

# KOTH\_STALEMATE LEVEL DESIGN DOCUMENT

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# HIGH LEVEL OVERVIEW

## Level Design

### Designer

#	Goal
1	A map that accounts for all classes and maintains balance in all areas.
2	Flank routes utilized by the lighter classes (Scout and Spy).
3	Control Point always being a conflict zone with players moving around and underneath the Control Point.
4	Snipers using the direct sightline to the Control Point wisely.
5	Multiple spawn exit points to catch opponents off guard.
6	Chokepoints being more exciting by adding the 50-50 rule.

### Player

#	Goal
1	Capture the Control Point and hold it until they win.
2	Keep note of the Flank Routes to not get overwhelmed.
3	Keeping tabs of the pickups around the Control Point.
4	Use each character to their advantage and overwhelm the opposite team.



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Having control over the chokepoints and expecting fights to go 50-50 in those situations.

## Level Goals

- The players should have enough space inside the spawn room to act as a buffer before moving out.
- The size of the level should be favourable for all classes. It should be big enough to have exciting conflicts in the game.
- Control point should not only be easy to defend but to attack as well.
- Snipers should have limited sightlines but not so low that they won't be utilized.
- Flanking should be encouraged for more strategic gameplay and catch the opponents off-guard.

## Design Considerations

- The map is designed for the PVP mode 'King of The Hill' in Team Fortress 2.
- Two teams aim to control a central point for 3 minutes. The round ends once a team holds the point for the duration.
- To ensure balanced gameplay, the map is built around the following key classes in mind allowing for variety of playstyles:

 <b>SCOUT</b> SPEED: 133 % HEALTH: 125 ROLE: OFFENSIVE RANGE: SHORT SPECIAL ABILITY: DOUBLE JUMP	 <b>SOLDIER</b> SPEED: 80 % HEALTH: 200 ROLE: OFFENSIVE RANGE: MEDIUM/LONG SPECIAL ABILITY: ROCKET JUMP	 <b>PYRO</b> SPEED: 100 % HEALTH: 175 ROLE: OFFENSIVE RANGE: SHORT SPECIAL ABILITY: AIRBLAST
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	<b>HEAVY</b> SPEED: 77 % HEALTH: 300 ROLE: DEFENSE RANGE: SHORT/MEDIUM SPECIAL ABILITY MINIGUN FIRERATE		<b>DEMOMAN</b> SPEED: 93 % HEALTH: 175 ROLE: DEFENSE RANGE: MEDIUM/LONG SPECIAL ABILITY STICKY BOMBS		<b>ENGINEER</b> SPEED: 100 % HEALTH: 125 ROLE: DEFENSE RANGE: SHORT SPECIAL ABILITY SENTRY GUNS
	<b>MEDIC</b> SPEED: 107 % HEALTH: 150 ROLE: SUPPORT RANGE: N/A SPECIAL ABILITY ÜBERCHARGE		<b>SNIPER</b> SPEED: 100 % HEALTH: 125 ROLE: SUPPORT RANGE: MEDIUM/LONG SPECIAL ABILITY SCOPED SHOTS		<b>SPY</b> SPEED: 107 % HEALTH: 125 ROLE: SUPPORT RANGE: SHORT SPECIAL ABILITY BACKSTAB/ DISGUISE

- Spawn points are fixed and don't change regardless of who has control over the point.

