

Swanage

The Bandstand

**Background, condition report, specification & methodology
for specialist restoration: Lost Art Ltd with supporting information
from Industrial Heritage Consulting**



Bandstand as is: December 2017

CONDITION REPORT:

The site of the bandstand was visited on 13/12/17 by Dominic Liptrot of Lost Art Limited. On the basis of the access that he was able to gain to the bandstand we offer the following observations on the condition of the bandstand and these observations have informed our method statement and pricing.

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Historical and cultural Significance

1.1 Historical background

The Swanage bandstand has been identified as a Saracen Foundry catalogue no. 224, as produced by Walter MacFarlane and Company of Possilpark, Glasgow, one of the largest, most important and influential of the decorative cast iron producers of the Victorian and early Twentieth Century periods.

Wandle Park, Croydon: A MacFarlane pattern no. 224 bandstand



It is not unique in the UK but one of a small number of survivors; a few of which have been conserved. Recently restored examples can be found at Croydon and St Helens, whilst the bandstand in The Pump Room Gardens, Leamington Spa is also scheduled for restoration. Remaining examples can also be found in Uxbridge and Sevenoaks. The scarcity of the design, the history of the foundry and the unique setting of this particular structure make this an important link to both the local and national past. This was one of the classic

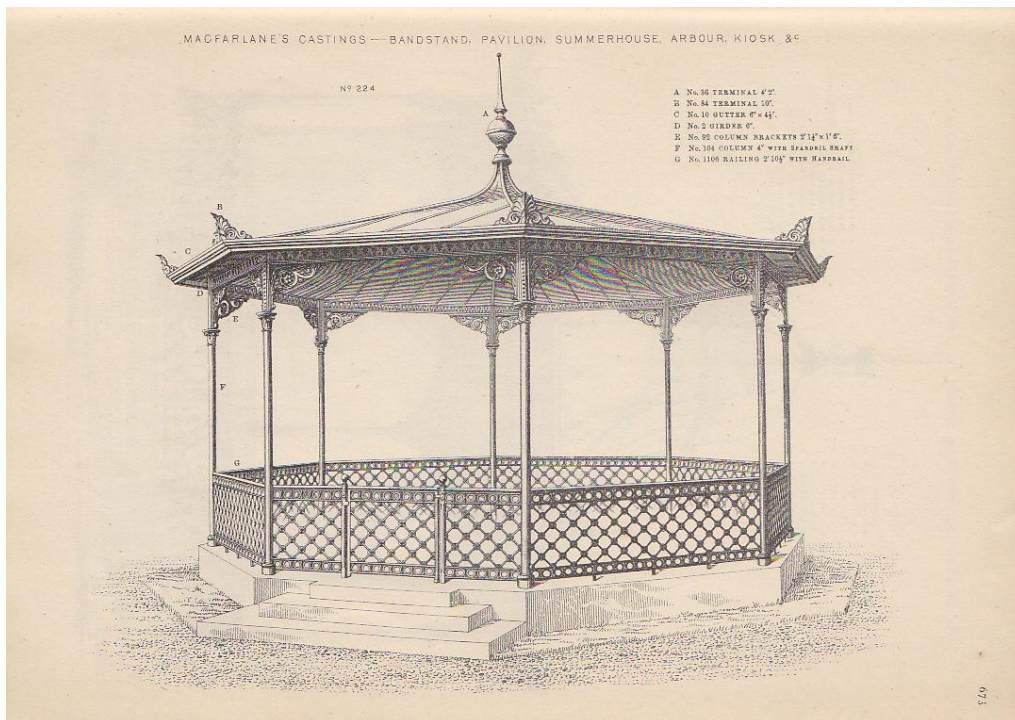
bandstand designs in its “as built” form. Lost Art would anticipate that the conservators of the bandstand are committed to the ethos of good conservation and would undertake to carry out the most definitive conservation since it was first built. The original roof design is very pleasing and sets off the whole effect in the best way. The contractors would of course reinstate this roof in every detail to the MacFarlane’s catalogue design and we would expect the company carrying out the restoration to be familiar with this design.

Victoria Park, St Helens: A MacFarlane pattern no. 224 bandstand



The cast iron subcomponents are identified within the catalogue illustration and the individual elements are also illustrated within the MacFarlane Company Catalogue. In addition to the cast iron components, the bandstand comprises a roof, comprised of timber beams and frame along with wrought iron reinforcement. This is overlaid with timber sarking and completed by covering with zinc sheeting. This is in addition to the external decorative elements shown. The underside of the roof features a tongue and groove soundboard plus a cast iron decorative ceiling rose.

MacFarlane Pattern 224 Bandstand in an original catalogue



In keeping with other foundries of the time, the Macfarlane Foundry produced a number of different bandstand designs. However, individual components such as columns or antifixae may be common to different designs of bandstand. Alternatively, as can be seen, the same pattern of bandstand may feature different components and so, the two bandstands shown, In St Helens and Croydon are the same basic pattern as the Swanage bandstand but whereas the Croydon structure features the same railing panels, the St Helens example does not. Both do feature the same corner antifixae.

The Swanage bandstand was installed in 1923 and officially opened on August 2nd of that year. It is distinctively positioned as a sunken bandstand in the distinctive location of an ampitheatre and encircled by two circular levels of seating. The location is virtually on the sea front, yet is also surrounded by a grassed area.

The bandstand itself is situated on a small plinth in the centre of the area. Currently the roof of the bandstand is missing, having been removed following storm damage.

The original cost was given as £1,280.00 with the programme notes claiming that this would be a worthwhile investment for the town. The opening ceremony commenced with the Belphegor March, a popular composition by Eduoard Brepsant and still performed by Military Marching bands and a recording of the National Marching band still exists on an Edison Wax Cylinder dating back to 1904 and can be found on the internet.

1.2 Cultural Significance

Bandstands in the UK have often been synonymous with strong local musical traditions and were literally the stage upon which works and company bands could bring “music in the park” events to the wider population. Old images of such events bear this out and many local bands made use of the facilities. The surrounding landscaping was always a key element in allowing those who could not afford the entrance pennies to share in the occasion with little disadvantage. The importance of these structures – as with the parks themselves – was profound in towns otherwise dedicated to hard work and long hours in grim conditions be these agricultural or industrial. Such events have been revived elsewhere in a modern form as part of urban park renewal.

