The design strategy of ‘contained space’ is used for different functions in the building. Some of these functions include the following:

- reception
- interactive work station and display
- toilets
- bookshop
- bathrooms in boutique hotel rooms
- outside seating for the café

The construction of these objects is based on the same principle: a steel structure layered with specific materials to accomplish its function.

The reception area in the Information Node is analyzed as an example in terms of the construction method and materials used.
FIG 8.2: 3D model of the Interactive workstation concept

FIG 8.3: 3D model of the Toilet cubicle concept
8.2 CONSTRUCTION METHOD

MAIN STRUCTURE:

_ Four mild steel channel frames are bolted to the original concrete floor.

_ Timber rafters are bolted to the original floor to create a new level. This creates one floor level in the reception area that is accessible to everyone.

SUB-STRUCTURE:

_ Mild steel square hollow section frames (with a steel cross supporting structure) form the sub-structure.

_ The sub-structure is bolted to the main channel structure.

_ The staircase consists of two main M.S. steel channel structures bolted to the floor.

_ Custom-made M.S steel T-brackets are bolted to each of the main staircase channels. They connect the two channels supporting the timber treads.
TIMBER TREADS AND LIGHT FITTINGS:

- Eucalyptus timber treads are supported by a custom made T-shaped steel plate. This tread is bolted between the two supporting channel frames.
- Acoustic panelling and a timber boarding finishing layer are fixed underneath the timber treads.
- Light fittings that illuminate the panels from the inside are fixed to the square sections.
- The staircase screen consists of structural fins bolted to the floor.

CLADDING AND STAIRCASE SCREEN

- 3Form Chroma panels are bolted to the brackets on the substructure.
- Acoustic panelling is placed underneath the work counter.
- 3Form panels are fixed between the structural fins to create the staircase screen.
- Stainless steel hollow circular section handrails are bolted to the wall and 3Form panels.
8.3 MATERIALS

RECEPTION BOX CLADDING AND WORK SURFACES

3Form panelling is used to clad the steel sub-structure of the reception box. It is fixed to the sub-structure with bolts and brackets. With a light source incorporated between the 3Form layers, an illuminated red box is created that makes it a focal point, visible from the street.

This material makes use of aura colour infusion technology that creates a solid surface saturated with luminous colour. Either naturally or artificially illuminated, Chroma has a radiant, jewel-like colour. It has the same working properties as wood. The coloured resin panels are engineered to be resurfaced and re-coloured again and again. This prevents the Chroma material from entering the waste stream and allows each panel to be multi-cycled into new architectural installations. A durable finish and easy installation makes this material ideal for the reception box.
FLOORING

FIG 8.11: B.A.S.F – MASTERTOP 1362
POLYURETHANE-BASED FLOOR
COLOUR: CHARCOAL WITH WATERMARK GRAPHICS OF ORIGINAL WALL LAYOUT OF OLD FIRE STATION BUILDING

The product is self-levelling and crack bridging, with a seamless finish. It is ideal to use in a high-traffic area with properties of abrasion resistance and resilience, good impact sound insulation and comfort underfoot. It is easy to clean and maintain and UV resistant.

FIG 8.12: 3FORM: STRUTTURA COLLECTION: STAGE 40mm

The Struttura collection has structural capabilities and is graded for exterior construction. Stage is a cellular technology that uses the concept of extruded core honeycomb. The product is ideal to use as flooring due to its structural strength and durable finish. A diffused light effect is achieved when this material is illuminated from underneath. It is used to emphasize the new elements (like the reception box) as free-standing objects.

FIG 8.10: ORIGINAL OREGON PINE FLOORING
RE-USED FOR THE MAIN WALKWAY

The original timber flooring is re-used to remind the user of its heritage value. It gives a rustic, weathered look that contrasts with the new materials. It also adds warmth to this huge open space.
LIGHTING

The quality of light is affected by the colour and textures of surfaces and their reflectivity. When using the 3Form Chroma panels with strip fluorescent back lights, a diffused red light will be reflected onto the service and work counters. Therefore tracks with halogen spot lights are placed inside the channels above the counters to produce the correct quality of bright light.

