LOWER AREA OF ORANGERY ROOF OVER TOILETS AND OFFICE:

Carefully strip back all existing chippings, paving flag ballast, and insulation down to the original mastic asphalt finishes and cart away, including pressed metal angle at eaves. Remove and cart away all vegetation and root growth taking hold within the depth of the inverted insulation.

Patch repair existing asphalt where necessary ready to receive new finishes.

Ensure all surfaces are dry, clean and dust free prior to application of Bauder Quick Dry Primer, in accordance with manufacturer's recommendations, over all areas to receive the new torch on membranes.

Lay Bauder VB4-EXPAL 3.5mm thick aluminium lined elastomeric bitumen vapour barrier, partially bonded (30% per M2) by torching, with 100mm laps at sheet edges, and with full bonding at all perimeter edges including rainwater outlets and roof penetrations. Dress up all upstands above the insulation to a minimum height of 150mm where practical to ensure 100mm lap over the angle fillet.

Lay Bauder PIR insulation board, generally 120mm thick across the extent of the roof area, but with 50mm thickness to a 300mm wide 'channel' adjacent to the upstand, and no insulation to a 200mm wide channel against the north wall of the original building. Insulation boards to be close butted and staggered, and bedded on the vapour barrier with Bauder cold applied polyurethane insulation adhesive, (min. 3 no. evenly spaced 8mm strips per row, 4 no. at perimeters).

Lay Bauder TEC KSA DUO 3mm thick glass grille reinforced, self-adhesive elastomeric bitumen underlay, fully bonded to the insulation with 100mm side laps between sheets, sealed by torching and rolling, and 100mm staggered head laps, torched and rolled. Dress underlay up all edges and upstands, and torch seal with the vapour barrier min. 100mm.

Finish with Bauder K5K 5mm thick polyester reinforced elastomeric bitumen capping sheet, charcoal slate grey finish, fully bonded to the underlay by torching to manufacturer's recommendations, with 100mm head laps and 80mm side laps. Dress up all roof penetrations and upstands to a minimum height of 150mm above the roof surface where practical, and lap over min. 75mm with lead cover flashings.

200mm wide uninsulated channel against Orangery north wall.

Water check to 200mm wide channel against Orangery north wall formed by torch on cap sheet over triangular tannalised timber fillet .

Existing circular lead outlet from collection point through wall into new 100mm diameter cast iron rainwater pipe with min. 250mm long cast iron shoe outlet discharging onto lower roof area beyond uninsulated channel against wall.

New Code 7 lead overflow through core drilled aperture through parapet wall and discharging over lead weathered cornice.

Existing circular lead outlet from collection point through wall retained. Build new Code 7 lead sleeve and spigot into new outlet detail to flatboard gutter, to lap min. 100mm into existing outlet sleeve through wall.

Build up falls in flatboard gutters if considered necessary by introducing additional layers of capping sheet.

Detail of roof abutment with low level window cill as Detail 1, 4306/R03.

Carefully take off all coping stones from the head of the north Orangery boundary wall at the abutment of the lower roof area, number and store for re-use, including cutting remaining cramps between components where necesary. Clean off all cement mortar.

Undertake roofing works as described and at abutment with boundary wall dress roofing up and over roof head. Drill 25mm diameter sockets, 110mm deep, through roofing material, (2 no. staggered per coping stone), and set 200mm long x 8mm diameter stainless steel dowel in resin in pocket. Seal with silicone / bitumen, to manufacturer's recommendations where dowel penetrates roofing material when placing the dowels. Drill corresponding sockets in underside of coping stones prior to refixing on wall head.

Re-bed coping stones on a bed of 1:3 lime mortar as specification, and point between in the same mix, including filling sockets with mortar prior to re-bedding to ensure copings are secured over the upstanding ends of the locating dowels.

COVER FLASHINGS TO LOWER ROOF:

Remove existing cover flashings at roof abutment with the Orangery north wall. Renew in Code 5 lead dressed into existing chases / bed joints in the wall and secured with lead wedges at 300mm c/cs and back pointed in BLM mastic. Free edge of lead to be dressed down to lap min. 100mm over roof upstand at abutment, and form around and into the recesses of the 3 no. windows built into the wall. Flashings to be in max. 1500mm lengths, lapped 100mm and with free edge clipped at 300mm c/cs.

Detail of low level roof abutment with window cill in Orangery north wall as Detail 2, 4306/R03.

