

**What's this document  
about?**

NFOF North Area Operational Framework  
NEC4 ECSC

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**Who does this apply to?**

Area Operations

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**Contact for queries  
and feedback**

- [National Field Operations](#)
  - Anonymous feedback for this document can be given [here](#)
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# NEC4 Engineering and Construction

## Short Contract

FCRM Operational Framework – North Hub

A contract between

And

For

Tree felling contract at Duddon Mosses NNR, near  
Broughton-in-Furness, South Cumbria (SSSI Uplift budget)

### Contract Forms

- Contract Data
- The *Contractor's* Offer and *Client's* Acceptance
- Price List
- Scope
- Site Information

# Contract Data

## The *Client's* Contract Data

	The <i>Client</i> is
Name	
Address for communications	
Address for electronic communications	
The <i>works</i> are	<p>The outcomes from this contract include:</p> <p>Felling of trees from areas as shown on the maps attached.</p> <p>Provision of the Contractor and Designer roles and the Principal Designer role (if required) under CDM requirements.</p> <p> is the Client under CDM requirement.</p> <p>Ensuring all and any damage to infrastructure is made good at the end of the contract. This infrastructure includes paths, roads, tracks, bridges, gates, stiles, etc.</p> <p>The full tree felling specifications are detailed under 'Scope' pages 11-17 of this Contract.</p>
The <i>site</i> is	Duddon Mosses National Nature Reserve (NNR), South Cumbria. The site is approximately 3 miles to the east of Broughton-in-Furness.
The <i>starting date</i> is	11th January 2022
The <i>completion date</i> is	30 November 2022 ( <i>abide by the timeline for each Lot as set out in the 'Scope' – pages 11 - 17 of this Contract; specifically detailed on pages 11 and 12</i> )
T	



and for bodily injury to or death of a person (not an employee of the <i>Contractor</i> ) arising from or in connection with the <i>Contractor's</i> Providing the Works	without limit to the number of claims	
Liability for death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law	
Failure of the <i>Contractor</i> to use the skill and care normally used by professionals providing works similar to the works	Minimum £100000 in respect of every claim without limit to the number of claims	
The <i>Adjudicator nominating body</i> is	The Institution of Civil Engineers	
The <i>tribunal</i> is	litigation in the courts	
The <i>conditions of contract</i> are the NEC4 Engineering and Construction Short Contract June 2017 and the following additional conditions		
Only enter details here if additional conditions are required.		
Z1.0	Sub-contracting	
Z1.1	The <i>Contractor</i> submits the name of each proposed subcontractor to the <i>Client</i> for acceptance. A reason for not accepting the subcontractor is that their appointment will not allow the <i>Contractor</i> to Provide the Works. The <i>Contractor</i> does not appoint a proposed subcontractor until the <i>Client</i> has accepted them.	
Z1.2	Payment to subcontractors and suppliers will be no more than 30 days from receipt of invoice.	
Z2.0	Environment Agency as a regulatory authority	
Z2.1	The Environment Agency's position as a regulatory authority and as <i>Client</i> under the contract is separate and distinct. Actions taken in one capacity are deemed not to be taken in the other.	
Z2.2	Where statutory consents must be obtained from the Environment Agency in its capacity as a regulatory authority, the <i>Contractor</i> is responsible for obtaining these and paying fees (unless stated otherwise in the Scope). The <i>Client's</i> acceptance of a tender and the <i>Client's</i> instruction or variation of the works does not constitute statutory approval or consent.	
Z2.3	An action by the Environment Agency as regulatory authority is not in its capacity as <i>Client</i> and is not a compensation event.	
Z3.0	Confidentiality & Publicity	
Z3.1	The <i>Contractor</i> may publicise the works only with the <i>Client's</i> written agreement.	
Z4.0	Correctness of Site Information	
Z4.1	Site Information about the ground, subsoil, ducts, cables, pipes and structures is provided in good faith by the <i>Client</i> but is not warranted correct. The <i>Contractor</i> checks the correctness of any such Site Information they rely on for the purpose of Providing the Works.	
Z5.0	The Contracts (Rights of Third Parties) Act 1999	
Z5.1	For the purposes of the Contracts (Rights of Third Parties) Act 1999, nothing in this contract confers or purports to confer on a third party any benefit or any right to enforce a term of this contract.	
Z6.0	Design	
Z6.1	Where design is undertaken, it is the obligation of the <i>Contractor</i> to ensure the use of skill and care normally used by professionals providing similar design services.	
Z6.2	The <i>Contractor</i> designs the parts of the works which the Scope states they are to design.	
Z6.3	The <i>Contractor</i> submits the particulars of their design as the Scope requires to the <i>Client</i> for acceptance. A reason for not accepting the <i>Contractor's</i> design is that it does not comply with either the Scope or the applicable law.	