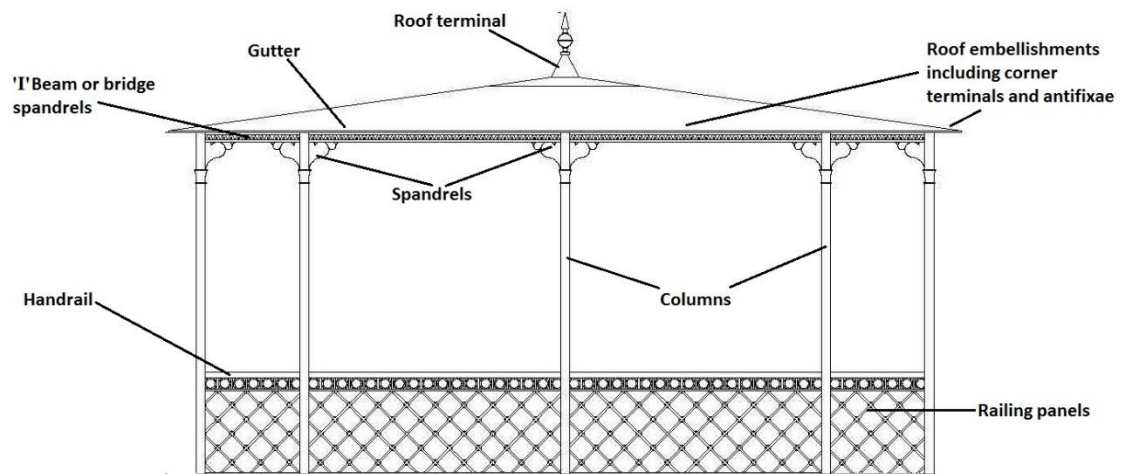
Although the Swanage example does not conform to this profile, given the setting within the paved area, rather than the more usual park location, the bandstand has been much used over time and this has continued even with the bandstand in its current form. This can be seen in images of Swanage Town Band, taken from their website, showing them occupying the structure with and without cover, in 2010 and 2015.



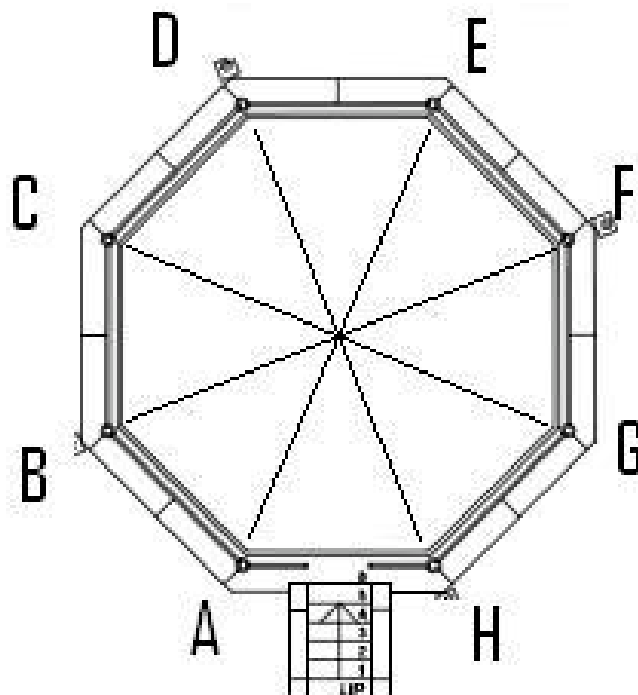
The history of the Swanage Town band shows that they were formed in the 19th Century, are mentioned in the programme for the opening ceremony for the bandstand, with reference being made to a planned series of appearances at the bandstand. The band was resurrected in the late 20th Century, following a break. It is to be hoped that a similar pattern will be followed by the bandstand itself.

Swanage Bandstand Condition report

Bandstand terminology (based on a generic bandstand design):



For purposes of reference and description: the bandstand is an octagonal shape. Featuring 8 cast iron columns. These will be identified A – H progressing clockwise around the structure from the entrance steps.



Plinth and Base:

The bandstand is set on a low plinth, with coping stones around the perimeter. Each section defined by pairs of columns contains 4 or 5 coping stones. These are identified with reference to the initial column of each pair, therefore, for example, in the column pair A-B, coping 1 will be located below column A, coping 3 will be the central fixture and the final coping (4 or 5) will be located adjacent to column B.

The columns themselves are fixed to the corner stones, coping 1 in each section.

Images show the copings in Section A – B and include the air grille located under coping 4.





For the most part, all the copings are in good condition and this can be summarised below:

Section A – B: All copings appear sound.

Section B – C: Coping 1 has paint staining, copings 3 & 4 are replaced by a concrete insert. Other copings are sound.





Section C – D: All copings appear sound.

Section D – E: All copings appear sound.

Section E – F: All copings appear sound – some paint staining to coping 1



Section F – G: Coping 1 has a small crack to the left side. All other copings appear sound.



Section G – H: Coping 1 has a crack to the right-hand side. All remaining copings appear sound.



Section H – A: Copings 1 and 2 appear sound. Coping 3 at the entrance and above the step appears to be a replacement and also has no detail to the left edge. Coping 4 appears sound.



Base:

The base is comprised of concrete and is formed of 4 sections. The base is located within the perimeter formed by the copings

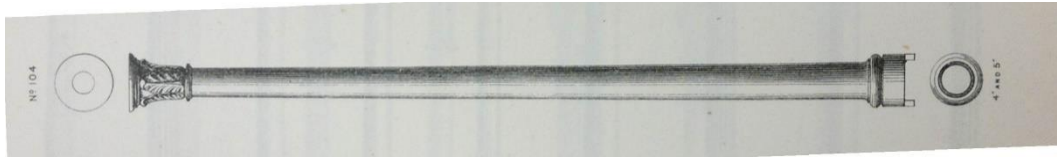


The electricity box shown to the top of the image above requires removal and an alternative location should be agreed. There is some damage to the surface in the area of the electricity box and this will require full reassessment once the electricity box has been removed. Any irregularities in the surface will constitute a Health and Safety risk and should be addressed as a matter of priority.



Columns:

The columns have been identified as being the 104 design from the original Macfarlane catalogue. They are slightly wider (110mm diameter) at the base than at the top (95mm diameter), excluding the decorative element.



