



APPENDIX 4-4

HARVEST MANAGEMENT PLAN

Umma More Renewable Energy Development Harvest Management Plan

Proposed Felling & Reforestation Methods	
Thinning (incl. CCF)	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Harvester <input type="checkbox"/> Chainsaw <input type="checkbox"/> Forwarder <input type="checkbox"/> Tractor/Quad <input type="checkbox"/> Skyline <input type="checkbox"/> Other (specify):
Clearfelling	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Harvester <input type="checkbox"/> Chainsaw <input checked="" type="checkbox"/> Forwarder <input type="checkbox"/> Tractor/Quad <input type="checkbox"/> Skyline <input type="checkbox"/> Other (specify):
Reforestation	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Windrowing <input type="checkbox"/> Pit planting <input type="checkbox"/> Mounding <input type="checkbox"/> Scrap mounding <input type="checkbox"/> Scarification <input type="checkbox"/> Other (specify):
Site access (i.e. via forest road)	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Planned <input type="checkbox"/> Not required <input type="checkbox"/> Other (e.g. temporary roading/forest track):

Social & Environmental Features & Considerations		
Social	Habitat & Biodiversity	Soil & Water
<input type="checkbox"/> Recreational usage	<input type="checkbox"/> Designated area (SAC, SPA, etc.)	<input checked="" type="checkbox"/> Aquatic zone(s) on/adjoining site
<input type="checkbox"/> Adjoining dwelling(s)	<input type="checkbox"/> Broadleaves/diverse conifers	<input checked="" type="checkbox"/> Relevant watercourse(s)
<input type="checkbox"/> Right(s)-of-way present	<input checked="" type="checkbox"/> Hedgerows	<input type="checkbox"/> Water-related 'hotspots'
<input type="checkbox"/> Utilities (power lines/water main)	<input type="checkbox"/> Old/veteran trees	<input type="checkbox"/> Water abstraction point
<input type="checkbox"/> Sensitive landscape	<input type="checkbox"/> Large scale deadwood	<input type="checkbox"/> Peaty or peaty/gley
<input type="checkbox"/> Important viewpoint(s)	<input type="checkbox"/> Badger sett, rookery, etc.	<input type="checkbox"/> Steep slope(s)
<input type="checkbox"/> Archaeological site(s) & feature(s)	<input type="checkbox"/> Protected fauna	<input type="checkbox"/> Water setback(s) present & intact
<input type="checkbox"/> Cultural feature(s)	<input type="checkbox"/> Protected flora	<input type="checkbox"/> Supply of brash limited
<input type="checkbox"/> Anti-social (dumping, fire, etc.)	<input type="checkbox"/> Wetland habitat	<input type="checkbox"/> Other:
<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Other (specify):	<input type="checkbox"/> Other:

Proposed Measures to Protect Social & Environmental Features & Considerations	
<input type="checkbox"/> Consult with local residents	<input type="checkbox"/> Establish excl. zones around arch. sites/features
<input checked="" type="checkbox"/> Erect safety signage	<input checked="" type="checkbox"/> Temporary bridging points (TBPs) required
<input checked="" type="checkbox"/> Onsite briefing of all operators, pre-commencement	<input type="checkbox"/> Install water setback at refor.
<input checked="" type="checkbox"/> Carefully selected refuelling/repair/storage depot	<input type="checkbox"/> Install dwelling setback at refor.
<input type="checkbox"/> Measures to protect right(s)-of-way	<input type="checkbox"/> Install public road setback at refor.
<input type="checkbox"/> Measures to protect service features	<input type="checkbox"/> Install archaeological setback at refor.
<input type="checkbox"/> Measures to protect habitats & biodiversity features	<input type="checkbox"/> Install biodiversity setback at refor.
<input checked="" type="checkbox"/> Limit operations to dry weather	<input type="checkbox"/> Install landscape setback at refor.
<input checked="" type="checkbox"/> Daily visual monitoring of ground conditions	<input type="checkbox"/> Inclusion of Refor. Objective 'CCF'
<input checked="" type="checkbox"/> Daily visual monitoring of water	<input type="checkbox"/> Inclusion of Refor. Objective 'BIO'

Proposed Measures to Protect Social & Environmental Features & Considerations (Cont..)

