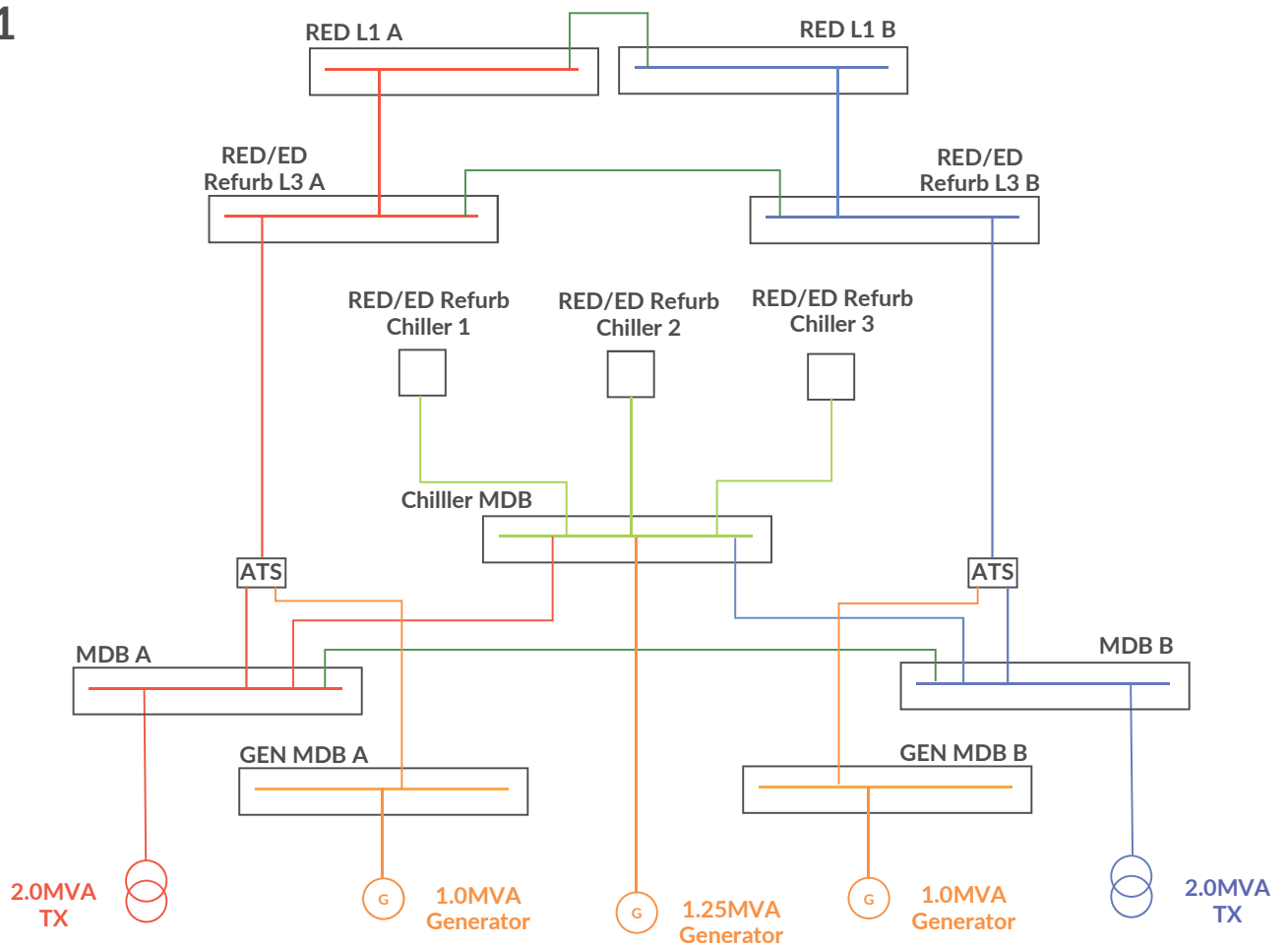


Appendix 2

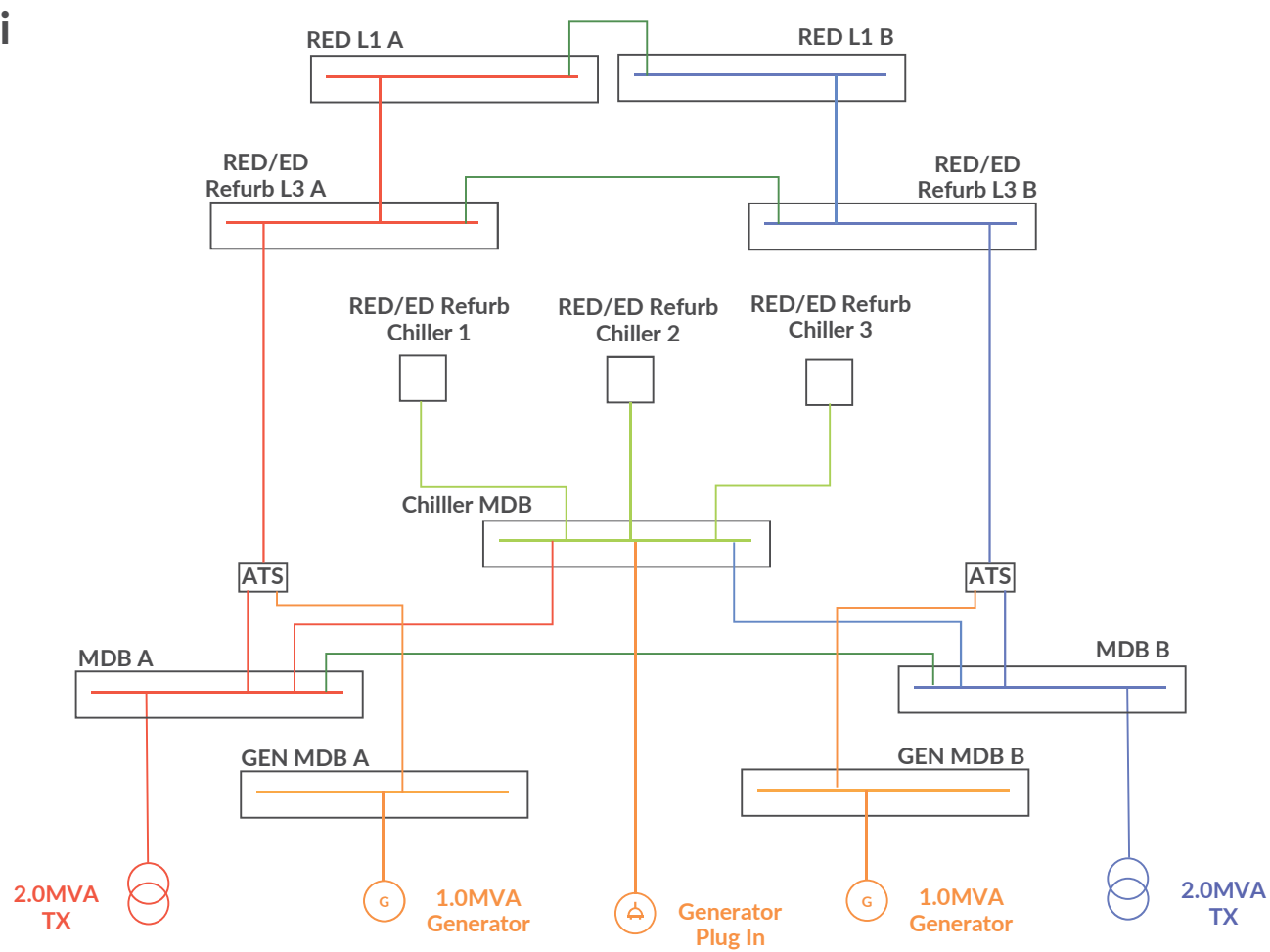
Selected Option schematics

