



RFI Item 9 – Tree Survey

Sand and Gravel Extraction, Knockroe, Bandon, Co. Cork
(Plan. Ref. 25/04666)

Keohane Readymix Ltd.

Prepared by:

SLR Environmental Consulting (Ireland) Ltd

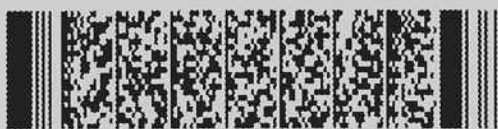
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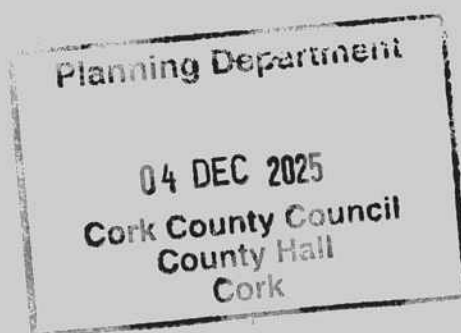
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254666-04/12/2025-FI Tree Survey



Revision Record

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1	28 November 2025	A. Merkle	T. Paul	A. Merkle

Basis of Report

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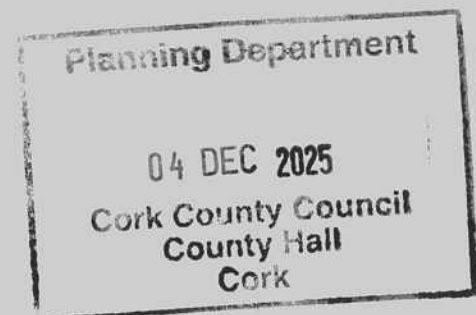


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FIGURES

Figure RFI 9-1 Tree Survey & Compensatory Planting Plan



1.0 Introduction

This Tree Survey report has been prepared to address Item 9 of a request for further information (RFI) from Cork County Council (CCC) in relation to the planning application 25/04555. The Planning application is for the following;

“Permission for extraction of sand & gravel over an area c3.5 ha; extraction by dry working to a level 2 metres above ground water level at a maximum rate of 100,000 tonnes per year; transport of the extracted sand & gravel to the adjacent Dromkeen pit (plan ref. 23/04780) for use in concrete production; upgrading of the existing internal access road and use of the existing access onto the local road L3204; provision of wheelwash and welfare unit (c8.3sqm) and restoration of the lands to agricultural and natural habitat use, all within an application area of c4.0 hectares. Permission is sought for 15 years plus two years for final restoration (total duration of seventeen years). The planning application will be accompanied by an Environmental Impact Assessment Report (EIAR)”.

Item 9 of the Request for Further Information states:

“Please submit a tree survey, conducted by an arboriculture expert, for the site which shall include the following details:

- a. Identify the age, species, and condition of all trees within the site.*
- b. A site layout plan, identifying all the trees on the site.*
- c. Identify which trees are required to be removed to facilitate the development.*
- d. The tree protection measures which will be implemented on the site to protect the trees for retention.*
- e. Details of compensatory planting on the site to ensure that there is no net loss of biodiversity on the site.”*

2.0 Tree Survey

2.1 Tree Survey Methodology

A tree survey, based on BS 5837:2012 – Trees in relation to design, demolition and construction – Recommendations, was carried out on 21st July 2025.

The tree survey was carried out by Anne Merkle a Principal Landscape Architect with SLR Consulting, who holds a Level 3 Technicians Certificate in Arboriculture (ABC Awards) and is a Technician Member of the Arboricultural Association, since 2010.

In line with the RFI request, the tree survey concentrated on identifying the trees within or in close proximity of the application area, likely to be affected by the proposed development. This comprises trees along / in proximity of the access track into the site for the proposed sand and gravel pit. The access track traverses a disused sand & gravel pit. Since historical sand & gravel extraction ceased in this pit, a woodland habitat has developed by natural regeneration. Therefore, there are some trees around 40-45 years old present within the site, but there is also a dense undergrowth of younger trees and scrubby species, predominantly gorse and bramble.

