



Contract document

PSC 3rd Ed.

Contract for:	National Car Charging Points
Project Ref:	Contract: ecm_59754

Non Returnable Documents

Contents
Contract data
Scope

Prepared by:

Date: 19th October 2020

Version: 01

Department for Environment, Food and Rural Affairs
Nobel House,
17 Smith Square,
London,
SW1P 3JR



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Non-Returnable documents
PSC 3rd Ed.

Section 1
Contents

Section 1 - Document summary and contents

Document summary			
	Section	Title	Description
Non-Returnable Documents	1	Document summary and contents list	A guide to the documents and 'tendering' arrangements.
	2	Contract data part one	Data (supplied by the <i>Employer</i>) required by the conditions of contract specific to this contract.
	3	Scope	The specification and description of the services and constraints on how the <i>Supplier</i> is to provide the services.
Returnable Documents	4	Document summary and contents list	A guide to the tender documents
	5	Contract data part two	Data (supplied by the <i>Supplier</i>) required by the conditions of contract specific to this contract.
	6	Pricing data	The <i>activity schedule</i> Option A and C. Risk register The risk budget
	7	Consultant's schedules	Information required with the tender and the <i>Supplier's</i> technical offer. Includes certificates for completion and return with the tender.



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Contract Documents
PSC 3rd Ed.

Section 2
Contract Data
Part one

Data provided by the *Employer*

Contract for Defra National Car Charging Points roll out	
1. General	
•	The conditions of contract are a) the core clauses and the clauses for the Options set out below of the NEC3 Professional Services Contract (June 2005) and amended by June 2006 and September 2011 in conjunction with b) agreement reference 9Y8C – TM97UR Property & Design Specification Services. In the event of a conflict between terms, the terms cited under a) above shall apply.
A:	Priced contract with activity schedule
W2:	Dispute Resolution Procedure (use when Housing Grants, Construction and Regeneration Act 1996 applies)
X1:	Not used
X2:	Changes in the law
X3:	Not used
X4:	Not used
X5:	Not used
X6:	Not used
X7:	Not used
X8:	Not used
X9:	Transfer of rights
X10:	Not used
X11:	Termination by the <i>Employer</i>
X12:	Not used
X13:	Not Used
X18:	Limitation of liability
X20:	Not used
Y(UK)2 The Housing Grants Construction and Regeneration Act 1996 as amended by the Local Democracy, Economic Development and Construction Act 2009	
Y(UK)3 The Contracts (Rights of Third Parties) Act 1999	
A Contract Risk Register will be maintained to record early warnings and compensation events. An example of the form of register to be used will be sent to the Agency PM for agreement prior to issue.	
Z:	The Additional conditions of contract are in point 10. Option Z



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

<ul style="list-style-type: none">• The services are: To provide the Technical and Advisory Project Management services for the car charging points national role out tender documents. The full project scope has been discussed with Mott Macdonald in line with the attached document titled "Scope", and as detailed in Mott Macdonald's Activity Schedule (Appendix A).	
<ul style="list-style-type: none">• The <i>Employer</i> is The Department for Environment, Food & Rural Affairs (Defra) Nobel House 17 Smith Square London SW1P 3JR Employer's Project Manager: [REDACTED]	
<ul style="list-style-type: none">• The <i>Adjudicator</i> is, the person appointed by the <i>Adjudicator nominating body</i>.• The referring Party pays the administrative charge made by the <i>Adjudicator nominating body</i>.	
<ul style="list-style-type: none">• The Scope is in Section 3 of this Contract document.	
<ul style="list-style-type: none">• The <i>law of this contract</i> is the law of England, subject to the jurisdiction of the English Courts.	
<ul style="list-style-type: none">• The <i>language of this contract</i> is English.	
<ul style="list-style-type: none">• The <i>period for reply</i> to a communication is 2 weeks.	
<ul style="list-style-type: none">• The <i>period for retention</i> of documents is 6 years following Completion or earlier termination.• The <i>Adjudicator nominating body</i> is the Institution of Civil Engineers• The <i>tribunal</i> is litigation in the courts.	
2. The Parties main responsibilities	
<ul style="list-style-type: none">• The <i>Employer</i> provides access to the following people, places and things.	
Access to	<i>access date</i>
Access to, but not limited to: <ul style="list-style-type: none">• Record drawings and O&M Manuals• Existing product specifications and works requirements• Existing selection and quality criteria• Internal delivery team within DEFRA	21 st October 2020.
<ul style="list-style-type: none">• The <i>Consultant</i> prepares forecasts of total Time Charge and <i>expenses</i> for the <i>services</i> at intervals no longer than one month.	



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

3. Time

- The *starting date* is 21st October 2020
- The *completion date* for the whole of the *services* is 12th December 2020
- The *Supplier* submits revised programmes at intervals no longer than 4 weeks.

4. Quality

- The quality policy statement and quality plan are provided within 4 weeks of the *starting date*, if not previously provided by the *Consultant*.
- The *defects date* is 52 weeks after Completion of the whole of the *services*.

5. Payment

- The *assessment interval* is one month based on the schedule submitted as part of Option A.
- The period within which payments are made is 30 days from receipt of the *Consultant's* VAT invoice.
- The *currency of this contract* is pounds sterling (£).
- The *interest rate* is 2% per annum above the Bank of England Base Rate.
- There are no *expenses* stated by the *Employer* (*expenses* are deemed to be included in the lump sum prices for the activities).

6. Compensation events

- There is no Contract Data required under this heading

7. Title and confidentiality

- There is no Contract Data required under this heading.

Note – levels proposed are for this project specifically.

8. Indemnity and insurance

- The amounts of insurance and the periods following Completion for which the *Consultant* maintains insurance are

Event	Cover	Period following Completion of the whole of the <i>services</i> or earlier termination
failure of the <i>Consultant</i> to use the skill and care normally used by professionals providing services similar to the <i>services</i>	£5m	6 Years
personal injury to or death of a person (not an employee of the <i>Consultant</i>) or loss of or damage to property resulting from an action or failure to take action by the <i>Consultant</i>	£5m	12 months



