Table of Contents

Consilium Academy Trust / Client Data....4
Armthorpe Academy / Facility Summary....5
Armthorpe Academy / Roof 1 / Construction Details....7
Armthorpe Academy / Roof 1 / Roof Section Photo....9
Armthorpe Academy / Roof 1 / Inspection: Mar 25, 2021....10
Armthorpe Academy / Roof 1 / Solution: Apr 1, 2021....15
Armthorpe Academy / Roof 2 / Construction Details....17
Armthorpe Academy / Roof 2 / Roof Section Photo....18
Armthorpe Academy / Roof 2 / Inspection: Mar 25, 2021....19
Armthorpe Academy / Roof 2 / Solution: Apr 1, 2021....23
Armthorpe Academy / Roof 3 / Construction Details....24
Armthorpe Academy / Roof 3 / Roof Section Photo....26
Armthorpe Academy / Roof 3 / Inspection: Mar 25, 2021....27
Armthorpe Academy / Roof 3 / Solution: Apr 1, 2021....32
Armthorpe Academy / Roof 4 / Construction Details....34
Armthorpe Academy / Roof 4 / Roof Section Photo....36
Armthorpe Academy / Roof 4 / Inspection: Mar 25, 2021....37
Armthorpe Academy / Roof 4 / Solution: Apr 1, 2021....39
Armthorpe Academy / Roof 5 / Construction Details....40
Armthorpe Academy / Roof 5 / Roof Section Photo....42
Armthorpe Academy / Roof 5 / Inspection: Mar 25, 2021....43
Armthorpe Academy / Roof 5 / Solution: Apr 1, 2021....47
Armthorpe Academy / Roof 6 / Construction Details....48
Armthorpe Academy / Roof 6 / Roof Section Photo....49
Armthorpe Academy / Roof 6 / Inspection: Mar 25, 2021....50
Armthorpe Academy / Roof 6 / Solution: Apr 1, 2021....53
Armthorpe Academy / Roof 7 / Construction Details....54
Armthorpe Academy / Roof 7 / Roof Section Photo....55
Armthorpe Academy / Roof 7 / Inspection: Mar 25, 2021....56
Armthorpe Academy / Roof 7 / Solution: Apr 1, 2021....59
Armthorpe Academy / Roof 8 / Construction Details....60
Armthorpe Academy / Roof 8 / Roof Section Photo....61
Armthorpe Academy / Roof 8 / Inspection: Mar 25, 2021....62
Armthorpe Academy / Roof 8 / Solution: Apr 1, 2021....64

Armthorpe Academy / Roof 9 / Construction Details....65
Armthorpe Academy / Roof 9 / Roof Section Photo....66
Armthorpe Academy / Roof 9 / Inspection: Mar 25, 2021....67
Armthorpe Academy / Roof 9 / Solution: Apr 1, 2021....70
Armthorpe Academy / Roof 10 - Juniors / Construction Details....71
Armthorpe Academy / Roof 10 - Juniors / Roof Section Photo....73
Armthorpe Academy / Roof 10 - Juniors / Inspection: Mar 25, 2021....74
Armthorpe Academy / Roof 10 - Juniors / Solution: Apr 1, 2021....81

Client Data

Client: Consilium Academy Trust

Client Data

Name	Consilium Academy Trust		
Address 1	5th Floor, 1 City Approach	**Address 2**	2 Albert Street
City	Eccles	**County**	Greater Manchester
Postal	M30 0BL	**Country**	United Kingdom

Contact Info

Contact Person	Nathan Millington	**Title**	Head of Estates
Mobile Phone:	07414 687 695	**Office Phone:**	0161 639 0985
Email:	nathan.millington@consilium-at.com		

Facility Summary

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Facility Data	
Address 1	Mere Lane
Address 2	Armthorpe
City	Doncaster
County	South Yorkshire
Postal	DN3 2DA
Type of Facility	Academy
Contact Person	Nathan Millington

