Below steps describes the methodology used to solve the problem statement given using A* Search Algorithm.

1.Begin at the starting node A and add it to an open list of nodes to be considered.

2.Look at all the adjacent nodes to the starting nodes, ignoring nodes with water.
Add them to the open list, too.
For each of these nodes, save point A as its parent node.

3.Drop the starting node A from open list, and add it to a closed list of nodes that we do not need to look at again for now.

To continue the search, we simply choose the lowest cost node from all those that are on the open list.
We then do the following with the selected node:

4) Drop it from the open list and add it to the closed list.

5) Check all of the adjacent squares.
Ignoring those that are on the closed list or unwalkable (terrain with water), add nodes to the open list
if they are not on the open list already. Make the selected node the parent of the new nodes.

6) If an adjacent node is already on the open list, check to see if this path to that node is a better one.
In other words, check to see if the cost for that node is lower if we use the current node to get there.
If not, do not do anything.
On the other hand, if the cost of the new path is lower, change the parent of the adjacent node
to the selected node .

Finally, recalculate both costs of that node.

7)Keep repeating this steps until Target Node is added to closed list.

8)To trace the path start from the Target Node and keep going back using the parent node ,till we reach the starting node.