C3. $\mathcal{CW} = \{c \in Cand : \forall d \in Cand : c \succeq^+ d\}$

1. $\mathcal{CW} \subseteq \{c \in Cand : \forall d \in Cand : c \succeq^+ d\}$

   PROOF: This follows from property C2 by the argument in the preceding paragraph.

2. $\{c \in Cand : \forall d \in Cand : c \succeq^+ d\} \subseteq \mathcal{CW}$

   2.1. It suffices to assume $c \in Cand$ and $\forall d \in Cand : c \succeq^+ d$, and to prove $c \in \mathcal{CW}$.

   PROOF: Obvious

   2.2. Let d be an element of $\mathcal{CW}$.

   PROOF: By definition, $\mathcal{CW}$ is nonempty.

   2.3. $c \succeq^+ d$

   PROOF: By 2.2 and the assumption of 2.1.

   2.4. Q.E.D.

   PROOF: By 2.2 and 2.3, since as we observed above, a simple induction argument shows that $d \in \mathcal{CW}$ and $c \succeq^+ d$ implies $c \in \mathcal{CW}$.

3. Q.E.D.

   PROOF: By steps 1 and 2.

CLOSE