Asset Information

Name	Date Installed	Square Meters	Roof Access
Roof 1	Unknown	132	Ladder Needed
Roof 2	Unknown	150	Ladder Needed
Roof 3	Unknown	52	Ladder Needed
Roof 4	Unknown	19	Ladder Needed
Roof 5	Unknown	13	Ladder Needed
Roof 6	Unknown	54	Ladder Needed
Roof 7	Unknown	8	Ladder Needed
Roof 8	Unknown	54	Ladder Needed
Roof 9	Unknown	4	Ladder Needed
Roof 10 - Juniors	Unknown	950	Ladder Needed

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 1

Information

Year Installed	Unknown	**Square Meters**	132
Slope Dimension	Flat	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Mastic Asphalt

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Concrete	Poured - in - place	-	-
1	Surfacing	Asphalt	Hot applied	-	25mm

Details

Perimeter Detail	Parapet Wall, Wall Flashing
Flashing Material	Mastic Asphalt
Drain System	Scuppers, External Outlets, Parapet Outlets, Hoppers and Downpipes
Parapet Wall	Brick
Coping Cap	Stone

Inventory

Inventory Type	Quantity
Skylight	2

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 1
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 1

Inspection Information

Inspection Date	25/03/2021	Core Data	Yes
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Failed	Wall	Poor
Projections	N/A	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	Yes
Control Expansion Joints	N/A	Ponding Water	Minor
Parapet Wall	Poor	Coping Joints	Failed

Overall	
Rating	Failed
Condition	The existing mastic asphalt covering has reached the end of its serviceable life, and is showing multiple signs of stress and failure across the field and details however the area core sampled revealed the deck to be dry at this location Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering Large cracks and splits have formed in the existing mastic asphalt surface, due to expansion and contraction of the roof as it heats and cools. The majority of the vertical flashing details to parapets have slumped and failed, with lead counter flashings completely missing in areas, leaving large open cracks for water to ingress the building There have been many failed attempts at patch repairs to the roof, including flashing details to the parapet walls, and adjacent tiled roof section, with bituminous felt patches also all over the roof area. The existing jointing between the sandstone coping stones has mostly crumbled and washed away, along with jointing on the vertical face of the parapet walls themselves The existing concrete deck has been built to minimal falls, with parapet outlets and hoppers for water to drain in to the external downpipes. Areas of standing water are evident at low points in the roof, where moss and algae have grown in the debris that is covering the roof The existing rooflights are single skin pyramids, with single skin metal kerbs, which are not only thermally inefficient, but fragile and dangerous, and should be replaced as part of any roofing works The existing classroom windows adjacent to this roof are currently in use, but have very little upstand height at the cill detail. These would need to be replaced as part of any roofing works, to ensure a minimum 150mm above the finished roof surface The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

Evidence of various failed attempts at patch repairs

Photo 2

Further evidence of failed repair attempts at interface with adjacent pitched tile roof

Photo 3

Existing old and fragile and rooflights, with evidence of multiple patch repairs in the background

Photo 4

Failed vertical flashing details and brick chases

Photo 5

Further evidence of failed patch repairs in gutter area adjacent to tiled roof

Photo 6

Moss, algae and other roof debris build up at low point of roof

Photo 7

Further evidence of debris and build up at low point of roof

Photo 8

Failed brick chases, with missing counter flashings

Photo 9

Large cracks in the existing roof surface

Photo 10

Larger areas of repairs have been attempted

Photo 11

Further attempts at localised flashing repairs that have failed

Photo 12

Further evidence of attempts at repair

Photo 13

Existing timber framed windows with minimal upstand at cill

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 1

Restore Options

Solution Option:	Restore	**Action Year:**	-
Square Meters:	132	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Conduct moisture map to identify wet areas
- Strip all wet areas to existing deck and replace build up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

ROOFLIGHTS

- Install new triple skin polycarbonate units, to achieve minimum Ud Value 1.6w/m2k, and be none fragile to ACR[M]001:2014

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 2

Information

Year Installed	Unknown	**Square Meters**	150
Slope Dimension	10	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Built Up Roof (BUR)

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Plywood	Mechanically attached	-	-
1	Insulation	Polyisocyanurate	Adhesive	-	80
1	Membrane		Adhesive	-	-

Details

Perimeter Detail	Wall Flashing, Drip Edge
Flashing Material	BUR
Drain System	External Rainwater Guttering