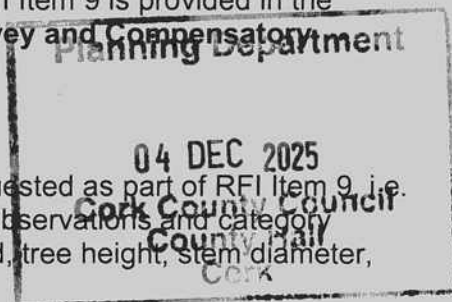
The access track is partially located on a ridge with the ground falling away into the former extraction areas on either side. Most trees in the vicinity of the track are therefore located at



a lower level and neither their root system nor their canopies are likely to be affected by the proposed improvements along the access track. These trees were therefore not included in the tree survey.

While no larger trees have developed in the line of the access track (presumably due to the site being intermittently accessed by the landowner), there are a number of trees that have grown along the edge or in very close proximity of the track. Any distinct trees with a stem diameter of 75mm more (as set out in BS 5837:2012) were recorded as individual trees. Where larger trees were grouped close together or a mix of different age trees were found forming dense vegetation cover, these were assessed as groups, which is in line with BS5837:2012. This includes a number of groups of very young trees and scrub, for which only a number of details were recorded, i.e. their spread, the species contained within and some general observations. Due to the density / inaccessibility of these areas and large numbers of small individual trees / shrubs present it is not feasible to record every single tree.

The response to the individual items requested as part of RFI Item 9 is provided in the following sections, as well as on **Figure RFI 9-1 – Tree Survey and Compensatory Planting Plan**, enclosed with this report.



2.1.1 Tree Survey Data

The tree survey data collected focused on the elements requested as part of RFI Item 9, i.e. tree age (i.e. life stage), species and condition (i.e. general observations and category grading). In addition, the following parameters were collected, tree height, stem diameter, RPA radius and branch spread.

The methodology used to record the tree data is set out in Table A (Tree Survey Schedule Key) and the requested data is provided in Table B (Tree Survey Schedule). The category grading is based on that set out in BS 5837:2012, as provided in Table C.

Table A: Tree Survey Schedule Key

Parameters Assessed	Details
Tree ID	'T' denotes Tree, 'G' denotes Tree Group, 'W' denotes Woodland, 'H' denotes Hedgerow. The original tree survey numbering is shown in brackets.
Species	Botanical and common name.
Height	Measured using a clinometer. Measured to the nearest metre.
Stem Diameter	Measured at 1.5 m above ground level. For multi-stem trees each stem diameter is recorded. For trees with 2-5 stems the overall diameter is calculated by squaring each stem diameter, adding these figures together and square rooting the result. For trees with more than 5 stems the mean stem diameter is squared and multiplied by the number of stems. The result is then square rooted to give the overall diameter. The results of the calculations for multi-stemmed trees are shown in bold and in brackets on the schedule. Where the tree is inaccessible due to vegetation or obstacles then the stem diameter has been estimated. For groups and woodlands, the stem diameter shown is the maximum recorded.
RPA Radius	The Root Protection Area (RPA) is calculated using the stem diameter. The RPA is an area equivalent to a circle with a radius 12 times the stem diameter for a single stem tree. BS 5837:2012 limits the maximum RPA to 707 square metres (m ²), i.e. equivalent to a circle with a radius of 15m or a square with approximately 26m sides.