Option 1



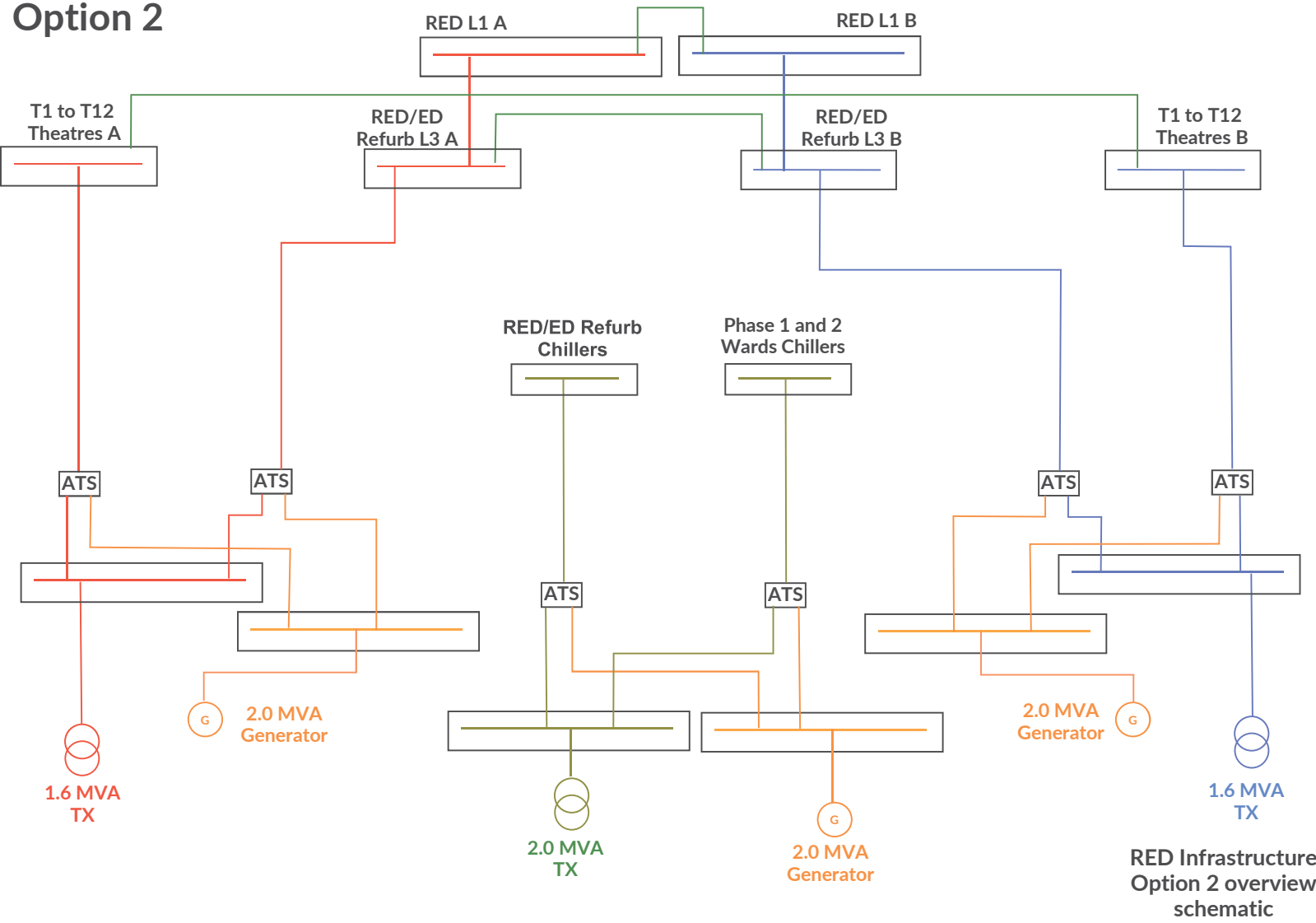
RED Infrastructure Option 1 overview schematic

