

PROPOSAL

New Organ

for

Chetham's School of Music

Manchester

WILLIAM DRAKE Ltd

Organ Builder

Chapel Street, Buckfastleigh, Devon TQ11 0AB



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1 INTRODUCTION

William Drake Limited is pleased to receive the opportunity to provide a proposal to replace the fire-damaged organ in Chetham's School, Manchester.

The idea to commission an instrument with a distinct character for a teaching institute such as this is an inspirational one. Its future use as teaching and recital instrument makes this project a great inspiration for the people in our company.

William Drake Limited

William Drake Organ Builder was established by William Drake in 1974 and is based in Buckfastleigh.

William Drake Organ Builders has undertaken many high-profile projects, including the restoration of the Ballroom organ at Buckingham Palace, the new organ of St Mary Undercroft, Palace of Westminster, the OBE Chapel organ in St Paul's Cathedral and has completed a significant restoration project of the 1735 Richard Bridge organ in Christ Church Spitalfields in 2015.

In 2015 Our firm cleaned and overhauled/restored the 1882 John Nicholson organ in Schagen, The Netherlands, originally built for St Mary Magdalen in Worcester. The summer of 2016 saw the completion of the restoration of the fine 1755 Snetzler organ in Clare College Cambridge. Our firm has very recently completed a new 3 manual 33 stop instrument for Chelsea Old Church, details of which can be found on our website (www.williamdrake.co.uk).

William Drake has been trading for 47 years, and the staff who have all been with the business for a significant number of years, have in excess of 80 years organ building experience. William Drake has gained national and international recognition for its quality of craftsmanship and ability to complete the most impressive and challenging organ builds and projects. All William Drake's instruments are bespoke and made to exacting standards.

The tonal design and voicing of our instruments is undertaken by Joost de Boer, who has been closely involved in tonal finishing with William Drake since 1989. Joost de Boer is responsible for the widely acclaimed tonal reconstruction of the Richard Bridge organ in Christ Church Spitalfields, and of the tonal design and finishing of our most recently finished project in Chelsea Old Church.

Case and internal design are carried out by Geert Noppers who joined William Drake in 1980. He has been responsible for designing our instruments from 1992 until the most recent successful instrument in Chelsea Old Church.

Our organs are bespoke designed and design drawings are hand-drafted.

Current projects can be followed on William Drake Limited, Specialist Organ Builders' Facebook page and via the Facebook button on our website.

William Drake Limited is a business member of the I.B.O. (The Institute of British Organ Building for which Joost de Boer is a Trustee), accredited in the categories of New Organ (tracker action), Historic Restoration (tracker action), Cleaning and Overhaul and Tuning and Maintenance. Director Joost de Boer has worked with the firm since 1989 and became a director of the firm in 2013. He is responsible for documenting the restoration of the organs in Christ Church Spitalfields and Clare College Cambridge.

2 SPECIFICATION

Great CC – a''' (58 notes)

OPEN DIAPASON	8F ^T	
VIOLA	8F ^T	(slotted, 1-12 by communication)
STOP DIAPASON	8F ^T	(chimney flute from tenor g)
PRINCIPAL	4F ^T	
FLUTE	4F ^T	(chimney flute from bottom G)
TWELFTH BASS/TREBLE	2 ² / ₃ F ^T	
FIFTEENTH	2F ^T	
TIERCE BASS/TREBLE	1 ³ / ₅ F ^T	
MIXTURE	4RKS	
TRUMPET BASS/TREBLE	8F ^T	

Swell CC – a'''' (58 notes)

OPEN DIAPASON	8F ^T	
STOP DIAPASON	8F ^T	(stopped metal from tenor c)
FLAUTO TRAVERSO	4F ^T	(harmonic from tenor g)
FLAGEOLET	2F ^T	
CORNET BASS/TREBLE	2RKS	
CORNOPEAN	8F ^T	
OBOE	8F ^T	(lidded)

TREMULANT

Pedal CC – f' (30 notes)

BOURDON	16F ^T	
BASS FLUTE	8F ^T	(by extension)
FIFTEENTH	4F ^T	
TROMBONE	16F ^T	(1-12 half length, leathured shallots)

Couplers

SWELL TO GREAT
SWELL TO PEDALS
GREAT TO PEDALS

4 Composition Pedals to the Great

3 Composition Pedals to the Swell

The organ will be tuned to a temperament yet to be discussed, pitch A440Hz @ 20° Celsius.