	The <i>Contractor</i> does not proceed with the relevant work until the <i>Client</i> has accepted this design.
Z6.4	The <i>Contractor</i> may submit their design for acceptance in parts if the design of each part can be assessed fully.
Z7.0	Change to Compensation Events
Z7.1	<p>Delete the text of Clause 60.1(11) and replace by:</p> <p>The <i>works</i> are affected by any one of the following events</p> <ul style="list-style-type: none"> <li>• War, civil war, rebellion revolution, insurrection, military or usurped power</li> <li>• Strikes, riots and civil commotion not confined to the employees of the <i>Contractor</i> and sub-contractors</li> <li>• Ionising radiation or radioactive contamination from nuclear fuel or nuclear waste resulting from the combustion of nuclear fuel</li> <li>• Radioactive, toxic, explosive or other hazardous properties of an explosive nuclear device</li> <li>• Natural disaster</li> <li>• Fire and explosion</li> <li>• Impact by aircraft or other device or thing dropped from them</li> </ul>
Z8.0	Framework Agreement
Z8.1	The <i>Contractor</i> shall ensure at all times during this contract it complies with all the obligations and conditions of the Framework Agreement made with the <i>Client</i> .
Z9.0	Termination
Z9.1	<p>Delete the text of Clause 92.3 and replace with:</p> <p>If the <i>Contractor</i> terminates for Reason 1 or 6, the amount due on termination also includes 5% of any excess of a forecast of the amount due at Completion had there been no termination over the amount due on termination assessed as for normal payments.</p>
Z10.0	Data Protection
Z10.1	The requirements of the Data Protection Schedule shall be incorporated into this contract
Z11.0	Liabilities and Insurance
Z11.1	Civil data protection claims and regulatory fines for breaches of Data Protection Legislation are excluded from any limit of liability stated.
Z12.0	Packaging – Not Applicable
Z12.1	For contracts containing packages of projects the <i>Client's</i> Contract Data, Scope and Site Information particular to an individual project is contained within its Site Specific Pack
Z7.2	<p>Additional Compensation Event COVID-19</p> <p>Managing and mitigating the impact of Covid 19 and working in accordance with Public Health England guidance, as may vary from time to time, until further notice</p>

# Contract Data

## The Contractor's Contract Data

	The Contractor is	
Name		
Address for communications		
Address for electronic communications		
The fee percentage is		%
The people rates are		
category of person	unit	rate
Manager	Hour	
Supervisor	Hour	
Climber / Machine Operator	Day	
Operator	Day	
The published list of Equipment is		
The percentage for adjustment for Equipment is		

# Contract Data

## The *Contractor's* Offer and *Client's* Acceptance

The *Contractor* offers to Provide the Works in accordance with these *conditions of contract* for an amount to be determined in accordance with these *conditions of contract*.