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 2
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 2

Inspection Information

Inspection Date	25/03/2021	Core Data	Yes
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Poor	Wall	Poor
Projections	N/A	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	No
Control Expansion Joints	N/A	Ponding Water	None
Parapet Wall	N/A	Coping Joints	N/A

Overall	
Rating	Poor
Condition	Overall the surface condition of the existing system is fair, with the core sample revealing existing insulation that is dry Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering The existing vertical flashing details are fair, but lack proper counter flashing detail, and attempts at mastic repairs to this detail are evident The existing plywood roof deck has been built to falls, to allow water to drain off to the front edge welted drip and gutter detail. The existing falls are adequate to prevent standing water. The existing classroom windows adjacent to this roof are currently in use, but have very little upstand height at the cill detail. These would need to be replaced as part of any roofing works, to ensure a minimum 150mm above the finished roof surface The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

Core sample revealed dry insulation

Photo 2

Evidence of mastic repairs to brick chases

Photo 3

Overall surface condition is fair

Photo 4

Further evidence of overall surface condition

Photo 5

Evidence of poor perimeter wall and details

Photo 6

Existing membrane surface and drip edge

Photo 7

Further evidence of poor perimeter details and walls

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 2

Restore Options			
Solution Option:	Restore	**Action Year:**	-
Square Meters:	150	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Conduct moisture map to identify wet areas
- Strip all wet areas to existing deck and replace build up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 3

Information

Year Installed	Unknown	**Square Meters**	52
Slope Dimension	Flat	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Mastic Asphalt

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Concrete	Poured - in - place	-	-
1	Surfacing	Asphalt	Hot applied	-	25mm
1	Insulation	Cork	Adhesive	-	20
1	Membrane	BUR - 2 ply	Poured - in - place	-	-

Details

Perimeter Detail	Parapet Wall, Wall Flashing
Flashing Material	Mastic Asphalt
Drain System	Scuppers, External Outlets, Parapet Outlets, Hoppers and Downpipes
Parapet Wall	Brick
Coping Cap	Stone

Inventory

Inventory Type	Quantity
Skylight	2

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 3
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 3

Inspection Information

Inspection Date	25/03/2021	Core Data	Yes
Inspection Type	Visual Inspection	Leakage	Yes
Deck Conditions	Fair		

Flashing Conditions

Perimeter	Failed	Wall	Poor
Projections	Failed	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	Yes
Control Expansion Joints	-	Ponding Water	Moderate
Parapet Wall	Failed	Coping Joints	Failed

Overall	
Rating	Failed
Condition	The existing mastic asphalt covering has been overlayed with 20mm cork insulation and 2 layer BUR. The cork insulation was saturated, however the asphalt below appears to be dry. Core sample was not taken further than the asphalt layer, and deck was confirmed as concrete from visual inspection below Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering Large cracks and splits have formed in the existing mastic asphalt surface, due to expansion and contraction of the roof as it heats and cools, which has allowed the growth of plants and trees within the substrate. The majority of the vertical flashing details to parapets have slumped and failed, with lead counter flashings completely missing in areas, leaving large open cracks for water to ingress the building There have been many failed attempts at patch repairs to the roof, including flashing details to the parapet walls, and adjacent tiled roof section, with bituminous felt patches also all over the roof area. The existing jointing between the sandstone coping stones has mostly crumbled and washed away, along with jointing on the vertical face of the parapet walls themselves The existing concrete deck has been built to minimal falls, with parapet outlets and hoppers for water to drain in to the external downpipes. Areas of standing water are evident at low points in the roof, where moss and algae have grown in the debris that is covering the roof The existing rooflights are single skin pyramids, with single skin metal kerbs, which are not only thermally inefficient, but fragile and dangerous, and should be replaced as part of any roofing works The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

The existing substrate is supporting the growth of plants and trees

Photo 2

Evidence of failed outlet flashing with tree has grown

Photo 3

Further evidence of failed flashing detail where roof meets adjacent tiled roof

Photo 4

Multiple attempts at repair have been built up on top of each other

Photo 5

Failure of tiles and lack of flashing detail where tiled roof meets the flat roof