MIXTURE COMPOSITIONS

Great Mixture

C ¹	19 – 22 – 26 – 29
C ^{#14}	15 – 19 – 22 – 26
C ^{#26}	8 – 12 – 15 – 19
C ^{#38}	1 – 8 – 12 – 15

Swell Cornet

C ¹	17 – 19
G ²⁰	12 – 17

3 DESCRIPTION

Concept

The concept of the new organ in the music school takes into account the already present instrument in the nearby Cathedral, which is designed to perform a very broad repertoire, much of which in the context of the Anglican Liturgy.

The choice to commission an instrument that will perform repertoire which the Cathedral organ can't necessarily perform authentically, is a truly inspired idea.

This instrument is based on established English traditions with some leanings towards the 19th century up to the early 1880s. This concept suites a wide repertoire from the early baroque, whilst at the same time embracing the soundscape of the middle romantic period. We successfully used this concept in our new organ for Chelsea Old Church which we completed in 2019.

Although modest in size, the specification is remarkably complete and will present the student, the teacher and recitalist with a complete tonal palette which can be accessed on two manuals and pedals.

The style of unforced and colourful voicing allows the instrument to be of a size, which will not overpower the Hall acoustics, whilst at the same time giving sufficient resources to support a very wide repertoire for two manuals and pedals.

This medium sized instrument will due to its tonal design and flexibility not be limited to repertoire of the classical period.

Style

The tonal design draws on our experience with historic instruments which we encountered during restorations. Scaling and voicing details are cleverly combined with our own reliable soundboard, winding and action design in order to create an instrument which speaks to the player and listener with a clear style identity. The action is designed to be comfortably sensitive, but not feel too light or indeed dangerous. The winding is designed to have flexibility to compliment the voicing and to appropriately withstand the musical demands put on it by the player.

Tonal design

The Great features a chorus supported by three 8foots and a reed stop which can serve as a solo reed or indeed as a colourful chorus reed.

The Open Diapason is the largest scaled stop in the chorus and has narrower mouths than the early 18th century Open Diapason. This allows it to provide a full tone with drive without it becoming too powerful.

The Viola 8ft has an imperceptible inward taper and is a copy of a stop in an 1882 John Nicholson organ in Schagen, the Netherlands. This stop, either drawn together with the stop Diapason or on its own, provides a softer level of foundation tone and colour to the Great.

The healthy scaled metal Stop Diapason is of an 18th century English design and has chimneys.

The 4foot Flute is of metal and is a chimney flute with open pipes in the top register.

The continuation of the chorus is somewhat smaller in scale than the Open Diapason, but designed with the same detailing. It builds up to Twelfth and Fifteenth to form the effect of a small mixture when drawn together.

The Tierce will blend with the small mixture to make a Cornet Décomposé and will make the full plenum into a tierce plenum when required.

The Twelfth, Fifteenth and Tierce are divided into Bass and Treble to enable an increased flexibility in choice of solo combinations.

The chorus is crowned with a four-rank mixture which will provide the plenum with clarity and power.

The Trumpet has open, slightly tapered square ended shallots to encourage it to blend with the chorus. This stop has nevertheless sufficient power and individual character to fulfil its role as solo voice.

The Swell has a complete chorus topped with a two rank Cornet. The choice for this stop was made to benefit a blend with the reeds in and to give the Swell a counterpart to the Great Cornet Décomposé.

The Cornet is divided between middle C and C[#] to allow accompaniments to the solos on the Great to use the full two bottom octaves of the Swell despite the Treble Cornet having been drawn on the Swell. The Cornet can also be used in registrations without the Flageolet 2ft where a Sesquialter would be appropriate in a cantus firmus.

The Swell Open Diapason is several pipes smaller in scale than the Great Open Diapason and has therefore a keener or brighter tone. The tone could be said to be sweeter than that of the Great, but is due to the advantageous position of the Swell not less effective.

The Stop Diapason has a wide scale and is metal from tenor c upwards. It will make a good counterpart to the other flutes in the organ.

The Flauto traverso 4ft is a style copy based on an example by John Nicholson and is very slightly tapered. This stop has the potency to take its place as single 4ft in the chorus as well as having the qualities of a beautiful concert flute.

The Flageolet 2ft is balanced to suit the Flute combinations and to fit in with the chorus.

The Swell reed scales are based on the mid. 19th century practices of William Hill.

The Cornopean has tapered shallots of the mid. 19th century type which encourage a somewhat fuller tone than that of the Great Trumpet.

The Oboe is of the Hill type and has lids. This stop is equally useful as colourful ingredient to the foundations as it is as a solo voice.

The Pedal Bourdon is scaled and voiced to give presence and gravitas in the room. A bold 8foot Bass Flute is derived from this to provide 8ft tone in this department. An ample scaled 4ft Fifteenth will give clarity in the ensemble and is usable as a solo pedal stop.