These components are demonstrating evidence of surface rusting but the analysis carried out to date revealed no cracks. Primary indications are therefore that whilst some repairs are necessary, that all these components can be reused.

The majority of the columns appear to be sound. They are complete to the decorative elements at the top of the columns, however the column capital fixing sections that are placed on top and allow for the attachment of the structural 'I' Beam that runs around the top of the columns are missing in all cases. These can be replaced with newly produced items referenced to the existing examples of the bandstand model referred to earlier in this report.

Condition of the columns:

Column A: Appears sound:
Column B: Appears sound: Down drainage attached
Column C: Appears sound:
Column D: Appears sound:
Column E: Appears sound:
Column F: Appears sound: Down drainage attached
Column G: Appears sound:
Column H: Appears sound:

It should be noted that all columns do show signs of rusting and that, especially following the removal of the roof, water ingress to the columns and subsequent issues of rust heave etc will need to be further investigated during the restoration process.

The following is an example of the column capitals, (located at the top of the columns) showing the current rusted condition and the state of the paintwork:



Image shows downpipe for drainage fixed to column B. The fixings for the drainage (also pictured below) are not original.





The cast iron air grilles located below the coping provide drainage, although this would not be the original intention and alternatives should be explored. There are 2 styles and all examples appear to be in sound condition.





Spandrels:

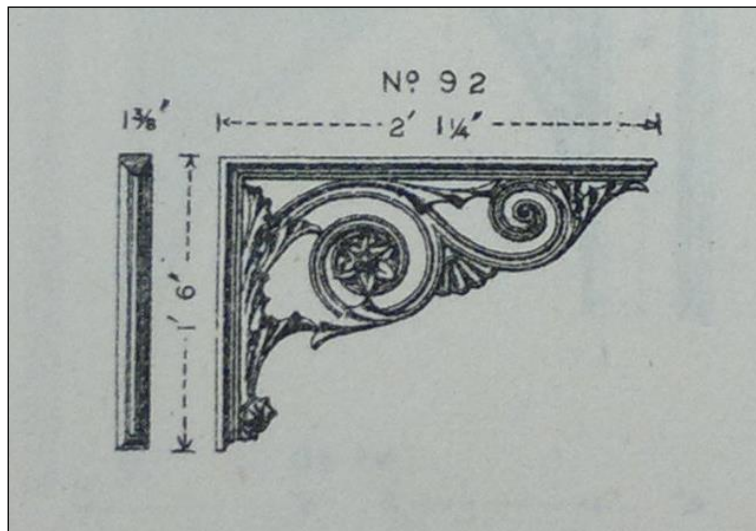
Located at the top of the columns, for each column there will be a Right and a Left column (as viewed from the outside). All the spandrels are currently missing and assuming that they have not been placed into storage, then they will require replacing with new castings that match the original. Additionally, further investigation will be required at the point at which the spandrels are fixed to the columns in order to determine the extent of any deterioration following exposure of the fitting sites to the weather following removal of the spandrels.



The image below shows the same pattern of spandrel as originally installed on the Swanage bandstand. These are pictured on the MacFarlane 224 pattern bandstand in Wandle Park, Croydon. The image also shows the roof and gutter embellishments, the corner antifixae and lions head gutter adornments. These had already been removed from the Swanage bandstand in 2010 and the non-original guttering is shown above.



Spandrel Pattern 92 from the MacFarlane Company catalogue, as included on the original bandstand.



Railing Panels:

Each section of the bandstand between the columns should have a decorative railing section, produced in cast iron. In the case of the model 224 with the current style of railing panels, the sections comprise of 3 individual castings and these will be designated panels 1,2 and 3.

Example of bandstand section including railing panel sections:



In the example of the section defined by columns A & B, panel 1 will be adjacent to Column A, Panel 2 is the central panel and Panel 3 will be adjacent to Column B.. The exception to this is in the section of the bandstand (Columns H – A) where the bandstand entrance steps are located. Here there should be 2 short sections of railing each attached at one end to the column and the other end of the railing attached to a post set into the bandstand plinth. The gate is normally positioned between the between the 2 posts. Depending on the style of bandstand, the railings and the gate will be produced in either cast or wrought iron (or a combination of the two). The posts referred to in section H-A would normally be produced in cast iron.

Jointing of railing to column detail:

Section A – B: All basically sound

Section B – C: All basically sound

Section C – D: All basically sound - NOTE: electricity box is both chained and physically screwed to the adjacent railing panel.





Section D – E: All basically sound
Section E – F: All basically sound
Section F – G: All basically sound
Section G – H: All basically sound
Section H – A: Both side railings and the two posts are complete and in sound condition but the gate is missing. Additionally, the left hand panel is poorly fitted to the post.

Short railing in section H-A: shows railings, posts and handrail:



NOTE: As is the traditional method, the railing panels are lead set into holes in the coping stones and this method of fixing should be replicated.

Handrail

On this model of bandstand, there is a cast-iron section handrail that runs around the perimeter of the bandstand on top of the railing panels. The hand rail sections are then weld fixed to the columns – as shown in the image below.

As with the railing panels themselves, the handrail shows some signs of rust, occasional chipping but all sections are basically sound, requiring little other than cleaning and repainting.



All elements of the bandstand above the level of the tops of the columns are missing and require replacement. The following is a description of the required items:

Column Capitals:

These components are located at the top of the columns, above the decorative embellishments. They provide a point of attachment for the spandrels and also for it 'I' Beam (ring beam) that provides lateral support for the structure of the bandstand.

The following images show 2 examples of bandstands featuring the column capitals. New examples will need producing in cast iron from a pattern.