Photo 6

Evidence of holes within the tiled roof where tiles have broken, revealing a lack of flashing height behind

Photo 7

Further evidence of damage to tiled roof

Photo 8

Failed chasings to parapet walls

Photo 9

Further failed repairs

Photo 10

Complete lack of pointing between coping stones

Photo 11

Evidence of root system underneath the cork insulation

Photo 12

Evidence of saturated cork overlay

Photo 13

Further evidence of failed brick chases

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 3

Restore Options			
Solution Option:	Restore	**Action Year:**	-
Square Meters:	52	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Strip all existing roof covering to the asphalt surface
- Inspect existing asphalt surface, and strip any areas that are required down to the existing concrete deck, and build back up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

ROOFLIGHTS

- Install new triple skin polycarbonate units, to achieve minimum Ud Value 1.6w/m2k, and be none fragile to

ACR[M]001:2014

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 4

Information

Year Installed	Unknown	**Square Meters**	19
Slope Dimension	Flat	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Mastic Asphalt

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Concrete	Poured - in - place	-	-
1	Surfacing	Asphalt	Hot applied	-	25mm
1	Insulation	Cork	Adhesive	-	20
1	Membrane	BUR - 2 ply	Poured - in - place	-	-

Details

Perimeter Detail	Parapet Wall, Wall Flashing
Flashing Material	Mastic Asphalt
Drain System	Scuppers, External Outlets, Parapet Outlets, Hoppers and Downpipes
Parapet Wall	Brick
Coping Cap	Stone

Notes

Access to Roof 4 was not possible during the time of visit - Area was viewed from adjacent roof, and appeared to be the same build up as roof 3. Further survey required

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 4
STOP
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 4

Inspection Information

Inspection Date	25/03/2021	Core Data	No
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Unknown		

Flashing Conditions

Perimeter	Failed	Wall	Poor
Projections	N/A	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	Yes
Control Expansion Joints	N/A	Ponding Water	Minor
Parapet Wall	Failed	Coping Joints	Failed

Overall	
Rating	Failed
Condition	Full access to this roof area was not possible during the time of visit, however the roof was visible from Roof 3, and it was apparent that the roof build up was the same due to the type and condition of the membrane and cork overlay system. The existing mastic asphalt covering has been overlayed with 20mm cork insulation and 2 layer BUR. Core sample required prior to check for water ingress The majority of the vertical flashing details to parapets have slumped and failed, with lead counter flashings completely missing in areas, leaving large open cracks for water to ingress the building The existing jointing between the sandstone coping stones has mostly crumbled and washed away, along with jointing on the vertical face of the parapet walls themselves The existing concrete deck has been built to minimal falls, with parapet outlets and hoppers for water to drain in to the external downpipes. Areas of standing water are evident at low points in the roof, where moss and algae have grown in the debris that is covering the roof The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

Visual of Roof 4 from Roof 3

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 4

Restore Options

Solution Option:	Restore	**Action Year:**	-
Square Meters:	19	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Strip all existing roof covering to the asphalt surface
- Inspect existing asphalt surface, and strip any areas that are required down to the existing concrete deck, and build back up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 5

Information

Year Installed	Unknown	**Square Meters**	13
Slope Dimension	Flat	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Mastic Asphalt

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Concrete	Poured - in - place	-	-
1	Surfacing	Asphalt	Hot applied	-	25mm
1	Insulation	Cork	Adhesive	-	20
1	Membrane	BUR - 2 ply	Poured - in - place	-	-

Details

Perimeter Detail	Parapet Wall, Wall Flashing
Flashing Material	Mastic Asphalt
Drain System	Scuppers, External Outlets, Parapet Outlets, Hoppers and Downpipes
Parapet Wall	Brick
Coping Cap	Stone

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 5
STOP
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 5

Inspection Information

Inspection Date	25/03/2021	Core Data	No
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Failed	Wall	Poor
Projections	Failed	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	Yes
Control Expansion Joints	N/A	Ponding Water	Minor
Parapet Wall	Failed	Coping Joints	Failed