The Pedal Trombone is based on the principle of a Hill Double Trumpet. It has leathered shallots in the Hill tradition.

Conclusion

As in our organ in Chelsea Old Church, our experience with 18th century organs and later English builders of the 19th centuries has a significant influence on the tonal design of this new organ. I believe strongly that including these elements in an artistic way will serve the

potentially eclectic use of this instrument, while simultaneously enhancing its distinguished tonal identity.

The varied scaling of the chorus and foundations with varying mouth width, will result in the organ having a colourful and free-singing voice, allowing the player to combine just about any stop combinations without easily crossing the boundaries of good taste.

This scheme will give excellent recourses for the performance of a wide selection of solo repertoire by English, French and other European composers from both earlier and later periods.

Case and Façade

The aim of this design is to provide a case that both fits its environment, as well as to give a visual expression of the sound of the instrument within. With the Swell division centrally placed above the Great, the breadth of the middle tower accommodates this department with ample space. The middle tower also emphasises the proud and confident statement of the tonal design of the organ.

The decision to place the organ at an angle integrates it into the space giving it a sense of belonging, whilst also improving the player / listener relationship. The space behind thus created, makes it possible to locate the Pedal department in such a way that the organ case has a fairly slender appearance.

The detailing is kept clean and simple allowing the proportions and the quality of the quarter-sawn figured oak to do the talking. The varied angles in tower shape and pipe shades follow on from many historic examples and create an interest in the design. This feature of tradition was also a way of integrating the front pipes to be more or less their natural speaking-length in order to avoid excessive over-length.

Console

The console will be positioned in the front of the lower case. The keyboards will be made with bone naturals and blackwood sharps. The Swell is played from the top keyboard, the Great from the lower keyboard.

Stop knobs will be engraved in a mid. 19th century style.

The pedalboard will be concave with radiating sharps.

The balanced Swell pedal will be in a conventional central position.

An organ bench will be provided with a mechanism to allow for height adjustment.

An appropriate desk light and pedal light will be provided.

Action

The key action will be mechanical.

The keys, backfalls and squares will be made of oak, the trackers of the finest pine.

The rollerboards will have wooden and metal rollers with metal arms in order to ensure stability in service.

Stop action

The stop action will be mechanical and made using metal trundles and trace rods of pine with oak arms and levers.

A composition action will be provided with 4 fixed combinations to the Great and 3 to the Swell.

Soundboards

The soundboards will be constructed using traditional materials. The grid, pallets and rackboards will be made out of Quebec yellow pine and tulip wood, the table from a hardwood laminate and the sliders, bearers and upperboards out of oak. Liegelind slider seals will be used to guarantee a stable wind supply to the pipes in differing climatic conditions.

Wind system

The wind system will be of traditional design using a diagonal or wedge-shaped reservoir fed by a blower. The wind pressure will be $2\frac{3}{4}$ inch.

Provisions will be made for the possible inclusion of concussion bellows, and a decision on number and position will be made during the tonal finishing of the organ.

Pipework

The façade pipes and the reeds will be made in an 80% tin alloy. Larger chorus pipework will be made in high percentage lead to benefit the harmonic blend between the stops. An alloy of higher percentage tin will be used for chorus and string pipes of 1ft length and smaller.

Our pipes are made to precise specifications by Shires Organ Pipes Ltd in Leeds.

4 CONSTRUCTION

Isolating Organ Support Structure

The organ will be designed to stand on a rigid wooden ground frame structure which spreads the load of the different parts of the organ evenly over the floor surface on which it stands. This structure will be designed to incorporate the support of the organ case with its façade.

Construction and Voicing in the workshop

Once the manufacture of major components has been completed, the instrument will be erected in our workshop, enabling us to check all technical aspects and to make technical adjustments where necessary.

When the mechanical assembly in the workshop is completed, the pipes are placed into the organ and are 'pre-voiced'. This is to ensure that the pipes will live up, after pre-voicing, to the expectations we had of the sound. Important in the pre-voicing stage is to leave sufficient possibility for correction during the final voicing in the Hall.

The benefit of assembly and pre-voicing in the workshop is that the time needed for construction and voicing on site will be considerably shorter.

The chorus pipework from 51/3ft g and smaller will be cut to length and cone-tuned, larger pipes will receive a tuning flap. Reed pipes are cut to length.

Considering the acoustical characteristics of the Studio and the style of the instrument, the wind-pressure will be approximately 70mm or 2³/₄inch water column.

On completion of the assembly in the workshop, representatives of Chetham's School of Music are invited to inspect the instrument before preparations are made to deliver the instrument to Manchester.