Half round section cast iron eaves gutter to lower roof to be retained. Descale and redecorate, including sealing joints where necessary.

New Code 7 lead overflow through core drilled aperture through parapet wall and discharging over lead weathered cornice.

Existing 100mm diameter cast iron downpipe to lower roof eaves gutter to be retained. Descale and redecorate, and check gully runs clear.

Existing circular lead outlet from collection point through wall into new cast iron hopper with new short length of 100mm diameter cast iron rainwater pipe complete with shoe outlet discharging onto edge of roof adjacent to existing retained cast iron eaves gutter.

Retain and redecorate 100mm diameter cast iron soil and vent pipe, and fit mesh cowl.

Existing circular lead outlet from collection point through wall retained. Build new Code 7 lead sleeve and spigot into new outlet detail to flatboard gutter, to lap min. 100mm into existing outlet sleeve through wall.

Existing circular lead outlet from collection point through wall retained. Build new Code 7 lead sleeve and spigot into new outlet detail to flatboard gutter, to lap min. 100mm into existing outlet sleeve through wall.

Existing circular lead outlet from collection point through wall into extg., assumed lead, refurbished ornamental hopper with new 100mm diameter cast iron rainwater pipe complete with shoe outlet discharging over gully. Check gully and underground drainage is clear.

New Code 7 lead overflow through core drilled aperture through parapet wall and discharging over lead weathered cornice.

No works envisaged to existing bituminous felt gable between boiler house and Kitchen.

No works envisaged to existing bituminous felt roof over boiler house.

Half round section cast iron eaves gutter to lower roof to be retained. Descale and redecorate, including sealing joints where necessary.

Existing100mm diameter cast iron downpipe to lower roof eaves gutter to be retained. Descale and redecorate, and check gully runs clear.

No works envisaged to existing monopitched profiled polycarbonate sheet roof over Kitchen wash area.

No works envisaged to existing stainless steel gutter with internal rainwater pipe in corner of Kitchen wash area.

Existing circular lead outlet from collection point through wall retained. Build new Code 7 lead sleeve and spigot into new outlet detail to flatboard gutter, to lap min. 100mm into existing outlet sleeve through wall.

Existing circular lead outlet from collection point through wall into new 100mm diameter cast iron rainwater pipe with min. 250mm long cast iron shoe outlet discharging over polycarbonate roof.

New Code 7 lead overflow through core drilled aperture through parapet wall and discharging over lead weathered cornice.

Existing ventilation structure to be removed and carted away, including disconnection of all services.

Existing extract terminal penetrating roof to be retained. All roof finishes to be flashed around.

Falls in extg. roof deck.

Falls in extg. roof deck.

Falls in tapered insulation.

Extg. roof fall.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Falls in tapered insulation.

Valley formed in tapered insulation.

Valley formed in tapered insulation.

Valley formed in tapered insulation.

Valley formed in tapered insulation.

Valley formed in tapered insulation.

Valley formed in tapered insulation.

Ridge / high point of tapered insulation.

Ridge / high point of tapered insulation.

svp

rwp

rwp

rwp

rwp

rwp

rwp

1. DO NOT SCALE FROM THIS DRAWING - USE FIGURED DIMENSIONS ONLY
2. READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS / SPECIALISTS DRAWINGS. REPORT ANY DISCREPANCIES BEFORE AFFECTED WORK COMMENCES
3. ALL SETTING OUT DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR BEFORE WORK COMMENCES
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ASSOCIATED MASONRY WORKS:

Carefully take off all coping stones from the head of the parapet walls to the main roof area, number and store for re-use, including cutting remaining cramps between components where necesary. Clean off all cement mortar.

Patch point all parapet walls where necessary, including stitch pinning to stabilise displaced areas of masonry, and lay Code 5 lead dpc over head of parapet walls, in max. 1500mm lengths, lapped 100mm minimum between sheets, and of sufficient girth to allow 25mm turn down over the masonry / render each side of the wall. All areas of lead in contact with masonry to be painted in bitumen prior to laying. Drill 25mm diameter socket, 110mm deep, through dpc into wall head, (2 no. staggered per coping stone), and set 200mm long x 8mm diameter stainless steel dowel in resin in pocket. Seal with bitumen where dowel penetrates lead dpc. Drill corresponding sockets in underside of coping stones prior to refixing on wall head.

Re-bed coping stones on a bed of 1:3 lime mortar as specification, and point between in the same mix, including filling sockets with mortar prior to re-bedding to ensure copings are secured over upstanding ends of locating dowels.