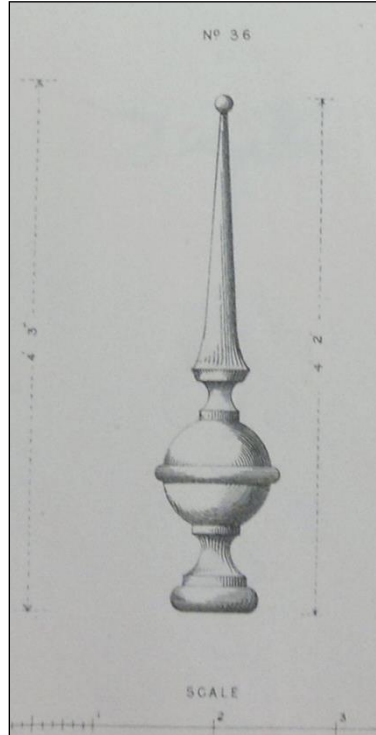
Gutter:

Each section of the bandstand should have a run of guttering plus downspouts at a number of columns. The guttering should be cast iron

It should be noted that the outlets from the guttering downspouts discharge into the ground and not into dedicated drainage:

Terminal:

This cast iron component is missing and requires replacement. See illustration from the original Macfarlane catalogue below and can be seen in both images of the original Swanage bandstand and also remaining examples of the 224 pattern bandstands.



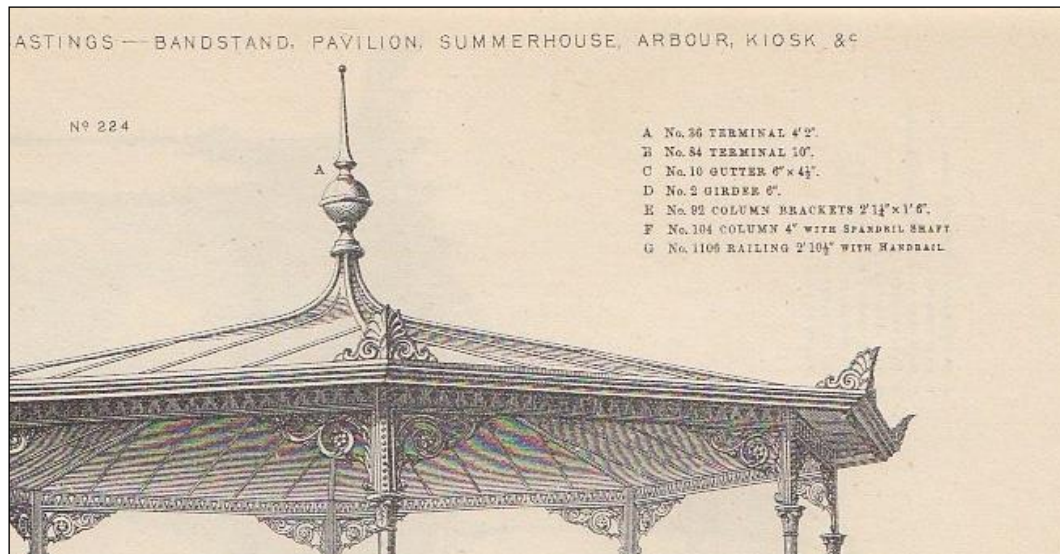
Zinc Roofing:

This will require replacing with an appropriate grade of zinc sheeting.

Roof structure: Ironwork

The 'I' Beam that runs between the column top sections is missing and a cast iron replacement should be produced. The beam forms a ring beam on top of the columns and is both structural and decorative. Unlike with some other bandstand designs, this is in view and so becomes a feature and therefore should be replicated. The images below show the original Swanage bandstand I beam plus an image of the bandstand in Victoria Park, St Helens that features the same 'I' Beam (plus antifixae in common with the Swanage original but with a different style of spandrel).

The 'I' Beam, is shown on the illustration from the catalogue included below. The 'I' Beam is referred to as 'No.2 Girder'.





The metal framework of the roof is also missing, comprised of 8 hips, these run from the top of the roof down to a point above and then beyond the columns, each joined by 2 struts that add further strength. Originally these were produced in 'T' section steel, although modern design and structural considerations are better served by the use of 'C' section steel components.

The hips and struts also provide support for the timber sarking that lies beneath the outer zinc roofing.

Sarking

All the sarking is now missing. The sarking is made up of timber slats laid radially around the inside of the roof, across the hips and spars providing support and shape to the zinc outer roofing. Historic evidence suggests a 4" x ¾" (100 x 20mm) board would have been used.

Roofing Timbers:

All these are missing and will require replacing with appropriate sections of timber of a type approved by a structural engineer. The image below provides an idea of the internal timber and metal structure of the original roof, showing the arrangement of the original rafters, along with the noggins that run between them. An external timber ring beam cannot be seen once installed and would be fitted at the end of the steel hips, nor

can the **timber fascia** which forms the edge of the roof beyond the timber ring beam and also provides an attachment for the guttering.

Guttering, including downspouts

This is all missing and will require full replacement. It should be noted that consideration should be given at the design stage to the drainage method to be used, whether this is to be internal or external to the columns.

Historic evidence suggests that a 6" (150mm) OG guttering would have been used. It may be thought desirable to replace the original cast iron guttering with aluminium castings, both on cost and structural weight considerations.

It should be noted that, examination of the 2010 reference images shown a non-original guttering and drainage system. Once the columns have been fully removed and examined it will be possible to tell whether the drainage ran internally through at least 2 of the columns and this will inform the redesign of the drainage system.

It may be felt that embellishments such as those in the form of lion heads should be added to the guttering.

Additionally, consideration should also be extended to the routing of any electricity supply via the columns.

Antifixae

These are all missing. It is suggested that these be replaced with antifixae produced using a casting pattern for a Macfarlane Foundry antifixae. This is in keeping with the Macfarlane Foundry practice (shared with other foundries) of utilising stock pattern castings from a selection produced by the foundry in different combinations to produce apparently different structures such as bandstands installed in a number of parks.

An example of the type of antifixae often seen at the junction of roof sections is shown below.



Soundboard/ceiling:

The interior element of the roof provides for both acoustic properties and protection of the roof structure. It is generally produced of tongue and groove softwood, suitably treated and painted. An access hatch for maintenance work should be included in the finished structure.

The soundboard is produced as a flat surface with the timbers running parallel to the perimeter/edge of the roof of each section.

Installed in a pattern working from the outside edge of the bandstand between the columns towards a central point – the analogy of slices of cake is not too far from the reality. There are 8 portions of the soundboard but due to the unusual shape of the bandstand, they are not all of equal size as can be seen below:

Each section contained within an individual section of the bandstand, determined by the columns to the left and right of the section.

Ceiling Rose

This cast iron component to the centre of the ceiling is missing and requires replacing with a new casting or sourcing of an original. As with other components, there was no set style for the ceiling rose and a variety of styles are available. The possibility of a bespoke commemorative ceiling rose could be considered, should the budget permit as it would be a suitable location that should avoid vandalism.