Option 1i

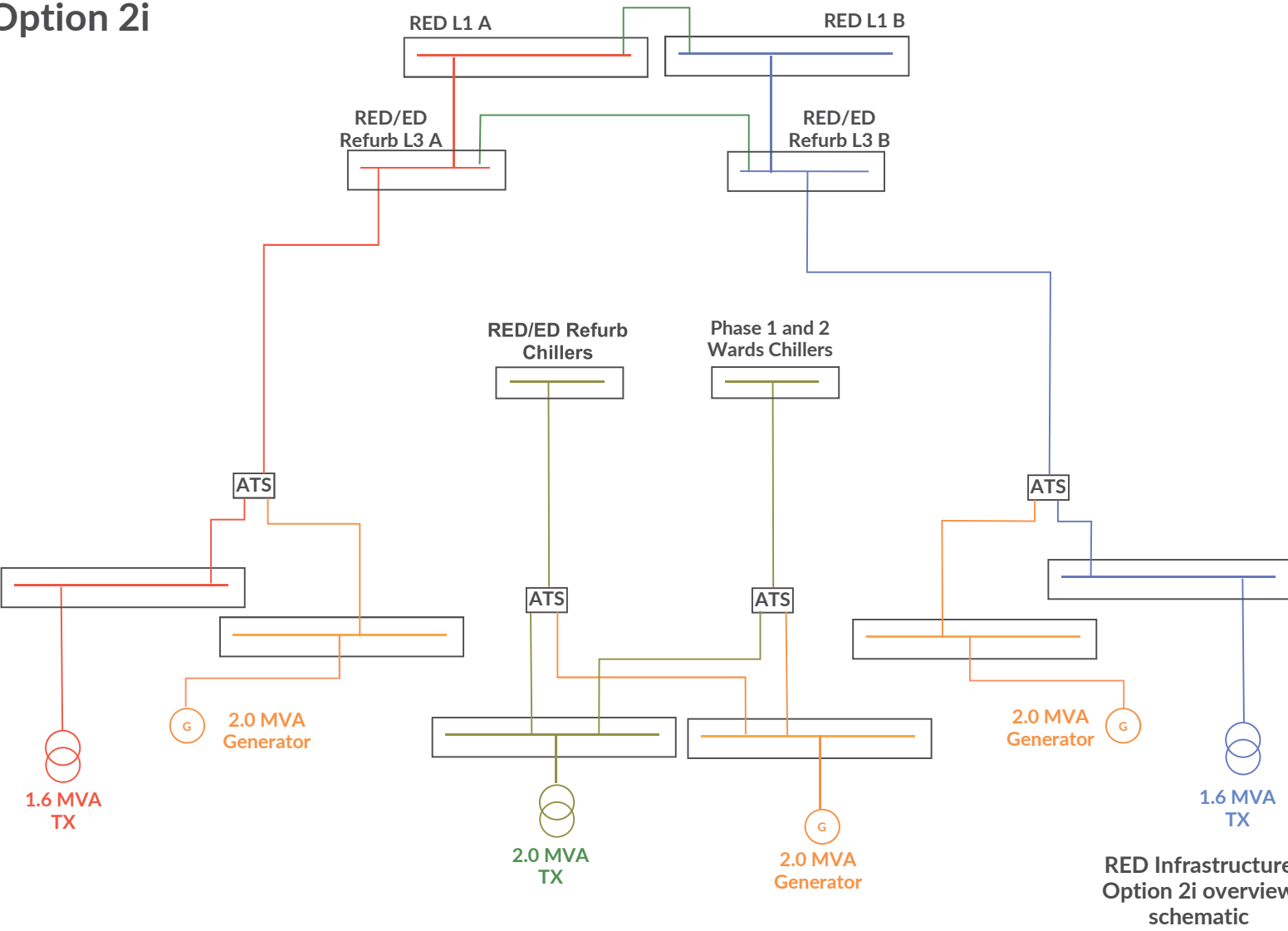


RED Infrastructure
Option 1i overview
schematic

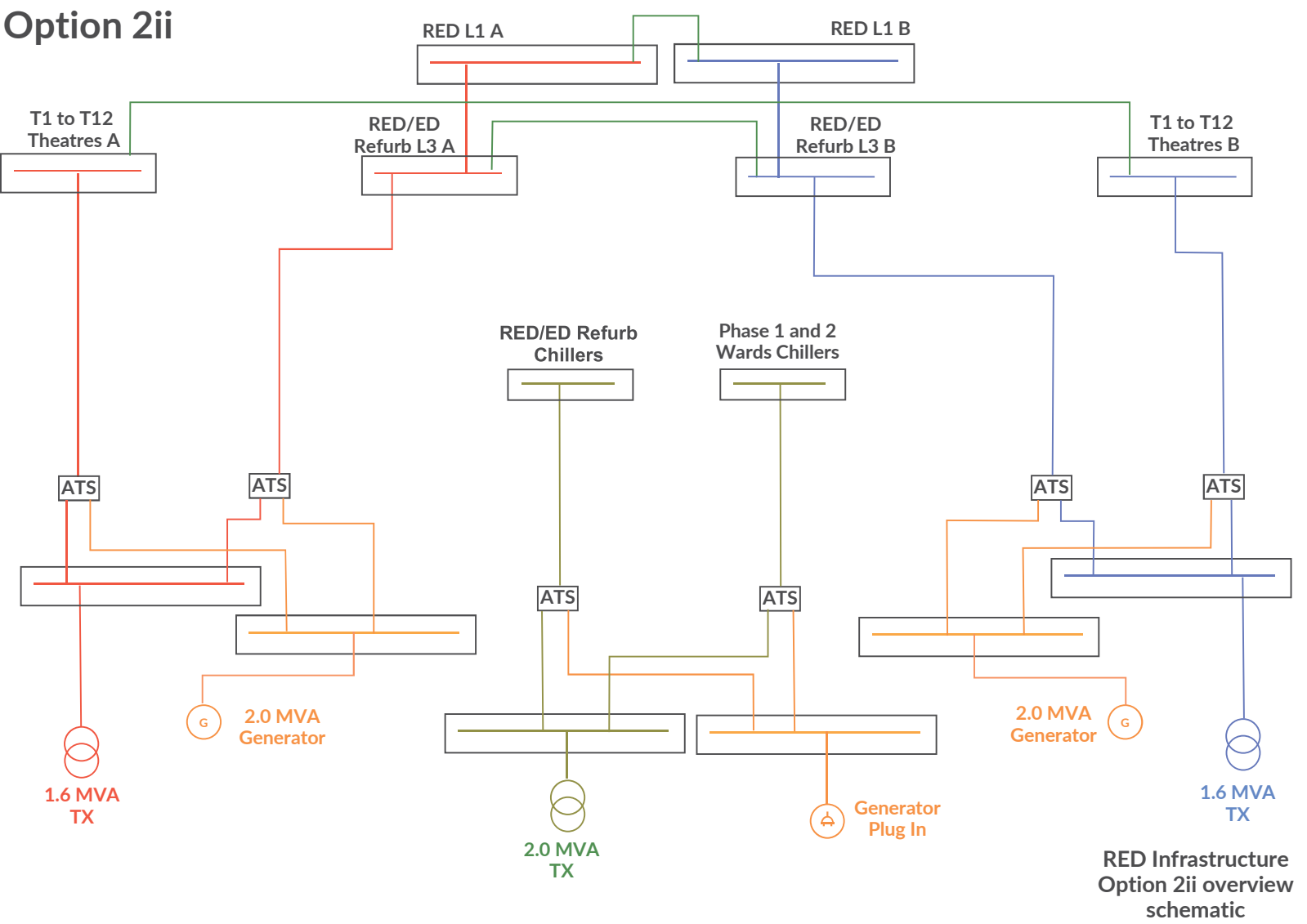
Option 2



Option 2i

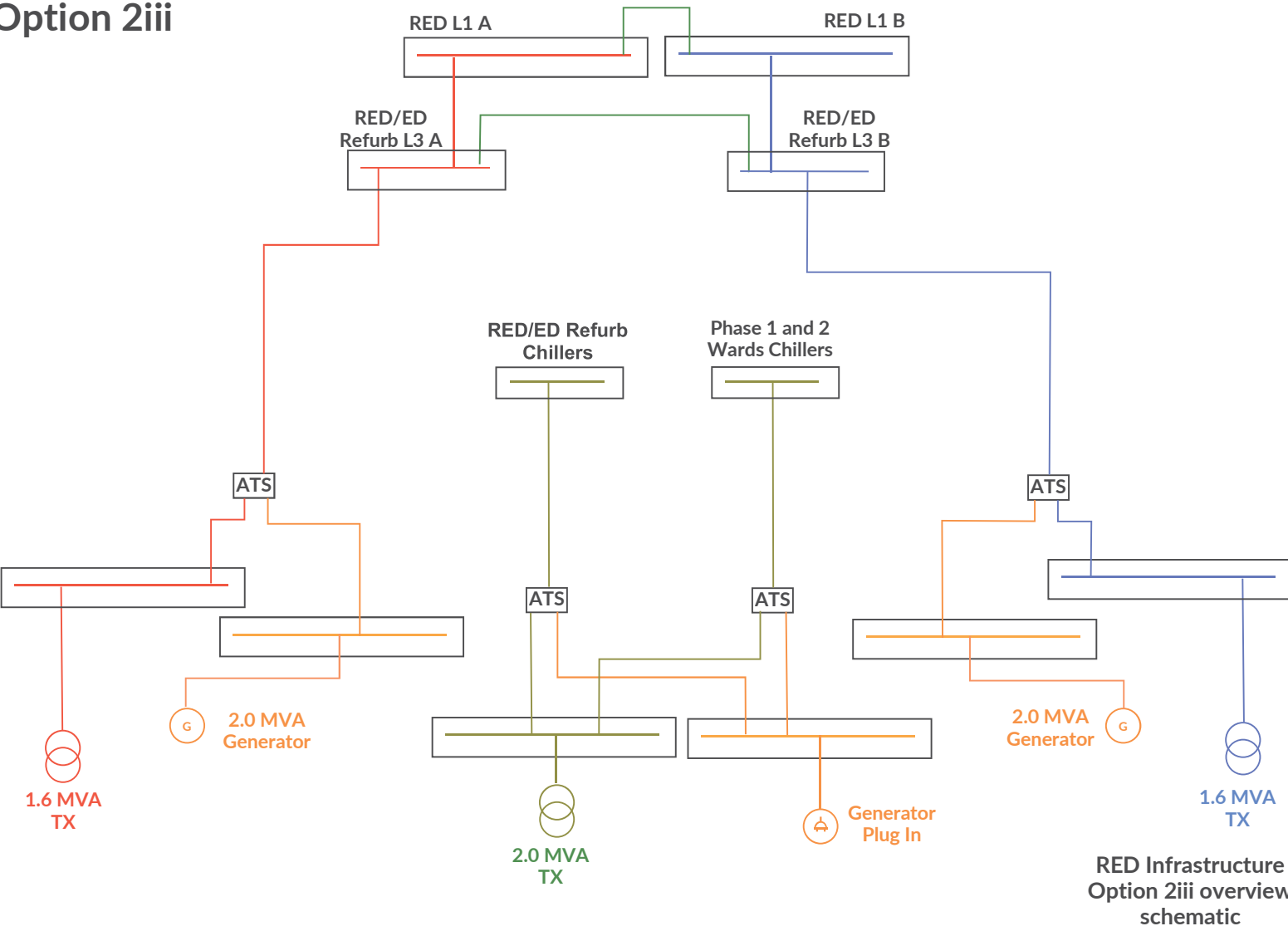


Option 2ii



RED Infrastructure
Option 2ii overview
schematic

Option 2iii



Appendix 3

HV cable routes

- 0406044-HLEA-XX-00-DR-E-700-0001 - Existing HV Routing
- 0406044-HLEA-XX-00-DR-E-700-0002 - Proposed HV Routing

This drawing shall not be scaled.
Work from the dimensions shown in this
drawing or plan to ground coordinates.



CDM Regulations:
In addition to any information included in this drawing or
the model from which it is derived, refer also to the project
CDM Risk Register for information on residual risks.

- General Notes:
- The drawing does not necessarily show all the information needed to interpret the design intent or the construction details.
 - The drawing contains information from more than one source and must be read in conjunction with all relevant specifications.
 - Any apparent drafting errors and differences between other drawings and specifications shall be brought to our attention.

Project Notes:
1. Routes of HV cables are approximate. Full survey to be carried out prior to works commencing to confirm locations.

REVISIONS			