FIG 8.13: Magnetic track with halogen spot light

FIG 8.14: MAGNETIC TRACK SPOT LIGHT
RADIANT: GA01 TD GUS.3 HALOGEN MR16 DICHRIOIC REFLECTOR 12V 35W

FIG 8.15: STRIP OR COUNTER LIGHT
RADIANT: KD40 FLUORESCENTS – 8W MINI 350 X 40 X 20mm
RADIANT: KD22 SLIMLINE LIGHT FLUORESCENTS – T4 – 20W 620 x 45 x 20mm
ACOUSTIC WALL & CEILING PANELING

Acoustic panelling is placed inside the reception box to create a comfortable sound environment with adequate sound absorption levels. Acoustic panels are placed underneath the work counter where they will be unobtrusive. The ceiling consists of layered acoustic panelling, with a finishing layer of timber boarding. The most important physical characteristic of the acoustic qualities of an area is its reverberation time, which is determined by the absorption qualities of the room – the walls, floors, ceiling, contents and volume.

Room area acoustic conditions can be considered optimal if the people within feel comfortable. Offices and conference areas benefit from an improved conversation atmosphere when noise is decreased and the audibility of the spoken word is improved.

**FIG 8.16:**
**OW ACOUSTIC: ACOUSTIC PANELING**
PERFORATED ALUMINIUM PLATE WITH SQUARE HOLES

This product provides a very good wide-band absorption effect, which is ideal if noise and reverberation problems occur over a large frequency spectrum.

**FIG 8.17:**
**ACOUSTIC PANELING**
GIVEN TWO COATS OF BLACK ACRYLIC PAINT. PLACED UNDERNEATH TIMBER BOARDING

**FIG 8.18:**
**TIMBER BOARDING**
The eucalyptus timber boarding slides into the custom made aluminium profile brackets. No screws or nails are visible with this fixing system. The timber boarding will be spaced so as to allow maximum sound absorption by the acoustic panelling underneath.
CEILING & WALL COVERINGS

With the walls on the first floor of the Old Fire Station building being demolished, the ceiling over the new double volume space needs to be replaced. The ceiling will be curved in the same way as the timber ceiling in the original hall. It connects the two spaces visually, and enhances the new interpretation of the existing with the use of new technology and materials.

Graphics can be printed onto the fabric and used for ceiling or wall coverings. The entire system is no more than 10 mm thick and no fixings are visible. It is ideal to use for branding and as information sources (like maps and photographs), and can be changed over time.

FIG 8.19: AYLOS CEILING AND WALL SYSTEM

This system consists of a covering material of polyester fabric coated with polyurethane. The lightweight system is suitable for all ceilings. The covering material is stretched from wall to wall and is held in position by special profiles attached to the perimeter of the room. The type of material and the quality of the coating allow optimal tension to be achieved without joints, seams or suspension brackets. It is ideally suited to renovation projects as it leaves no mess, has a short installation time and gives off no fumes.
ADDITIONAL MATERIALS USED IN THE DESIGN

**FIG 8.20:**
3FORM CHROMA: CAST POLYMETHYL METHACRYLATE RESIN.
COLOUR: VITAMIN C
TEXTURE: RENEWABLE MATTE
9 / 25 / 50 mm THICKNESS

**FIG 8.21:**
3FORM STRUTTURA: CAST POLYMETHYL METHACRYLATE RESIN.
PEP TOPAZ
19 mm THICKNESS

**FIG 8.22:**
3FORM VARIA: CAST POLYMETHYL METHACRYLATE RESIN.
ORGANIC: TING TING
3 - 25 mm THICKNESS

**FIG 8.23:**
3FORM STRUTTURA: CAST POLYMETHYL METHACRYLATE RESIN.
DUE CRYSTAL
6 / 16mm THICKNESS

**FIG 8.24:**
IRON PAINT
CONTAINS IRON FILLINGS WHICH CREATES A METALLIC FINISH ON FEATURE WALLS

**FIG 8.25:**
EUCALYPTUS SALIGNA.
INDIGENOUS AFRICAN TIMBER
Moderately durable timber that is used in general construction and flooring