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

bodily injury to or death of employees of the <i>Consultant</i> arising out of and in course of their employment in connection with this contract	£5m	for the period required by law
<ul style="list-style-type: none">The Employer provides the following insurances – None.The <i>Consultant's</i> total liability to the <i>Employer</i> for all matters arising under or connection with this contract, other than excluded matters, is limited to an aggregate of £5 million per individual contract.		
9. Disputes and termination		
<ul style="list-style-type: none">There is no Contract Data required under this heading		
10. Option Z: The <i>additional conditions of contract</i> are:		
Z1	Not Used	
Z2	<p>The text of CI 18 Prevention is deleted.</p> <p>Delete the text of CI 60.1(11) and replaced by:</p> <p>The services are affected by any of the following events</p> <ul style="list-style-type: none">War, civil war, rebellion, revolution, insurrection, military or usurped power;Strikes, riots and civil commotion not confined to the employees of the Consultant and sub consultants,Ionising radiation or radioactive contamination from nuclear fuel or nuclear waste resulting from the combustion of nuclear fuel,Radioactive, toxic, explosive or other hazardous properties of an explosive nuclear device,Natural disaster,Fire and explosion,Impact by aircraft or other aerial device or thing dropped from them.	
Z3 A	Not used	
Z3 B	Not used	
Z3 C	Not used	
Z4	Not used	
Z5	Not used	
Z18	Not used	
Z19	Not used	



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Z20 CIC BIM Protocol

In this clause, the Protocol is the CIC Building Information Modelling Protocol, first edition 2013. Terms used in this clause are those defined in the Protocol.

Clauses 1 and 5, of the Protocol are additional conditions of contract.

Clauses 3 and 4 and Appendices 1 and 2 of the Protocol are Scope.

Clause 6 of the Protocol is amended as follows and are additional conditions of contract

6.1 is unamended

6.2 – 6.10 of the Protocol is deleted and replaced with the following:

6.2 All pre-existing Materials held and used by a Project Team Member used in connection with the Model shall remain the property of the party introducing them. Details of each party's pre-existing Materials are set out in the Model Production and Delivery Table

6.3 All Materials (other than clause 6.2 above), Model, Featured Model and Specified Model, shall be the property of the *Employer*

6.4 The Materials (other than clause 6.2 above), Model, Featured Model and Specified Model shall, be the property of the *Employer* and the *Employer* shall be free, should it so wish, to apply at its own expense for patent or other protection in respect of the Materials (other than clause 6.2 above), Model, Featured Model and Specified Model. The *Employer's* intention to apply for such patent or other protection shall be notified to the Project Team Members. Such applications for patents or other registered intellectual property rights shall be filed in the name of the *Employer*.

Unless otherwise agreed in writing between the Project Team Member and the *Employer*, the Project Team Member hereby:

6.4.1 assigns to the *Employer* all Materials (other than clause 6.2 above), Model, Featured Model and Specified Model

6.4.2 grants the *Employer* a non-exclusive, non transferable (save for the purposes of sub-licensing, reorganisation or transfer to a successor body, for the purposes of all the successor body's normal business use), irrevocable, royalty free perpetual licence to the *Employer* in respect of all the Project Team Member's pre-existing Materials necessary in order for the *Employer* to use or exploit the Materials, Model, Featured Model and Specified Model

6.7 The Project Team Members undertakes to the *Employer* not to use, exploit or deal with any of the *Employer's* pre-existing Materials, other than in the performance of the Agreement unless the Project Team Member has first obtained a written licence from the *Employer*, in specific terms to do so.

6.8 The *Employer* undertakes to the Project Team Member not to use or exploit the pre-existing Materials, save as provided in Clause 6.4.2

6.9 The Project Team Members warrants to the *Employer* that the Project Team Member pre-existing Materials shall not in any way infringe any intellectual property rights of any third party.

6.10 If the Project Team Members is prevented from carrying out his obligations under the Agreement due to any infringement or alleged infringement of any Intellectual Property Rights, the *Employer* may without prejudice to any other rights and remedies under the Agreement, exercise the powers and remedies available to it under the Agreement

6.11 The Project Team Members shall not be liable if such infringement arises from the use of any design, technique or method of working provided by or specified by the *Employer*. The Project Team Members waives in favour of the *Employer* its rights to object to derogatory treatment of the Materials (other than clause 6.2 above), Model, Featured Model and Specified Model and the Project Team Members also agrees that he will not assert or seek to enforce against the *Employer* and/or any other person, firm or company any of its moral rights as defined in the Copyright Designs and Patents Act 1988 without the prior agreement of the *Employer*.

6.13 The Project Team Members shall not be liable for any consequential losses, damage or injuries arising from third party misuse of the Materials, of which the Project Team Members is not aware.



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Clause 7 of the Protocol is deleted in its entirety.

Z21: The text in X9 (Transfer of Rights) is amended as follows:

“The following clauses are inserted after X9.1:

X9.2 All materials shall be the property of the *Employer* and the *Employer* shall be free, should it so wish, to apply at its own expense for patent or other protection in respect of the materials. The *Employer's* intention to apply for such patent or other protection shall be notified to the *Consultant*. Such applications for patents or other registered intellectual property rights shall be filed in the name of the Employer.

X9.3 Unless set out in the Scope or otherwise agreed in writing between the parties, the Consultant hereby:

9.3.1 assigns to the Employer all materials;

9.3.2 grants the Employer a non-exclusive, non-transferable (save for the purposes of sub-licensing, reorganisation, or transfer to a successor body, for the purposes of all the successor body's normal business use), irrevocable, royalty free perpetual licence to the Employer in respect of all the Consultant's pre-existing materials necessary in order for the Employer to use or exploit the materials

X9.4 The Consultant undertakes to the Employer not to use, exploit or deal with any of the Employer's pre-existing materials other than in the performance of the contract unless the Consultant has first obtained a written licence from the Employer, in specific terms to do so.

X9.5 For avoidance of doubt, this clause supersedes and takes precedence over core clause 70.”



6. 20 The Parties' main responsibilities

6. 20.1 Details of the services

The Consultant shall;

Undertake the following duties:

Following a kick-off meeting, Mott MacDonald will carry out two tasks, as further described below:

- Review the existing product specifications and works requirements, agree changes and assemble into their format for inclusion in the tender.
- Review the current draft selection and quality criteria.

1. Kick-off meeting

We will hold a mobilisation meeting with Defra via teleconference. [REDACTED] will continue to support liaison with you and [REDACTED] will act as project manager for the Mott MacDonald team. We will agree points of contact and transfer latest versions of the tender documentation prepared by Defra Group Property. We will discuss with you the mapping you see between the current documents and how these should be integrated into the following templates in the RM6215 tender pack:

- DPS Order Schedule 20 – Specification
- Attachment 3 – Statement of Requirements

We will discuss with you and ensure we understand the individuals or departments listed as having quality roles in the spreadsheet CQR in the current draft of the quality and selection criteria ("QCDIM V4.xlsx").