No.	Description	Author	Check
HOARE LEA HL			
ARCHITECT: DLV Architecture			
CLIENT: Manchester University NHS Foundation Trust			
PROJECT TITLE: Project RED Operational Infrastructure			
DRAWING TITLE: Existing HV Routing			
For Information			
PERSON RESPONSIBLE FOR:			
Design:	Review:	Authoring/Issue:	
HLV	SM	HL	
Project No:	Date:	Scale @ A3:	
0406044	April 2021	1:250	
DRAWING NUMBER:			Rev:
0406044-HLEA-XX-00-DR-E-700-0001			A



<https://www.projects.manchester.ac.uk/projects/0406044-Project-RED-EU-Infrastructure07-04-Add-CAD7B-CAD7B-3-Technical-Objectivity-Disruption-IV-Routing-awg/27/05/2021-120621>

CDM Regulations:
In addition to any information included in this drawing or the model from which it is derived, refer also to the project CDM Risk Register for information on residual risks.

General Notes:

- The drawing does not necessarily show all the information needed to interpret the design intent or the construction details.
- The drawing contains information from more than one source and must be read in conjunction with all relevant specifications.
- Any apparent drafting errors and differences between other drawings and specifications shall be brought to our attention.

Project Notes:

1. Routes of HV cables are approximate. Full survey to be carried out prior to works commencing to confirm locations.