Undertake general masonry repairs to coping stones as identified on the plan as follows:

1. Carefully cut out around embedded end of iron cramp and supply and fix stone indent approx. size 150x150x75mm deep, bedded and backed in lime mortar (no resin to be used for fixing of indent repairs).
2. Carefully cut out around embedded end of iron cramp and supply and fix stone indent approx. size 150x150x75mm deep, bedded and backed in lime mortar (no resin to be used for fixing of indent repairs).
3. Renew coping stone complete, where surface largely concrete, section and size to match existing, approx. 670x500x150mm deep.
4. Carefully cut out damaged rear edge of coping stone full depth, and stainless steel pin new repair piece to surviving front section of coping. Approx size of repair 150x670x150mm deep.
5. Renew existing concrete coping in stone to match original section and material. Approx size 500x880x150mm deep.
6. Renew existing coping formed from 2 no. stone flags in stone of section and material to match existing. Approx size 300x685x150mm deep.
7. Carefully cut out damaged rear edge of coping stone full depth, and stainless steel pin new repair piece to surviving front section of coping. Approx size of repair 150x500x150mm deep.
8. Carefully cut off damaged end of coping stone full section, and stainless steel pin new repair piece to surviving section of coping. Approx size of repair 300x500x150mm deep.
9. Carefully cut off damaged end of coping stone full section, and stainless steel pin new repair piece to surviving section of coping. Approx size of repair 150x500x150mm deep.
10. Carefully cut out damaged front edge of coping stone full depth, and stainless steel pin new carved indent repair piece to surviving rear section of coping. Approx size of repair 350x175x150mm deep.
11. Renew existing damaged coping stone, section and material to match existing. Approx. size 610x730x150mm deep.
12. Carefully cut out damaged and decayed corner of coping stone, and stainless steel pin new carved indent repair piece, approx size 150x150x75mm deep.

Bauder roofing to be dressed up angle fillet at open south edge of roof (between return of Orangery loggia parapet walls), and capping sheet finished over proprietary GRP edge trim / drip mould, spray finished to colour match to lead cornice weathering, plugged and stainless steel screwed to wall head masonry at roof edge.

COVER FLASHINGS TO MAIN ROOF:

Remove existing cover flashings built into parapet walls and cart away. Supply and fix new 0.5mm FME terned stainless steel (316 low carbon) cover flashings secured into existing joints in the parapet walls with lead wedges at 300mm c/cs and the joint back pointed in BLM mastic. Where necessary any new chases for flashings are to be 30x15mm. The secured edge of the flashing is to be folded in the joint and the free edge folded down to lap min 100mm with the upstand of the roof finishes where abutting the parapet / upstanding walls. Flashings are to be in max. 1800mm lengths, lapped 100mm at joints, and with return fold to bottom edge for strength.

Localised areas difficult to form in stainless steel, such as around and into the recess to the East Wing first floor corridor window, are to be formed in Code 5 lead.

WEATHERING TO CORNICE MOULDING CONTINUOUS ROUND ORANGERY:

Strip off extg. defective lead cornice weathering all round Orangery and cart away. Supply and fix new Code 6 lead weathering with welted joints between sheets at 1000mm c/cs, with s/s clips in the welt set back 75mm from front edge of stone cornice moulding. Clips to be plugged and stainless steel screwed to stonework. Dress top edge of weathering into bed joint at top of moulding and secure with lead wedges at 300mm c/cs, and back point with BLM mastic. Front 'free edge of weathering to be welted around continuous stainless steel clip, plugged and s/s screwed to cornice, with welt projecting 25mm down from outer edge of cornice mould to form an effective drip to protect the masonry beneath.

OTHER SUNDRY WORKS:

1. Allow for the disconnection and removal from the roof, building walls and parapet walls of all redundant cabling and ducting associated with the roof alarm, electrical and mechanical service installations, and cart away.
2. Allow for the temporary disconnection of the lightning conductor tapes and all associated fixings to facilitate the works to the roof and parapet walls, and refix on completion. All fixing points / details to be agreed with the C/A.

