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The Historic JJ Binns 1900-01 Pipe Organ Restoration

St John's Church, Deptford, London

Scope of Works

CONTENTS

1. Provenance and history

St John's Church and its fabric is of significant heritage value throughout. It was designed by the famous architect P C Hardwick (responsible for the architectural design of the Bank of England[1]) and built in 1854.[2] The church was finished in squared randomly coursed Kentish ragstone and comprises a central aisle joined by an aisle both to the north and south of equal length and gable ended. The church has a tower finished with a fine spire to the west end of the south aisle.[3] This makes St John's a local landmark heritage feature which, sited at the top of St John's Vale (Loampit Hill), makes this heritage building visible throughout much of the Parish and surrounding Deptford area and its community.

The Church is on the main A20 road and bus route Deptford through Lewisham and is a short walk from Deptford Bridge DLR transport link. It has a large mowed green space and parking space around it, featuring a large Holm Oak tree, and is a pleasant short cut to St John's railway station and local primary schools.

St John's is located opposite Lewisham and Southwark College and is a 10-minute walk from Goldsmiths College. It is in a district of four and two storey houses built in the 19th century and close to new large-scale developments of multi-storey housing; it is a short distance away from the Stone House, a significant Georgian house of 1771.

St John's Church is blessed with fine architectural detail, fabric, and modern facilities. It has large leaded clear glass windows to the north and south aisles making the nave very light. The Church is spacious with pews in the nave, and choir stalls in the chancel are of timber. The organ with carved panel casework is part of the fabric and is located to the north-east of the chancel at the east end of the north aisle.

Stained glass in the seven lancet east window to the chancel is a fine work of art, as is that of the west window, now viewed from the upper Howell Hall 1970s extension. Both are by Ward & Hughes, notable for work in sacred buildings around the UK including Lincoln Cathedral and stained-glass windows in many churches in Norfolk.[4] The Allan angel monument of 1868 in the south aisle is by Matthew Noble a leading 19th century British sculptor who sculpted the marble bust of Queen Victoria to commemorate the opening of St Thomas' Hospital in 1873.[5]

In 1978-79 the west end was altered to form the first floor Howell Hall, a first-floor kitchen, and rooms including a toilet, George Lewis Room with a kitchen, and office at ground floor level.

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[1] The Victorian Web: PC Hardwick

[2] The Diocese of Southwark: St John's Deptford

[3] Ibid

[4] The Victorian Web: Ward & Hughes

[5] The Victorian Web: Matthew Noble

A lift to the first floor and new toilets, including a wheelchair accessible toilet, were added in 2014-2016.[6]

On entering the church via the main south-west doors, a glazed narthex screen at ground level offers a view into the church. The tower with its fine spire houses a set of eight bells.

The parish of St John's was created in 1855 and an organ of 23 stops with two manuals and pedals by J W Walker installed the same year.[7] Music through the organ has always been integral to life at St John's. This is evidenced by the presence of an organ in the church since its consecration in 1855 and a memorial in the church to an organist of the day – Herbert John Smith who died in 1888 (Appendix 1). This organ, although relatively sizeable for 1855, was of the 'old style' with a short compass Swell from Tenor C[8], meaning it did not have a Bass octave of notes and was, by 1900, very limited in its ability to support church music and performance at worship or for other community events such as concerts and weddings at St John's.

In 1900, the three manuals and pedal pneumatic action pipe organ with 35 speaking stops by J J Binns of Leeds was built for St John's Church. The desire and vision of St John's to have an instrument fit to provide music of the highest standard is evident in the choice of this high-quality instrument, not by choosing for convenience a local regional organ builder but, by one of great repute from the north of England, Binns. The high quality of this instrument and careful choice of its builder make this a unique heritage instrument. It is of historic value, a valuable part of the heritage of St John's, its community and south-east London.

Built in 1900 and commemoratively opened in 1901, the organ is little changed from its original condition. The stops mechanism was updated, probably in the early 1920s, and minor repairs were carried out in the 1990s but not to the detriment of the instrument. The organ was awarded a Grade II* listed status by BIOS because of its original condition and tonal quality.[9] Binns was renowned for high-quality craftsmanship and excellent musical tone in his instrument[10] (he was a respected singer, knowledge which enhanced his ability as a pipe voicer). This is evident in the organ at St John's. It is an instrument of unusual size and character in south-east London.