2. Proposed routing is based upon options C & D of LV routing drawings. Refer to drawings:
0406044-HLEA-JX-00-DR-E-700-0005
0406044-HLEA-JX-00-DR-E-700-0006

Time	Comments	Operator	Inspector	Tester	Date
REVISIONS					

HOARE LEA (H.)

ARCHITECT:
DAY Architecture

CLIENT:
Manchester University NHS Foundation Trust

PROJECT TITLE:
Project RED Electrical Infrastructure

DRAWING TITLE:
Proposed HV Routing

For Information

PERSON RESPONSIBLE FOR:		
Design: NV	Review: SM	Authoring Issue: BH
Project No: 0406044	Date: April 2021	Scale @ A1: 1:250
DRAWING NUMBER:		Rev.
0406044+I-LEA-XX-00-DR-E-700-0002		B

Appendix 4

LV cable routes

- 0406044-HLEA-XX-00-DR-E-700-0003 - Proposed LV Routing Option A
- 0406044-HLEA-XX-00-DR-E-700-0004 - Proposed LV Routing Option B
- 0406044-HLEA-XX-00-DR-E-700-0005 - Proposed LV Routing Option C
- 0406044-HLEA-XX-00-DR-E-700-0006 - Proposed LV Routing Option D
- Project RED - L00 LV Cable Routing
- Project RED - L01 LV Cable Routing
- Project RED - L02 LV Cable Routing
- Project RED - L03 LV Cable Routing
- Project RED – Phase 1 and 2 Chillers LV Cable Routing

This drawing shall not be scaled.
Work from the dimensions shown in the
drawing or given in relevant specifications.