<input checked="" type="checkbox"/> Water sampling	<input type="checkbox"/> Forest edge planting
<input checked="" type="checkbox"/> Install silt traps/barriers	<input type="checkbox"/> Environmental setback planting
<input type="checkbox"/> Drain blocking/slow-water dams	<input type="checkbox"/> Other (specify)
<input checked="" type="checkbox"/> Utilise brush mats along extraction routes	<input type="checkbox"/> Other (specify)
<input checked="" type="checkbox"/> Exclude machinery in areas adjoining aquatic zones, water abstraction points & water-related 'hotspots'	<input type="checkbox"/> Other (specify)

Ancillary Information (include relevant information to expand on above & to detail important aspects such as the sequencing of operations, the width of environmental setbacks & contingency planning. Ensure accurate cross-referencing and consistency with maps) *

Harvesting

Harvesting and extraction to be carried out during periods of dry weather to reduce soil compaction and rutting of tracks. All harvesting activities will be suspended during periods of prolonged rainfall or high rainfall. Proposed machinery will comprise a harvester and a low-ground pressure forwarder with a 14-tonne bunk capacity. All harvesting personnel will be made aware of details of the harvest plan, any environmental issues, and boundary lines and buffer zones.

Temporary bridges will be used where machine routes cross relevant watercourses (see Temporary Bridge Points 'TBP' on the attached Harvest Plan Map). In addition, brush mats will be used along all extraction routes, with corduroy rafts deployed to reinforce short sections of soft ground subject to high traffic usage. The extraction directions are marked with red arrows on the Harvest Plan Map. Particular attention will be paid to minimizing disturbance to ground surfaces, drains /streams, and biodiversity features. Felled tree storage area should be kept at least 15m back from any forestry drains to prevent contamination of watercourses with organic rich leachate exuding from cuttings.