## Key Elements

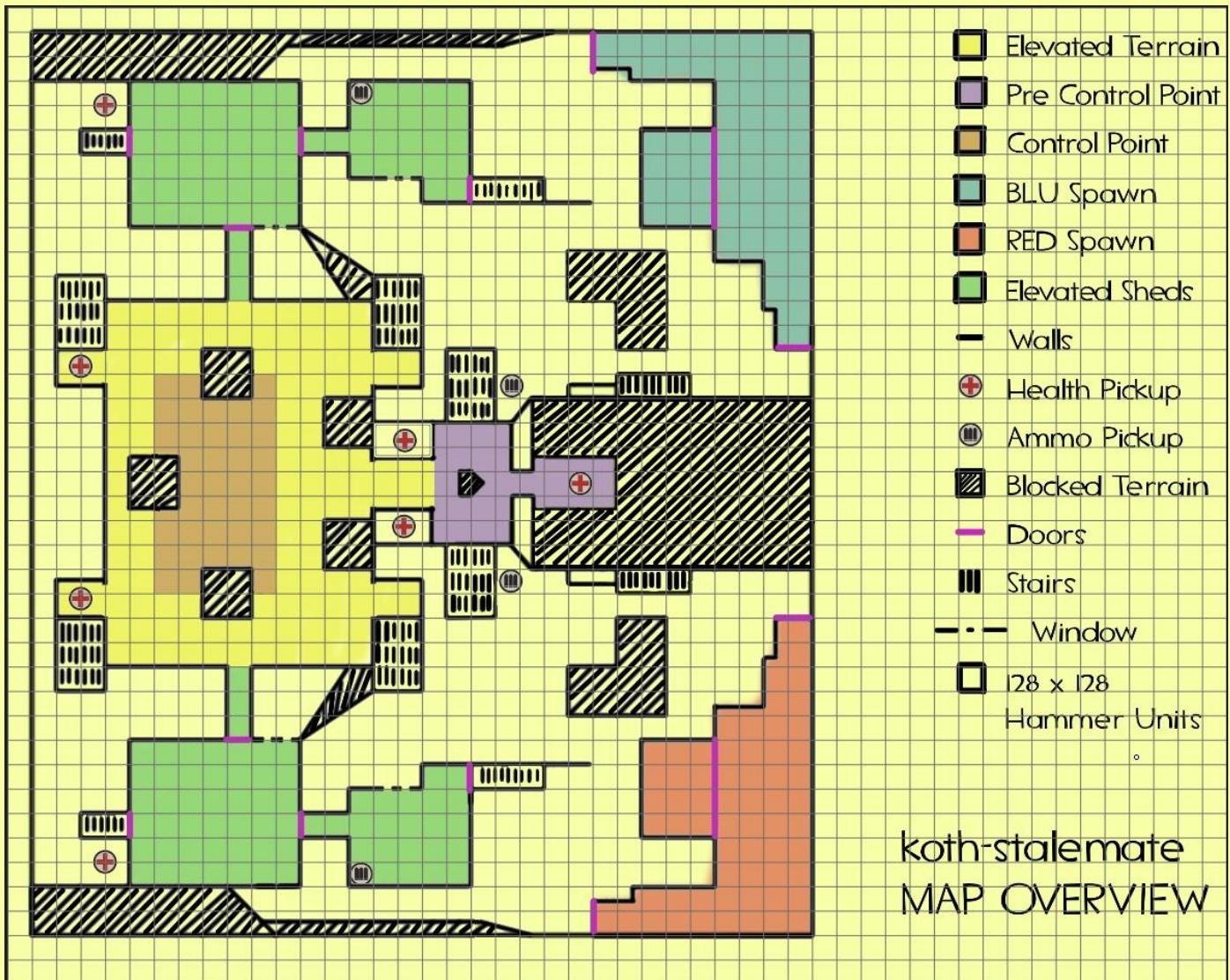
- Unique paths for each class type. More mobile classes use flanking routes, while the slower classes take the main route.
- Lighting is used to guide players to points of interests like pickups or areas to move to.
- Cover around the control point to intensify the fights around the point.
- Verticality for classes like Soldiers, Demoman and Sniper to take advantage of.
- Multiple paths for the player to choose and switch routes dynamically.