Binns' three-stage pneumatic action was patented[11] as evidenced on the makers' plate found on the organ console. This action is light and fast, unlike many two-stage actions which came

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[6] McVicker, W. p2

[7] The National Pipe Organ Register: St John's Deptford

[8] Ibid

[9] BIOS (NPOR) Historic Organ Listing: St John's Deptford

[10] Sumner, W. L. p235

[11] Binns, J. J. p14

before[12] and is a feature that makes the St John's organ unique amongst others in the Greater London area. The fine quality of this action resulted in it being commented on by leading organists of the day, for example H Goss Custard commented "The action is all that could possibly be desired"[13] and documented in books to this day including 'Organ Works' by John Norman (2020).[14] The Deptford Binns organ with its 35 speaking stops is an excellent example of his work.

It is testament to the high-quality craftsmanship throughout this instrument that it has given service to St John's for over 120 years with only minor repairs and 'patching' carried out in the 1990s. After 120 years of service the organ is, understandably, in need of a full restoration due to aged and perished parts and the wear and tear associated with passage of time of over 120 years of being played.

The strong pedigree and very high percentage of original components in this organ means that a full restoration will return this part of Deptford's and south-east London's, heritage to full working order and set it on course for another 120 years of service and music making in the community.

[12] Norman, J. p179

[13] Binns, J. J. p14

[14] Norman, J. p179

2. Specification

Organ builder: James Jepson Binns, Bramley Organ Works, Leeds

Date: 1900

Action: Binns Patented Tubular Pneumatic action

Division and Stop list:

Pedal

Key action **TP** Stop action **TP** Compass-low **C** Compass-high **f1** Keys **30**

#	Stop	Pitch
1	**Harmonic Bass**	32
2	**Open Diapason**	16
3	**Sub Bass**	16
4	**Octave**	8
5	**Flute Bass**	8
6	**Trombone**	16
7	**Tromba**	8

Choir

Key action **TP** Stop action **TP** Compass-low **C** Compass-high **c4** Keys **61** **Enclosed**

8	**Geigen Principal**	8
9	**Lieblich Gedackt**	8
10	**Gamba**	8
11	**Dolce**	8
12	**Lieblich Flute**	4
13	**Flautina**	2
14	**Clarinet**	8
15	**Tremulant**	

Great

Key action **TP** Stop action **TP** Compass-low **C** Compass-high **c4** Keys **61**

16	**Bourdon**	16
17	**Large Open Diapason**	8
18	**Small Open Diapason**	8
19	**Hohl Flute**	8

20	**Rohr Flute**	8	
21	**Octave**	4	
22	**Harmonic Flute**	4	
23	**Twelfth**	2 2/3	
24	**Fifteenth**	2	
25	**Mixture**	III	(CD Full Mixture)
26	**Trumpet**	8	

Swell

Key action **TP** Stop action **TP** Compass-low **C** Compass-high **c4** Keys **61** **Enclosed**

27	**Bourdon**	16	
28	**Open Diapason**	8	
29	**Lieblich Gedackt**	8	
30	**Vox Angelica**	8	
31	**Voix Celestes**	8	
32	**Suabe Flute**	4	
33	**Salicet**	4	
34	**Piccolo**	2	
35	**Mixture**	III	(15.19.22 CD Grave Mixture)
36	**Horn**	8	
37	**Oboe**	8	
38	**Tremulant**		

Couplers

Swell to Pedal
Swell to Great
Swell to Choir
Swell octave to Great
Swell suboctave to Great
Swell octave
Swell suboctave

Choir to Great
Choir to Pedal
Choir suboctave

Great to Pedal

Accessories

4 toe button pedals to Great & Pedal
4 toe button pedals to Swell
4 pistons to Great & Pedal
4 pistons to Swell
3 pistons to Choir

Reverser: Great to Pedal thumb piston
Balanced expression pedals to Swell and Choir divisions
Ivory plumb bob

3. Historic Restoration: essential points to observe

It is essential the following points[15] are observed by the organ builder undertaking this historic restoration and were outlined when initial costs of restoration were sought at the outset of the project initiation stage. These points, outlined below, are considered in detail in the assessment of each area of the organ in Section 4 of this Scope of Works document.