ORANGERY ROOF PLAN AS PROPOSED (1:50)

WORKS TO THE RENDER TO THE REAR OF PARAPET WALLS:

Parapet Walls over East Loggia and Kitchen:
Strip off all extg. defective render back to brick / stone background and cart away. Remove any loose, flaking or unstable material using stiff brushes / scrapers back to a sound, well adhering substrate and and apply Keim Universal Render to pre-wetted surfaces as follows. Dub out to level surface as necessary and apply initial 6mm layer incorporating Keim Glass Reinforcement Mesh pressed into surface, followed by a 4mm finishing layer, all applied in accordance with manufacturer's recommendations.
Allow to dry for 15 no. days then decorate with 2 no. coats Keim Royalan mineral paint system to colour to be agreed on site, first coat diluted 20% by weight with Keim Royalan Dilution, brush or roller applied and worked into surface of the render, followed by a final undiluted coat, all applied in accordance with manufacturer's recommendations.

All Other Parapet Walls:
All other rendered faces of parapet walls are to be patch repaired, (allow provisional quantites of 25% renewal of failed render), as follows. All loose, flaking and unstable material to be identified and marked on site and removed using stiff brushes and scrapers back to a sound well adhering substrate, including feathering in all edges. Apply an initial layer of Keim Universal Render up to 10mm thick to pre-wetted surfaces, followed by a finishing coat up to 10mm thick in accordance with manufacturer's recommendations. Where a greater depth of finish is required to flush through with adjacent surfaces build up finishes in layers 4mm minimum to 10mm maximum to the required depth.
Allow to dry for 15 no. days then decorate with Keim Royalan mineral paint system as described above, across all render to the rear of the parapet walls.

MAIN AREA OF ORANGERY ROOF:

Carefully strip back all existing chippings, mastic asphalt finishes, tapered cork insulation and bituminous felt vapour barrier back to existing sand cement screed and cart away, including from all upstands and edge details.

Patch repair existing screed where necessary and finish with a wood float ready to receive new finishes.

Ensure all surfaces are dry, clean and dust free prior to application of Bauder Quick Dry Primer, in accordance with manufacturer's recommendations, over all areas to receive the new torch on membranes.

Lay Bauder VB4-EXPAL 3.5mm thick aluminium lined elastomeric bitumen vapour barrier, partially bonded (30% per M2) by torching, with 100mm laps at sheet edges, and with full bonding at all perimeter edges including rainwater outlets and roof penetrations. Dress up all upstands above the insulation to a minimum height of 150mm where practical to ensure 100mm lap over the angle fillet.

Lay Bauder PIR tapered insulation to thickness and layout indicated on plan, close butted and staggered, bedded to vapour barrier with Bauder cold applied polyurethane insulation adhesive, (min. 3 no. evenly spaced 8mm strips per row, 4 no. at perimeters).

Lay Bauder TEC KSA DUO 3mm thick glass grille reinforced, self-adhesive elastomeric bitumen underlay, fully bonded to the insulation with 100mm side laps between sheets, sealed by torching and rolling, and 100mm staggered head laps, torched and rolled. Dress underlay up all edges and upstands, and torch seal with the vapour barrier min. 100mm.

Finish with Bauder K5K 5mm thick polyester reinforced elastomeric bitumen capping sheet, charcoal slate grey finish, fully bonded to the underlay by torching to manufacturer's recommendations, with 100mm head laps and 80mm side laps. Dress up all roof penetrations and upstands to a minimum height of 150mm above the roof surface where practical, and lap over min. 75mm with lead cover flashings.

LEGEND

30mm flatboard insulation to 400mm wide gutter areas, main roof.

50mm flatboard insulation to 300mm wide perimeter strip of lower roof area.

200mm wide uninsulated channel at abutment of lower roof with north Orangery wall.

Tapered insulation to main Orangery roof, falls as indicated on plan, 94mm above existing screed at low points, with 8mm fall across each strip of insulation, building up to 206mm above screed at the last full band of insulation and approximately 210mm above the screed at the extreme southern edge of the bow window.

Existing rainwater outlet positions utilised to main roof area.

5 Stone indent repairs / replacement required to parapet wall coping stones, main Orangery roof. Refer to 'Associated Masonry Works' for details of works required against each numbered item.

Rev C - Reference to container and marquee removed (LH)	17-03-07
Rev B - Cross references to details added (FDS)	16-12-14
Rev A - Edge trim to open area of south roof between loggia parapets to be GRP, coloured to match lead (FDS)	16-12-07

Contract
DH43906: Heaton Hall Phase 4

Client
Manchester City Council C.T.S.

Building / Structure
Orangery, Heaton Hall

Roof Plan as Proposed

Drawing No. R02

Scale 1:50 @ A1

Contract No. 4306

Drawn FDS

Date Nov 2016

Revision C

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