Examples of bandstand ceiling roses as options:



Note: a metal tie bar of round section steel will run vertically through the roof section from the ceiling rose to the terminal. This should be produced in such a manner that both of these components can be easily removed for maintenance/repair should this be required and so the bar should be threaded at either end.

Fascia:

The fascia is a profiled section of timber that runs around the perimeter of the roof and provides protection to the edges of the roof and also a fixing point for the guttering. As with the remainder of the roof. This is missing and will require replacing.

Recommendations:

The obvious element of the bandstand is that the roof is missing and will require a full replacement. This includes all the decorative elements, such as the terminal, the roof embellishments, which in this case are corner terminals/antifixae. These are to be replaced with matching items as illustrated in the MacFarlane Catalogue and are to be produced in cast iron. The OGEE style guttering should also be replaced, although aluminium cast examples to match the required profile would be acceptable.

A full roof structure will be required, this will involve the following:

- Production of reproduction cast iron column capitals
- Production of cast iron I Beam (ring beam) to match original design.
- Production of timber framework including beams, rafters and noggins to match structural requirements.
- Production of metal framework based on hips and struts in 'C' Section
- Overlay of metal internal framework with timber sarking
- External cladding with zinc sheeting using traditional methods.

Addition of guttering (plus chosen style of downward draining – internal or external drainage).

Production of spandrels in cast iron to match original design.

The gate is missing and should be replaced with a newly produced cast iron example to match the railing panels.

Inspection of the remaining elements of the bandstand suggest that all components can be restored and reused as part of the reinstatement. All components should be removed from site to a suitably equipped workshop and fully cleaned, all repairs identified and carried out to a high standard, primed, painted and returned.

The base of the bandstand is largely intact and requires little restorative work. Similarly, the majority of the coping stones are intact and original, there is little requirement for repair and an experienced stonemason would identify the type of stone used for the copings and advise on sourcing replacements for the sections that have been replaced with an inferior product if this is desired within the available budget.

Consideration should be given to a paint scheme, based on colour analysis of the removed items and also examples of currently restored examples of the same pattern of bandstand.

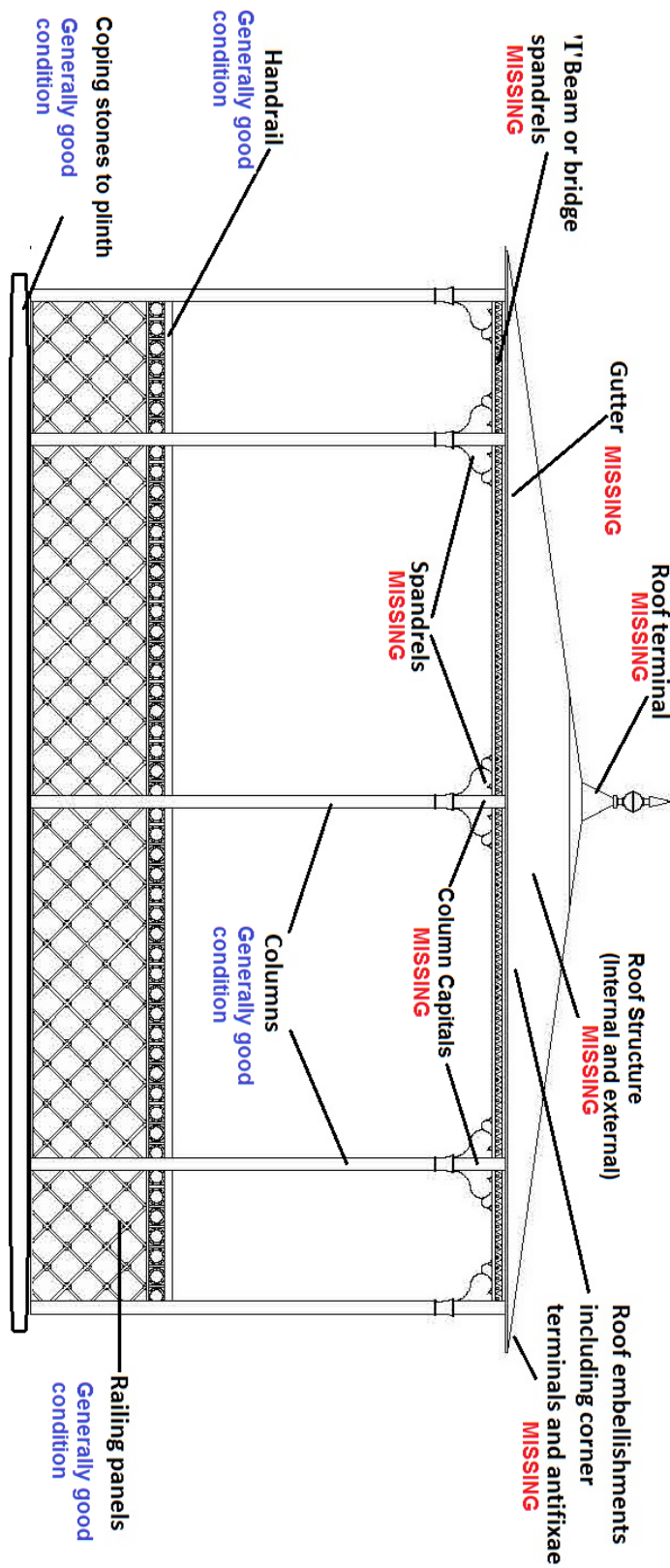
The electricity supply currently present is intrusive and unsuitable in the current position. It will require removal and replacement. Consideration should be given to the location and type of electrical supply, with options for a buried/raised type being explored.

Consideration should be given to the type and extent of lighting, plus the possibility of anti-vandal elements, such as CCTV and 'Mosquito' type deterrents.

Consideration should be given to the installation of a lightning conductor.

In terms of budgetary considerations, these have been sent separately.

CONDITION SUMMARY



2.0 Aim

It is understood that the Client Council is undertaking a programme of faithful restoration with a strong conservation ethos. We are sure that, wherever feasible, verified historic fabric will be desired to be retained, and traditional craft skills, materials and techniques employed in all aspects of the project in line with the best building conservation practice and sympathy for those who specified, designed and manufactured the structure originally.