The offered total of the Prices is

**Enter the total of the Prices from the Price List.**

Signed on behalf of the *Contractor*

Name

Position

Signature

Date

The *Client* accepts the *Contractor's* Offer to Provide the Works

Signed on behalf of the *Client*

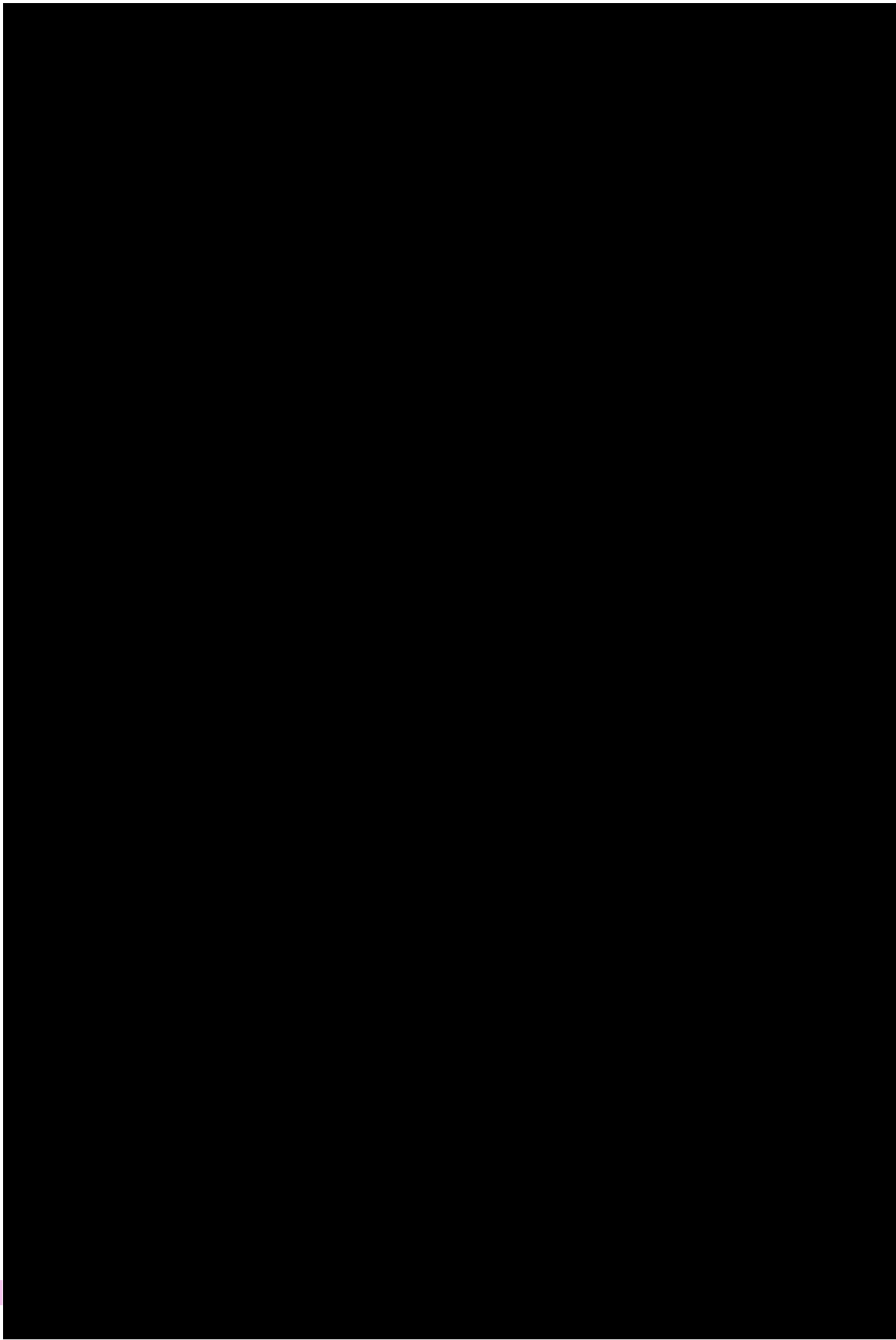
Name

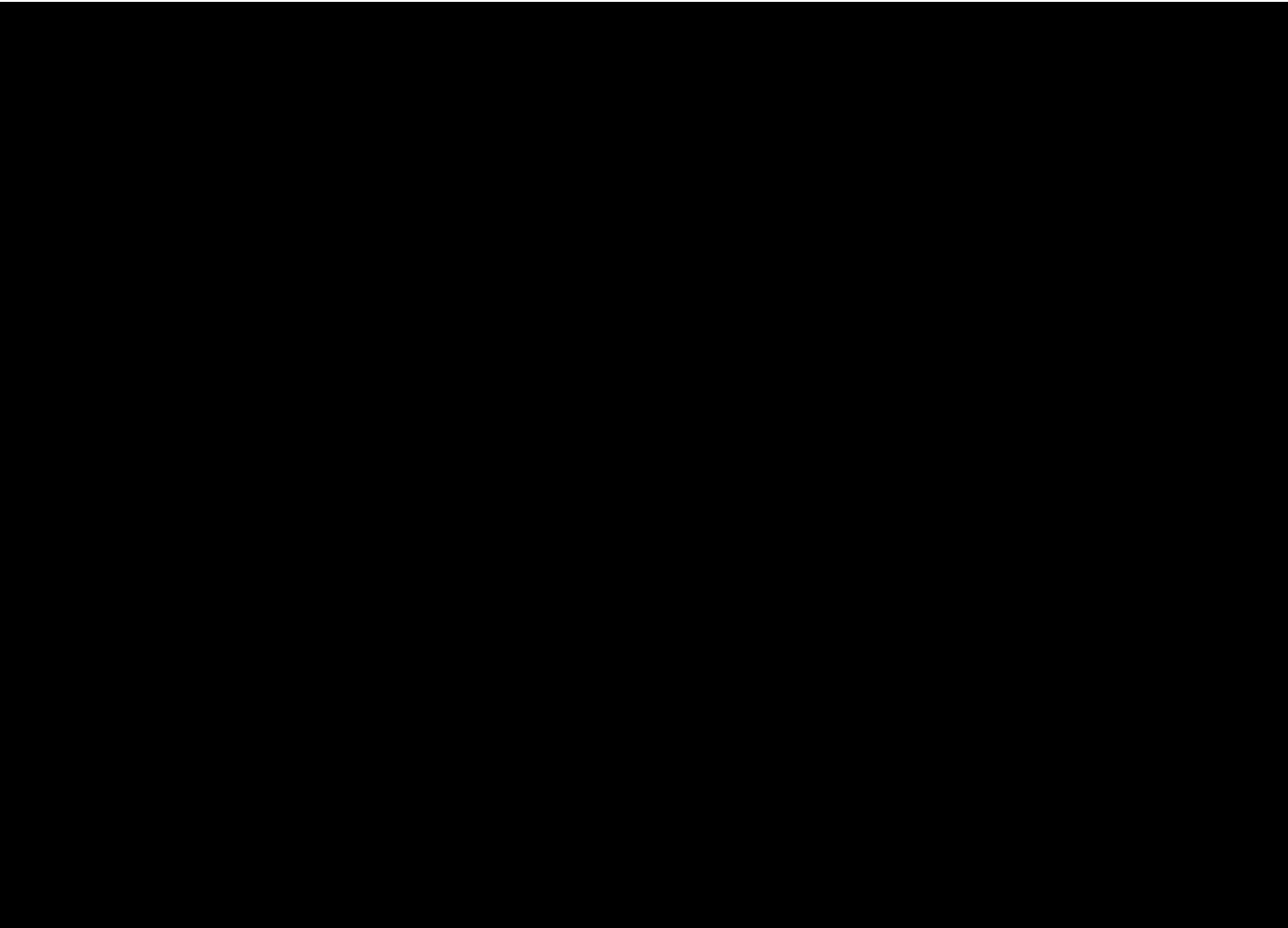
Position

Signature

Date







The method and rules used to compile the Price List are:

Civil Engineering Standard Method of Measurement 4<sup>th</sup> edition (CESMM4) as per the Framework Price Workbook.

# Scope

The Scope should be a complete and precise statement of the *Client's* requirements. If it is incomplete or imprecise there is a risk that the *Contractor* will interpret it differently from the *Client's* intention.

## Lot 1

- Fell trees on **Compartment 1** on the attached map: *Duddon Mosses – proposed tree felling – Compartment 1*. This is **Heathwaite Moss**, SSSI Unit 16 (U/D with HIGH Condition Threat Risk). No timber will be taken off site; alternatively, the preference is to chip and if that is impractical, then flail and leave in-situ. A very small amount of felled timber could be used to construct hibernacula. Area of trees to be felled - 7.77 ha. There are some areas where off-limits to all vehicles will be marked with tape due to the need to protect some bog areas. (This does not apply to the clearance areas.) Vehicle access will be avoided in adjacent areas outside of clearance zones and agreed access routes
- Fell trees on **Compartment 2** on the attached map: *Duddon Mosses – proposed tree felling Compartments 2, 3 and 4*. This is **White Moss**, SSSI Unit 15 (U/NC with HIGH Condition Threat Risk). Felled timber can be stacked at the side of the track in this Compartment. Area of trees to be felled - 1.35 ha.
- Fell Trees on **Compartment 3** on the attached map: *Duddon Mosses – proposed tree felling Compartments 2, 3 and 4*. This is **White Moss**, SSSI Unit 15 (U/NC with HIGH Condition Threat Risk). Timber in this Compartment is to be flailed. Area of trees to be felled - 0.59 ha.
- Fell trees on **Compartment 4** on the attached map: *Duddon Mosses – proposed tree felling Compartments 2, 3 and 4*. This is **White Moss Field**, SSSI Unit 27 (U/NC with NO ASSESSMENT of Condition Threat Risk undertaken). Felled timber can be stacked at the side of the track in this Compartment. Area of trees to be felled - 1.07 ha.

