Algorithm 1 : $B\_F2E\_Manhattan(init, goal, H) \rightarrow optimalSolutionCost$

```
if already solved then
  return(0)
end if
nodes ← (init, Fw, 0, open), (goal, Bw, 0, open)
gLim(Bw) ← gLim(Fw) ← 0
incrementedDir ← Bw
for gSum from 1 up by 1 until unsolvable do
  incrementedDir == opposite(incrementedDir) + 1
  if expandLevel(nodes,gLim(),gSum,H) then
    return(gSum)
  end if
end for
```