

3.3.2.3 University of Greenwich, Greenwich

Completed in 2016, this Nemec Cascade Living Walls compost-based system at the Stockwell Street building covers an area of 20m² [7]. The purpose of the living wall is to provide an aesthetic installation that will 'advertise' the University's landscape abilities and research opportunities, as well as being an asset to the building. The design is a random matrix of 17 different exotic species with lush green tones with red and white accents giving a 'tropical' effect.



Figure 1 Living Wall at University of Greenwich (image by Shelley Mosco 2016)

All plants absorb carbon dioxide and release oxygen but some plants also remove significant amounts of toxins from the air. NASA researchers suggest efficient air cleaning is accomplished with at least one plant per 9.5 square meters of indoor space (home or office). Some of the plants in this living wall can remove significant amounts of the following:

- **Benzene** – is carcinogenic. It is used in industrial processes to manufacture products we use on a daily basis, like plastics, dyes and glues, to mention a few. It is also a component of petrol.
- **Formaldehyde** – is carcinogenic. It is mainly used in the production of industrial resins and glues in such products as particle board (MDF), paper towels, nail polish and cigarette smoke.
- **Trichloroethylene** – is carcinogenic. It is an industrial solvent used for metal cleaning.
- **Xylene and toluene** – may be hazardous (skin, eye and respiratory irritant) but not known to be carcinogenic. It is used in products such as paint, paint thinners, adhesives and nail polish, vehicle emissions, and cigarette smoke.

- **Ammonia** – is a corrosive gas and can cause death. Although common in nature and in wide use, ammonia is both caustic and hazardous in its concentrated form. It is used in commercial cleaning products and to make pharmaceutical products.

Plant List:

- * Aglaonema 'Butterfly'
Alocasia 'Polly'
- * Anthurium andraeanum 'Almera Rood'
Asplenium nidus
- * Chamaedorea elegans
- * Chlorophytum capense 'Green'
Cissus alata 'Ellen Danica'
Coffea arabica
Maranta leuconeura var erythroneura
Peperomia caperata 'Rosso'
Peperomia rotundifolia var. rotundifolia
- * Philodendron scandens
Polystichum tsussimense
- * Spathiphyllum 'Alana'
Stromanthe 'Horticolor'
Tradescantia zebrina
Zamioculcas zamiifolia

***= Plants for removing toxins**

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