**All the above works in Lot 1 must be completed before 25 February 2022**

## Lot 2

- Fell trees in **Compartment 5** on the attached map: *Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11*. This is **Little White Moss**, SSSI Unit 9 (U/D with HIGH Condition Threat Risk). This is an area where we need **to only fell trees manually**, then chip felled timber and construct some hibernacula. Area of trees felled will be 0.52 ha.
- Fell trees in **Compartment 6** on the attached map: *Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11*. This is **Little White Moss**, SSSI Unit 8 (U/NC with HIGH Condition Threat Risk). This is an area where we may not be able to remove any timber but **definitely no flailing of trees on this compartment**. Felled trees to be chipped and construct some hibernacula. Area of trees felled will be 0.65 ha
- Fell trees in **Compartment 8** on the attached map: *Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11*. This is **Little White Moss**, SSSI Unit 8 (U/NC with HIGH Condition Threat Risk). This is an area where we may not be able to remove any timber but **definitely no flailing of trees on this compartment**. Felled trees to be chipped and construct some hibernacula. Area of trees felled will be 0.51 ha.
- Fell trees in **Compartment 9** on the attached map: *Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11*. This is **Angerton Moss**, SSSI Unit 5 (U/R with HIGH Condition Threat Risk). This is an area where we may not be able to remove any timber but **no flailing of trees in this Compartment**; with the exception of the smaller trees along the moss edge, away from the public road and away from the houses. The Contractor will engage with the Client's Site Manager proactively to survey, review and clearly mark-up permitted flailing in this area. Otherwise felled trees to be chipped and construct some hibernacula. Area of trees to be felled - 3.77 ha.
- Fell trees in **Compartment 11** on the attached map: *Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11*. This is **Little White Moss**, SSSI Unit 5 and a part of Herd House Moss, SSSI Unit 2 (Angerton U/R with HIGH Condition Threat Risk, and Herd House Moss U/R MEDIUM Conservation Threat Risk). This is an area where we may not be able to remove any timber so flailing trees is acceptable here. This Compartment is adjacent the railway and care is to be taken when flailing to ensure no accidents to passing trains. Area of trees felled will be 2.15 ha.

- Fell trees in **Compartment 7** on the attached map: *Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11*. This is **Little White Moss**, SSSI Unit 10 (U/D with HIGH Condition Threat Risk). No timber will be taken off site; and so, will be chipped, preferably, or flailed, and construction of hibernacula will be required. Area of trees to be felled - 2.49 ha.

**All the works in Lot 2 must be completed between 1 September 2022 and 30 November 2022. The priority of felling each Compartment in Lot 2 will be agreed between the Senior Reserves Manager and the Contractor before recommencing the works.**

## 1. Description of the works

**Give a detailed description of what the Contractor is required to do and of any work the Contractor is to design.**

### Outcomes from this contract include:

Felling of trees in all areas as shown on the attached maps – ensuring all large oak trees are left standing along with any other trees that have been marked as such.

Remove fallen timber where access is possible.

If removal is not feasible, chipping the fallen timber and where possible removal of chipped material

If removal of chipped material is not feasible, leaving chipped material in-situ. The chipped material is to be left in piles rather than being spread over the ground

It is not anticipated that brash is to be burnt, but if any brash is burnt it is to be on a raised platform and ash removed from the site wherever possible.

Where possible leave as much ground vegetation in-situ to provide cover and refuge for small animals, invertebrates, etc.

Use felled timber to construct some hibernacula for reptiles, amphibians, small mammals, etc

Conform to all current Network Rail requirements when crossing unmanned railway line south of Foxfield (Angerton's No 2 access).

All damage as a result of this contract is to be made good and accounted for in the Contractor's tender submission.

The Risk Assessments and Method Statement (RAMS) must be submitted for each task. [REDACTED] shall not allow any work on the site until [REDACTED], or their representative, has received all necessary documentation.

Contractor to submit full cost breakdown and show the VAT component for each task as well as total costs.