a. No alterations, except to reverse changes particularly where they are of low quality / unreliable. This is an instrument of historical importance both in the instrument itself and, due to its uniqueness in location, as part of the cultural heritage of the local community and wider London area.
b. Provision for assessment, and where necessary, the renewal in the original style of all internal leatherwork should be undertaken given the 120 years age of the instrument.
c. Provision for full investigation of all soundboards and wind chests, restoring each appropriately as necessary.
d. Retain original keyboards, pedalboard, swell pedals, combination pedals, drawstops and knobs with original stop name engravings, and actions. Where alterations have occurred, consider reversing changes based on quality and age of those alterations and if enough conclusive evidence of the original component can be agreed on.
e. Retain all Stops: no changes to the composition of mixtures or the make-up of reed shallots and tongues should occur. If alterations are discovered, these should be reversed where this can be confidently done. No pipework should be replaced.
f. Tuning: there should be no alteration to the pitch or temperament, except to restore the original and then, only done if enough conclusive evidence allows.
g. Any original parts that are too worn to restore or have perished beyond restoration should be replaced on a like-for-like basis, ideally using the same material and process to make it. Where this is not possible, then the closest possible substitute material should be used avoiding synthetic alternatives.
h. Remove all incongruous fittings and make good any components of the organ damaged by these. For example, electrical fittings and mirrors at the console, poorly sited internal maintenance lights.
i. Assess organ and organ blower housing for woodworm and asbestos.
j. Assess the blower unit, motor, and housing. Ensure quiet and smooth running, no overheating, that it receives the required airflow, and that its housing is sound.
k. Clean and restore casework and façade pipes as necessary.
l. Assess organ chamber. Ensure it is cleaned, sound, no water ingress or roof leaks.

Throughout the restoration process it is essential to be mindful of, and to avoid, over-restoration. Minimal intervention should be the starting point for restoration investigation and decision making of every component.

[15] McVicker, W. HLF guidance p2-4

Common things to avoid in restoration are:

i. Painting of areas which would benefit from cleaning instead.
ii. Premature replacement of original components which show limited signs of wear but are not worn through and will give good service for many years to come. For example, key coverings, re-engraving only slightly worn lettering on drawstop shields.
iii. Washing components with inappropriate / abrasive sponges and chemical solutions.

4. A detailed approach to the Binns organ restoration

4.1 Pipework

The pipework is recognised as original to the 1900 Binns organ and is generally in good condition. At an ambient room temperature of 20˚C the pitch of the instrument is considerably sharp at around A = 450 Hz (this value goes up as temperature increases) which is not uncommon for instruments of this period and heritage. The organ is tuned to Equal Temperament. The pitch of the instrument should not be altered, nor the temperament unless during restoration conclusive evidence is found to suggest a different temperament be used.[16] This requires a full assessment to the pipework condition in a workshop environment assessing for levels of dirt and any damage. The pipework will require cleaning and should be cleaned with non-abrasive techniques. Returning pipework to an 'as new' un-oxidised pipe metal condition should not be pursued. Any dents on metal pipes should be rounded out and minor repairs made where absolutely necessary. Stoppers that have come to the end of their life should be replaced like-for-like and tuning slides checked, again, replaced if necessary. For the reed stops, their boots should be fully dismantled, shallots and tongues cleaned and burnished where necessary, wedges and tuning wires assessed, adjusted, replaced like-for-like and reassembled. They should not be altered or otherwise changed.

4.2 Façade pipes and casework

Façade pipes should be assessed for damage such as dents which should be rounded out with minimal intervention where necessary and cleaned. Casework should be assessed for condition, repairs made to any splits or worn sections, re-pieced if necessary, cleaned, re-waxed, and reassembled. Under workshop conditions the casework should be assessed for the level of intervention in restoration of re-finishing it; deciding if it should be re-waxed or simply cleaned and left as it is.

4.3 Console, keys, and action

Provision should be made for assessment of the extent of wear and tear of the console surfaces and keys.