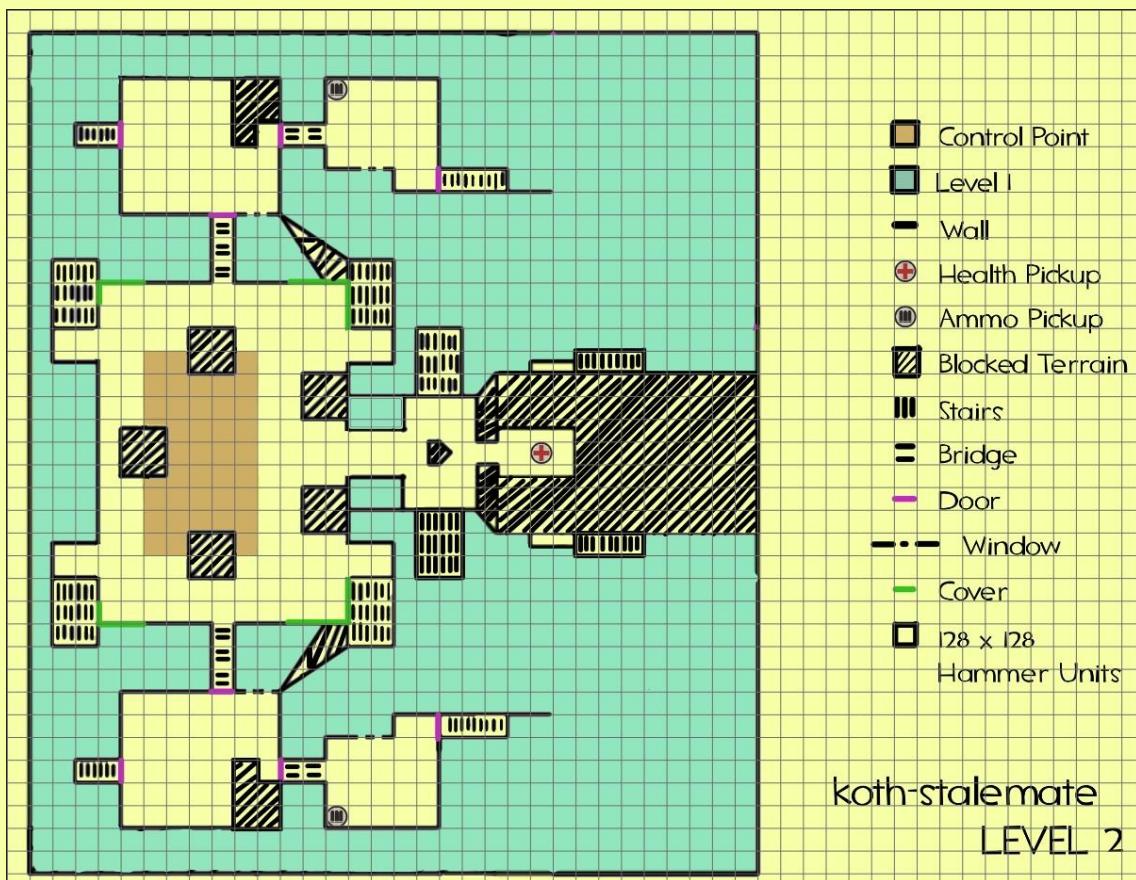
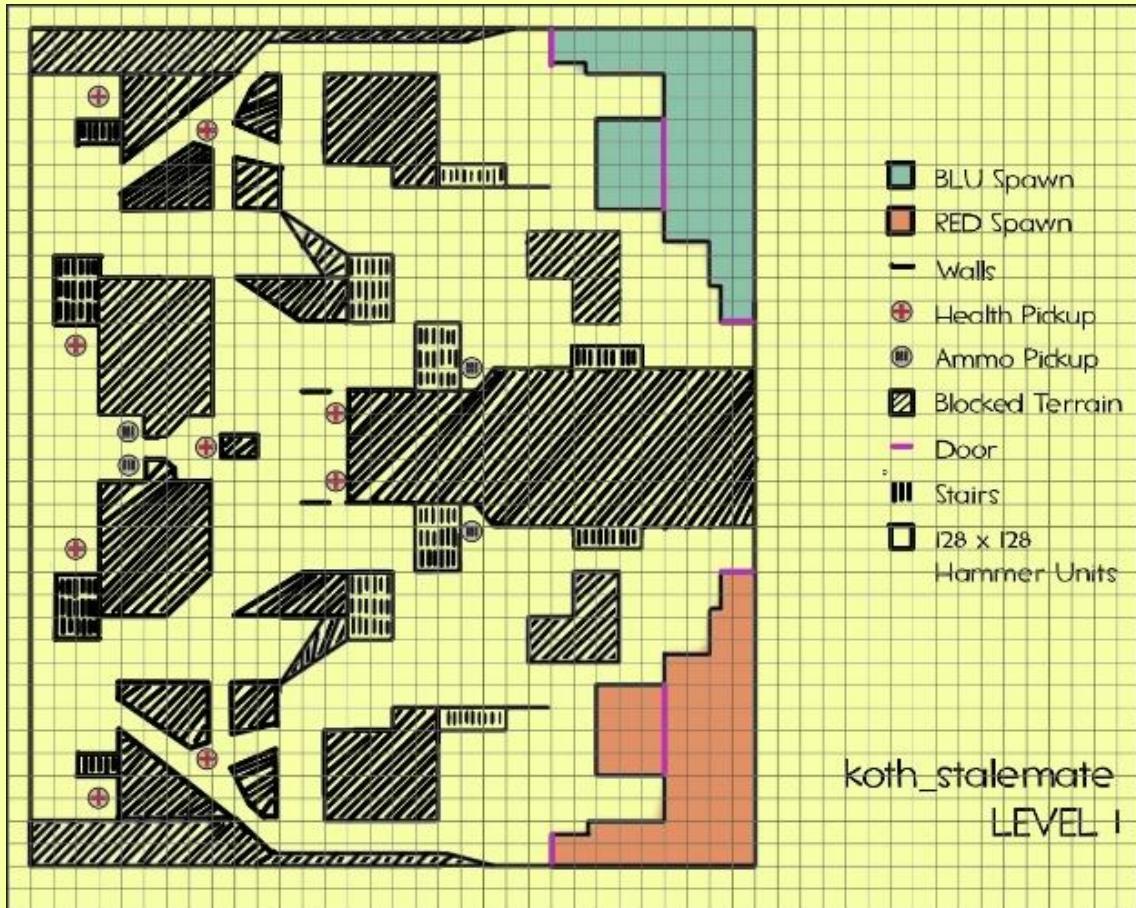
# MAP DESIGN

## Map Overview

- The map is designed with the control point at the highest point. Both teams advance in the same upward direction towards the control point.