Parameters Assessed	Details
Branch Spread	Measured at the four cardinal points to derive an accurate representation of the crown and is recorded on the tree survey plan. Where the tree is inaccessible due to vegetation or obstacles then the branch spreads have been estimated. Measured to the nearest metre using a laser measurer. Direction measured using a compass.
Life Stage	<p>Young: Newly planted tree 0-10 years.</p> <p>Semi-Mature: Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size).</p> <p>Early Mature: Tree in the second third of its normal life expectancy for the species (some potential for future growth in size)</p> <p>Mature: Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size).</p> <p>Over Mature: Tree beyond the normal life expectancy for the species.</p> <p>Veteran: Tree, which is of interest biologically, aesthetically or culturally because of its condition, size or age.</p>
General Observations	Particularly of structural and / or physiological condition (e.g. the presence of any decay and physical defect) and / or preliminary management recommendations. External features assessed based upon – The Body Language of Trees, Research for Amenity Trees No 4. (Mattheck and Breloer, 1994).
Category Grading	<p>Recorded on the tree survey plans and schedule. See Table 3 for Cascade Chart for Tree Quality Assessment. British Standard (BS) 5837 (2012), "Trees in relation to design, demolition and construction – Recommendations".</p> <p>Occasionally trees are given more than one category grading, where trees would otherwise be categorised as U, but have identifiable conservation, heritage or landscape value, even though only for the short term, they may be upgraded, although they might be suitable for retention only where issues concerning their safety can be appropriately managed.</p> <p>A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. (Shown as green on the tree survey plans).</p> <p>B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. (Shown as blue on the tree survey plans).</p> <p>C – Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm. (Shown as grey on the tree survey plans).</p> <p>U – Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. (Shown as red on the tree survey plans).</p> <p>1 – Mainly arboriculture qualities.</p> <p>2 – Mainly landscape qualities.</p> <p>3 – Mainly cultural values, including conservation</p>
Notes	<p>Trees can be grouped if they form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or woodland pasture).</p> <p>The category grading for a group of trees does not necessarily imply that the individual trees within that group are the same grading. The group is viewed as a whole and individual trees within it may have a lower grading.</p>
#	Estimated dimensions
*	Indicates estimated position of tree (not indicated on topographical survey).



Table B: Tree Survey Schedule (Refer to Figure RFI 9-1)

Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Life Stage	Observations and Management Recommendations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
T1	<i>Acer pseudoplatanus</i> (Sycamore)	7	110	Semi-mature	No obvious signs of structural or physiological impairment. Ivy clad stem. Needs to be removed to facilitate sight lines.	40+	C1	1.3
T2	<i>Acer pseudoplatanus</i> (Sycamore)	9.5	300#	Early-mature	No obvious signs of structural or physiological impairment. Ivy clad stem. Canopy not reaching over access track.	40+	A1	3.6
T3	<i>Crataegus monogyna</i> (Hawthorn)	6.5	150, 80, 100, 120, (231)	Early-mature	Slightly one-sided, as crown impaired by neighbouring sycamore. Canopy not reaching over access track.	40+	A1	2.8
T4	<i>Acer pseudoplatanus</i> (Sycamore)	12	500#	Early-mature	No obvious signs of structural or physiological impairment. Some Deadwood. Base of stem ca. 3 m from edge of track. Some small branches low over track should be removed to prevent damage.	40+	A1	6
T5	<i>Betula sp.</i> (Birch)	7.5	60, 100, (117)	Semi-mature	Slightly one-sided, as crown impaired by neighbouring trees. Sparse canopy. Base of stem ca. 7 m from edge of track.	20-40	C1	1.4
T6	<i>Fraxinus excelsior</i> (Ash)	14.5	400, 150, 200, 250, (534)	Early-mature	Dieback – Minor (assumed to be ash die back). Base of stem ca. 6 m from edge of track. Canopy reaches edge of track. No branch removal required.	20-40	B1	6.4
T7	<i>Fraxinus excelsior</i> (Ash)	10	200	Semi-mature	Dieback – Minor (assumed to be ash die back). Slightly one-sided, as crown impaired by neighbouring tree. Base of stem ca. 1 m from edge of track.	20-40	B1	2.4