The polished oak console panels should be cleaned and assessed for level of restoration required. Some areas require repolishing with traditional French polish (shellac), while other areas need investigation into piecing in new oak after the removal of unsightly electrical fittings and surface damage from panels used as a drawing pin board.

The key coverings are generally in good condition so, unless upon further investigation, any are found to be heavily worn / worn out, they should be cleaned, polished and retained. Avoiding replacement of ivory keys covers is paramount[17], unless it is so badly worn as to make the key unplayable for an organist. Key pins and felt beds on the key frame should be

[16] BIOS: Pipework, Console, and Fittings

[17] BIOS: Pipework, Console, and Fittings

assessed before being cleaned and restored, replacing materials like-for-like where necessary. Exposed wooden components should be cleaned but not varnished or re-varnished.

The Stop knobs and name engravings are in good condition and are importance as a heritage feature of the instrument. Provision should be made for a full assessment of the condition of all Stop knobs and attachment point to the Stop action at the console. They should be cleaned with a non-abrasive technique, re-filled, if necessary, re-polished, and reassembled.

Action to keys, pedals, and console should be assessed and condition fully investigated. Binns organs typically have pneumatic and mechanical actions at the console. All components need to be checked, cleaned and restored, this includes backfalls, squares, touch-boxes (these should be fully dismantled for investigation and assessment for the level of restoration required). Felt and leather components should be renewed like-for-like using the highest quality traditional tanned leather. Coupler actions should be assessed similarly. The action on this organ is original Binns work of the highest quality. Restored correctly, it should be possible to the fast and light key touch with correct depth of touch for the player as originally set up by Binns. (Before dismantling the organ for restoration careful attention to and recording of the original optimum set up should be given.)

Pedalboard and Swell pedals. These are original components, although the Swell pedals have been altered / faces recovered. Provision for assessment of wear and tear of the pedals, with a view to full refurbishment including re-piecing (like-for-like) and polishing worn pedal faces, re-bushing, resetting or replacing spring mechanisms, all restored as necessary. If pedal faces are only slightly worn refinishing rather than re-piecing would be advisable. Refinish Swell pedals with new rubber faces.

Manual action. All primary and secondary motors on the manuals and pedal actions are original to the Binns organ. The leather with which they are finished is very much at the end of its life after over 120 years of service. Some has been replaced, possibly during work carried out in the 1990s but this should also be replaced for consistency across the instrument, and for consistency in restoration and forward reliability should be replaced like-for-like as original. Lead action tubing at the console and through to soundboards and chests is original and is well supported. It should be carefully removed, assessed, cleaned, and reinstated. Any areas found to require support should be provided using traditional white canvas tape or wooden troughs in keeping with the Binns style. Should any lead tubing need to be replaced it should be done so like-for-like. Any remedial plastic tubing should be replaced with traditional flanged end lead tubing.

Chest action. As for the manual action, these need fully dismantling and assessing for a full overhaul and restoration. Some has evidently been overhauled, the piecemeal nature in which this has been done means that all motors and associated action should be re-leathered like-for-like and restored, including non-abrasive cleaning and checking of lead tubing which should be retied and support checked.

4.4 Stop action and piston mechanism

The pneumatic Stop action and piston system at the console, as documented under 2. Accessories, is unusual and itself of great heritage value. After well over 100 years of service, the Stop action, piston system and its action, along with associated pneumatic tubing between console and soundboards should be dismantled and fully restored. Any parts that require replacing, or that are found to have been altered, should be replaced like-for-like to the original specification and materials used. For example, if lead tubing has been replaced or repaired using modern synthetic red plastic tubing, this should be replaced with original style and material lead tubing and finished with flanged ends at console and drawstop machines.

4.5 Organ bench

The organ bench is of fixed height and is sited on a raised platform with minimal number of retaining battens to ensure the organist is seated with confidence at the console. This arrangement should be assessed for stability to ensure it is fit for purpose. Given the platform is not of historic value, craftsmanship, or part of the organ, this could be altered or improved if necessary.

4.6 Swell and Choir Boxes

Provision should be made for assessment of the shutters, checking for wear, slack movement, and hard felt. All linkages and mechanism between swell pedals and boxes should be adjusted and lubricated as necessary and checked for smooth movement. Hard or work shutter felt should be replaced like-for-like. The Swell and Choir boxes should be cleaned inside and out, any flaking lining material removed or reglued, and repainted only if necessary.