### Site Information:

#### **Access**

Access to **Compartment 1** (Heathwaite Moss) and access to **Compartments 2, 3 and 4** (White Moss) are shown on the attached: *Access maps for White Moss and Heathwaite Moss Natural England map 2021*.

Access to **Compartments 5 and 6** is shown on the attached: *Access map to Little White Moss*.

Access to **Compartments 7, 8, 9 and 11** are via Angertons Moss as shown in the attached: *Access map to Angerton Moss*. The Contractor is proposing to negotiate access to **Compartments 7 (part), 8 (all), 9 (all)**,

**and 11 (all)** through the neighbouring land from 'Simon Lock Bridge' down to the level crossing, and then up the road under traffic management. (This route can also be used for transporting welfare facilities.)

Some access is over very rough surface and narrow in areas and may be fragile and very wet in places.

All gates must be left closed and locked where required by Site Management staff.

Vehicular access is limited to these routes; no vehicles, including ATV's, are to be taken beyond the defined routes. In particular there is to be no access along the track from the Simon Lock Bridge past the cottages.

### **Ground conditions**

The work area is a lowland raised bog with regrowth woodland covering a large area of the bog. Some tree felling has been carried out in previous years.

Surrounding land is mainly farmland and woodland. Some areas are occupied houses and gardens and therefore special care needs to be taken in these areas to ensure no damage occurs to neighbouring properties.

Existing drains are not to be impacted by this contract for tree felling.

The work site lies within an area designated as open access land.

Ground conditions during the time of planned work is likely to be very wet.

Reference Early Warning Risk Register Item 1: Adverse weather and poor ground conditions due to seasonal execution of work, could prevent or delay completion, even with the use of specialist equipment. Poor ground conditions have been anticipated and allowed for in Contract Price and Programme. This item on the Register allows for significant deterioration due to adverse weather preventing execution with the anticipated specialist plant and equipment, and or dictating significant remediation of access/egress points on completion. Conditions and associated disturbance will be monitored weekly with the Client's Site Manager, and action will be agreed and taken accordingly

### **Drainage**

There are open field drains across areas of the work site which link to the perimeter drain, and most have been blocked in the past.

### **Work specifications**

#### **Tree felling**

Some areas very close to the work site are in external ownership and therefore extra care must be exercised to ensure no damage is caused to the adjoining properties.

There may be a hazard of fire on these sites, so always keep a lookout for a fire starting and have equipment ready to put the fire out available at all times.

The contractor is to provide all labour, all equipment, and any other items necessary for the work.

The Contractor will provide day-to-day supervision of the work and will maintain close contact with Natural England's Senior Reserves Manager throughout the works.

The Contractor will provide all equipment, signage, all fuel and maintain all equipment required for the completion of the project.

Appropriate signage must be displayed in all compartments before starting tree felling until operations are complete.

All trees, **excluding large oak trees**, but including birch, holly, pine and rhododendron in the area of approximately 27 ha, as defined on the attached maps are to be felled. Brash and timber less than 150mm in diameter is to be chipped and left on-site. Except for Compartment 2, and the construction of hibernacula, timber will either be chipped or flailed. Larger trees are to be felled towards the moss, to ensure that existing boundary fences are not damaged.

Vehicular access is limited to the routes identified by the Client's Site Manager on the ground prior to commencement of the works and must be adhered to. No vehicles (including ATV's) will be taken onto the site

without the permission of the Site Manager. Any permission so granted may be revoked if ground conditions deteriorate as a result of access, adverse weather, etc.

Where stock are present, the contractors must ensure that gates are left as found (whether open or closed) and that the work is undertaken at all times in a manner that presents no threat to the welfare of the animals. All gates to/from the work site left as found.

The site must be left in a **safe condition at the end of each working day**.

## **Health and Safety:**

### **Site Rules**

A generic Duddon Mosses NNR Site Risk Assessment has been provided to highlight Risks that contractors need to be aware of and have Risk Assessment and Method Statements to cover. These give an idea of the Operations that you will need to factor into your Method Statements and Risk Assessments.

### **First Aid**

The Contractor will be responsible for the health, safety and welfare of the contract work force, and a practicing first-aider with current certification will be present at all times. The Contractor will provide all appropriate first-aid equipment.

### **Lone Working**

Because of the remote location of the site there will be no lone working at any time.