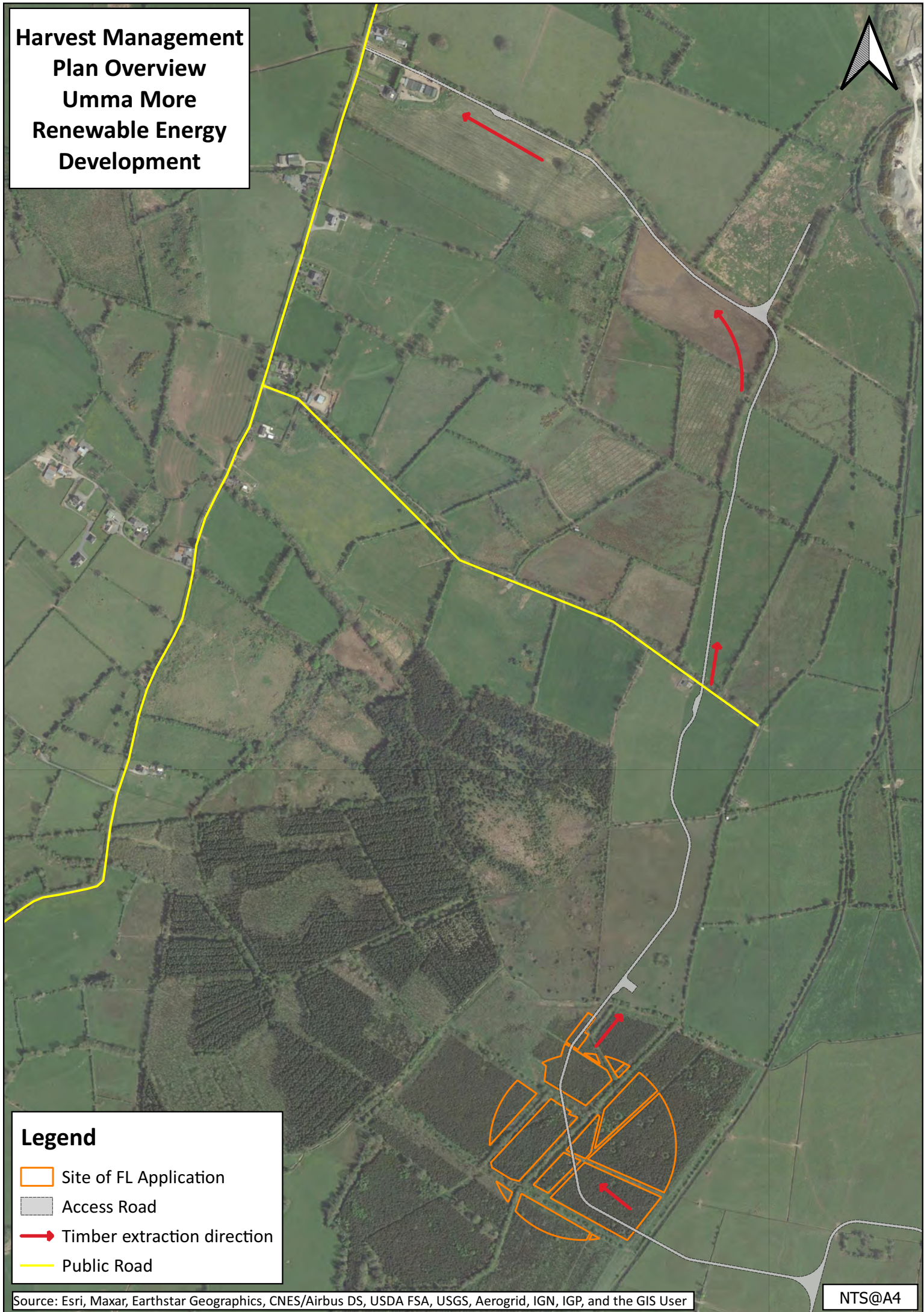
Sediment traps will be installed within relevant watercourses before harvesting commences, at strategic locations identified on the ground. Sediment traps will be monitored and maintained (i.e., cleaned out and/or added to, as appropriate) throughout felling, extraction, and periodically thereafter, until the site stabilises. There will be a 20m buffer around aquatic zones (10m either side) and 10m buffer around relevant watercourses (5m either side) identified in maps. All harvesting operations to comply with the *Forest Harvesting and the Environment Guidelines* and *Forestry and Water Quality Guidelines*.

Onsite supervision will be present during operations to ensure that felling and extraction are carried out appropriately and that water protection measures are adequate and remain effective throughout, and to trigger contingency measures, if necessary (e.g., to cease operations if rainfall creates a risk of sediment mobilisation and runoff). All staff must always wear high visibility jacket and hard hat. All personnel on site must have appropriate Health and Safety training.

Access to site - The roads planned for wind farm used for access and haulage. Timber will follow extraction arrows, leaving site along L-5363-0.

All felling/harvesting on site will be carried out following the *Forest Harvesting & the Environment Guidelines* and *Forestry & Water Quality Guidelines*.

Harvest Management Plan Overview Umma More Renewable Energy Development



Legend

- Site of FL Application
- Access Road
- Timber extraction direction
- Public Road

Harvest Management Plan Umma More Renewable Energy Development



Legend

- Site of FL Application
- Access Road
- Aquatic Zone - (AZ) (stream/river)
- Relevant Watercourse - (RW) (Forest Drain)
- Machine Setbacks (10m AZ, 5m RW)
- Direction of water flow
- Hedgerows
- Timber extraction direction
- Temporary Bridging Point(TBP)
- Stacking Area (SA)
- Sediment traps

Source: Esri, Maxar, Earthstar Geographics, CNES/Airbus DS, USDA FSA, USGS, Aerogrid, IGN, IGP, and the GIS User

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