Construction and voicing in the Hall

After all the technical parts and the pipes have been transported to Chetham's School, the organ will be erected in the Hall. During the Delivery and first three weeks of the construction, the Hall would have to be closed for visitors for safety reasons. After that it will be sufficient for the organ builder to have a relatively small part of the room available where the remaining parts (mainly pipework) can be stored until they can be incorporated into the instrument.

When the technical construction is completed, the final tonal finishing will take place, whereby the specific acoustical characteristics of the Hall will play an important part.

During this period, noise in the Hall during the tonal finishing work should be avoided. We are happy to find ways to combine our work and the wishes of Chetham's School as much as possible without compromising the quality of the organ sound in the end.

Proposed on site working times and CDM

Technical installation 45 person-days (3 weeks, 4 - 2 people)

Tonal finishing 40 person-days (4 weeks, 2 people)

The number of people working on site is less than 20 at one time and the estimated total number of person-days on site is 95. The project is therefore not CDM notifiable.

Access and Health and Safety

Access into the organ for regulating and tuning will be through doors in the lower left and right sides of the instrument and access onto the lower or Great tuning passage will be via a sturdy purpose-made wooden ladder with horizontal treads.

Having entered the organ, there is ample head room above and underneath all passage boards without head-bump hazards.

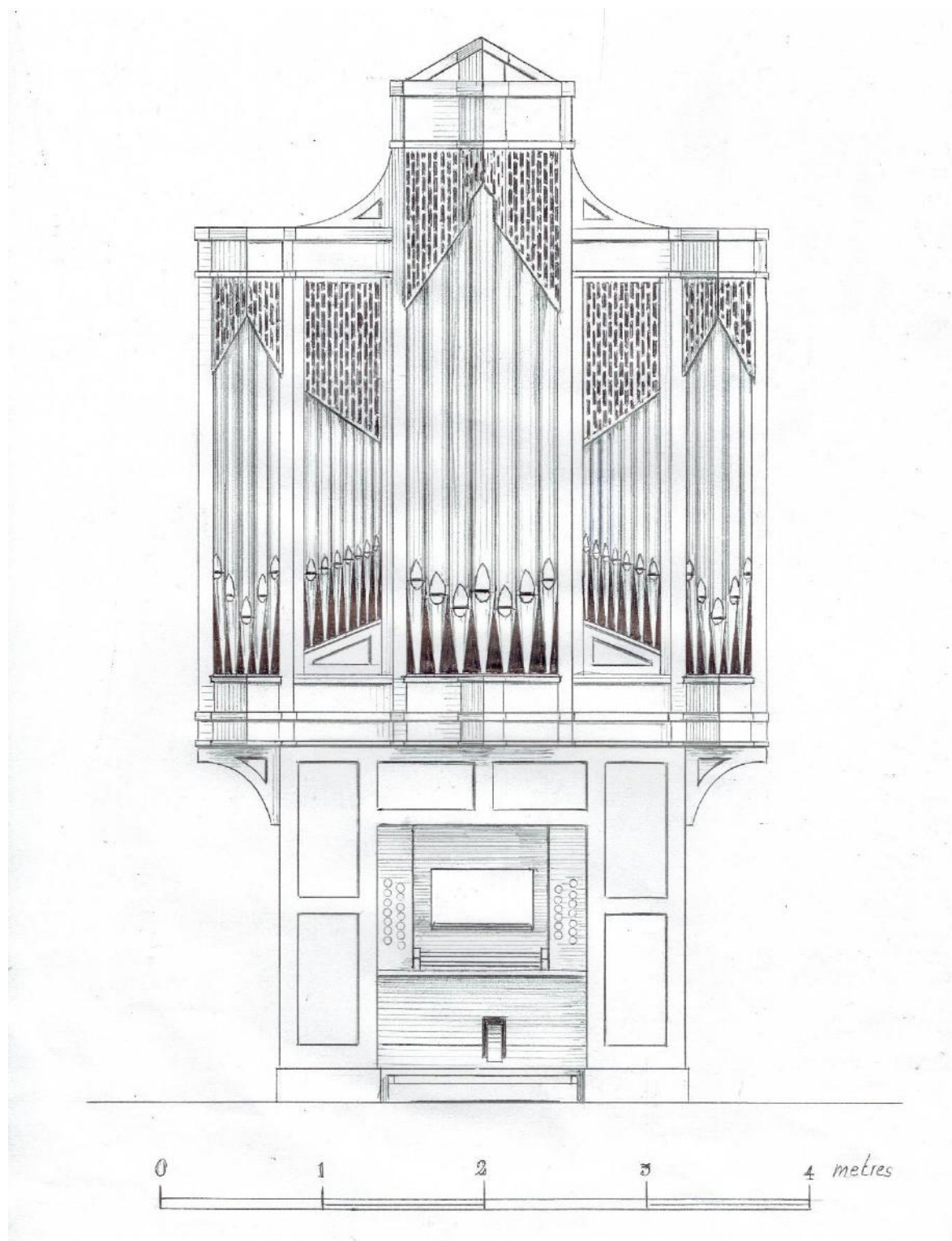
All parts of the organ are accessible for regulation and tuning by internal passage boards.