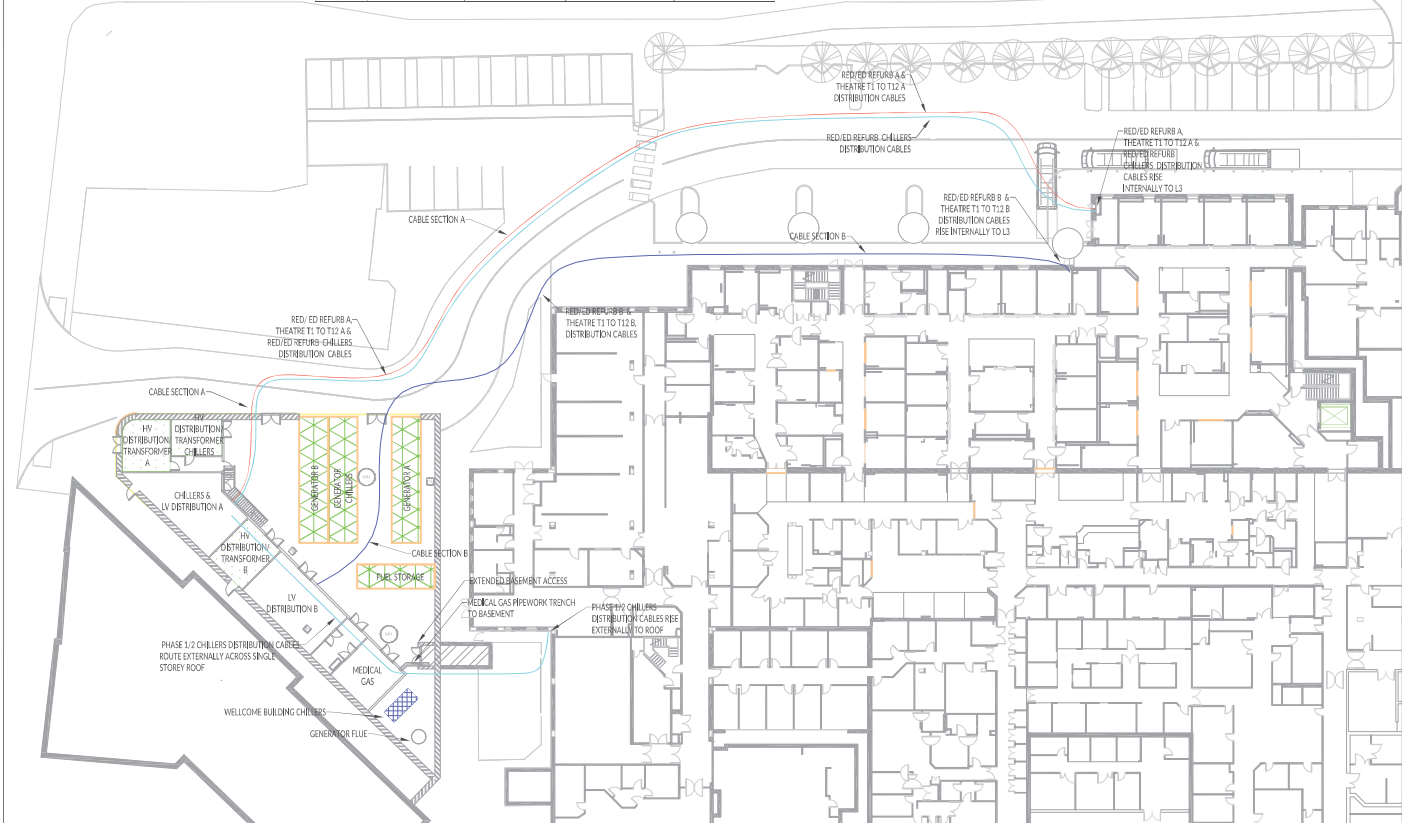
LV Routing Option B • Cables run externally within ground.

A cables route within ground to RED/ED REFURB entrance

Phase 1/2 chillers cable route across single storey roofs. Cables then rise up externally to hospital roof

[illegible][illegible]

	Option B			
	Single Core Trench (mm)	Multicore Buried (mm)	Multicore Trench (mm)	Multicore Ducted (mm)
Section A	243.2	566.0	743	555.4
Section B	432	878	345	758



CDM Regulations:
In addition to any information included in this drawing or the model from which it is derived, refer also to the project CDM Risk Register for information on residual risks.

General Notes:

- The drawing does not necessarily show all the information needed to interpret the design intent or the construction details.
- The drawing contains information from more than one source and must be read in conjunction with all relevant specifications.
- Any apparent drafting errors and differences between other drawings and specifications shall be brought to our attention.