4.7 Soundboards

All soundboards which are of the slider variant[18], need to be fully dismantled and investigated and assessed for the level of restoration required for their component parts. It is evident that there are severe problems, namely runnings and leakages, on the Swell and Choir soundboards, while on the Great soundboard there is a notable issue with tight slides which causes problems with tuning.

The Swell and Choir soundboards are in original condition and have not been altered or previously restored. They require dismantling and the source of the runnings identified before being restored. Any splits in the soundboard tables should be repaired, planed, and trued, grid grooves checked / corrected, and soundboard channels made good by flooding with traditional hot glue. Upper-boards and slides need to be cleaned, trued, and refitted to ensure free movement.

Pallet felt and leather should be replaced like-for-like and refitted with new guide pins, springs and pull-down linkages. Again, materials used should be traditional like-for-like replacements. Face-boards need to be check for trueness of fit, refinished and refitted.

[18] Norman, H. & Norman, J. p60

The Great soundboard was restored in the 1990s, possibly as a result of water damage due water ingress from a roof leak above the organ. It is in better condition than the Swell and Choir but evidence of tight slides means full assessment and appropriate restoration of it is required. The table, grid, slides and upper-boards need to be checked, trued, cleaned, and refitted (as for the Swell and Choir) so that the slides move smoothly. (Motors associated with the action to the Great soundboard should be re-leathered.)

Pallet felt and leather appears in reasonable order. All Great pallets should be checked for true-ness of fit, linkages renewed, checked for smooth movement, and face-boards refitted. Restoration of these soundboard parts would ensure it is in full working order.

Rack-boards, pillars, pillar nuts, and pipe stays on all soundboards should be cleaned (ribbon ties for pipework assessed and replaced like-for-like), repaired or replaced (like-for-like) if necessary, and refitted. They should not be varnished or sealed.

4.8 Pipe Chests

There is evidence of some re-leathering, possibly out of necessity due to end-of-life type failure. As noted for chest action, this is incomplete. All chests should be fully dismantled, assessed and restored. Disc pallets restored like-for-like and refitted with new springs and guide pins like-for-like (and associated action motors also re-leathered).

Rack-boards, pillars, pillar nuts, and pipe stays should be cleaned (ribbon ties for pipework assessed and replaced like-for-like), repaired or replaced (like-for-like) if necessary, and refitted. They should not be varnished or sealed.

4.9 Wind system

The main reservoir and trunking system is largely original and retains the original leather. It has been patched in places and remedial on-site efforts made to stop wind leaks due to failing original leather; these require attention. The entire system needs to be dismantled and assessed for restoration in the workshop. If not entirely, then repaired and failing patches should be removed, affected areas cleaned down, new webbing matched in, and re-leathered with the appropriate grade high quality leather and set using traditional methods of application and hot glue.

All wind trunks should be checked for leaks, cleaned, and where necessary joints repaired and re-leathered like-for-like.

<u>Concertina trunks</u>

Alterations have been made to the concertina trunks of the wind system. What can only be described as flexible leather ‘bags’ have been hastily installed to replace, probably, failed concertina trunks.

Wind systems are meticulously designed to ensure smooth and steady wind supply to the pipes

for when they are sounding.[19] To ensure the restored organ sounds to its potential and that its heritage is secure, if possible new Concertina trunks should be made, in the original style, to replace the current flexible 'bag' substitutes.

All wind control mechanisms, including ventils to chests and leather blinds, should be inspected and assessed, cleaned and renewed like-for-like where necessary, and refitted and checked for smooth movement. Tremulants to Swell and Choir divisions should be re-leathered, including the primary motors, action restored, and lead tubing checked that serve the tremulant units.

4.10 Blower and blower housing

The blower, although of a good age, appears to be in good running order. This said, and given its age, it should be assessed to check it is running smoothly and does not overheat by an engineer and their recommendations followed. The blower housing is external to the church building, is sited at the top of a hill and is therefore not at risk of flooding due to geographical location. Internally it appears not to suffer from intolerable levels of damp or water leaks, but the cellar style lid is not in best condition. Provision for assessment as to the extent of repair or replacement of parts of the housing required is needed to ensure it remains weatherproof, especially given the pattern of heavier and more prolonged downpours of rain now happening in the UK.