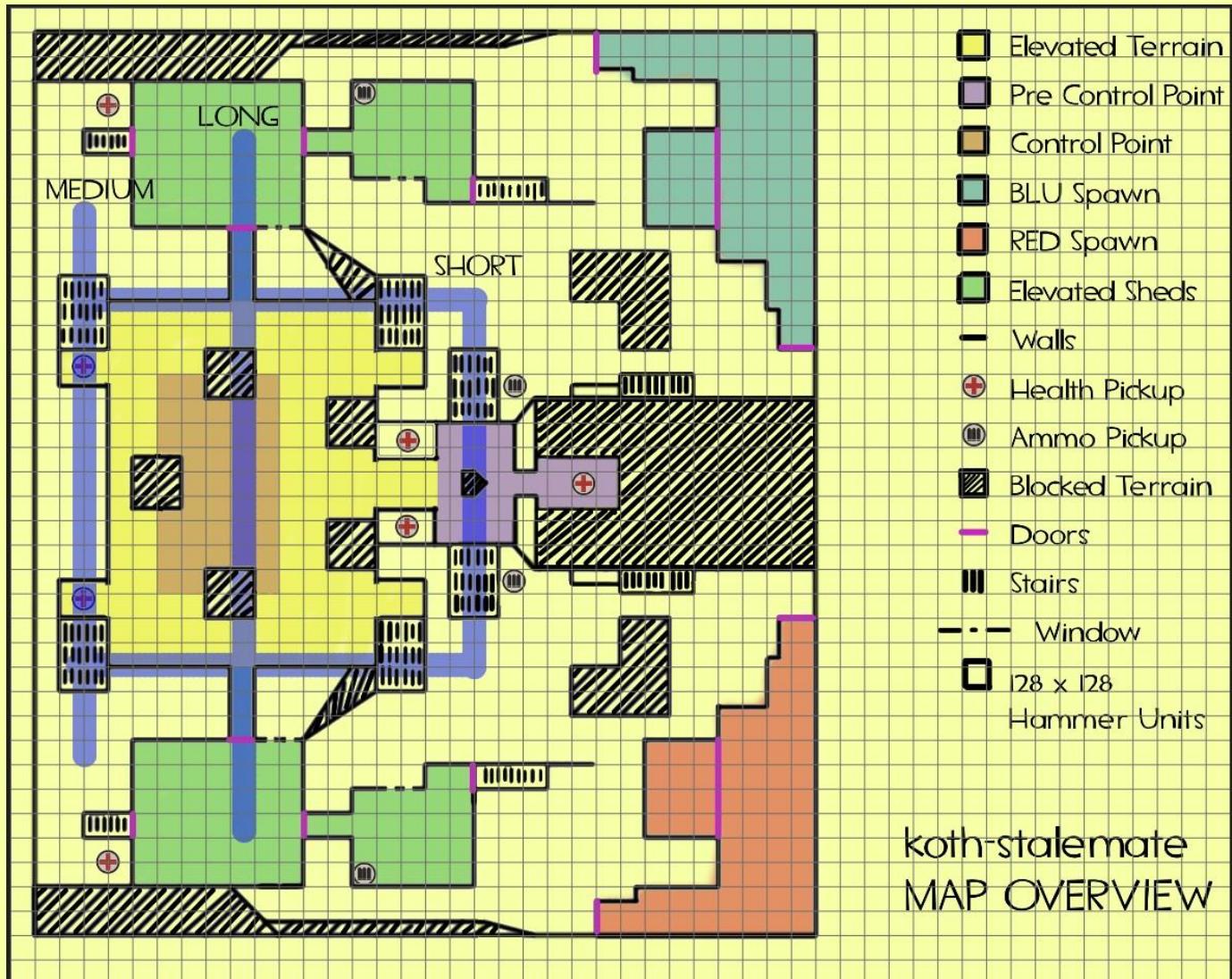


- The map features two distinct levels, designed to cater for each class. This design ensures a balanced gameplay experience by allowing each class to contribute effectively.