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Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Life Stage	Observations and Management Recommendations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
					Canopy high above track. No branch removal required.			
T8	<i>Acer pseudoplatanus</i> (Sycamore)	8	180	Semi-mature	Slightly one-sided, as crown impaired by neighbouring tree. Ivy clad stem. Base of stem ca. 1 m from edge of track and from neighbouring ash. Canopy to edge of track. No branch removal required.	40+	B1	2.2
T9	<i>Acer pseudoplatanus</i> (Sycamore)	15	400, 450, (602)	Early-mature	No obvious signs of structural or physiological impairment. Some Deadwood. Base of stem ca. 5 m from edge of track on slope into former pit (i.e. at lower level than track). Some small branches low over track should be removed to prevent damage.	40+	A1	7.2
T10	<i>Corylus avellana</i> (Hazel)	6	100, 65, 60, 50, 50, (151)	Semi-mature	No obvious signs of structural or physiological impairment. Some Deadwood. Base of stem ca. 1 m from edge of track. No large branches present. Some small branches reaching into track should be removed to prevent damage.	20-40	B1	1.8
T11	<i>Acer pseudoplatanus</i> (Sycamore)	10	150, 100, 120, (217)	Semi-mature	No obvious signs of structural or physiological impairment. Ivy clad stem. Base of stem ca. 2.5 m from edge of track. Canopy to edge of track. One small branch reaching over track should be removed to prevent damage.	40+	B1	2.6



Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Life Stage	Observations and Management Recommendations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
T12	<i>Salix sp.</i> (Willow)	8	160	Semi-mature	On edge of track. Leaning north, away from neighbouring sycamore. Ivy clad stem. Canopy clearance high over track.	20-40	B1	1.9
T13	<i>Acer pseudoplatanus</i> (Sycamore)	14	400	Early-mature	No obvious signs of structural or physiological impairment. Ivy clad stem. On edge of track. Canopy generally high above track. Some small branch reaching over track should be removed to prevent damage, if retained.	40+	A1	4.8
G14	<i>Betula pendula</i> (Silver Birch)	10 - 12	200 maximum	Early-mature	Group of similar sized birch. Some on edge of track (northern end), some set back further (southern end). No large branches over track. Some small branches should be removed to prevent damage, if retained.	40+	B2	2.4
T15	<i>Salix sp.</i> (Willow)	8	150, 200, 200, (320)	Early-mature	No obvious signs of structural or physiological impairment. Some Deadwood. Base of stem ca. 5 m from edge of existing track, which is to be widened at this location. Can be retained if widening largely to the south of the track.	20-40	B1	3.8
G16	<i>Ulex europaeus</i> (Gorse) <i>Rubus fruticosus</i> (Bramble)	N/A	N/A	N/A	Gorse and bramble only to front of fence. No tree species present, except for T1. All to be removed to facilitate sight lines.	N/A	N/A	N/A

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Ref No.	Species Botanical name (Common Name)	Estimated Height (m)	Stem Diameter (mm)	Life Stage	Observations and Management Recommendations	Estimated Remaining Contribution (years)	Category	RPA Radius (m)
G17	<i>Ulex europaeus</i> (Gorse) <i>Rubus fruticosus</i> (Bramble) <i>Salix sp.</i> (Willow)	N/A	N/A	N/A	Scrub understory, predominantly gorse and bramble. Some young self-seeded willow. Needs to be partially removed to facilitate the widening of the access track.	N/A	N/A	N/A
G18	<i>Ulex europaeus</i> (Gorse) <i>Rubus fruticosus</i> (Bramble) <i>Salix sp.</i> (Willow)	N/A	N/A	N/A	Scrub understory, predominantly gorse and bramble. Some young self-seeded willow. Needs to be partially removed to facilitate the widening of the access track.	N/A	N/A	N/A
G19	<i>Ulex europaeus</i> (Gorse) <i>Rubus fruticosus</i> (Bramble) <i>Ligustrum vulgare</i> (Wild privet) <i>Salix sp.</i> (Willow) <i>Betula pendula</i> (Silver Birch) <i>Fraxinus excelsior</i> (Ash) <i>Corylus avellana</i> (Hazel)	N/A	N/A	N/A	Scrub understory, mainly gorse and bramble, but also some patches young self-seeded privet, willow, birch, ash and hazel Needs to be partially removed to facilitate the widening of the access track.	N/A	N/A	N/A
G20	<i>Betula pendula</i> (Silver Birch) <i>Salix sp.</i> (Willow) <i>Acer pseudoplatanus</i> (Sycamore)	8 - 10	150 maximum	Semi-mature Early-mature	Dense thicket of mixed species with understory of scrub. Mostly on steep slope, i.e. former pit slope. Some sycamore on flat ground at top of slope. Needs to be partially removed to facilitate the access ramp into the proposed extraction area.	20-40	B2	1.8



