7. Technical Resolution
Structural diagrams and calculations

Fig. 121: Structural cores (Author, 2010).

Fig. 122: Circulation cores (Author, 2010).

Fig. 123: Secondary bracing in terms of girders and joists (Author, 2010).

Fig. 124: Walkway system in the structure (Author, 2010).

Composite Beam: 3025 x 157 x 10.5

$A_d = 3025 \times 165 \times 7.5 = 3025 \times 165 \times 10.5 = 6.8 m^2$
Fig. 125: Detail plan of the basement floor (Author, 2011).

Fig. 126: Detail plan of the lower basement floor (Author, 2011).
Walkway conditions

The walkway is a representation of perceptions and cultural norms, enveloped in human life. The change in materiality of the walkway represents how perceptions and norms of life and death in the urban reals can change over time.

Condition 1

Timber handrail - the continuous connector between the different conditions - the continuation of life in the cycle of life.

The solid concrete structure represents the current perceptions and cultural norms concerning life and death, a single mindedness about the integration between life and death.

Fig 127: Walkway condition 1
(Ahren, 2011).

60x120mm Saligna handrail treated with Rubia Monocoat RMC decking-oil 2C, fixed with M5 bolts in sunken holes to steel cleat. Plug holes with same timber and align growth rings.

5x50mm galvanized steel cleat bent, pre-drilled and shop-welded to 5x100mm steel flat bar bolted with 2xM10 nuts to predrilling rods.

2 x 10mm galvanized steel rods, with threaded protruding ends, cast into concrete at 1500mm intervals as per engineering detail.

200mm fair face reinforced concrete channel.

Gutter with fall to outlet.

Chamfered edge and drip.
Condition 2

The integration of a different material represents the progress in terms of mediation between life and death and the change in perceptions about the cycle of life.

The steel wire mesh represents the change from solid to a permeable enclosure.

The connection is celebrated by a black painted steel footing, which links the steel to the concrete. This mediator represents the between, linking old and new norms.

The solidity is reduced to make way for the integration of a different material forming part of the walkway. This represents the change in thought: the integration of the whole cycle of life.

60 x 120mm Saligna handrail treated with Rubio Monocoat RMC decking oil 2C, fixed with 4 x 45mm timber screws from the back, to the 5 x 100mm steel flat, with pre-drilled holes.

5 x 100mm continuous galvanized steel flat bar with pre-drilled holes, shop welded to baluster.

2 x 60x60x6mm equal leg angle with 22mm spacer between, at 1500mm intervals, with pre-drilled holes, galvanized and painted with Humboltie "Grey", bolted to black steel footing with M10 bolts.

4mm Ø galvanized steel wire mesh with 100 x 50mm aperture, spot welded off site, clamped from the back to balustrade upright with 6mm saddle clamps.

2 x 50x6x200mm steel flat bar, with 10mm gap between, welded to 90x200x6mm base plate, galvanized and painted with Humboltie "Black", bolted with M12 chemical bolts to concrete.

200mm fair face reinforced concrete channel

Gutter with fall to outlet

Chamfered edge and drip
Condition 3

The connections between the different elements is hidden to emphasize the integration between life and death.

The whole structure being steel shows the change in perceptions and cultural norms - the integration of the whole cycle of life in urban life.

The steel rods at the lower part of the baluster are set closer together than those at the top part of the baluster. This represents the solidity of the walkway, from solid, to permeable to an open enclosure.

Connections between different elements of the walkway are kept simple, to emphasize the integration of the whole.

- **60 x 120mm Saligna handrail treated with Rubio Monocoat RWC decking oil 2C, fixed with 4 x 45mm timber screws from the back, to the 5 x 100mm steel flat.**

- **5 x 100mm continuous galvanized steel flat bar with pre drilled holes, shop welded to baluster.**

- **2 x 60 x 6mm steel flue with 30mm spacer between, galvanized baluster, pre-drilled and shop welded to endplate, set at 1500mm intervals. Fixed to steel joint with M12 bolts.**

- **10mm galvanized Ø round bar in 6m lengths, trenched at both ends and led through baluster holes, fixed with M10 nuts to every fourth baluster. Set at 100mm and 200mm intervals as indicated.**

- **140 x 25mm Saligna timber, with a 5-10mm gap between members, treated with Rubio Monocoat RWC decking oil 2C, fixed from the bottom with a hidden fixing clip system to metal grid.**

- **40 x 80 (R38D) hot dipped galvanized steel masts grid laid on steel I-sections, and hold in place by steel cleats welded to steel I-section.**

- **305x165x64mm steel I-section with 6x80mm cleat shop welded to top of I-section at 500mm intervals.**
Bracing

**Fig 130**: Bracing detail (Author, 2011).

**Fig 131**: (Opposite page) Different bracing conditions as the structure develops according to the different conditions (Author, 2011).

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**CONDITION 1**

- Bracing condition 1: with the employment of a connector plate and bolts the mechanical connection between the two different structural systems is emphasized - the between.

- Steel braces welded to the inside of the column flanges

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**CONDITION 2**

- Bracing condition 2: a smaller section is used, made possible by employing two cross bracing members, connected to the flanges of the structural column. No connector plate. This implies the steady integration of the two structural systems, as the between mediates between two different entities - life and death.

- 2 x 40mm steel rounds connected to swivel clevises

- Steel connectors bolted to column flanges on either side

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**CONDITION 3**

- Bracing condition 3: the bracing is now integrated into the structural system by welding the bracing members to the column flanges, showing how the two entities become part of the same system: life and death ultimately being integrated.