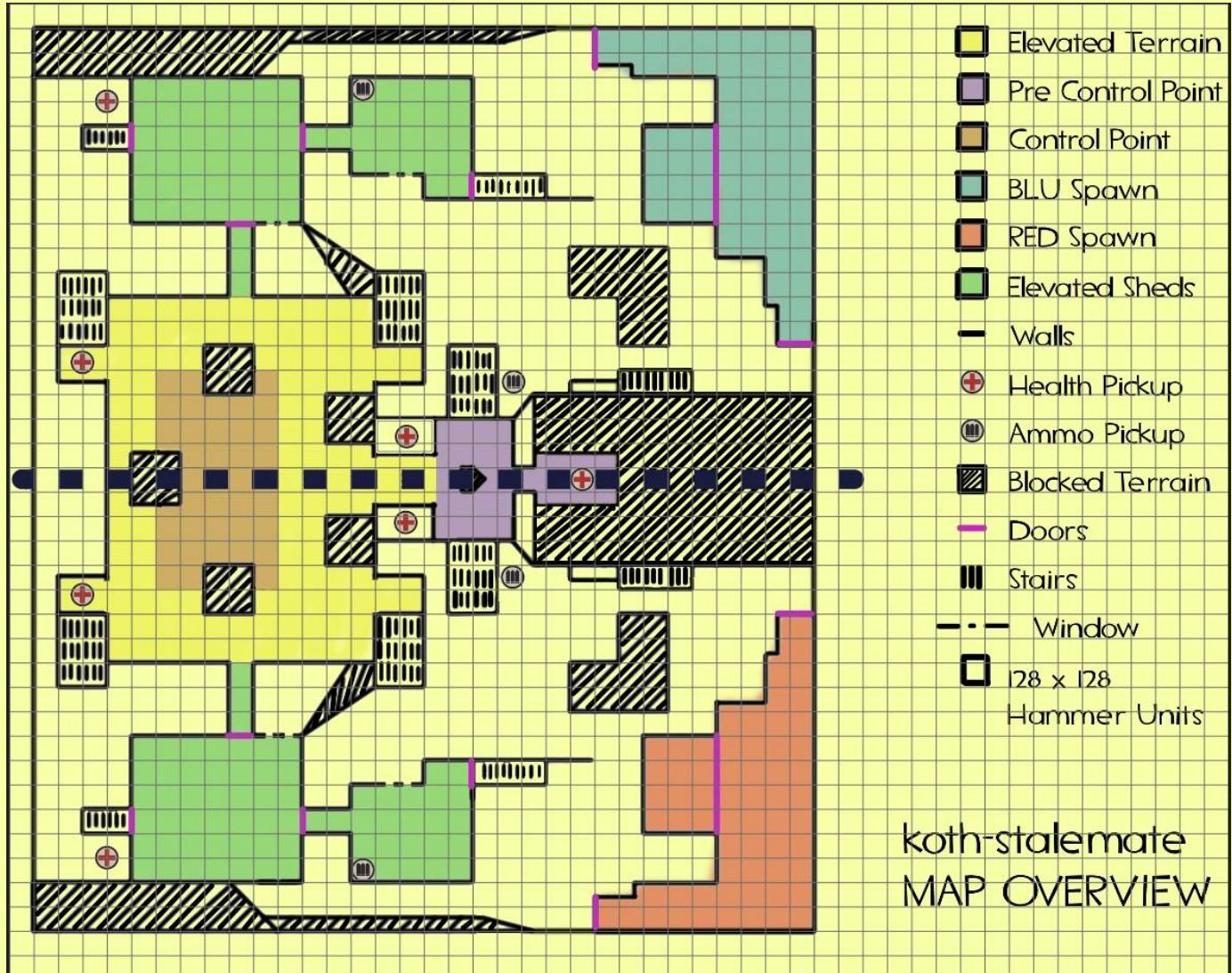


- Map follows the 3-lane structure. The short lane being used by the closer ranged classes, medium lane used by the mobile classes and long lane used by the defensive classes.





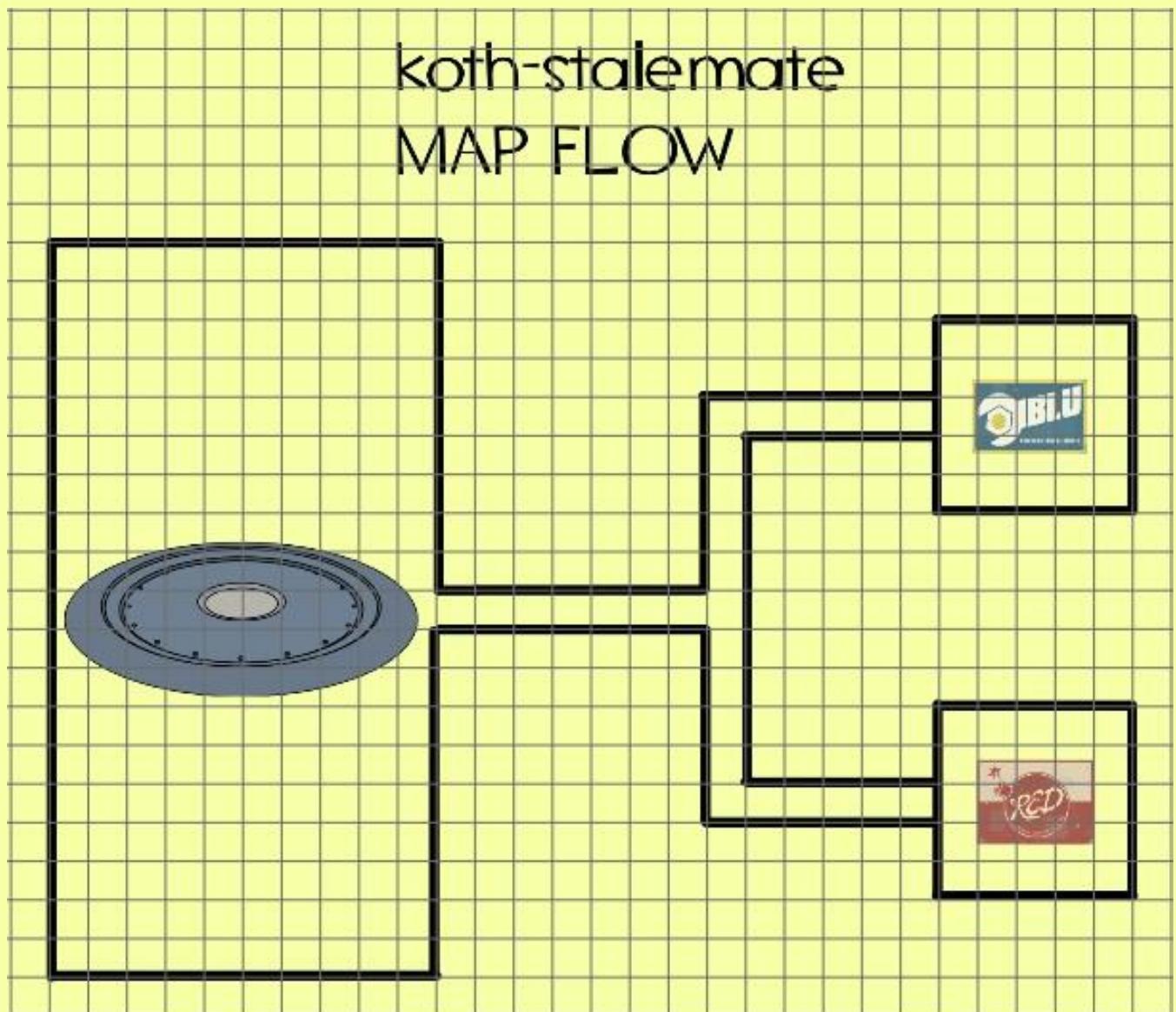
- Map has a reflective symmetrical structure which splits the map in half horizontally.