4.11 Building frame

The building frame should be dismantled, assessed for fatigue in the frame, joinery and fixing bolts, and cleaned. If it is decided part of the frame should be replaced then this may require painting, otherwise the frame should be cleaned using non-abrasive techniques, fixing bolts lubricated and the frame reassembled.

4.12 Organ chamber

When the organ has been removed to the organ builders' workshop, the organ chamber and site on which the organ stands should be cleaned and the structure of the floor, walls and roof assessed for points of failure and risk of water leaks.[20] These should be addressed and made good before the organ is returned to the site and reassembled. After reassembly the organ chamber and space immediately around the organ should be kept clear of dirt and clutter that might obstruct access or free air flow.[21]

A solid panel, which has created a double case, to the west of the organ has subsequently been installed (stylistically it appears to have been done in the 1970s at the same time as other facilities were added to the church). This can inhibit transmission of sound out of the organ chamber into the church. Investigation into the benefit of replacing this with a mesh or fretted screen which would not inhibit projection of the sound should be undertaken.

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[19] Binns, J. J. p8-9

[20] BIOS: Organ Care

[21] Ibid

An improvised corrugated plastic sheet installed above the organ to protect against debris or water entering the organ from above should be replaced with something more discrete such as waterproof hardboard, painted black, and discretely mounted above the organ. This can be carried out by the organ builder.

Investigation and any work necessary to make good the organ chamber should be carried out by a qualified specialist tradesman, such as a roofer or plasterer.

4.13 Woodworm and Asbestos

All components of the organ and organ chamber that are made from wood should be assessed for damage by woodworm and death watch beetle. Where any evidence of activity (new or old) is found it should be appropriately treated or replaced like-for-like (avoiding sap centred wood) as necessary.

Assess all components of the organ, organ chamber, and blower housing for asbestos. Should asbestos be found, the grade should be identified and it should be removed by a specialist asbestos removal firm for which an additional cost will apply.

4.14 Electrical supply and wiring

All electrical fittings and wiring within the organ and console need to be assessed and if found not to meet current standards or are unsightly should be replaced and / or relocated. While the organ is removed from St John's for restoration, wiring that serves the organ and chamber should be assessed by a qualified electrician. Any wiring or fittings found not to meet the current UK standard (BS 7671:2018+A2:2022)[22] should be replaced and updated before the organ is returned to St John's. For example, if an isolator switch to the organ is not of current standard or present this should be corrected.

At the console, the warning light that when illuminated signals that the blower is switched on should be checked for condition and replaced if necessary.

Any electrical work should be carried out by an appropriately qualified electrician.

4.15 Reassembly

After all parts have been restored at the organ builders' workshop, the organ will be reassembled on its current site in the church. Care and attention will be required to ensure the pneumatics are set up to provide the player with the truest possible performance touch at the keys; with a high-quality Binns organ such as this one, this should be possible.

4.16 Tuning the reassembled organ

On returning the pipework to the organ a thorough voicing (after any voicing work undertaken in the workshop) and tuning to the original design and specification by James Jepson Binns in

[22] UK Government Electrical Standard

1900 should be followed. The pitch and temperament of the instrument should not be changed unless evidence is unearthed to suggest otherwise, as stated in Section 3.f.

4.17 Environmental considerations

Throughout the restoration process care should be taken to minimise the impact of transportation and emissions associated with this on the environment. Discarded materials should be recycled where possible and waste kept to a minimum. New materials used should be sourced locally where possible and used as efficiently as possible minimising quantities used and waste produced.

The organ chamber and blower housing should be assessed for levels of insulation in line with requirements for the church set by the Diocese of Southwark.

5. Review

The restoration of this historic organ should be monitored and reviewed by an independent organ adviser. To do this, regular site visits will be made to the organ builders' workshop and St John's Church. In total, six visits to St John's and five visits to the organ builder should be made covering the restoration process, and intermediary and final reports will be made after the site visits. Further time will be required of the organ adviser in office hours and, potentially, further archival and on-site research should discoveries that require researching be unearthed during the restoration process.

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Appendix

Appendix 1