2. Comment on the existing specifications and prepare additional technical documentation as required.

The following documentation is available as a 70-80% draft:

Statement of requirements	Email from [REDACTED] dated 01 October 2020
	DEFRA Technical Specification EV P4 Version 2.doc
Product specifications	DEFRA Product Spec Rapid Charge point.docx
	DEFRA Product Spec Solar Carport.docx



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

		DEFRA Product Spec V2G.docx
Performance specifications		OLEV Charge point Data spec.docx
Construction instructions	works	Electric vehicle charge points bay painting V1.docx
		Electric vehicle charge points crash barriers V1.docx
Standards incorporated by Reference		Connector standards: CCS, CHAdeMO, AC Type 2
		IET wiring BS 7671 regulations
		IET Code of Practice for Electric Vehicle Charging Equipment.
Competencies incorporated by reference		Contract must be NICEIC, ECA or NAPIT registered and must use JIB approved Electricians.

We will review the current draft documentation in its current format, making comments inline using tracked changes. Where we make changes we will add comments to justify the change or the evidence for the change. We will use our internal list of requirements we typically expected to see in an Employer's Requirements for EV charging, attached in the Appendix, as a checklist.

We will elaborate the description of the how the solar car port and chargers will be deployed (i.e. whether the solar car port is used with Rapid Chargers, whether it is used with the V2G product or not). We will elaborate the requirements for the LV electrical connection to the site main distribution board, and identify suitable construction works instructions for the LV cabling and jointing.

We will review and, where necessary, update the quality acceptance criteria in the Statement of Requirements to include robust quality criteria for surveys, design and as-built documentation. We expect, for example the contractor to have ascertained electrical load schedules, general arrangements, the site's Approved Supply Capacity, and 3G/4G signal reception from surveys.

We will focus on reducing opportunity for a wide variety of offers for similar products, by reviewing for example:

- Acceptable lifetime of charger and solar PV
- Acceptable offers of PV technology for the car port
- Civils construction standards for the car port.

We will introduce additional standards and competencies, incorporated by reference. We will review whether any additional legislation may be relevant beyond the existing references to Health & Safety Legislation and legislation referenced in the wider RM6215 tender pack.

Once we have agreement on the majority of comments, we will transfer the documents into the preferred format agreed at the kick-off meeting ready for inclusion in the tender pack as DPS Order Schedule 20, Attachment 3 – Statement of Requirements, or referenced as Annexes to these.

3. Support in selecting pre-qualification criteria and a vendor list



**Department
for Environment
Food & Rural Affairs**

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

We will review your current quality and selection criteria ("QCDIM V4.xlsx"). The intention of these is to assist in down-selecting from the current 33 providers on the Dynamic Purchasing System to a more realistic number of providers, all of whom we

We will ensure that the quality standards tab contains all of the quality standards referenced in the specifications and, vice versa, incorporate any additional quality standards into the text of the specifications where they have not been referenced.

We will hold a teleconference with you to discuss and provide our views on the question weightings, guided by mandatory percentages which you may be required to honour and work within for all government tenders.

We will provide our review comments on the quality standards referred to in the tabs CQR and QCDIM, providing our view on whether they are measurable, proportionate and that there is sufficient coverage for each phase of the project (survey, design, construction, commissioning, and operations and maintenance). We will review and where necessary add quality criteria which assess the depth and quality of surveys which the contractor has carried out, and the quality and completeness of designs submissions.

We will add a question or criteria into the pre-qualification to understand how the contractor will engage with the DNO: whether they or one of their subcontractors is registered with Lloyds Register as an Independent Connection Provider, and if so, for which services (construction and/or design and/or selection of a Point of Connection).

There is an ongoing dependency on DEFRA Group Property Services' Geniepoint back office data network, for which the contract runs to December 2021. We will agree with DEFRA how to reflect this in the pre-qualification criteria on capability to migrate existing data and evidence to support testing capability to move to a new back office.

Throughout we will be assuming that the tender will be of interest to:

- Energy majors (such as EDF Energy (owner of PodPoint), SSE Enterprise, Centrica Business Solutions, E.ON Drive) where these can meet the Geniepoint migration requirement
- Standalone chargepost installers

and that both parties will use subcontract civils and electrical contractors to supplement their own resources. As such, we expect the tender to seek either a single Economic Operator or a consortium of Economic Operators and to provide evidence of Quality Standards and capability from across the consortium. We will ensure that there is sufficient emphasis on track record and team working as a consortium, and committing to site presence from the Consortium lead organisation in its role as Principal Contractor.

Please refer to the attached document titled "Scope" for the full project scope.

Compliance

The *Consultant* shall;

- Comply with the CDM Regulations 2015 as far as they relate to this Appointment. Mott Macdonald are not responsible for CDM apart from our contracted duties. DEFRA will appoint a Principal Designer as part of their Client Duties



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Design

The *Consultant* shall;

- Provide outputs as per the Activity Schedule



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Contract document

PSC 3rd Ed.

Contract for: National Car Charging Points

Project Ref: Contract: ecm_59754

Returnable Documents

Document Summary and contents
Contract data part two
Pricing data
Consultant's Schedules

Prepared by: Mott Macdonald
Date: 19th October 2020
Version: 01



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Section 4 - Document summary and contents

Document summary			
	Section	Title	Description
Non-Returnable Documents	1	Document summary and contents list	A guide to the documents and 'tendering' arrangements.
	2	Contract data part one	Data (supplied by the <i>Employer</i>) required by the conditions of contract specific to this contract.
	3	Scope	The specification and description of the services and constraints on how the <i>Supplier</i> is to provide the services.
Returnable Documents	4	Document summary and contents list	A guide to the tender documents.
	5	Contract data part two	Data (supplied by the <i>Consultant</i>) required by the conditions of contract specific to this contract.
	6	Pricing data	The <i>activity schedule</i> Option A and C. Risk register. The risk budget.
	7	Consultant's schedules	Information required with the tender and the <i>Consultant's</i> technical offer. Includes certificates for completion and return with the tender.



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Contract Documents
PSC 3rd Ed.

