Site Selection Requirements :

The following is a list of considerations that must be adhered to when choosing a Wildfire Safety Bunker site. A Wildfire Safety Bunker can also be relocated at a later date if required to suit future building extensions.

The Wildfire Safety Bunker is certified for use in Bushfire areas rated to BAL- FZ or a lower BAL, when assessed in accordance with AS3959-2018.

Considerations :

1. Distance from the main residence. When selecting a site consideration must be given to the age of the occupants and or any disabilities.
2. The siting of the bunker (in relation to slope, aspect, orientation and vegetation) must minimise exposure from the fire front and other structures.
3. The most common wind direction and the most likely path a fire will take.
4. The construction of the house – brick veneer, timber, other.
5. The siting distance from other out-buildings or car-ports or storage sheds.
6. Trees and vegetation re – distance from, amount, size, overhanging, relocation, removal.
7. Overhead powerlines – Easement.
8. Underground services – Water, power, gas, drainage and communications.
9. Clear pathway from the residence to the fire bunker/shelter.
10. Access for machinery re – crane truck and excavator.
11. Fences, boundaries, easements and other services.
12. Determine the Bushfire Attack Level (BAL) .

It is not always possible to avoid overhanging tree branches, in this situation the tree branches must be trimmed or removed. A permit may be required from your local council before any clearing work can be started.

Wildfire Safety Bunker Site Selection :

In the following criteria careful consideration must be given to the age of the occupants and or, any disabilities which could affect access and so impact on the site selection.

1. **Setback from dwelling:**
   The Wildfire Safety Bunker access door is to be located a minimum of 10.0 metres and a maximum of 40.0 metres from the residential dwelling. Ten meters is considered a safe distance should the dwelling ignite following a bushfire event. Forty meters is considered a safe distance in terms of the time taken to get to the Wildfire Safety Bunker in an emergency situation. The access door must be oriented to face the dwelling. This orientation also protects the door from possible future development to neighbouring properties. Where possible the rear of the bunkers earth mound should be facing towards the at-risk fire direction. (i.e. - the door should be facing away from this fire direction).

2. **Side and rear boundary setback:**
   The Wildfire Safety Bunker access door must be located a minimum of 6.0 metres from a side or rear boundary with the access door oriented towards the dwelling. This setback offers protection against the possible placement by neighbours of firewood and other fuel loads on the boundary line adjacent to an installed bunker and the doorway would be facing away from this potential threat.

3. **Front and side street setback:**
   The Wildfire Safety Bunker access door must be located a minimum of 6.0 metres from the far boundary of a front street or 8m from the far boundary of a side street with the access door oriented toward the associated dwelling on the same allotment, or the front or side street.

4. **Setback from outbuildings and other fuel loads:**
   The Wildfire Safety Bunker access door must be located a minimum of 10.0 metres from other outbuildings and fuel loads with the access door oriented towards the dwelling. (Example garden sheds, garages, wood piles, carports etc.). Radiant heat from these structures if ablaze could prolong the time spent in the bunker during a fire episode. If this clearance is not achievable these hazards must be removed or relocated.

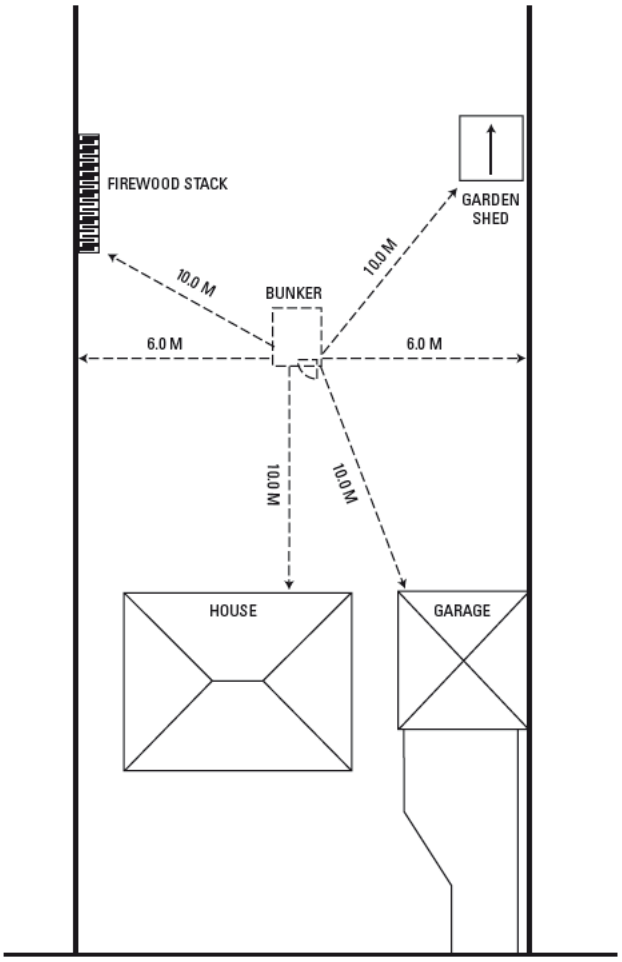
5. **Site selection:**
   Select a site that is free from any objects (including non-combustible objects) that could possibly fall or be carried by high wind that may block or obstruct the access door to the bunker.