### **Certification**

All work is to be conducted in accordance to codes of practice and operators must hold appropriate and current training certification for any machinery or equipment they use. Copies of all current personnel certification must be presented to the [REDACTED] Senior Reserves Manager, for retention, one week prior to work commencing.

### **Risk Assessment**

The successful Contractor shall carry out a comprehensive Risk Assessment for all aspects of the project and present a copy to the [REDACTED] SRM one week prior to work commencing. This is to be signed as having been read and understood by all those who will be working on the site.

### **Accident Reporting**

The Contractor will be responsible for immediately reporting any accidents involving either their personnel or the public to the [REDACTED] Project Officer. All incidents involving the public, however minor, are reportable under RIDDOR.

### **Smoking**

**Smoking is strictly prohibited for all personnel.** There is an extreme fire hazard on the raised mire at all times.

### **Security**

The Contractor will be responsible for the safe keeping of their machinery and equipment during the period of the contract. Refer to Early Warning Register – Item 2, attached.

### **Construction (Design and Management) Regulations 2015 (CDM 2015)**

Under CDM Regulations the Contractor will provide the Contractor and Designer roles and the Principal Designer/Contractor roles if that is a requirement.

The Contractor will provide a hard copy and electronic version of the Health and Safety file for the project .

**Contract Management:**

The execution of the operations identified in these specifications will be the responsibility of the Contractor, who will liaise regularly with the Client's Site Manager [REDACTED]

## 2. Maps

List the drawings that apply to the contract.

Map Number	Revision	Title
		Duddon Mosses – proposed tree felling Compartment 1
		Duddon Mosses – proposed tree felling Compartments 2, 3 and 4.
		Duddon Mosses – proposed tree felling Compartments 5, 6, 7, 8, 9 and 11.
SD229860	01/04/2021	Ordnance Survey 100022021 Access White Moss and Heathwaite Moss
	20/05/2021	Ordnance Survey 100022021 Access to Little White Moss
	20/05/2021	Ordnance Survey 100022021 Access to Angerton Moss
SD23558644	01/02/2021	Ordnance Survey 10022021 Duddon Moss NNR Hazard Map

## 3. Specifications

List the specifications which apply to the contract.

Title	Date or Revision	Tick if publicly available
[REDACTED] Blockage Management Guide (Gov.uk)	12/2019	yes
Latest Ciria Guidance: Culvert, screen and outfall manual - New CIRIA guidance	12/2019	yes

## 4. Constraints on how the *Contractor* Provides the Works

**State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Client*.**

### Important points to note:

You will be expected to participate a mandatory site visit to assess the works prior to submitting your quotation. Please contact the [REDACTED] Senior Reserve Manager for date and time of site visit. Note that there will only be one date and time for the on-site meeting and all contractors will need to attend together.

The work site lies within an area designated as open access land. Contractors must ensure that the work is executed in a manner which takes account of the possible presence of members of the public and their dogs and adopt appropriate control measures as identified in their risk assessment.

Access to the Angerton area (**Compartment 7, 8, 9 and 11**) is via the unmanned railway crossing just to the south of Foxfield railway station. Therefore, full conformity with the Network Rail policies for crossing this location must be adhered to at all times throughout the life of this Contract. **Note:** The current policy is for users to telephone Foxfield Signal Station (FSS) each time the railway is crossed and wait for permission to cross, close gates after crossing, then telephone FSS again to advise that all is clear. **Note:** That staff based at the manned crossing at Foxfield are not responsible for managing the railway signals, the railway signals is managed from Foxfield Railway Station (opposite the Prince of Wales pub). It is the Contractor's responsibility to ensure all their staff conform to policies as established by Network Rail. It is important to note that allowance must be made for time required to cross the railway line at Angerton's as there is a possibility that the contractor may be held up and have to wait for the OK to proceed from Foxfield Station Manager. The Contractor must be aware that the access route to Angerton's Moss includes an unmanned crossing and so is to take extra care here.

Note the Early Warning Register – Item 3, and the requirement for farm access, as well as the section on Access above. Weight restrictions on the temp bailey bridge and the difficulties in crossing the railway line twice with heavy plant and low loaders will render the mechanisation of operations extremely difficult and would revert the operation to a motor manual operation. This would have very significant impact on Programme.

All work is to be conducted in accordance to standard Forestry Codes of Practice.

