**Appendix B - Supplementary figures**

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Figure B2 – Net photosynthesis rates and average stomatal conductance measurements for each tree at each of the measured PAR concentrations in the AM [A] and PM [B] of 19/04/2019.

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Figure B4 - Average daily atmospheric temperature along with daily for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration, adjusted by high (TVET) and low (refET) potential transpiration rates under selected time windows (13/05/2019 to 19/05/2019, 21/10/2019 to 24/10/2019, 29/10/2019 to 01/11/2019, and 02/02/2020 to 10/02/2020) with least water stress.

Figure B5 - Average daily air vapour pressure deficit (VPD) along with daily for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration, adjusted by high (TVET) and low (refET) potential transpiration rates under selected time windows (13/05/2019 to 19/05/2019, 21/10/2019 to 24/10/2019, 29/10/2019 to 01/11/2019, and 02/02/2020 to 10/02/2020) with least water stress.

Figure B6 – Uncorrected diurnal lumen sap velocities for each tree during scaling periods [A: 13/05/2019 to 19/05/2019, B: 21/10/2019 to 24/10/2019, C: 29/10/2019 to 01/11/2019, D: 02/01/2020 to 10/01/2020].

Figure B7 – Mean daily sap velocities used to estimate daily for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration.

Figure B8 – Daily non-canopy normalised sap flow for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration, adjusted by high (TVET) and low (refET) potential transpiration rates under selected time windows (13/05/2019 to 19/05/2019, 21/10/2019 to 24/10/2019, 29/10/2019 to 01/11/2019, and 02/02/2020 to 10/02/2020) with least water stress.

## LI-COR Photosynthesis System Outputs

Chart

Description automatically generated

**Figure B1 - Average leaf temperature and leaf VPD measurements for each tree at each of the measured PAR concentrations in the AM [A] and PM [B] of 19/04/2019.**

Chart, scatter chart

Description automatically generated

**Figure B2 – Net photosynthesis rates and average stomatal conductance measurements for each tree at each of the measured PAR concentrations in the AM [A] and PM [B] of 19/04/2019.**

## LI-COR Photosynthesis System gs and Decagon Model SC-1 leaf porometer gs

Chart, scatter chart

Description automatically generated

**Figure B3 – Comparison of stomatal conductance (gs) measured using Decagon Model SC-1 leaf porometer (15/03/2019 to 16/04/2019) and stomatal conductance measured from LI-COR Photosynthesis System (19/04/2019). Photosynthesis System gs readings closely align with leaf porometer adaxial readings for young trees.**

## Daily Sap flows with weather conditions

Chart

Description automatically generated

**Figure B4 - Average daily atmospheric temperature along with daily for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration, adjusted by high (TVET) and low (refET) potential transpiration rates under selected time windows (13/05/2019 to 19/05/2019, 21/10/2019 to 24/10/2019, 29/10/2019 to 01/11/2019, and 02/02/2020 to 10/02/2020) with least water stress.**

A picture containing histogram

Description automatically generated

**Figure B5 - Average daily air vapour pressure deficit (VPD) along with daily for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration, adjusted by high (TVET) and low (refET) potential transpiration rates under selected time windows (13/05/2019 to 19/05/2019, 21/10/2019 to 24/10/2019, 29/10/2019 to 01/11/2019, and 02/02/2020 to 10/02/2020) with least water stress.**

## Diurnal Sap Flow during scaling periods

Diagram

Description automatically generated with medium confidence

**Figure B6 – Uncorrected diurnal lumen sap velocities for each tree during scaling periods [A: 13/05/2019 to 19/05/2019, B: 21/10/2019 to 24/10/2019, C: 29/10/2019 to 01/11/2019, D: 02/01/2020 to 10/01/2020].**

## Mean sap velocities used to estimate daily flows

A picture containing diagram

Description automatically generated

**Figure B7 – Mean daily sap velocities used to estimate daily for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration.**

## Non-Canopy normalised sap flows

Diagram

Description automatically generated

**Figure B8 – Daily non-canopy normalised sap flow for each mature tree at two streets (A,C,E: without TREENET Inlets. B, D, F: with TREENET Inlets) over entire project duration, adjusted by high (TVET) and low (refET) potential transpiration rates under selected time windows (13/05/2019 to 19/05/2019, 21/10/2019 to 24/10/2019, 29/10/2019 to 01/11/2019, and 02/02/2020 to 10/02/2020) with least water stress.**