Project Notes:

1. Routes shown are **indicative**.
2. Confirmation of location and incoming Wellcome Building supplies to be confirmed.
3. Generators sited upon 702th @ 1m. Dimensions of container (LxWxH): 13m x 4m x 4m
4. Cable/Trench/Duct/stable tables are **indicative** for feasibility purposes only. Sites to be confirmed at next stage with co-ordination buried drainage and other buried services.
5. Drawing to be read in conjunction with LV routing option drawings:
 0406044-HLEA-JX-00-OR-E-700-0003
 0406044-HLEA-JX-00-OR-E-700-0005
 0406044-HLEA-JX-00-OR-E-700-0006

Year	Quarter	General	Technical	Academic	Other
REVENUE					

ARCHITECT:
DAY Architecture

CLIENT:
Manchester University NHS Foundation Trust

PROJECT TITLE:
Project RED Electrical Infrastructure

DRAWING TITLE:
Download ILM Booklet

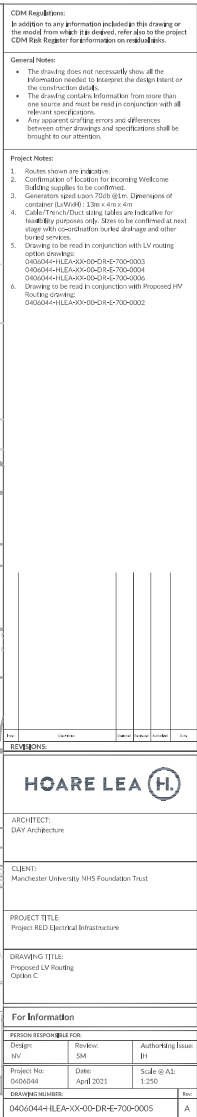
For Information

PERSON RESPONSIBLE FOR:		
Design: NV	Review: SM	Authorizing Issue: BH
Project No: 0406044	Date: April 2021	Scale @ A1: 1:250
DRAWING NUMBER:		Rev:
0406044-HILEA-XX-00-DR-E-700-0004		A

Phase 1/2 chillers cable route across single storey roofs. Cables then rise up externally to hospital roof

	Single Core Trench (yard)	Multiple Bored (yard)	Multiple Trench (yard)	Multiple Drilled (yard)
Section A	541.2	166.6	74.3	15.4
Section B	45.6	67.8	34.5	7.9

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This drawing shall not be scaled.
Work from the dimensions shown in the

LV Routing Option D - Cables run across hospital roof and within hospital basement

A cables route across single storey roofs. Cables then rise up externally to hospital roof and route across to RED/ED REFURB
B cables route within ground to hospital basement. Cables then installed upon ladder to rise within RED/ED REFURB
Phase 1/2 chiller cable route across single storey roofs. Cables then rise up externally to hospital roof

	Option D			
	Single Cases French (var)	Multiple Cases Def (var)	Multiple Cases French (var)	Multiple Cases Def (var)
Section A	N/A	N/A	Not	N/A
Section B	455	070	545	720

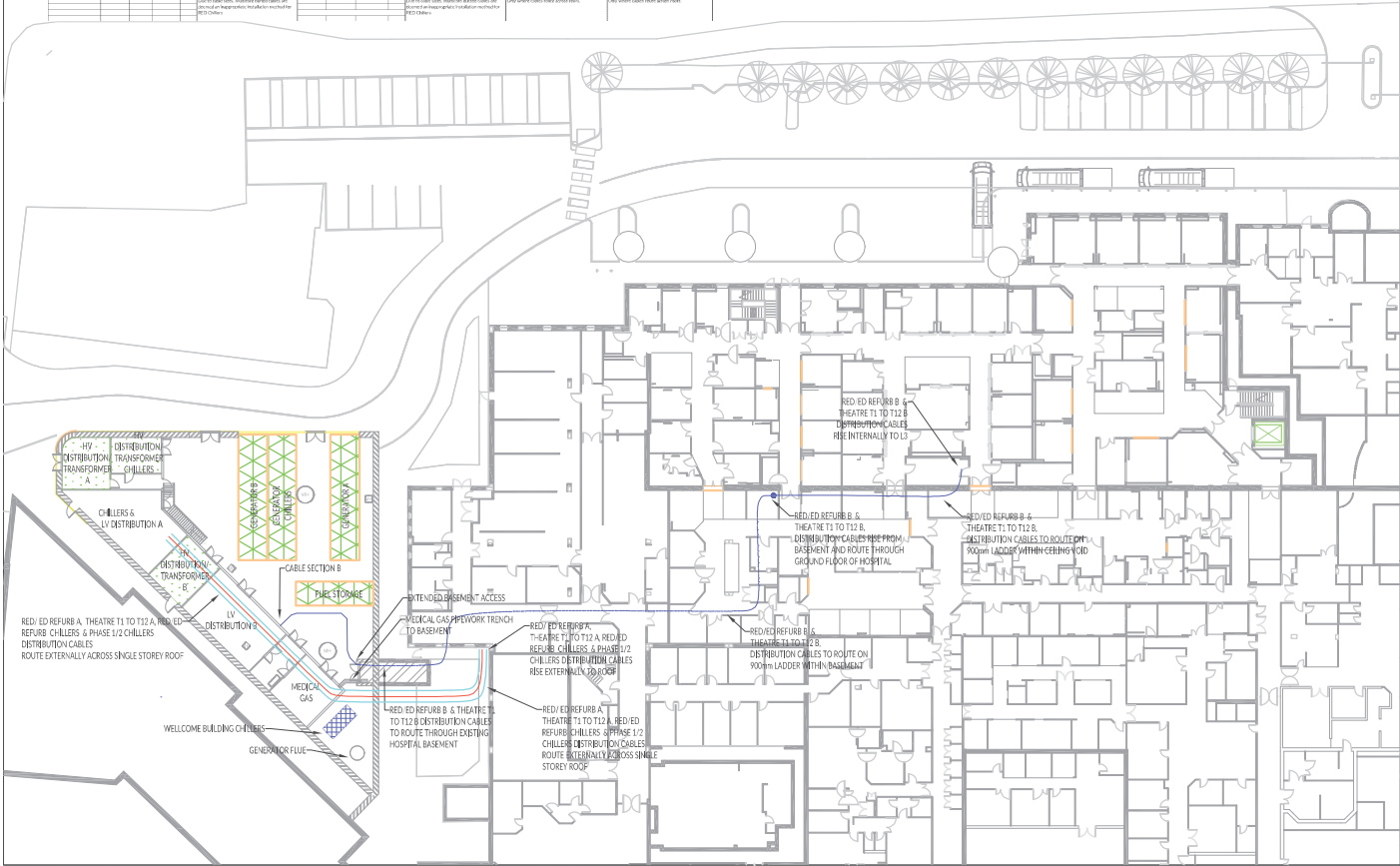
CDM Regulations:
In addition to any information included in this drawing or the model from which it is derived, refer also to the project CDM Risk Register for information on residual risks.

