-XRL-O4-ZTM-CR001-50022</a>
I.	Form C8 – Contract Closeout Checklist – Systemwide – <b>(Obsolete)</b>	<a href="#">CRL1-XRL-O4-ZTM-CR001-50023</a> – <b>(Obsolete)</b>
J.	Form C9 – Contract Closeout Checklist – Technical Information	<a href="#">CRL1-XRL-O4-ZTM-CR001-50036</a>
K.	Form C10 – Contract Closeout Checklist – Third Party Agreements	<a href="#">CRL1-XRL-O4-ZTM-CR001-50037</a>
L.	Form C20 – Contract Closeout Checklist – Completion	<a href="#">CRL1-XRL-O4-ZTM-CR001-50024</a>
M.	Form C30 – Authorisation to Accept Whole / Sectional Contract Construction Certificate	<a href="#">CRL1-XRL-O4-ZFM-CR001-50005</a>
N.	Whole Contract Construction Certificate (WCCC)	<a href="#">CRL1-XRL-O4-ZTM-CR001-50030</a>
O.	Sectional Contract Construction Certificate (SCCC)	<a href="#">CRL1-XRL-O4-ZFM-CR001-50009</a>
P.	Sub/Construction certificate Package Listing	<a href="#">CRL1-XRL-O4-ZTM-CR001-50027</a>
Q.	Employer's Completion Process Dispensation Form	<a href="#">CRL1-XRL-O4-ZFM-CR001-50020</a>