Modern or inappropriate interventions will be removed along with structurally unsound elements as identified. Good quality archive evidence for the foundry involved is available and has guided the preparation of this document.

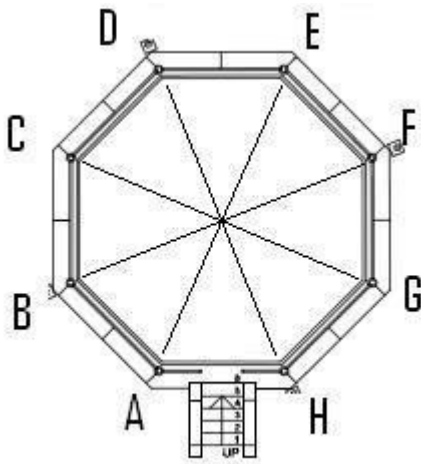
3.0 Restoration Considerations

3.1 Identification of Parts

It is a requirement that each part of the structure that is to be separated from another must be tagged and have its own **Restoration Record Sheet** (RRS,) which covers its **restoration history** through the project and is filed and indexed as part of the **Restoration Record** handed over on completion of the works.

3.2 The Restoration Record (object) Sheet

A Restoration Record Sheet will be adopted in this or similar form for the bandstand and used from the beginning to the end of the works. Whatever version is used will be approved by the client. The acronym used here is **RRS**:

| | |
|---|---|
| LOST ART LIMITED: RESTORATION RECORD SHEET | |
| PROJECT: Swanage, Bandstand | |
| CLIENT: | |
| Sequential Part id: Number label on object | SHEET NUMBER: |
| ASSEMBLY NAME: | SUBASSEMBLY NAME: |
| Segment Designation (Column Letters and subsequent clockwise segment): | Whole ID name: |
| Sub assembly Part Number (if applicable): | PART NAME: |
| Material(s): | |
| <p>Location: Column plan:</p>  | <p>All parts to be numbered clockwise around the structure and around the columns. E.g. Facing the column the front (radial) spandrel would be B1, the left spandrel B2, the right B3. An item on the ceiling or roof structure would have segment designated then part number e.g. C D/2</p> |

| | |
|--|--------------------------------|
| Signed: | Print: |
| Condition prior to removal: | |
| Condition after removal and cleaning: | |
| Action proposed: | |
| Signed: | Print: |
| Action approved/revised by client | |
| Permitting authority | Signed: |
| | Print: |
| Action taken and completed: | |
| Signed by contractor: | Signed by accepting authority: |
| Print: | Print: |
| Relevant image numbers: (ID/assy/sub assy/image number | |
| Relevant drawing numbers: (drawing numberID/assy/sub assy/image number | |

3.3 Recording

Good recording is therefore an integral part of any good quality conservation project. All components will be tagged and tracked throughout the project and all original major components will have an attributable record of work in the form of the above RRS.

A Photographic Record will be compiled throughout the project as a working tool, and for handover to the client at the end of the project. Images will be provided in JPEG format.

4.0 Metals

4.1 Cast Iron

Any casting work undertaken in relation to this project will be in grey iron (spheroidal graphite [S.G.] is will not be used unless specified by the client) to a suitable iron grade agreed by the client and the iron foundry.

New castings may be moulded directly from existing castings, or moulds taken from existing castings by lifting reverse moulds. However attention to detail and adjustment of the pattern to avoid shrinkage will be made. Each new cast element required will have a traditional wood-based pattern manufactured. The pattern must be to a standard that will enable an exact replica to be produced to the exact size of the original after shrinkage. Patterns will be first individually inspected and conditionally approved by the client then a test casting made from each. This casting, when approved by the client will become the benchmark casting for subsequent quality control for that item. It is suggested that catalogue images are scanned and CAD drawings made to allow shrinkage sizing. This may be used to CNC cut from MDF or equivalent material. “Artistic interpretation” is not acceptable.

Castings will be smooth to the touch, sharp, clean, (no entrapped sand) without warp and must match the existing in decorative style, detail and dimensions. Pattern half seams must be aligned and the resultant casting only lightly fettled. The castings will be free from blowholes or other defects and be presented for inspection fully fettled but uncoated and without fillers. Over-fettling because of pattern halves misalignment will result in rejection. Where the casting is a new element, it must perfectly replicate the image and dimensions shown in the appropriate Foundry Catalogue image provided where these are available or exemplar pieces from either the same structure, or where these are absent, produced to match identical components from other existing examples of a matching or comparable structure.

Castings will be hand moulded, employing the traditional manufacturing techniques originally used in the manufacture of the existing structure. Blacking of the mould is required to achieve the required quality.

4.2 Wrought Iron / Mild Steel

The use or re-use of these materials must be carefully controlled. Modern steels comply to BS and other standards and as such, calculations for their performance can readily be made. However early steels and to a greater extent, wrought iron, are less reliably calculated in this respect. Where an original or early component has a structural role, calculations will be made based on modern steels plus a 60% safety factor added for wrought iron. This of course assumes that:

- The material is not deeply corroded
- No surface fracturing is evident
- No undue stress has inadvertently been designed into the structure

4.2.1 Wrought iron

Should any part be found to have been originally manufactured in wrought iron or steel and then originally galvanised it will be replaced (only where necessary) in mild steel to BS 10025 and hot dip galvanised in accordance with BS EN ISO 1461 and BS EN ISO 14713 or similarly coated in another approved method agreed with the client. Any items so coated will be mordant-washed (etched) before a paint system is applied.

4.2.2 Steel

Any steel part requiring replacement will be replaced if absolutely necessary in modern mild steel. However there may be differences in today's metric stock sizes. The next nearest size up will be used, and suitably identified by typing. Any change in section will be blended in.

5.0 Timber

All sarking, sound-boarding, profiling or other elements will be replaced with suitable timber. Hardwoods must be identified and that identification confirmed by the client or their representative and replaced like-for-like based on examination of comparable pattern bandstands and subject to approval by a structural engineer. Any decorative detailing will match originals in profiles and material based on examination of documents/images and existing matching bandstands.

Replacement elements of a structural nature will meet BS5268 Part Two and will be straight, dry and free from defects.

The sound-board will be formed from tongued and grooved timber and will be 'secret nailed' to match the original radial configuration and measurements. The use of a nail gun is preferred to avoid hammer marks.