Spacious tuning passage boards for the Great, Swell and Pedal departments will have the necessary safety features such as hand rails at 1100mm from the platform surface with a lower guard rail and a kick rail of 100mm high according to UK Health and Safety requirements as appropriate.

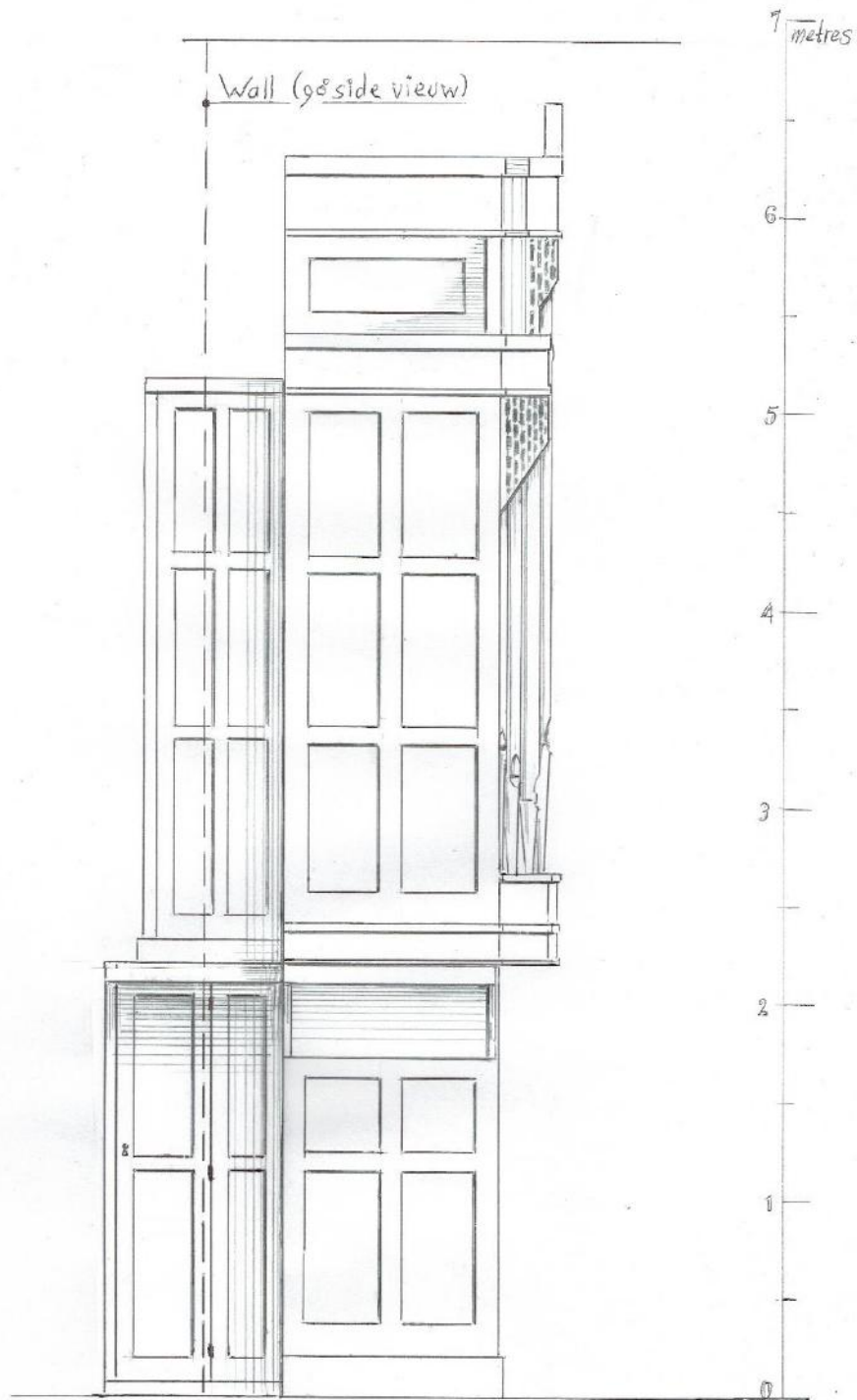
A single internal ladder will give access to the Swell platform. It has horizontal treads and will be locked in position when used. Appropriate fixed hand rails are provided.