Overall	
Rating	Failed
Condition	The existing mastic asphalt covering has been overlayed with 20mm cork insulation and 2 layer BUR. The cork insulation was saturated, however the asphalt below appears to be dry. Core sample was not taken further than the asphalt layer, and deck was confirmed as concrete from visual inspection below Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering Large cracks and splits have formed in the existing mastic asphalt surface, due to expansion and contraction of the roof as it heats and cools, which has allowed the growth of plants and trees within the substrate. The majority of the vertical flashing details to parapets have slumped and failed, with lead counter flashings completely missing in areas, leaving large open cracks for water to ingress the building There have been many failed attempts at patch repairs to the roof, including flashing details to the parapet walls, and adjacent tiled roof section, with bituminous felt patches also all over the roof area. The existing jointing between the sandstone coping stones has mostly crumbled and washed away, along with jointing on the vertical face of the parapet walls themselves There existing timber structure to the tiled roof areas appears rotten, but has an area of flat roof as part of it. This is expected to be a full timber construction, with timber deck, however further investigation is required to ascertain whether or not this is in use, and is required to be repaired. The existing concrete deck has been built to minimal falls, with parapet outlets and hoppers for water to drain in to the external downpipes. Areas of standing water are evident at low points in the roof, where moss and algae have grown in the debris that is covering the roof The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

Evidence of failure of existing tiled roof

Photo 2

The existing timber structure with flat roof appears rotten

Photo 3

Evidence of failed flashings and parapet brick chases

Photo 4

Further evidence of failed flashing details

Photo 5

Evidence of attempts at repair work to outlet detail

Photo 6

Multiple failed attempts at flashing/weathering the interface of the rotten timber structure

Photo 7

Existing timber structure has a flat roof construction that has completely failed

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 5

Restore Options

Solution Option:	Restore	**Action Year:**	-
Square Meters:	13	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Strip all existing roof covering to the asphalt surface
- Inspect existing asphalt surface, and strip any areas that are required down to the existing concrete deck, and build back up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 6

Information

Year Installed	Unknown	**Square Meters**	54
Slope Dimension	10	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Built Up Roof (BUR)

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Plywood	Mechanically attached	-	-
1	Insulation	Polyisocyanurate	Adhesive	-	80
1	Membrane		Adhesive	-	-

Details

Perimeter Detail	Wall Flashing, Drip Edge
Flashing Material	BUR
Drain System	External Rainwater Guttering

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 6
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 6

Inspection Information

Inspection Date	25/03/2021	Core Data	No
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Poor	Wall	Poor
Projections	N/A	Counterflashing	Poor

Miscellaneous Details

Brick Chases	Poor	Debris	No
Control Expansion Joints	N/A	Ponding Water	None
Parapet Wall	N/A	Coping Joints	N/A

Overall	
Rating	Poor
Condition	Overall the surface condition of the existing system is fair, with the core sample revealing existing insulation that is dry Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering The existing vertical flashing details are fair, but lack proper counter flashing detail, and attempts at mastic repairs to this detail are evident The existing plywood roof deck has been built to falls, to allow water to drain off to the front edge welted drip and gutter detail. The existing falls are adequate to prevent standing water. The existing classroom windows adjacent to this roof are currently in use, but have very little upstand height at the cill detail. These would need to be replaced as part of any roofing works, to ensure a minimum 150mm above the finished roof surface The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard

Photo 1

Existing timber windows with minimal cill height

Photo 2

Overhanging tiled roof with debris from broken tiles

Photo 3

Photograph of outlet and downpipe detail from Roof 7 that drain on to Roof 6

Photo 4

Further pictures of timber windows with minimal cill height

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 6

Restore Options			
Solution Option:	Restore	**Action Year:**	-
Square Meters:	54	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Conduct moisture map to identify wet areas
- Strip all wet areas to existing deck and replace build up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 7

Information

Year Installed	Unknown	**Square Meters**	8
Slope Dimension	Flat	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Mastic Asphalt

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Concrete	Poured - in - place	-	-
1	Surfacing	Asphalt	Hot applied	-	25mm

Details

Perimeter Detail	Parapet Wall, Wall Flashing
Flashing Material	Mastic Asphalt
Drain System	Scuppers, External Outlets, Parapet Outlets, Hoppers and Downpipes
Parapet Wall	Brick
Coping Cap	Stone