Internal timber structural elements will be "engineered" (New timbers to be of engineered quality to Trada and BS level) to match the existing jointing details where original or well crafted and fixings or plates will be galvanised. No nail plates, hangers, timber ties, framing anchors or other modern proprietary fixings will be used on original elements.

Timber is to be treated and painted using the Dulux Weathershield system and conforming to the colour scheme agreed with the client.

6.0 Fixings

Visible fixings will be sympathetic in design and style to the original construction. Bolts, studding or other threaded fastening will not protrude

beyond the nuts more than the distance equal to 25% of the thread diameter.
(e.g. a 20mm bolt must have no more than 5mm thread protruding.)

7.0 Cleaning and surface preparation

Where components are removed from the bandstand and transported to a workshop environment, all surfaces will be paint-sampled before blast cleaning and a layered colour analysis carried out to the client's approval. Samples will be numbered and identified on an image of the object from which they were removed.

The structures are coated in a range of paint finishes and colours, all of which **may** contain lead in the earlier coats. In the case of both structures, blast cleaning will be carried out to all metal worked surfaces. Blast will be an approved particle or wet-blast system. Low pressure abrasive cleaning under the general principles of Swedish standard of SA 2.5 SS ISO 8504 Parts 1 – 3 is permissible.

The system will use an inert blast medium (i.e. not ferrous metal particulate) with initial cleaning undertaken at low pressure to test for potential surface damage.

The following mediums are permissible:

- Crushed garnet (preferred)
- Crushed glass

It is vital that the post-blast etching (not a holding primer) is applied immediately to protect the (heat dried) bare surfaces from flash rust and that the subsequent paint system is applied without delay. The subcontractor is reminded that lead may be contained within the blast cloud, (which must be contained) and in the subsequent debris and must be dealt with in accordance with current legislation. In the case of new castings sharp edges must be radiused to no less than 1.5mm R to allow a continuous paint film thickness.

Cleaning will be carried out as follows:

The bandstand will be dismantled and those components removed from site will be cleaned as described above. Lead based paints may have been used in the past. When removed by blast, these particulates will be deemed as hazardous and disposed of in the approved manner.

Particular care will be taken when cleaning the decorative elements. These will be removed where at all possible. (e.g. detailing from column capitals.) All traces of the cleaning medium and debris must be removed before coating.

The existing paint schemes will be considered as having failed due to indeterminate adhesion and unidentifiable content and it is therefore critical that this entire scheme be removed from the metal surfaces. The cleaning work will be undertaken indoors or where in situ cleaning is carried out, within a scaffolded and enviro-wrapped area. Any primer applied must be part of the agreed paint system.

Subsequent coats will be applied as soon as possible. The work is to be undertaken in an environment where the relative humidity and atmospheric temperature can be controlled in accordance with the coatings manufacturer's instructions (hence the requirement for work to be carried out during the more reliably warm and dry periods of the year for cleaning on site). Condensation on iron before painting is not acceptable.

8.0 Coatings

Prior to full cleaning back of painted areas, paint samples should be taken to allow for the determination of the original colour scheme in order to allow for an informed choice of repainting scheme.

8.1 Ferrous Metals

The Hi-Build Vinyl paint system produced by Dacrylate is to be used on all ferrous metal components.

8.2 Timber coatings

Interior roof timberwork (sarking) will not be painted but will have been pressure treated (brown colouration).

Exterior paintwork system must be a complete manufacturer's system, using the Dulux Weathershield products as appropriate.

9.0 Repair techniques

No, one repair technique is appropriate for all instances within structures such as these. However the technique adopted after agreement with the client, will be appropriate as well as fit for purpose. Consequently, the following techniques will be employed in developing the repair schedule.

Note: Repairs will be recorded, always reversible and self-documenting. All repairs and the methods proposed will be approved beforehand by the client. Replication may be required where the degree of structural risk exceeds conservation requirements. Where a repair or replication has such implications the method will be carefully considered and discussed with the client. A load test may be required. The preparation of surfaces for repairs must be carried out with great care. Scarring of the historic fabric is unacceptable. Failed repairs or alternative approaches will all be at the appointed contractor's risk.

9.1 Cold metal stitching

This technique is used for the repair of fractured castings. The method will employ the required drilling techniques across, and adjacent, to the fractures, completed by the insertion of a proprietary alloy "stitch." This method will only be carried out by a competent technician and where structural, must be tested to 1.5 times its working load. The working load will be decided by the client's appointed structural engineer. Should the repair or another part fail, replication will be carried out.

9.2 Hot metal stitching / brazing

This technique is also used to repair fractured castings, and involves drilling or grinding across and along fracture lines, completed by “running in” (by M.I.G. welding) a bronze alloy variant such as aluminium bronze or alternative approved by the client into the prepared ironwork. Ironwork to be pre-heated. Where structural, most repairs will be tested to 1.5 times the working load. 9.1 conditions apply.

9.3 Pinning

Pinning may be used in re-assembly of fractured castings in isolation or in conjunction with other techniques. Pins can be plain or screwed rod in stainless steel grade 318 or 316L or a nickel alloy in certain circumstances. Pins are to be secured by threading, soldering, brazing or using mediums such as *Loctite* at pin locations. This method will be strictly controlled; discussed and agreed by the client.

9.4 Epoxy resin repairs

In some instances, a small epoxy resin repair may be considered appropriate where a reversible repair is required and the repair is not under physical stress in operation. (Fibreglass re-enforcement in the form of chop strand or woven mat will not be used.) However this is not normally acceptable where other, more permanent traditional methods can be used. This type of repair or fixing will never be used where it is the sole or main means of structural integrity between two or more components. This method will be strictly controlled.

Approved epoxy “body” fillers may be used discreetly to fill casting porosity or surface defects (blow holes) or to avoid puddling of water on surfaces or voids. It is important that the material is not over-used however. It must never be used over existing paint, only to clean, bare metal. Any non-traditional repairs will be “last resort” and with permission, with traditional methods being the first option

9.5 Hot Lead

Hot and staved lead is to be used for the insertion of panels, iron to iron and iron into stone. This type of repair or fixing must never be used where it is the sole means of structural integrity between two or more components, where any load is imposed. Pinning may be combined with this method. ("staved" means driven or caulked cold, or cooling, lead.) Panel legs will be leaded into stone to no less than 75 mm.