6. **Access pathway:**
   An access path must be established that provides a direct link from home to bunker. The path must be clear and level and have a tactile surface and must be maintained this way by the property owners as an ongoing maintenance item.

7. **Vegetation management:**
   Ongoing Vegetation Management practices are to be implemented to maintain the BAL assessment that was undertaken for the purpose of obtaining the building permit issued for the construction of the Wildfire Safety Bunker.

WILDFIRE SAFETY BUNKERS

Bunker setback distances when selecting site. Measure the distance from the access door.



Site Excavation – Standard Bunker :

1. Locate any below ground services before you excavate.
2. Mark out the area to be excavated, 2400mm x 3000mm.
   (Bunker dimensions are - 2000 mm wide x 2600 mm long.)
3. When marking out, align the bunker so the access door is facing in the desired direction.
   Refer to points 1-7 on previous page.
4. Excavate to a depth of 1400 mm measured at the entry location. The joint between the top and the bottom of the bunker at the access door opening must be at natural ground level.
5. Do not over excavate, the bunker must be set on a solid, level base.
   Do not back fill any over excavation with loose earth, quarter minus fine rock is recommended to level the base of the excavation.

Wildfire Safety Bunker Installation procedure :

Option 1 – Single unit. Sections have been factory joined/sealed.

1. Wildfire Safety Bunkers Pty Ltd recommends using only experienced and licensed crane operators with appropriate equipment to lift and fit the bunker into position.
2. Place the bunker into the excavated and levelled site.
   Note : This is a fully factory finished unit and no additional items need fitting.

Option 2 – Top & Bottom sections installed on site separately.

1. Wildfire Safety Bunkers Pty Ltd recommends using only experienced and licensed crane operators with appropriate equipment to excavate, lift and fit the bunker into position.
2. Remove all four metal travel straps located on two sides of the bunker and separate the top half from the base.
3. Place the base of the bunker into the excavated site.
4. Clean all loose dirt and dust off both top and bottom edges of the two sealing surfaces. Note: It is extremely important that this step is done correctly. These sealing surfaces must be thoroughly cleaned. An approved priming fluid is recommended on both surfaces before sealant is applied. (Sika Primer – 3N : read all manufactures instructions on packaging before use).
5. Apply two 15mm thick beads of approved concrete sealant (Sikaflex – Pro, one component polyurethane, concrete grey: read all manufactures instructions on packaging before use) 15mm apart around the perimeter of the bunker base.

   Note: It is important to make sure there are no gaps or breaks in the beads of concrete sealant.
6. Carefully place the top section of the bunker in place. The top must be placed in position in one action. The top section of the bunker weighs 2500kg and should only be lifted and aligned by a licensed crane operator with the appropriate equipment.
   Note: 95% of Wildfire Safety Bunkers are joined/sealed in the factory and transported as one unit to site.
7. Using a paint scraper or similar, wipe off all excess sealant from the inside and outside of the bunker.
8. Refit all four metal travel straps located on each side of the bunker.

Back Filling:

1. When back filling around the perimeter of the bunker, compact the fill by hand as you progress. Do not use heavy machinery for this process.
2. Mounding of the earth over the bunker should be done carefully.
3. An earth cover to a depth of 300mm minimum and 500mm maximum is to be mounded over the top of the bunker and then battered back to natural ground level. The ventilation shafts are to be 100mm above finished ground level.
4. It is recommended that a heavy clay type earth be use when mounding over the bunker. Sand and loose soils are not recommended for the mounding as they will erode over time.
5. Compact the earth by hand as you proceed with the mounding, Note: Do not drive heavy machinery over or close to the edges of the bunker during this process.
   It is recommended that a simple temporary fence be erected around the bunker (approximately 1500mm back from all four sides of the bunker) to limit the distance between any heavy machinery and the bunker.
6. The mounding over the bunker will need attention over time due to erosion. Always maintain the minimum and maximum earth cover (point 3 above) over the bunker at all times. This remains the responsibility of the home owner. The home owner could also contract the services of a landscape gardener for this work.

Compacting by hand.

Avoid heavy machinery close to the edges of the bunker.