General Notes:

- The drawing does not necessarily show all the information needed to interpret the design intent or the construction details.
- The drawing contains information from more than one source and must be read in conjunction with all relevant specifications.
- Any apparent drafting errors and differences between other drawings and specifications shall be brought to our attention.

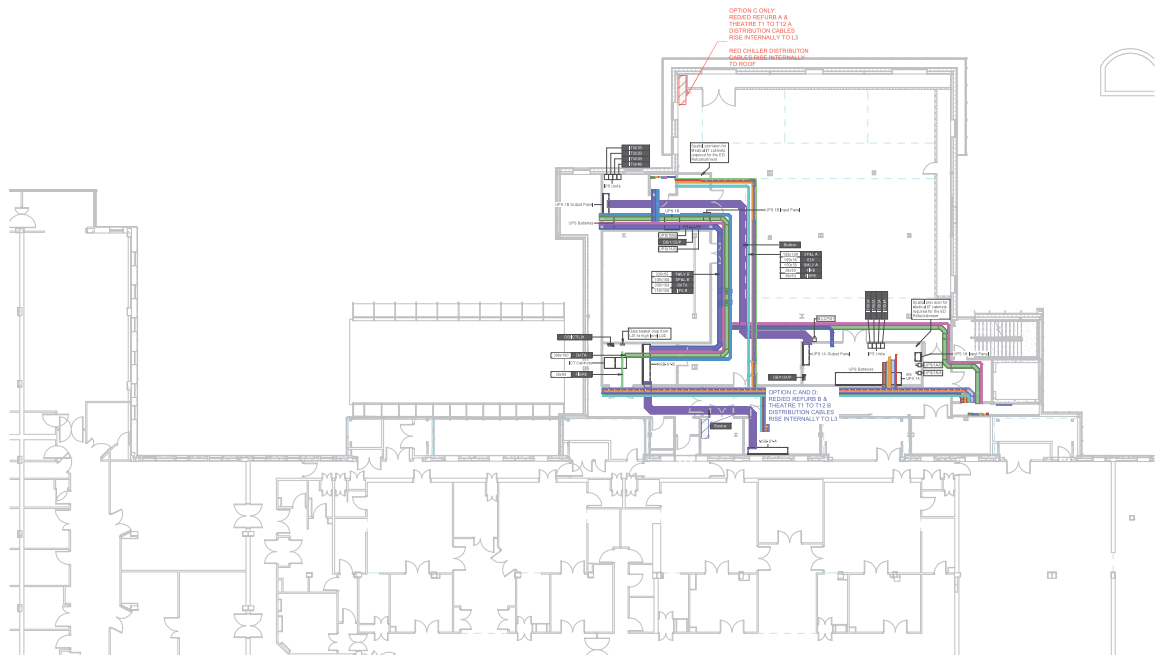
Project Notes:

- Routes shown are **indicative**.
- Confirmation of location for Incoming Wellcome Building supplies to be confirmed.
- Generators sited upon 705m @ten. Dimensions of container (LxWxD): 13m x 4m x 4m
- Cable/Trench/Duct string tables are **indicative** for feasibility purposes only. Sites to be confirmed at next stage with co-ordination substation discharge and other services.
- Drawing to be read in conjunction with LV routing option drawings:
0406044-HLEA-X0-D0-D-R-E-700-0003
0406044-HLEA-X0-D0-D-R-E-700-0004
0406044-HLEA-X0-D0-D-R-E-700-0005
- Drawing to be read in conjunction with Proposed HV Routing drawings:
0406044-HLEA-X0-D0-D-R-E-700-0002



REVISIONS					
HOARE LEA 					
ARCHITECT: ULW Architecture					
CIENT: Manchester University NHS Foundation Trust					
PROJECT TITLE: Project RD Electrical Infrastructure					
DRAWING TITLE: Proposed LV Raising Cable D					
For Information					
PERSON RESPONSIBLE FOR:					
Name	No.	Revision	Authorising Issues		
Date	No.	Sd	I		
Project No.	Date	Scale & Bt		Bt	
0000044	April 2021			1:250	
DRAWING NUMBER:					
040-0444-I(LE)-><-00-DR-E-700-0006					
					Rev

This drawing shall not be used for construction purposes without the written approval of the design team.



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