All work must be carried out in a workman-like fashion, and the site left in a tidy condition. The Contractor shall make good any damage to infrastructure; roads, tracks, fences, walls, gates, gateposts, bridges and culverts, and all other structures/property of adjoining landowners, Network Rail, [REDACTED] its tenants and licensees; as arising from the execution of this work.

The equipment that a successful contractor will use on Duddon Mosses habitat for tree felling could include some/any of the following:

Off-road 4WD vehicle (Hilux, Defender, etc);

Chainsaw;

Excavator;

Scrub mulcher;

A range of low ground pressure vehicles;

Chipping machine;

Flailing capability;

Hydraulic tree shears;

Tracked Softrak (extra wide tracks);

Tracked wood chipper (extra wide tracks);

Important to include a vehicle/trailer that can be used to transport the fallen timber off the site if the access is suitable.



Hydraulic bio-oils in all machines, and fuel spill kits.

#### **Working times**

The *Contractor* will be permitted to work between 7.30am and 6.00pm on weekdays (Monday to Friday)

## **5. Requirements for the programme**

**State whether a programme is required and, if it is, state what form it is to be in, what information is to be shown on it, when it is to be submitted and when it is to be updated.**

**State what the use of the *works* is intended to be at their Completion as defined in clause 11.2(1).**

The *Contractor* submits his programme with the *Contractor's* Offer for acceptance. The *Contractor* shows on each programme which he submits for acceptance (in form of Gantt chart showing the critical path, proposed order and timing to undertake the works and proposed plant and labour resources) the following:

- (a) Period required for mobilisation/ planning & post contract award
- (b) starting date
- (c) Each of the activities listed within the Price List
- (d) Any key third party interfaces: lead in periods for materials and sub-contractors; time required to obtain consents/waste permits; stated constraints; *Contractor's* risks.
- (e) Completion date

## **6. Services and other things provided by the *Client***

**Describe what the *Client* will provide, such as services (including water and electricity) and “free issue” Plant and Materials and equipment.**

Item	Date by which it will be provided
Not Applicable	

## Site Information

Duddon Mosses SSSI is a series of now-separate lowland raised bogs lying between the coast of the Duddon Estuary and the head of the valley of Kirkby Pool. The NNR area is mainly on the southern bogs and is interspersed with privately-owned strips

The Duddon Mosses lie in a wide valley stretching from the upland to the Duddon estuary that was carved out by glaciers. The underlying solid geology is Coniston Grits, part of the Silurian Ludlow Series. A rise in sea level 5000 years ago deposited a mantle of estuarine clay on the coastal plain of south Cumbria. In this area the depth of the clay is over 7 metres.

Duddon Mosses National Nature Reserve is composed of several blocks of land within the Duddon Mosses SSSI. The northern section occupies part of White Moss to the north of the A595 Wreaks Level. The southern sections between Wreaks Level and the railway includes most of Wreaks, Little White, Angerton and Herd House Mosses as well as part of Bank End Moss and some adjacent fields. Most of the NNR is lowland raised bog, some is former bog that has been converted to agricultural grassland. Although the bog has been damaged by former land use, the NNR still retains a considerable peat resource and a significant area of only-partly modified bog vegetation.

## Fauna

Large heath butterfly, adder, common lizard, toad are Species of Principal Importance under S41 of the Natural Environment and Rural Communities (NERC) Act 2006. The invertebrate assemblage is a SSSI feature.

## Flora

Veilwort, *Pallavicinia lyelli* (a liverwort) was first recorded from the lower mosses in 2009, where it can be found on bunds. This is a Species of Principal Importance under S41 of the NERC Act. Vascular plants of interest are bog rosemary *Andromeda polifolia* and royal fern *Osmunda regalis*. Bog rosemary is widespread across the site whilst royal fern is locally abundant on the lower mosses. The most abundant *Sphagnum* species present are *S. fallax* and *S. cuspidatum* though a number of other species occur on the uncut parts of the NNR, including *S. magellanicum*, *S. pulchrum* and *S. capillifolium*.

## Proposed sub-contractors

	Name and address of proposed subcontractor	Nature and extent of work
1.	<div style="background-color: black; width: 150px; height: 20px; margin-bottom: 5px;"></div> Form of Contract: <div style="background-color: black; width: 250px; height: 100px; margin-top: 10px;"></div>	Specialist Plant hire provision.