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 7
STOP
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 7

Inspection Information

Inspection Date	25/03/2021	Core Data	No
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Failed	Wall	Poor
Projections	N/A	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	Yes
Control Expansion Joints	N/A	Ponding Water	Minor
Parapet Wall	Failed	Coping Joints	Failed

Overall	
Rating	Failed
Condition	The existing mastic asphalt covering has reached the end of its serviceable life, and is showing multiple signs of stress and failure across the field and details however the area core sampled revealed the deck to be dry at this location Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering Large cracks and splits have formed in the existing mastic asphalt surface, due to expansion and contraction of the roof as it heats and cools. The majority of the vertical flashing details to parapets have slumped and failed, with lead counter flashings completely missing in areas, leaving large open cracks for water to ingress the building There have been many failed attempts at patch repairs to the roof, including flashing details to the parapet walls, and adjacent tiled roof section, with bituminous felt patches also all over the roof area. The existing jointing between the sandstone coping stones has mostly crumbled and washed away, along with jointing on the vertical face of the parapet walls themselves The existing concrete deck has been built to minimal falls, with parapet outlets and hoppers for water to drain in to the external downpipes. Areas of standing water are evident at low points in the roof, where moss and algae have grown in the debris that is covering the roof The existing classroom windows adjacent to this roof are currently in use, but have very little upstand height at the cill detail. These would need to be replaced as part of any roofing works, to ensure a minimum 150mm above the finished roof surface The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

Photograph showing full roof area

Photo 2

Failed brick chases and counter flashings

Photo 3

Further evidence of flailed flashings

Photo 4

Debris on roof from failed parapet walls

Photo 5

Large cracks and holes in the existing asphalt flashings

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 7

Restore Options			
Solution Option:	Restore	**Action Year:**	-
Square Meters:	8	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Conduct moisture map to identify wet areas
- Strip all wet areas to existing deck and replace build up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 8

Information

Year Installed	Unknown	**Square Meters**	54
Slope Dimension	10	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Built Up Roof (BUR)

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Plywood	Mechanically attached	-	-
1	Insulation	Polyisocyanurate	Adhesive	-	80
1	Membrane		Adhesive	-	-

Details

Perimeter Detail	Wall Flashing, Drip Edge
Flashing Material	BUR
Drain System	External Rainwater Guttering

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 8
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 8

Inspection Information

Inspection Date	25/03/2021	Core Data	No
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Poor	Wall	Good
Projections	N/A	Counterflashing	Poor

Miscellaneous Details

Brick Chases	Poor	Debris	No
Control Expansion Joints	N/A	Ponding Water	None
Parapet Wall	N/A	Coping Joints	N/A

Overall	
Rating	Poor
Condition	Overall the surface condition of the existing system is fair, with the core sample revealing existing insulation that is dry Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering The existing vertical flashing details are fair, but lack proper counter flashing detail, and attempts at mastic repairs to this detail are evident The existing plywood roof deck has been built to falls, to allow water to drain off to the front edge welted drip and gutter detail. The existing falls are adequate to prevent standing water. The existing classroom windows adjacent to this roof are currently in use, but have very little upstand height at the cill detail. These would need to be replaced as part of any roofing works, to ensure a minimum 150mm above the finished roof surface The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard

Photo 1

Image showing existing timber windows with minimal cill height

Photo 2

Further picture showing minimal cill height

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 8

Restore Options			
Solution Option:	Restore	**Action Year:**	-
Square Meters:	54	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Conduct moisture map to identify wet areas
- Strip all wet areas to existing deck and replace build up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 9

Information

Year Installed	Unknown	**Square Meters**	4
Slope Dimension	10	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Mastic Asphalt

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Concrete	Poured - in - place	-	-
1	Surfacing	Asphalt	Hot applied	-	25mm

Details

Perimeter Detail	Parapet Wall, Wall Flashing
Flashing Material	Mastic Asphalt
Drain System	Scuppers, External Outlets, Parapet Outlets, Hoppers and Downpipes
Parapet Wall	Brick
Coping Cap	Stone