Section 5
Contract Data
Part two

Data provided by the *Consultant*



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

<ul style="list-style-type: none">The <i>Consultant</i> is Name: Mott MacDonald Limited (1243967) Address: Mott MacDonald House, 8-10 Sydenham Road, Croydon CR0 2EE, United Kingdom			Standard requirement														
<ul style="list-style-type: none">The <i>key persons</i> are:																	
1	Name	[REDACTED]	Name key people to be working on the contract However please state here details of any special qualifications or experience relevant to these <i>key jobs</i>														
	Job	[REDACTED]															
	[REDACTED]	[REDACTED]															
	[REDACTED]	[REDACTED]															
	[REDACTED]	[REDACTED] project management															
2	Name	[REDACTED]	Add more <i>key persons</i> following the two shown here if needed														
	Job	[REDACTED]															
	Responsibilities	[REDACTED]															
	[REDACTED]	[REDACTED]															
	[REDACTED]	[REDACTED]															
	[REDACTED]	[REDACTED]															
<ul style="list-style-type: none">[REDACTED] staff rates are as follows;																	
<table border="1"><thead><tr><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tr></thead><tbody><tr><td colspan="7" rowspan="10">[REDACTED]</td></tr><tr></tr><tr></tr><tr></tr><tr></tr><tr></tr><tr></tr><tr></tr><tr></tr><tr></tr></tbody></table>										[REDACTED]							
[REDACTED]																	
<ul style="list-style-type: none">21st October 2020			This will always be included – main purpose is to inform how the <i>Consultant</i> intends to carry out the work and how it affects the Department's other activities and the project master plan. However, for a simple service it may be no more than a single start and finish date.														



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

- The *activity schedule* is in Section 6, Pricing Data

Only include and complete if an '*activity schedule*' is used (Options A or C only).

Contract Documents
PSC 3rd Ed.

Section 6.1
Pricing Data

6.1 Activity schedule

The services	To provide the Technical and Advisory Project Management services for the car charging points national role out tender documents.
Contract Number	TBC

Stage Activity Code	Description	Lump sum prices for activities £
1	Review comments on the current quality and selection criteria	██████
2	Review of technical specifications in their current format	██████
3	Preparation of technical specifications in final tender format	██████
4	Final comments on the current quality and selection criteria	██████
5	Purchase of IET Code of Practice for Electric Vehicle Charging Equipment Installation	██████
6	Ancillary service provision – scoping contingency	██████
	Total	£16,953.50

Signature

Date

6.2 Consultant's *initial forecast of resources, time charge and expenses*

Grade	Example staff	Hours	Rate	Subtotal fee
-------	---------------	-------	------	-----------------



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]			
	[REDACTED]			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				
[REDACTED]		[REDACTED]		[REDACTED]
[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]			[REDACTED]
[REDACTED]	[REDACTED]			[REDACTED]

Documents
PSC 3rd Ed.

Section 7
Consultant's
schedules

- 7.0 Statement by *Consultant*
- 7.1 Proposed Sub consultants
- 7.2 Management
- 7.3 Quality assurance
- 7.4 Health and safety
- 7.5 Programme
- 7.6 Example Form of Agreement



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Statement by *Consultant*
PSC 3rd Ed.

Consultant's
schedule 7.0

We confirm that nothing in the information we have given in the *Consultant's* schedules or appended to them, or the *Employer's* acceptance of our proposal, changes our responsibility to Provide the Services in accordance with the Scope or our liability for design.

Signed

Date

Name

Position

Consultant



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

**Proposed
Sub consultants**

PSC 3rd Ed.

**Consultant's
schedule: 7.1**

We notify you that it is our intention to employ the following Sub consultants on the *services*.

If we are awarded a contract for the *services* we agree that this notification does not change the requirement for us to submit the names of proposed Sub consultants to the *Employer* for acceptance as required by Clause 24.

	Name and address of proposed Sub consultant	Nature and extent of service	Proposed procurement method used/to be used to achieve value for money	Proposed conditions of contract to be used to purchase services from Sub consultant	Previous experience with Sub consultant
1.	N/A				
2.	N/A				
3.	N/A				
4.	N/A				



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Management
PSC 3rd Ed.

**Consultant's
schedule: 7.2**

Note to framework Consultant: Please describe the management arrangements for the services. You are requested to include:

1. If not already provided to the Employer, CV's for all key people should be a maximum of two sides of A4 of relevant experience tailored to the services required under this contract.
2. An explanation of how you propose to allocate adequate resources to enable you to comply with the requirements and prohibitions imposed on you by or under the statutory provisions relating to health and safety.

[This note is not part of the contract](#)

Summary of items attached to this schedule:

1. Mott MacDonald standard governance procedures have, and will be followed. Mott MacDonald Project Principal will internally monitor this.
2. CV's
3. Scope of Services (see attached document titled "Scope")



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Quality assurance

PSC 3rd Ed.

***Consultant's
schedule: 7.3***

- The Quality Plan for this Contract will be developed for this project in line with our organisational quality management systems as stated in Contract Data Part One, Section 4, Quality.



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Health and Safety

PSC 3rd Ed.

***Consultant's
schedule: 7.4***

Health and Safety will be in line with Mott MacDonald's standard health and safety procedures.



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Programme

PSC 3rd Ed.

**Consultant's
schedule: 7.5**

Note: This programme should show:

1. The information required of a programme submitted for acceptance is in Clause 31.2.
2. Any other requirements for a programme stated in the Scope.
3. Your statement on how you plan to do the work for each operation on the programme is to be provided below and not on the programme. However, you are still required to submit a fully resourced programme. Your response must include your approach to SHE.

Key Dates

Review comments on the current quality and selection criteria	13th November 2020
Review of technical specifications in their current format	13th November 2020
Preparation of technical specifications in final tender format	12th December 2020
Final comments on the current quality and selection criteria	12th December 2020



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Form of Agreement

7.6

PSC 3rd Ed.

Contract Title: Defra National Car Charging Points roll out

This agreement is made on

Between The Department of Environment, Food & Rural Affairs (the *Employer*)

and Mott MacDonald Ltd (the *Consultant*)

The *Employer* will pay the *Consultant* the amount due and carry out his duties in accordance with the *conditions of contract* identified in the Contract Data.

The *Consultant* will Provide the Services in accordance with the *conditions of contract* identified in the Contract Data.

Execution of this Contract is carried out in accordance with the 1999 EU Directive 99/93(Communication Framework for Electronic Signatures) and the UK Electronic Communications Act 2000. **This Contract is formed on the date on which both the Authority and the Contractor have communicated acceptance of its terms on the Authority's e-tendering system ('Bravo').**



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

Executed under hand by the *Employer*

the *Employer*

by

signature

name

position

And

signature

name

position

**Executed under hand by the
*Consultant***

the *Consultant*

By

signature of director

name of director

And

signature of director or
company secretary

name of director or
company secretary



Department
for Environment
Food & Rural Affairs

Call-off from the Environment Agency Property Design and Specification Services Contract 9Y8C-TM97UR

All figures are ex VAT

Note the fee proposal is based on:

- This is a desktop exercise. Site visits are excluded
- We are aware of new low profile chargepost options coming to the market (such as Connected Kerb and Trojan Energy Ltd.). Based on your current specification we understand these are out of scope.
- We assume that Defra will be selecting sites which have sufficient Approved Supply Capacity (ASC) with the Distribution Network Operator, and headroom compared to their current peak consumption. As such we shall require that tenderers need only consider aspects of distributed generation (for the solar car port) and operation as V2G with the Distribution Network Operator.
- We assume we are not required to prepare layouts or site information for the four host sites for the four first installs. We will agree with you the wording around surveys and whether the contractor will have access to a schedule of existing electrical loads at each site or will be required to survey these on site with the relevant Facilities Manager.
- No provision has been made for purchase of standards documents, where these are not publicly available free of charge.
- We reserve the right to deploy tasks between staff within the contract price.