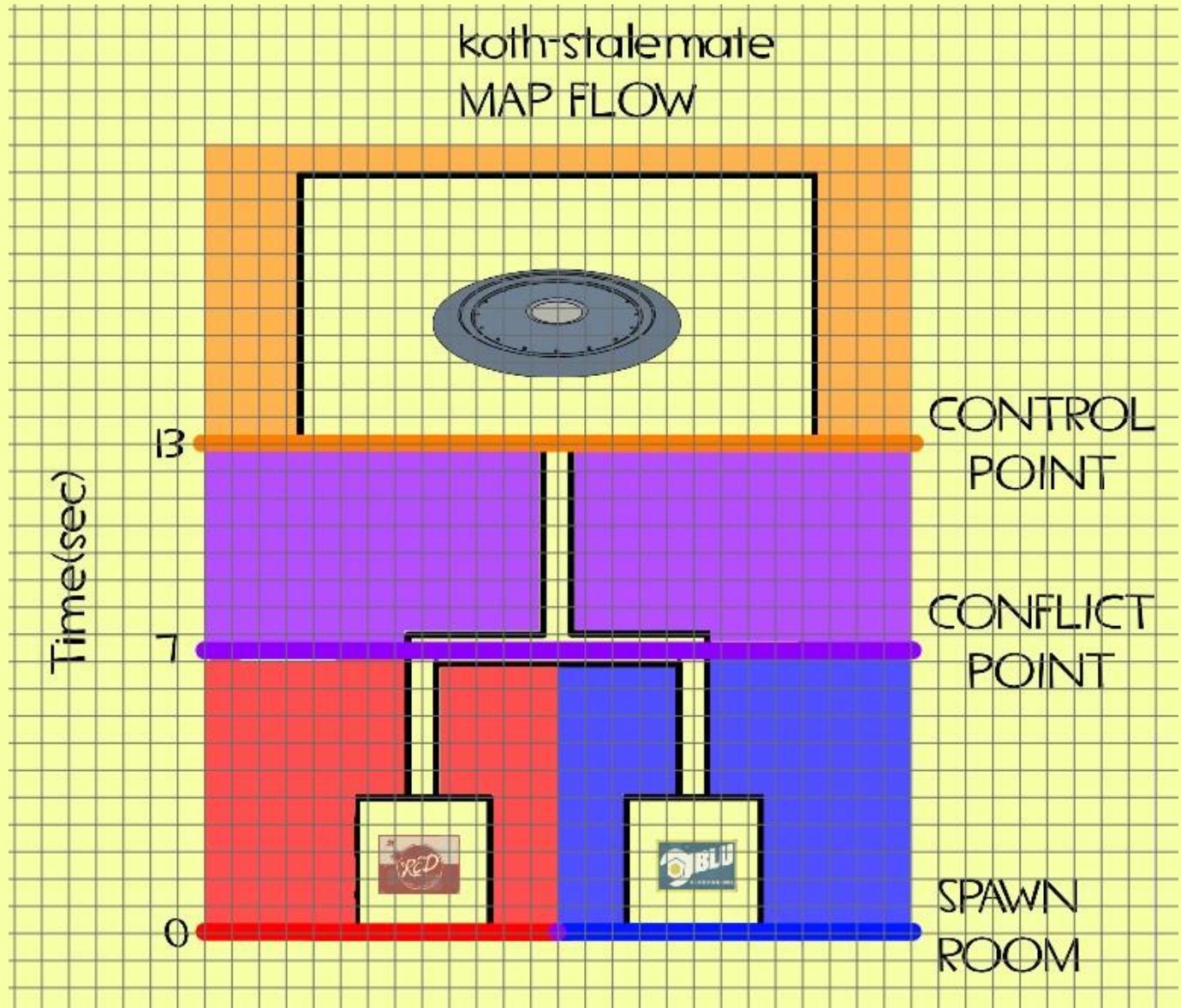
## Map Flow

- For this map, since the control point is at the highest point, both teams must move in the upward direction. This makes the conflict occur right before they reach the control point.