2.2 Tree Retention / Removal

Trees to be retained

It is intended to retain all of the individually recorded trees along the access track, i.e. **T2-T14** and **T15**, as well as **G14**. Some of these trees are located along the edge or in close proximity of the existing access track and parts of their root protection areas (RPA) are located along the access track. However, no major branches overhang the track and only limited removal of small branches would be required to clear the route for the vehicles accessing the proposed sand and gravel pit.

Rather than condemning these trees, it was decided to retain and protect them from damage, as far as is possible. These trees will be monitored how they react to the vehicle movements nearby, which will form part of the proposed development, and will only be removed if they show signs of decline and therefore become a health and safety hazard.

Trees to be removed

The following individual tree and tree groups will require removal to facilitate the proposed development:

- T1:** This tree needs to be removed to facilitate the sight lines to the east of the site entrance.
- G16:** This group needs to be fully removed to facilitate the sight lines to the east of the site entrance; note this comprises scrub species only.
- G17-19:** These groups need to be partially removed to facilitate the widening of the existing access track; note these comprise mostly scrub species, such as gorse and bramble and only young tree specimen.
- G20:** This group needs to be partially removed to facilitate the access ramp into the proposed extraction area.

2.3 Tree Protection & Management Measures

Tree Protection Measures

The majority of trees do not require physical protection measures, as they are set back a sufficient distance from the edge of the access track and physical damage by passing vehicles to the tree stems and canopies is therefore unlikely.

There are a number of trees in close proximity to the eastern edge of the existing access track (i.e. **T7-8**, **T10**, **T12-13** & **G14**). In order to protect the stems of these trees from damage from passing vehicles, it is proposed to erect a sturdy post & rail or post & wire fence, 1 m from the edge of the existing access track. In this location the track will be widened largely in a western direction, were only scrub and young trees will be affected by the works (i.e. **G18-19**). The approximate location of this fencing is indicated on **Figure RFI 9-1**.

Tree Management Measures

In order to prevent damage to existing tree canopies by passing vehicles, a number of small branches overhanging the existing access track should be removed, as indicated in Table B for **T4**, **T9-11**, **T13** & **G14**.

These tree protection measures will be carried out by a suitably qualified tree surgeon, at a suitable time of the year (e.g. during the winter months, when trees are dormant).



2.4 Compensatory Planting Details

The tree loss within the site will be compensated by native hedge and native tree planting, which is proposed as part of the landscape and restoration measures for the proposed development.

This planting was detailed on **EIAR Figure 2-5** (Landscape and Restoration Plan), which formed part of the EIAR submitted with the planning application. This is replicated on **Figure RFI 9-1** enclosed with this report.

The proposed planting consists of 660 m of a diverse native hedgerow surrounding parts of the proposed extraction area, to be planted on commencement of the development. It further comprises 800 m² of a diverse native tree mix in two pockets on the pit floor, when the extraction works are completed.