Purpose of the assignment

The purpose of the assignment is to support Defra Group Property to complete its Statement of Requirements and associated Product Specifications and works requirements which need to be referenced.

The (mini competition) first tender will be run across four sites. The contractors are required to undertake surveys and provide detailed design to meet Defra technical survey requirements and EV car charging standards together with breakdown of costs for each of the differing installations, one each of:

- Fast charge single phase or 3-phase
- Rapid chargepoint without Vehicle 2 Grid (V2G) capability
- Rapid chargepoint capable of Vehicle 2 Grid (V2G)
- Solar carport

The prices received for the mini competition first tender are intended to inform a business case for wider roll-out of up to 464 car charging sockets at 96 sites subject to available budget over the next 4 years. The tender will reference the opportunity of this wider roll-out to increase market interest. The aim of the mini competition is to gauge the quality of the site surveys and get an indicative cost for full business case purposes which will be average costs based on sites specified in scope. As such, DEFRA may not proceed to contract the sites specified in scope.

The tender will be released through the Crown Commercial Services Framework RM6215 "Vehicle Charging Infrastructure Solutions (VCIS)". The form of contract is being discussed and may use the form of contract in RM6215 or supplement this with a NEC-style contract for the construction aspects.

The tender will specify a "turn-key" solution (including back office data network, reporting, maintenance, billing, and applying for grant funding).

Our relevant background

We reviewed the construction design pack for a 2MW solar car port for a UK client in the South Coast of England.

We are supporting the Department for Business, Energy and Industrial Strategy on their trials of remote control of EV charging using the UK's Smart Metering infrastructure.

We regularly develop Employer's Requirements and in particular developed Employer's Requirements for battery storage and solar photovoltaic projects.

Scope

Following a kick-off meeting, Mott MacDonald will carry out two tasks, as further described below:

- Review the existing product specifications and works requirements, agree changes and assemble into their format for inclusion in the tender.
- Review the current draft selection and quality criteria.

1. Kick-off meeting

We will hold a mobilisation meeting with you via teleconference. [REDACTED] will continue to support liaison with you and [REDACTED] will act as project manager for the Mott MacDonald team. We will agree points of contact and transfer latest versions of the tender

documentation prepared by Defra Group Property. We will discuss with you the mapping you see between the current documents and how these should be integrated into the following templates in the RM6215 tender pack:

- DPS Order Schedule 20 – Specification
- Attachment 3 – Statement of Requirements

We will discuss with you and ensure we understand the individuals or departments listed as having quality roles in the spreadsheet CQR in the current draft of the quality and selection criteria ("QCDIM V4.xlsx").

2. Comment on the existing specifications and prepare additional technical documentation as required.

The following documentation is available as a 70-80% draft:

Statement of requirements	Email from [REDACTED] dated 01 October 2020
	DEFRA Technical Specification EV P4 Version 2.doc
Product specifications	DEFRA Product Spec Rapid Charge point.docx
	DEFRA Product Spec Solar Carport.docx
	DEFRA Product Spec V2G.docx
Performance specifications	OLEV Charge point Data spec.docx
Construction works instructions	Electric vehicle charge points bay painting V1.docx
	Electric vehicle charge points crash barriers V1.docx
Standards incorporated by Reference	Connector standards: CCS, CHAdeMO, AC Type 2
	IET wiring BS 7671 regulations
	IET Code of Practice for Electric Vehicle Charging Equipment.
Competencies incorporated by reference	Contract must be NICEIC, ECA or NAPIT registered and must use JIB approved Electricians.

We will review the current draft documentation in its current format, making comments inline using tracked changes. Where we make changes we will add comments to justify the change or the evidence for the change. We will use our internal list of requirements we typically expected to see in an Employer's Requirements for EV charging, attached in the Appendix, as a checklist.

We will elaborate the description of the how the solar car port and chargers will be deployed (i.e. whether the solar car port is used with Rapid Chargers, whether it is used with the V2G product or not). We will elaborate the requirements for the LV electrical connection to the site main distribution board, and identify suitable construction works instructions for the LV cabling and jointing.

We will review and, where necessary, update the quality acceptance criteria in the Statement of Requirements to include robust quality criteria for surveys, design and as-built documentation. We expect, for example the contractor to have ascertained electrical load schedules, general arrangements, the site's Approved Supply Capacity, and 3G/4G signal reception from surveys.

We will focus on reducing opportunity for a wide variety of offers for similar products, by reviewing for example:

- Acceptable lifetime of charger and solar PV
- Acceptable offers of PV technology for the car port

- Civils construction standards for the car port.

We will introduce additional standards and competencies, incorporated by reference. We will review whether any additional legislation may be relevant beyond the existing references to Health & Safety Legislation and legislation referenced in the wider RM6215 tender pack.

Once we have agreement on the majority of comments, we will transfer the documents into the preferred format agreed at the kick-off meeting ready for inclusion in the tender pack as DPS Order Schedule 20, Attachment 3 – Statement of Requirements, or referenced as Annexes to these.

We assume that you will be selecting sites which have sufficient Approved Supply Capacity (ASC) with the Distribution Network Operator, and headroom compared to their current peak consumption. As such we shall require that tenderers need only consider aspects of distributed generation (for the solar car port) and operation as V2G with the Distribution Network Operator.

We assume we are not required to prepare layouts or site information for the four host sites for the four first installs. We will agree with you the wording around surveys and whether the contractor will have access to a schedule of existing electrical loads at each site or will be required to survey these on site with the relevant Facilities Manager.

3. Support in selecting pre-qualification criteria and a vendor list

We will review your current quality and selection criteria ("QCDIM V4.xlsx"). The intention of these is to assist in down-selecting from the current 33 providers on the Dynamic Purchasing System to a more realistic number of providers, all of whom we

We will ensure that the quality standards tab contains all of the quality standards referenced in the specifications and, vice versa, incorporate any additional quality standards into the text of the specifications where they have not been referenced.