PART II

10.0 Detailed Specification

This work is to follow the establishment of an agreed work perimeter around the bandstand and secured using Heras type fencing, the inclusion of all Health and Safety notices etc and the inclusion of the required works compound.

10.1 Bandstand General guidance notes

NOTE: If specialist lifting contractors are to be used during removal of components and the reinstatement sequence (including the repositioning of the roof), then the contractor will be required to submit method statements and risk assessments along with all required certification.

10.1.1 Dismantling sequence:

(note: “recycle” means dispose of in an environmentally sound way with reuse seen as a priority)

- Having gained access to the site and prior to the commencement of the dismantling sequence, operatives will commence the site set up, including the erection of Heras fencing with sufficient internal area to house the attendant vehicles, plus the area should be sufficient that all work, including the lifting sequence can be contained within the secure area from which members of the public are excluded. All site safety notices should also be in place. NOTE: perimeter location, site access route to be agreed with council representatives:
- Fill out the Conservation Report sheet as to ‘found’ condition of **each separating** component.

- Robustly tag each component to withstand blast cleaning
- Carefully and completely measure the bandstand with particular attention to the footprint. Do **not** assume that it is geometrically perfect (i.e. elevation or especially, plan)
- Remove and dispose* of any non-retained elements. Note that they must be removed carefully to avoid stressing retained elements.
- Tag and “map” the railings (including short railings and posts at gate)
- Separate the railing/handrail from the column.
- With the railing section fully supported to protect operatives, the retaining lugs set into the coping should be cut, allowing removal of the panels.
- Any remaining sections of the cut lug should be ground back to the level of the base to prevent any tripping hazard remaining during the work process or whilst the remainder of the bandstand is removed from the site for restoration work at the workshop. Base to be protected during this process.
- Remove the required railings by supporting and carefully cutting the fixing bolts and lugs lead set into the coping.
- Carefully identify each column
- Remove the grout then cut the holding-down bolts / ease out leaded dovetails on each column as required.
- Remove each column using soft slings and set down on the transport carefully.
- Chains will not be used on cast iron.
- The appointed contractor lifting contractor will ensure that the column is well supported along its length to prevent fracture during transport.

10.1.3 Workshop Element

- Ensure all ID tags are, and remain in place. Tags are to be metallic, stamped and secured by wire to be blast cleaning resistant.
- Drill out any broken or cut screws, where possible saving the original threaded tappings.
- Note that no screwed or leaded-on component will be left in place.
- Carefully paint-sample the following at the same point on at least two of each component:

- In a **dry** environment, blast-clean the ironwork to bare metal and examine for fracturing and blowholes. (report)
- Repair to the specifications above
- Add to the Conservation Report Sheet the condition of each component after cleaning.
- Where replacement components are required of existing components, the best preserved item is to be used as the template for either a new casting pattern to be produced or as the basis for a mould for a loose pattern casting. This will depend on the number and complexity of the casting as this will also be reflected in the costs incurred.
- Where components are missing and no examples remain (eg the corner antifixae, spandrels, I beam etc.) then the client is to be presented with optional designs of historical relevance and new castings then produced from either new patterns based on catalogue images, or using an existing pattern deemed suitable. All replacements should relate to items shown in the MacFarlane Company Saracen Foundry Catalogue and be associated with a pattern 224 bandstand.
- Remove any revealed railing or other stubs left in the columns.
- Blast clean the columns internally using a reverse blast nozzle, ensuring the drain columns are perfectly clear and free from intrusions or blockages.
- Any identified drain columns will be reinstated by lining them with a flexible plastic tube held in place with expanding foam. This will mitigate against future fracture due to frost heave.
- Fill and smooth any column penetrations not to be reused with staved or hot-run lead or a high quality resin body filler. (e.g. screen rail and handrail fixing points.)
- Spray paint the cleaned column internally with M.I.O. using a remote nozzle.
- Attach newly produced column capitals prior to painting.

- Paint according to the Coatings Specification and agreed colour scheme (note that painting will be completed no less than one week before returning the object to site to minimise damage during handling.)
- Where the lugs have been cut for the removal of the railing panels, these should be extended by welding an agreed length of iron to the remainder of the lug. This should match the existing section of the metal and all welding work should be fully dressed and leave no room for water incursion, causing corrosion problems once reinstalled.
- Following all repairs, or following fettling of newly cast replacement items, then items are to be primed then painted with the specified system.

10.1.4 Roof restoration:

Using the timber and metal section specifications agreed with a structural engineer, based on the original design of the bandstand roof, with a shallow pitch roof, rising to a point at the terminal:

- Any roof design modifications will be agreed with the client
- The new roof is to be produced in eight sections, these will be transported individually to the site and will then be assembled prior to lifting as a complete unit (using a specialist crane contractor) onto the pre-installed columns.
- Replacement guttering to be purchased for missing sections to match original historic profile.

10.1.5 Bandstand components reinstatement

- Following restoration and painting of components and the casting and painting of new/replacement components, these will be returned to site.
- Where railing panels are to be reintroduced, the remaining stubs should be

core drilled and removed from the coping, producing a hole of as limited diameter as possible. The resultant holes should then be fully cleaned and the process of lead setting the panels should be subject to a full separate and approved method statement and risk assessment, including COSHH considerations and a permit to work before being carried out by experienced operatives. This process should take place within as close a time frame as possible and in good weather to ensure that the core drilled holes do not become wet prior to lead setting. Each section of the bandstand should be treated as an individual project and conducted in turn.

- If required, electrical cable for ceiling lighting will be prepared for pulling through an agreed column
- If a lightning conductor is to be fitted then the lightning conductor ground will be fitted before the base is cast and its cable will be prepared for pulling through an agreed column (metalwork contractor's task)
- Each column to be positioned and orientated to allow accurate placement of the ring beam before final bolting down. Each bolt must be of no lesser diameter than the original and extend 200-300mm into the base, and be resin anchored to sound material.
- The ring beam and spandrels are then to be finally secured.
- The contractor may wish to assemble the roof onsite or preassemble it in halves with the soundboard ready-fitted.
- Finish and touch up any damaged paintwork

10.1.6 Post Completion

All Conservation Records of the works with referenced images are to be handed over to the client, and accepted as satisfactory before final invoices will be cleared for payment.