Appropriate discreetly fitted Led strip lighting is provided to light all of the interior enabling comfortable maintenance.

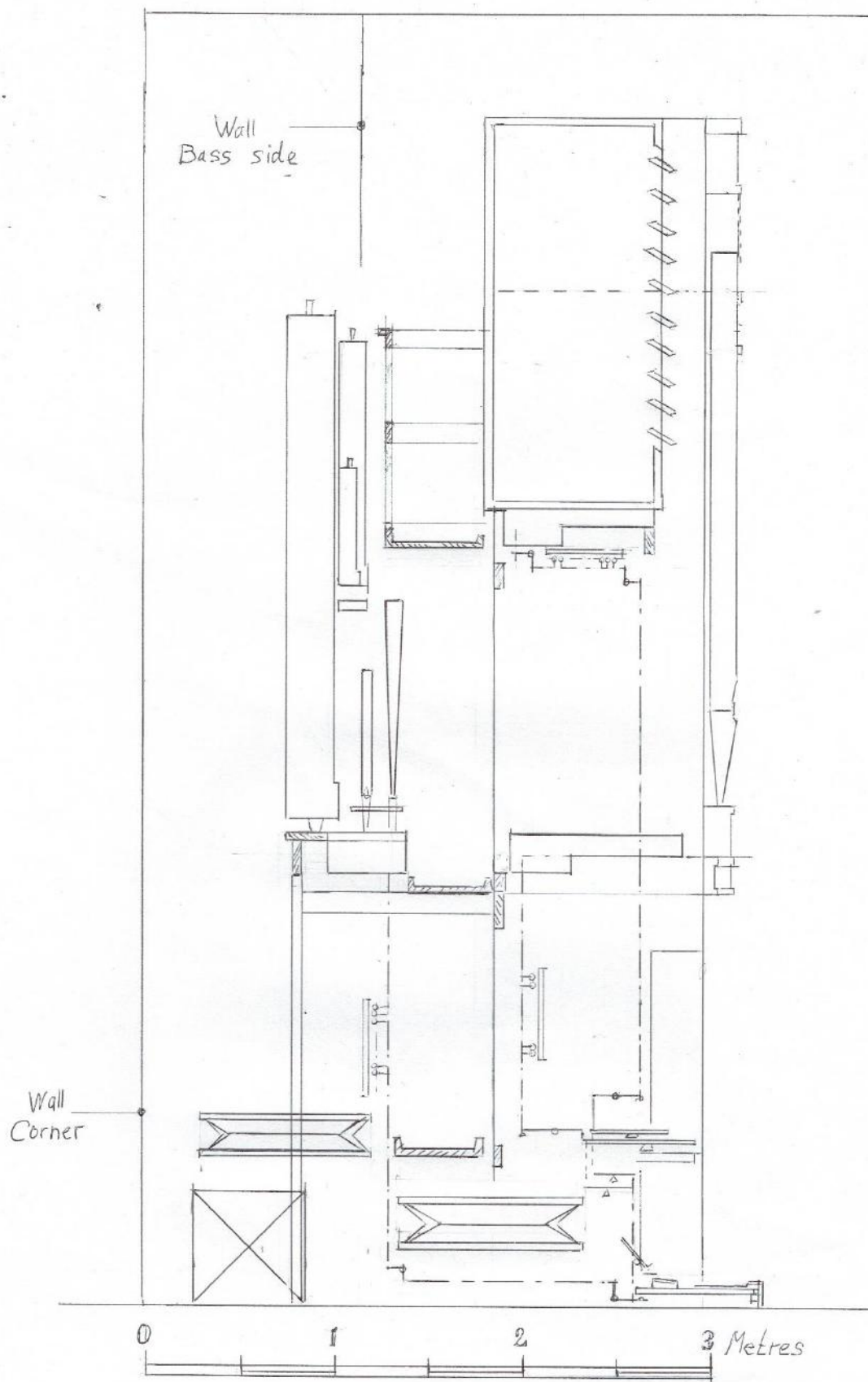
5 FRONT VIEW



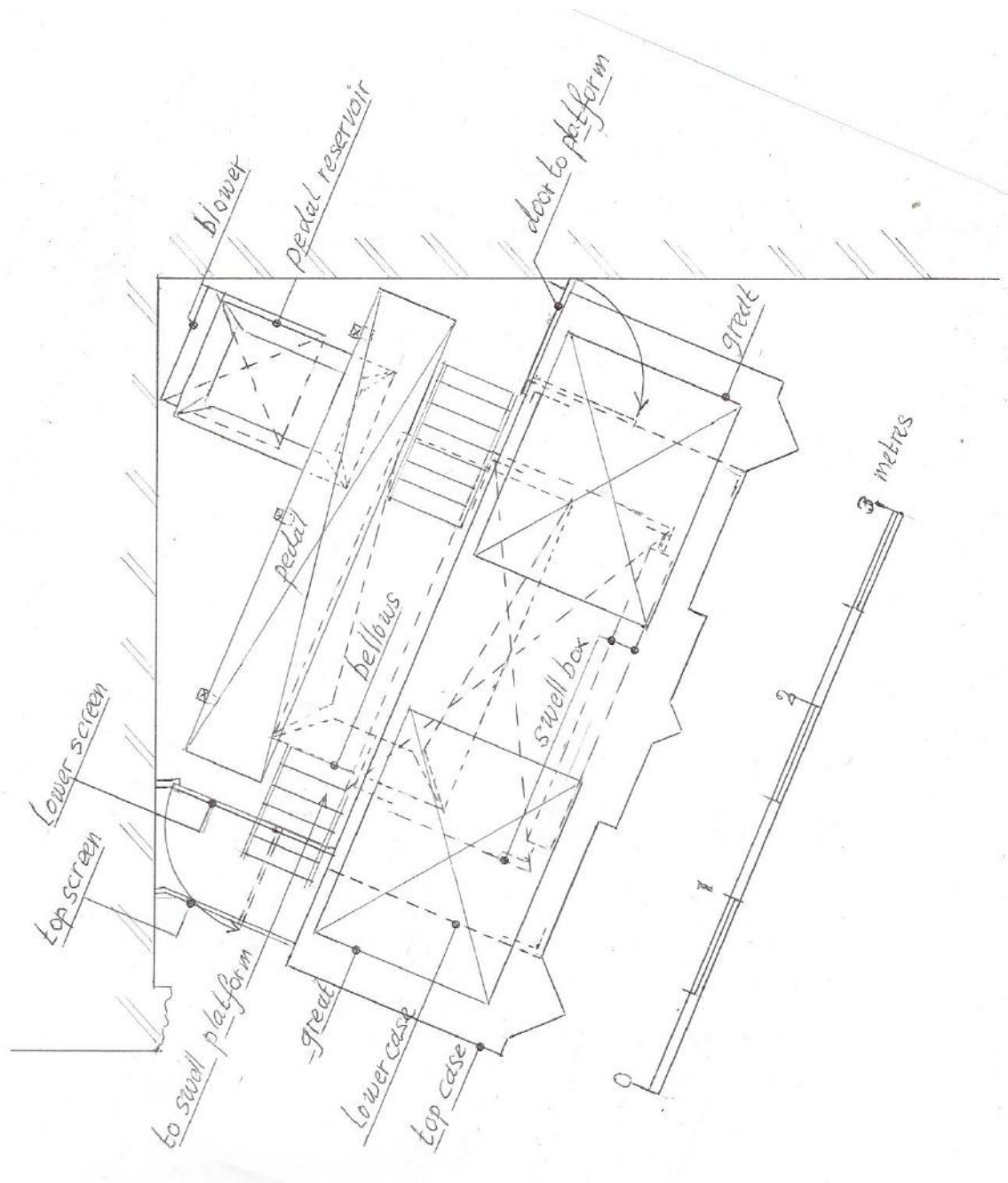
6 SIDE VIEW



7 CROSS SECTION



8 PLAN VIEW



9 WEIGHT DISTRIBUTION



The Estimated Total Weight is 6420kg

10 PRICE, TERMS AND CONDITIONS

PRICE

The Price for the Organ is £ 399,800 + VAT

The price includes the cost of Delivery and On-Site Installation.

DELIVERY

We are currently taking part in a Delta eSourcing tender in which we have committed ourselves to commence works on the signing of an Agreement. If successful, we could look forward to signing as soon as the end of January. This project would be likely to run for 24-30 months and would naturally have an effect on our immediate availability for commencing a project for Chetham's School.

We would however be able to commence works on signing an Agreement in case the aforementioned tender would prove to be unsuccessful. The estimated duration of the Chetham's project is between 17 and 18 months with financial safety to allow for possible delay in completion. A cashflow model is attached to show project costs and income over this period.

This delivery schedule is given after a considered estimate of the organ builder's current commitments and the time needed to build the organ. The organ builder undertakes that completion of the organ shall not be delayed by work on any subsequent contracts.