We will hold a teleconference with you to discuss and provide our views on the question weightings, guided by mandatory percentages which you may be required to honour and work within for all government tenders.

We will provide our review comments on the quality standards referred to in the tabs CQR and QCDIM, providing our view on whether they are measurable, proportionate and that there is sufficient coverage for each phase of the project (survey, design, construction, commissioning, and operations and maintenance). We will review and where necessary add quality criteria which assess the depth and quality of surveys which the contractor has carried out, and the quality and completeness of designs submissions.

We will add a question or criteria into the pre-qualification to understand how the contractor will engage with the DNO: whether they or one of their subcontractors is registered with Lloyds Register as an Independent Connection Provider, and if so, for which services (construction and/or design and/or selection of a Point of Connection).

There is an ongoing dependency on DEFRA Group Property Services' Geniepoint back office data network, for which the contract runs to December 2021. We will agree with DEFRA how to reflect this in the pre-qualification criteria on capability to migrate existing data and evidence to support testing capability to move to a new back office.

Throughout we will be assuming that the tender will be of interest to:

- Energy majors (such as EDF Energy (owner of PodPoint), SSE Enterprise, Centrica Business Solutions, E.ON Drive) where these can meet the Geniepoint migration requirement
- Standalone chargepost installers

and that both parties will use subcontract civils and electrical contractors to supplement their own resources. As such, we expect the tender to seek either a single Economic Operator or a consortium of Economic Operators and to provide evidence of Quality Standards and capability from across the consortium. We will ensure that there is sufficient emphasis on track record and team working as a consortium, and committing to site presence from the Consortium lead organisation in its role as Principal Contractor.

Out of scope

We are aware of new low profile chargepost options coming to the market (such as Connected Kerb¹ and Trojan Energy Ltd.²). Based on your current specification we understand these are out of scope.

Appendix – Typical contents in an Employer's Requirements for EV charging

- 1. Description of procurement scope**
Either provided as a tabulated list of sites, number of parking bays intended to be supported with EV chargeposts, and vehicles operating from the site.
- 2. Details of vehicles to be supported**
Itemised list of vehicles and a suitable outcome measure (maximum time to full charge) or minimum requirement (e.g. minimum chargepost standard which must be supplied for sites with this vehicle).
- 3. Scope of Services**
An itemised description of services required in order to provide the turn-key service sought by DEFRA.
- 4. Site information**
Sufficient information to allow contractors to carry out desk-based surveys, to assist with pricing, prior to full on-site surveys. This may for example, include Lat/Long or address to support Google Streetview desktop surveys, and to support interrogation of the DNO's online capacity map.
- 5. Interface responsibilities**
Define the responsibilities of the contractor to interface with the Distribution Network Operator to achieve an upgrade to the site supply (if necessary), local planning authority (if necessary) and local facilities manager.
- 6. Statutory duties**
Specify the Contractor's duties during construction (including whether Construction Design & Management Regulations shall apply). Specify the legislation which the Contractor's equipment shall meet (for example, we expect that chargeposts provide for the use of DEFRA employees to charge DEFRA vehicles will fall under the remit of the Provision and Use of Work Equipment Regulations. Requirement to adhere and contribute to existing fixed wire testing and planned maintenance schedules operated by DEFRA Group Property Services to meet its statutory requirements.
- 7. Physical arrangement constraints**
Define DEFRA's requirements as the User, and which may include: support for

¹ <https://www.connectedkerb.com/>

² <https://www.trojanenergyltd.com/>

reverse parking as standard; parking bay width; support for vehicles with trailers; etc. Provide standards as necessary

8. Electrical arrangement constraints

Requirement for chargeposts to be supplied from a dedicated circuit breaker at the site main distribution board.

9. Mandatory physical “Safety By Design” aspects

Specify barrier hoops; specify kerb height (if relevant); use of ducting for cables to the main supply; all ducting to enter the chargepost from the same direction (so that all sites are the same for maintenance and repair).

10. Mandatory electrical “Safety By Design” aspects

Internally fused in the event of damage to the Chargepost, such that the Chargepost auto-isolates itself. Earthing arrangements. Use of Residual Current Device (RCD) or similar protection.

11. Metering requirements

Sub-metering to be considered only where DEFRA is the leaseholder and may need to evidence its itemised consumption. Where required, the Contractor shall register sub-meters and to put in place a meter services contract. Energy consumption will be metered through the existing EDF and British Gas electricity supply contracts at freehold sites.

12. Support requirements

First line support will be provided through the existing facilities helpdesk operated by Interserve. Second and third-line support requirements for: call-out to make equipment safe in the event of an emergency; call-out to address non-safety critical issues and equipment failures; Service Level Agreements for second and third-line support.

13. Back-office and grant management

Responsibilities of contractor to provide monthly fleet management reports; responsibility (or not) of the contractor to interface with DEFRA Group Property's existing Geniepoint back office data network; responsibility for applying for grant funding for chargepost installation from the Central Government Workplace Charging Scheme.

14. Acceptance

Specify documentation required. Create a facility for acceptance by means of photographic evidence, particularly for unmanned sites. Specify that, on request, acceptance may require demonstration to a fleet driver, and quality assurance visit by DEFRA Property Services' project team and / or local facilities manager.