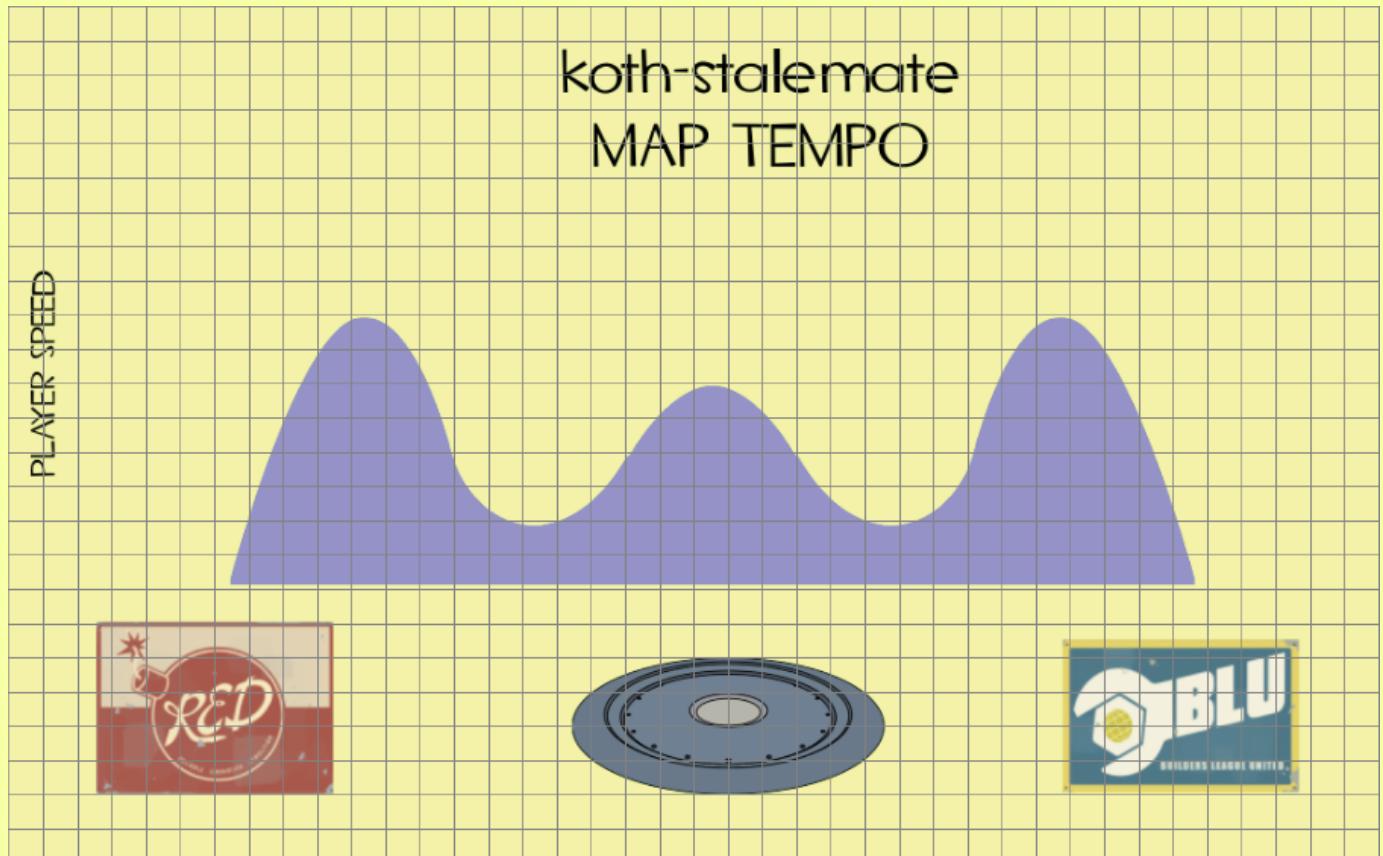
- The aim of this map was to make players reach within 10-15 seconds(class average). But the combat should occur between 5-8 seconds after moving out of spawn point.



- Team Fortress 2 has a respawn time between 6-10 seconds, so each time a player dies the respawn time will account for the combat going around at the conflict point.