PROPOSED PAYMENT TERMS

The payment is proposed to be in Milestones as set out below in the PAYMENT SCHEDULE.

Payment Schedule 1 assumes that works will commence 24-30 months after signing an Agreement (or from which time the schedule of this project can start to overlap with the current one).

Payment Schedule 2 assumes that works will commence without delay on signing an Agreement.

The last instalment will be payable within 30 days of the completion and acceptance of the new organ in the Hall. To this purpose, a meeting between the organ builder and a representative of Chetham's School will be convened at the completion of the instrument.

PAYMENT SCHEDULE 1

Milestone 1	On signing an Agreement 3%	£11,994 + VAT
Milestone 2	On Commencement 10%	£39,980 + VAT
Milestone 3-6	4 Monthly Payments of 7%	£27,986 + VAT
Milestone 7-14	8 Monthly Payments of 5%	£19,990 + VAT
Milestone 15	Completion in workshop 7%	£27,986 + VAT
Milestone 16	On delivery and completion 7%	£27,986 + VAT
Retainer	On Acceptance 5%	£19,990 + VAT

PAYMENT SCHEDULE 2

See the included Cash Flow Projection attached in tender submission. This Cashflow model assumes a signing in January or February 2022

Milestone 1	On signing an Agreement 10%	£39,980 + VAT
Milestone 2	On Commencement 10%	£39,980 + VAT
Milestone 3-6	4 Monthly Payments of 7%	£27,986 + VAT
Milestone 7-14	8 Monthly Payments of 4%	£15,992 + VAT
Milestone 15	Completion in workshop 7%	£27,986 + VAT
Milestone 16	On delivery and completion 8%	£31,984 + VAT
Retainer	On Acceptance 5%	£19,990 + VAT

SITE PREPARATION

It is assumed that the floor on which the organ is placed will be structurally sound.

It is assumed that there would be no disruption from building work during the installation and that the Hall would be free from building dust and moisture.

It will be required that the Organ Room is free of noise during the tonal finishing.

The provision of an electrical supply for the wind supply of the organ and the internal lighting of the organ would be the responsibility of Chetham's School.

GUARANTEE

All parts made and supplied by the organ builders will be guaranteed against faulty workmanship, materials or design for a period of ten years from the date of completion of the organ.

Excluded from the guarantee are wilful or accidental damage, and damage caused by vermin, insects, dust and extreme conditions of temperature and humidity. The organ builder is to be given free (pre-arranged) access to the organ during the period of the guarantee.

The guarantee, which assumes the minimum of one annual paid visit (see below) by the organ builder for maintenance, would cease to be valid if persons not authorised by them gain access to the interior of the instrument.

The I.B.O. (the Institute of British Organ building) standard general agreement terms will apply when situations arise that are not covered by the terms in the proposal or in the agreement.

PREVENTIVE MAINTENANCE SCHEDULE for the first three years after the Date of Acceptance:

General tuning and maintenance is scheduled once every three years. This will require two working days and the works can be described as follows: The whole organ will undergo a complete inspection. The organ will be tuned completely and the temperament will be checked and brought in line with the required values. Where needed small voicing corrections will be executed. The action will be thoroughly checked and adjusted where needed.

In the two other years a maintenance visit of one working day is advisable, consisting of the following works: Checking of the tuning, correcting minor tuning deficiencies and checking the regulation.

Description	Annual Preventive Maintenance Charge excl. VAT <i>Prices are exclusive of travel, hotel and food costs and subject to a periodical rise in line with inflation.</i>
Year 1: check/ correction of tuning, correction of mechanical action	£ 525.-
Year 2: check of voicing, general tuning and regulating the action	£ 1,050.-
Year3: as Year1	£ 525.-

This schedule will be repeated, with a next general tuning in Year 5.

Non-scheduled maintenance work depends on circumstances beyond our horizon and is not included, e.g. damage repairs, repair of defects caused by climatological circumstances in the Hall and cleaning when dirt or dust has accumulated in pipes and wind chests.

INSURANCE

The organ builder carries all the necessary and appropriate insurances for the work it undertakes. The organ will be insured by the organ builder during its construction in the workshop under our current policy.

During restoration in the workshop, the insurable value will be adjusted as appropriate in order to guarantee full cover throughout the project.

Organs and parts thereof, while in transit, are covered under the organ builder's insurance policy. In case the value of parts in transit exceeds the value of the current cover, a one-off additional policy will be taken out, covering the full value of the organ and parts thereof in transit.

It will be the responsibility of Chetham's School of Music to insure the organ from the date of its delivery to the Hall.

Joost de Boer
Director
William Drake Limited

8 December 2021