15. Minimum standards

List of relevant standards which the Contractor must comply with

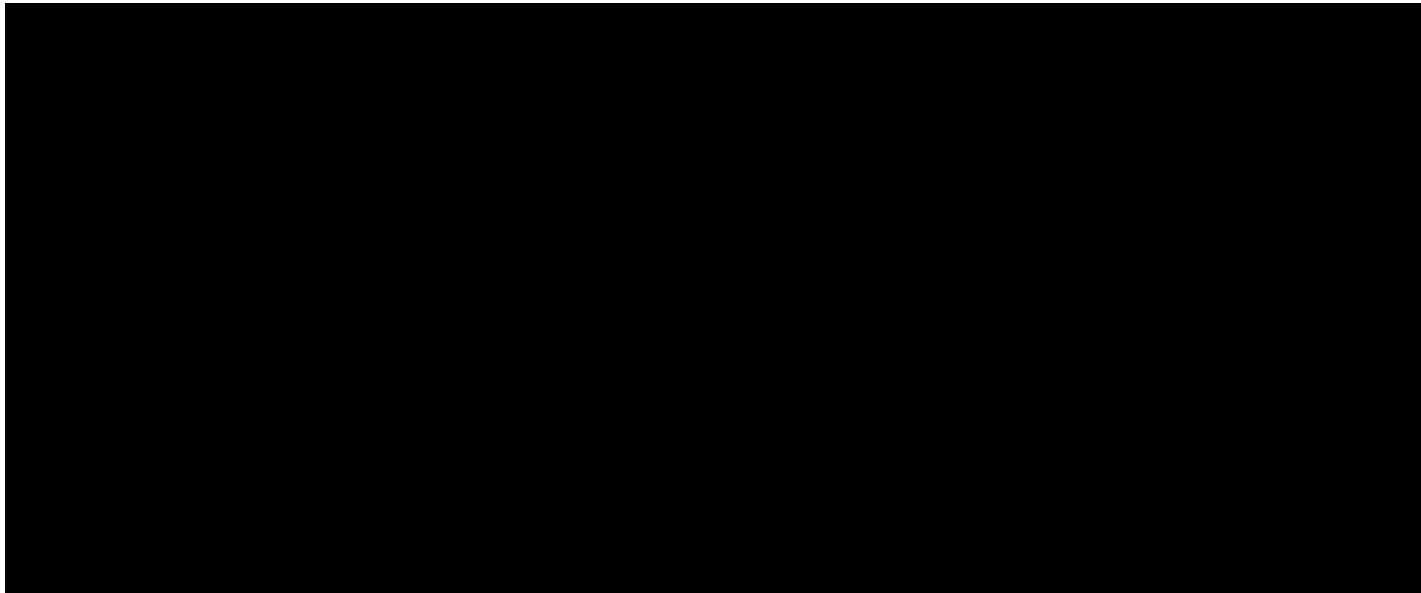
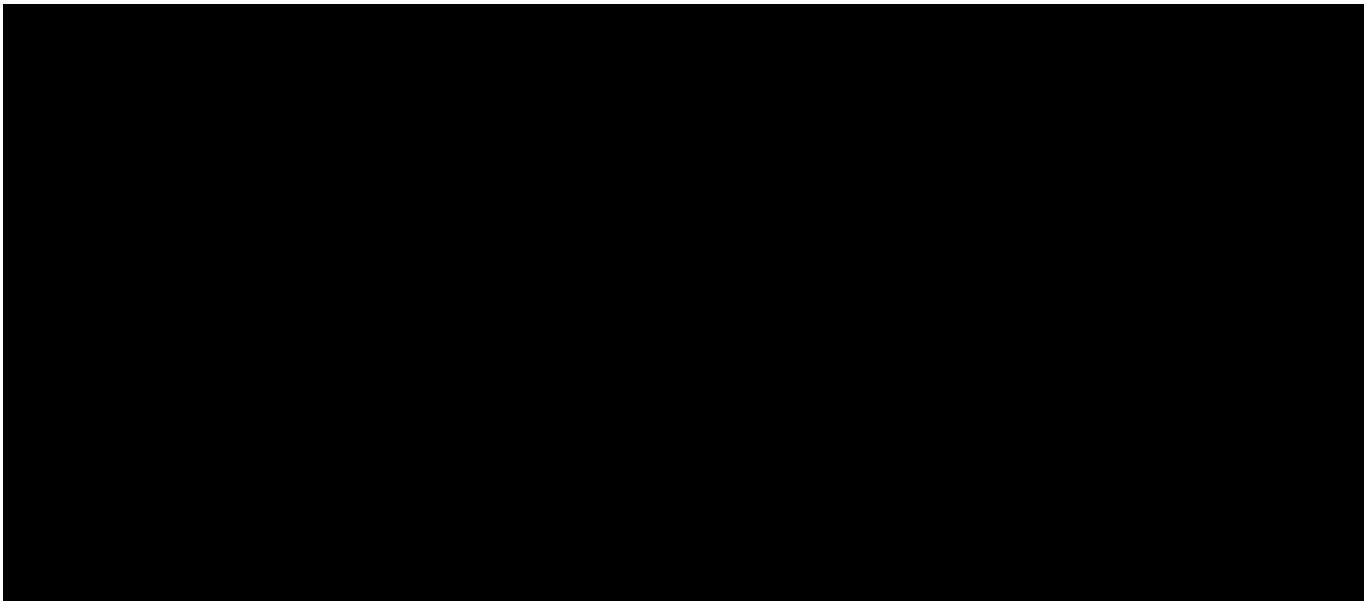
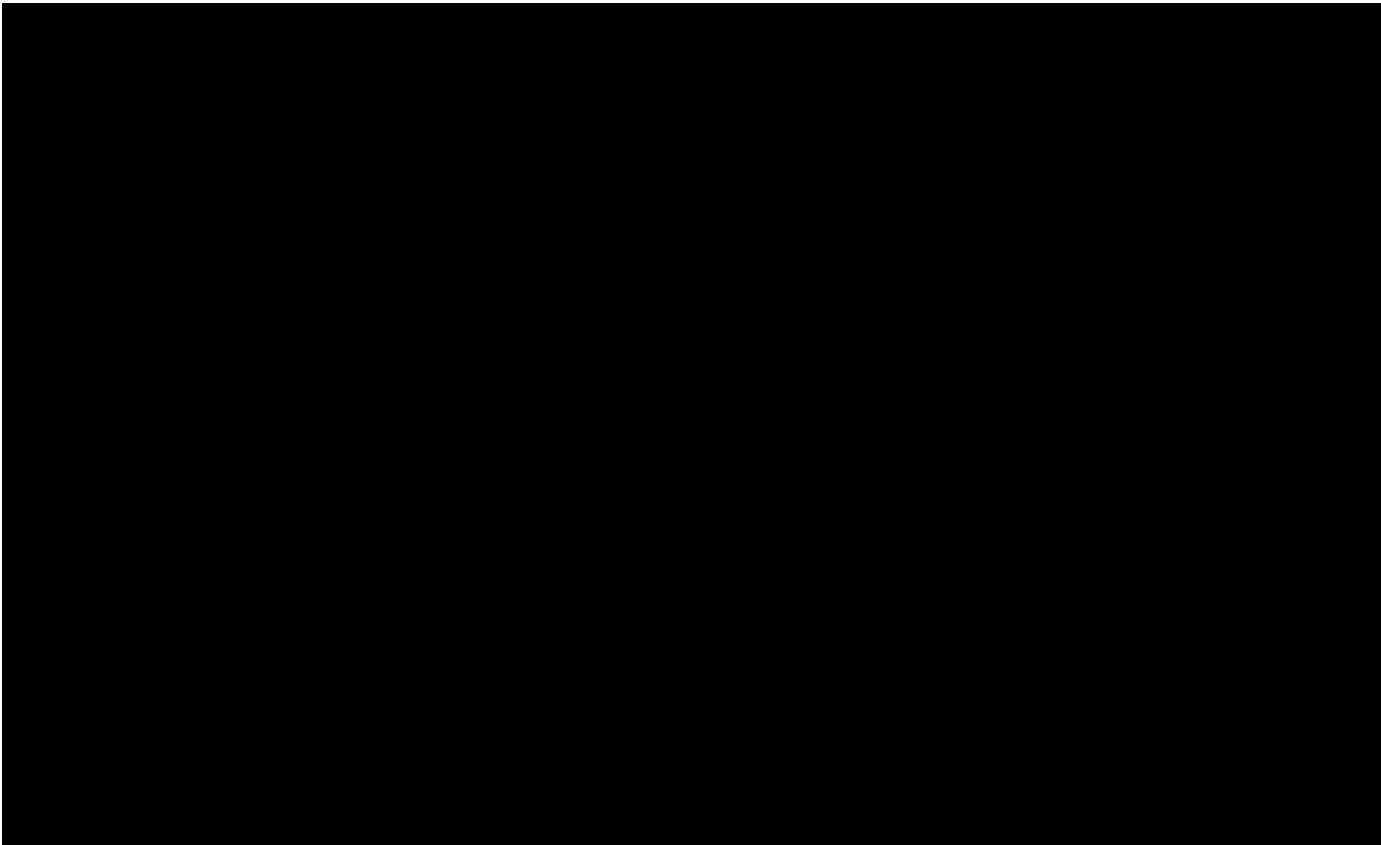
U.S. DEPARTMENT OF JUSTICE