Armthorpe Academy
Mere Lane
Armthorpe
Doncaster
DN3 2DA
Legend
Roof 9
STOP
Google Earth
40 m

Inspection Report

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Report Date: 25/03/2021

Roof Section: Roof 9

Inspection Information

Inspection Date	25/03/2021	Core Data	No
Inspection Type	Visual Inspection	Leakage	No
Deck Conditions	Good		

Flashing Conditions

Perimeter	Failed	Wall	Poor
Projections	N/A	Counterflashing	Failed

Miscellaneous Details

Brick Chases	Failed	Debris	Yes
Control Expansion Joints	N/A	Ponding Water	Moderate
Parapet Wall	Failed	Coping Joints	Failed

Overall	
Rating	Failed
Condition	The existing mastic asphalt covering has reached the end of its serviceable life, and is showing multiple signs of stress and failure across the field and details however the area core sampled revealed the deck to be dry at this location Core samples are an indication of the areas sampled only. The roofing contractor must confirm the existing build up when tendering Large cracks and splits have formed in the existing mastic asphalt surface, due to expansion and contraction of the roof as it heats and cools. The majority of the vertical flashing details to parapets have slumped and failed, with lead counter flashings completely missing in areas, leaving large open cracks for water to ingress the building There have been many failed attempts at patch repairs to the roof, including flashing details to the parapet walls, and adjacent tiled roof section, with bituminous felt patches also all over the roof area. The existing jointing between the sandstone coping stones has mostly crumbled and washed away, along with jointing on the vertical face of the parapet walls themselves The existing concrete deck has been built to minimal falls, with parapet outlets and hoppers for water to drain in to the external downpipes. Areas of standing water are evident at low points in the roof, where moss and algae have grown in the debris that is covering the roof The existing classroom windows adjacent to this roof are currently in use, but have very little upstand height at the cill detail. These would need to be replaced as part of any roofing works, to ensure a minimum 150mm above the finished roof surface The existing roof construction has a poor thermal performance. Under current Building Regulations, if major refurbishment is undertaken then the thermal performance of the roof construction must be brought up to the current standard.

Photo 1

The existing roof is covered with debris, moss, and algae

Photo 2

Further evidence of existing roof covered in debris

Photo 3

Existing timber windows with minimal cill height and lack of proper weathering detail

Photo 4

Further evidence of lack of proper flashing detail at windows

Solution Options

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 9

Restore Options			
Solution Option:	Restore	**Action Year:**	-
Square Meters:	4	**Expected Life (Years):**	25
Budget:	-		

BITUMINOUS MEMBRANE ROOF OVERLAY

PREPARATION

- Conduct moisture map to identify wet areas
- Strip all wet areas to existing deck and replace build up to existing levels
- Strip all existing flashings and failed details
- Clean and dry existing roof surface
- Prime all areas with Garland Primer

VAPOUR CONTROL

- Install new Garland torch on vapour control layer, using self fully bonded/self adhesive to all upstands and fire risk areas

INSULATION

- Install a new insulation scheme to existing substrate, that meets the current 0.18U value regulations and adhere in place with Garland adhesive

UNDERLAY

- Install a Garland torch on underlay to the insulation boards, with a fully bonded/self adhesive underlay to upstands and fire risk areas

CAP SHEET

- Install the Garland torch on cap sheet to all areas, using fully bonded/self adhesive to all upstands and fire risk areas

Construction Details

Client: Consilium Academy Trust

Facility: Armthorpe Academy

Roof Section: Roof 10 - Juniors

Information

Year Installed	Unknown	**Square Meters**	950
Slope Dimension	Flat	**Eave Height**	Single Storey
Roof Access	Ladder Needed	**System Type**	Built Up Roof (BUR)

Assembly

Roof #	Layer Type	Description	Attachment	U-Value	Thickness
1	Deck	Plywood	Mechanically attached	-	-
1	Insulation	Polyisocyanurate	Adhesive	-	25mm
1	Membrane	BUR - 2 ply	Poured - in - place	-	-
1	Surfacing	Flood & Gravel	Flood Coat	-	-

Details

Perimeter Detail	Drip Edge
Drain System	Internal Roof Drains, External Rainwater Guttering, External Outlets

Inventory