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FIGURE RFI 9-1 Tree Survey & Compensatory Planting Plan

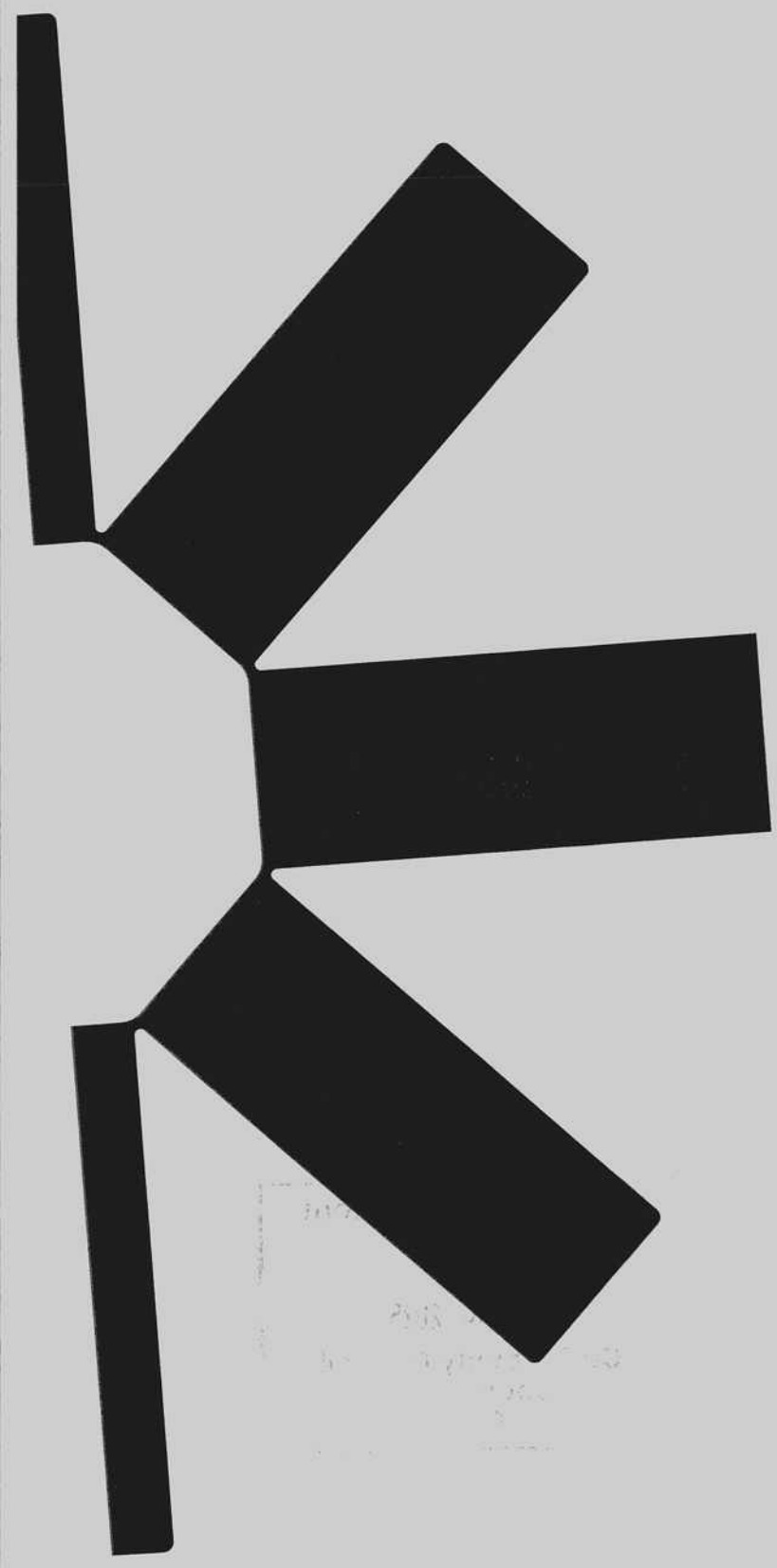


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