re

ry

g

ed
d



the 'information' and 'communication' fields. The 'information' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'communication' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information science' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information studies' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information technology' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information systems' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information management' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information policy' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information law' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

The 'information ethics' field is defined as:

...the study of the nature, creation, organisation, storage, retrieval, dissemination and use of information and communication, and the social, cultural, economic and political contexts in which these activities take place. (p. 1)

the 1990s, the number of people in the world who are under 15 years of age has increased by 1.2 billion, from 1.1 billion in 1980 to 2.3 billion in 1999. The number of children under 15 years of age in the world is projected to increase to 3.1 billion by 2015 (United Nations, 1999).

There is a growing awareness of the need to address the needs of children in the world. The United Nations Convention on the Rights of the Child (1989) is the most widely ratified human rights treaty in the world. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The Convention on the Rights of the Child (1989) is a landmark document in the history of children's rights. It sets out the rights of children and the responsibilities of adults to protect and promote these rights. The Convention has been ratified by 112 countries, including all of the major powers. It is a landmark document in the history of children's rights.

The first of these is the fact that the system is not a simple one. It is a complex system, and as such, it is not possible to understand it by looking at its parts in isolation. The system is a whole, and its behavior is determined by the interactions between its parts. This is a fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The second of these is the fact that the system is dynamic. It is not a static system, and its behavior changes over time. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The third of these is the fact that the system is open. It is not a closed system, and it interacts with its environment. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The fourth of these is the fact that the system is self-organizing. It is not a system that is controlled from the outside, and it is not a system that is designed from the top down. It is a system that organizes itself, and its behavior emerges from the interactions between its parts. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The fifth of these is the fact that the system is resilient. It is not a system that is fragile, and it is not a system that is easily disrupted. It is a system that is able to withstand change, and it is able to adapt to new circumstances. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The sixth of these is the fact that the system is sustainable. It is not a system that is unsustainable, and it is not a system that is doomed to failure. It is a system that is able to continue to exist, and it is able to thrive in the face of change. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The seventh of these is the fact that the system is equitable. It is not a system that is unfair, and it is not a system that is biased. It is a system that is able to provide for the needs of all its members, and it is able to ensure that everyone has a fair chance of success. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The eighth of these is the fact that the system is transparent. It is not a system that is opaque, and it is not a system that is hidden. It is a system that is able to be understood, and it is able to be managed. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The ninth of these is the fact that the system is accountable. It is not a system that is irresponsible, and it is not a system that is unaccountable. It is a system that is able to be held responsible for its actions, and it is able to be held accountable for its results. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The tenth of these is the fact that the system is inclusive. It is not a system that is exclusive, and it is not a system that is discriminatory. It is a system that is able to include everyone, and it is able to ensure that everyone has a voice. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The eleventh of these is the fact that the system is innovative. It is not a system that is stagnant, and it is not a system that is uncreative. It is a system that is able to generate new ideas, and it is able to implement them. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The twelfth of these is the fact that the system is adaptable. It is not a system that is inflexible, and it is not a system that is rigid. It is a system that is able to change, and it is able to adapt to new circumstances. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The thirteenth of these is the fact that the system is resilient. It is not a system that is fragile, and it is not a system that is easily disrupted. It is a system that is able to withstand change, and it is able to adapt to new circumstances. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The fourteenth of these is the fact that the system is sustainable. It is not a system that is unsustainable, and it is not a system that is doomed to failure. It is a system that is able to continue to exist, and it is able to thrive in the face of change. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The fifteenth of these is the fact that the system is equitable. It is not a system that is unfair, and it is not a system that is biased. It is a system that is able to provide for the needs of all its members, and it is able to ensure that everyone has a fair chance of success. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The sixteenth of these is the fact that the system is transparent. It is not a system that is opaque, and it is not a system that is hidden. It is a system that is able to be understood, and it is able to be managed. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The seventeenth of these is the fact that the system is accountable. It is not a system that is irresponsible, and it is not a system that is unaccountable. It is a system that is able to be held responsible for its actions, and it is able to be held accountable for its results. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The eighteenth of these is the fact that the system is inclusive. It is not a system that is exclusive, and it is not a system that is discriminatory. It is a system that is able to include everyone, and it is able to ensure that everyone has a voice. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The nineteenth of these is the fact that the system is innovative. It is not a system that is stagnant, and it is not a system that is uncreative. It is a system that is able to generate new ideas, and it is able to implement them. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

The twentieth of these is the fact that the system is adaptable. It is not a system that is inflexible, and it is not a system that is rigid. It is a system that is able to change, and it is able to adapt to new circumstances. This is another fundamental principle of systems thinking, and it is one that is often overlooked in traditional approaches to problem-solving.

[The following text is a dense, handwritten manuscript, likely a letter or a page from a book. It is written in a cursive script and is mostly illegible due to the quality of the scan. The text appears to be a continuous paragraph or a series of connected sentences. The handwriting is fluid and somewhat slanted. There are some words that are more legible than others, but the overall content cannot be accurately transcribed. The text is written in dark ink on a light-colored paper. The margins are narrow, and the text fills most of the page area. There are some small, dark spots and smudges throughout the text, which are likely artifacts from the scanning process. The overall appearance is that of an old, handwritten document.]