- 2 x 40mm steel rounds with ends flattened

- Steel braces welded to column flanges

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**Fig 130**: Bracing detail (Author, 2011).

**Fig 131**: (Opposite page) Different bracing conditions as the structure develops according to the different conditions (Author, 2011).
Tanking detail

Fig. 132: Waterproofing detail (Atta, 2011).

2000x2000x30mm terrazzo tiles affixed with tile adhesive as per tile manufacturer specifications laid on waterproofing.

50mm screed with fall 1:60 with 4mm Deribugum waterproofing torch-bonded to screed with 200mm overlapping joints.

250mm reinforced concrete slab to engineer specifications.

1200x800x30mm suspended ceiling with acoustic boards placed in 30mm aluminum ceiling tiles.

2x 300x150x50mm air bricks to allow ventilation of service core.

200mm reinforced concrete slab to engineer specifications.

5x600x2000mm suspended ceiling placed in 30mm ceiling tiles.

100mm continuous service shelf for service and for waterproofing of basement levels.

Gurgle for stabilizing of excavation face, with anchor rods, and/or re-established as per engineer's details.

600mm concrete retaining wall as per engineer specifications.

600x1200mm access to service core, with ships ladder for access to service channel.

Fair face concrete column.

30mm self leveling, colored aggregate as per architect's detail.

180mm reinforced concrete slab according to engineer specification with built-in joint.

200mm no fines concrete slab with cast in place joint at 1:100 fall to channel.

Channel at 1:100 fall to pump with submersible pump with piping to surface drain.

Cast in situ concrete channel with 1:100 fall towards sump.

Concrete foundation for retaining wall as per engineer specifications.

Concrete pie cap as per engineer specifications.
Concrete entrance

Fig. 133: Detail of concrete roof edge (Author, 2010).

Fig. 134: (opposite page left) Entrance, showing handrail (Author, 2010).

Fig. 135: (middle) Drainage in front of entrance (Author, 2010).

Fig. 136: Drainage detail from concrete slab (Author, 2010).
Burial holder

Fig. 137: Burial holder with drainage holes (Author, 2011).

Fig. 138: Burial holder detail (Author, 2011).

500 x 250 x 400mm brushed stainless steel holder made from 3mm sheets with a folded top edge for structural stability. Handles are cut in sheet and folded up, to inside. Holes are drilled in bottom for drainage and sides for fixing.

M6 bolts bolted through horizontal bar, to prevent holder from being removed easily.

M8 bolts used to fix holder to steel structure with neoprene cap.

70 x 8mm steel flat bar with pre-cut holes, bolted with four M10 bolts to support structure.

60 x 6mm steel flat bars with pre-drilled holes, welded on site to vertical steel support, at 200mm and 400mm intervals.

General note

Grind and file all welds smooth, clean all grease, oil and debris from steel work. Apply anti-rust primer and two coats of "Hammerite-Grey".

Names and messages on the holders will be edge in or the front with a plasma cutter.
8. Conclusion

The place of remembrance investigates the ability of an architectural exploration to respectfully challenge conventional cultural norms (Prassa, 2009) and create new perceptions of what an urban environment could be. It also considers the significance of appropriating the between physically and meta-physically.

The investigation has led to the theoretical exploration of the cycle of life; defining the between (Heidegger, 1996); and the power of collective dwelling (Norberg-Schulz, 1985). In conclusion it explains how the introduction of the complete cycle of life into our cities may help to form a collective urban environment. It continues to explain that the inclusion needs not be of a grand symbolic nature, but can rather be in the form of a design narrative, which in this case will be housed in the between of the urban environment. The importance of the between helps to understand the significance man has placed on the physical manifestation of the meta-physical expression of collective dwelling.

The urban environment is explained as a place of activity and dynamic life. Unfortunately current circumstances have given death only peripheral
importance, both physically and meta-physically. It is the aim of this project to introduce the whole cycle of life into the urban environment: celebrating life by exposing death. Through the physical manifestation of a place of remembrance for the dead, a meta-physical awareness is fostered in collective urban life.

To achieve the inclusion of the whole cycle of life in the urban environment, a **between** found within the city was identified. A vertical park structure is sensitively introduced in this **between**. An alternative process called promession is implemented to help create the **vertical park** which includes the remains — as nutrients — in the soil, furthering the idea of new life.

The architectural expression is achieved by implementing counter balances of life and death; solid and void; vertical and horizontal; and physical and meta-physical. The vertical structure is articulated as a temporary structure through the use of steel as material. The structure reads as temporary, yet the function of housing the dead renders it permanent within the life of the city. The memorial service space and process of promession which are both used by the living to honour the dead (celebrating life), are placed beneath ground level, in a more solid, permanent structure. The processes housed in the structure though are temporary, and after the memorial service the living ascend from the space into the collective urban space and further into the place of remembrance above, to place the remains of the deceased permanently in the park structure.

Hierarchy is achieved through the use of vertical distribution, lingering spaces and thresholds, sensitively creating differentiation in the importance of spaces.

In the memorial space below ground, light is used to draw people through the different thresholds into the memorial hall, where the relationship between the mourner and the deceased is accentuated by light. The place of remembrance, being found within the **between**, sensitively creates an awareness of the whole cycle of life. It does so by appropriating the **between** and becoming an anti-monumental memorial in the city. The awareness of the loss of life is not imposed by monumental structures awkwardly placed in the urban environment. This process of infusing the **between** and creating a culture of urban life will take time. As time passes and the place of remembrance becomes accepted, several more can be built in the **between** spaces found in the city, creating a new culture of urban life.