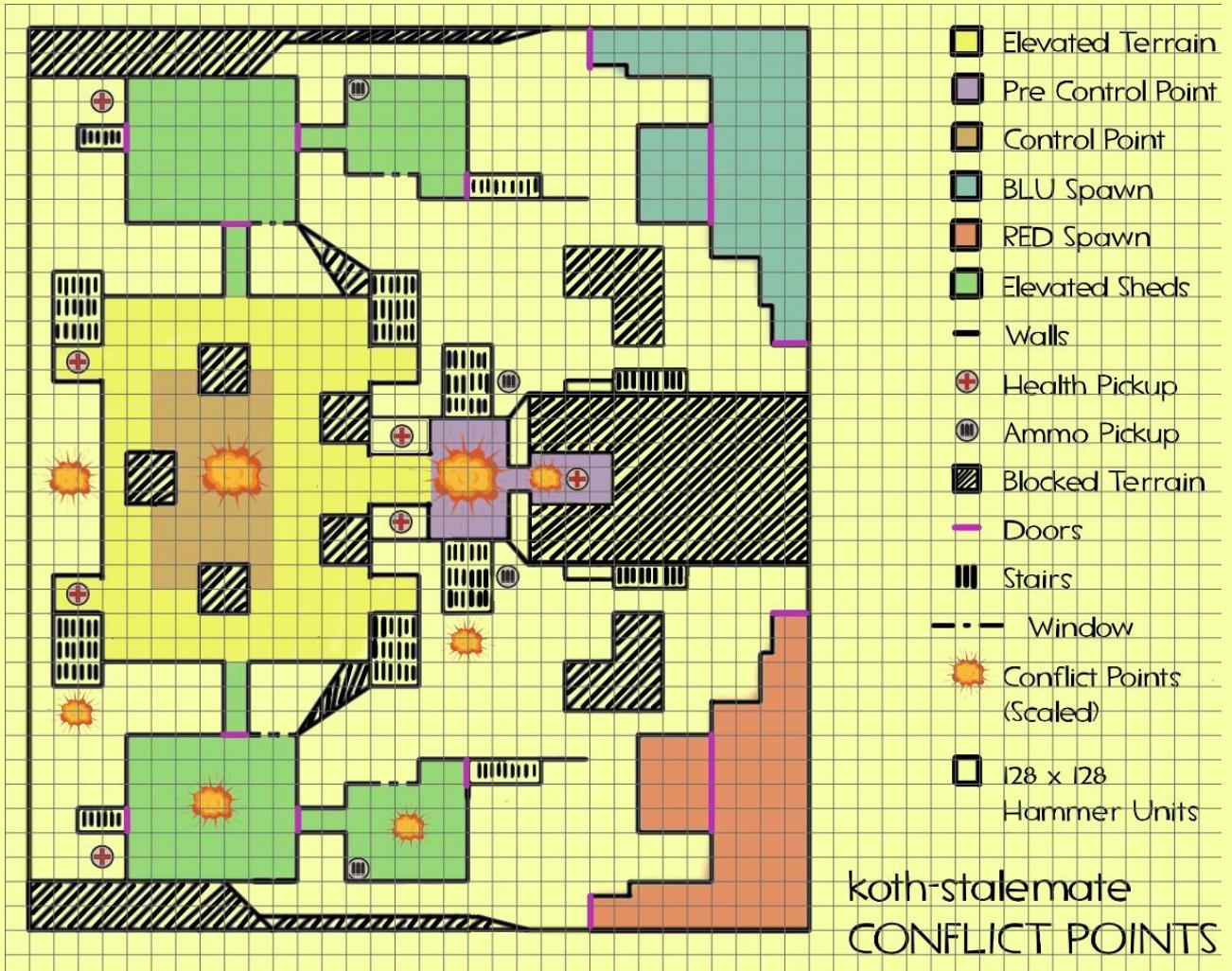


- Players will start off fast while moving towards the control point, but the tempo will reduce when they face each other right before the conflict point. After which the movement towards the control point will increase to get the point as quickly as possible.





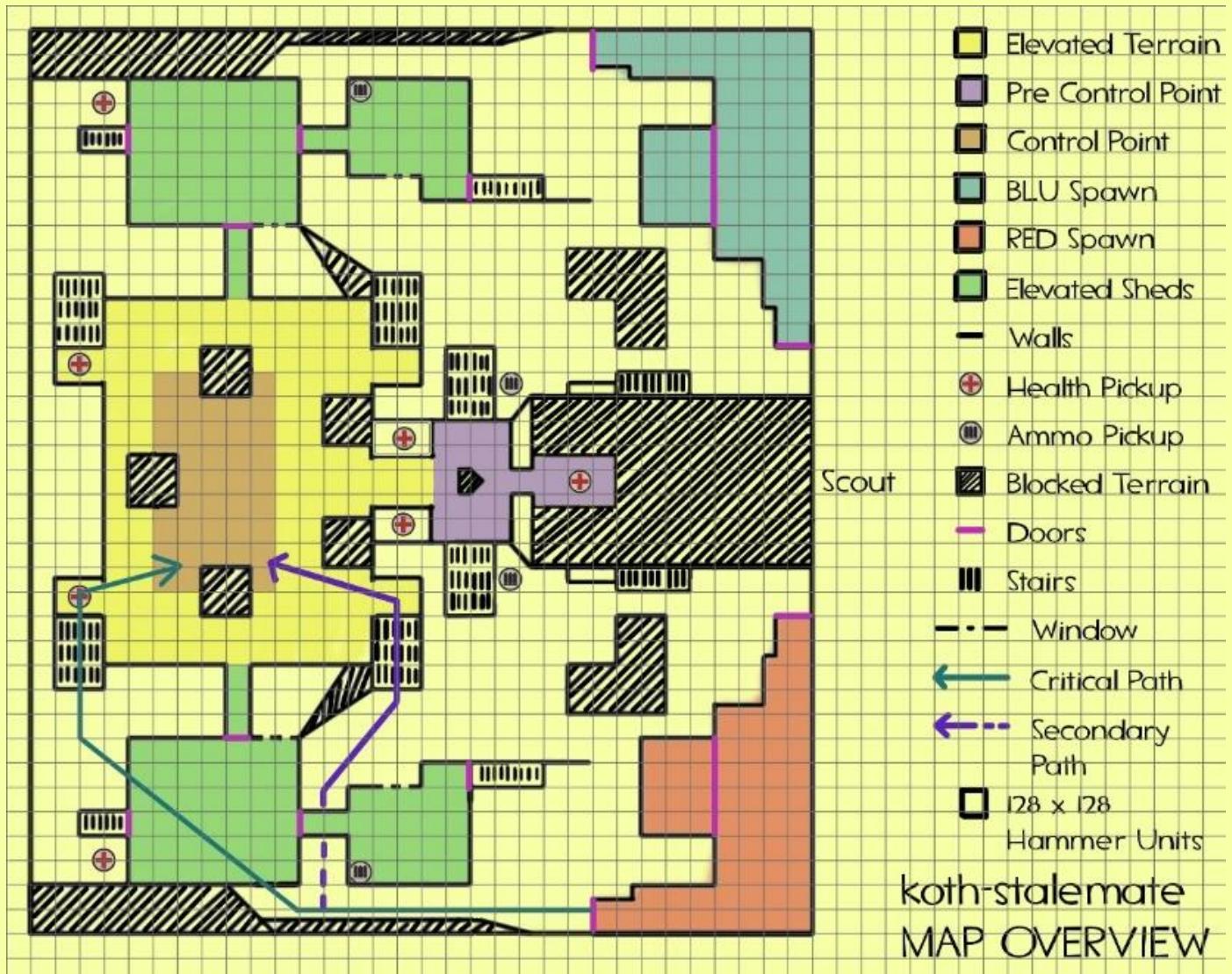
- The map contains multiple points where fights occur. The placement of these conflict points makes the game more exciting. Paths leading to the control point is the biggest conflict point whereas areas around that are smaller.

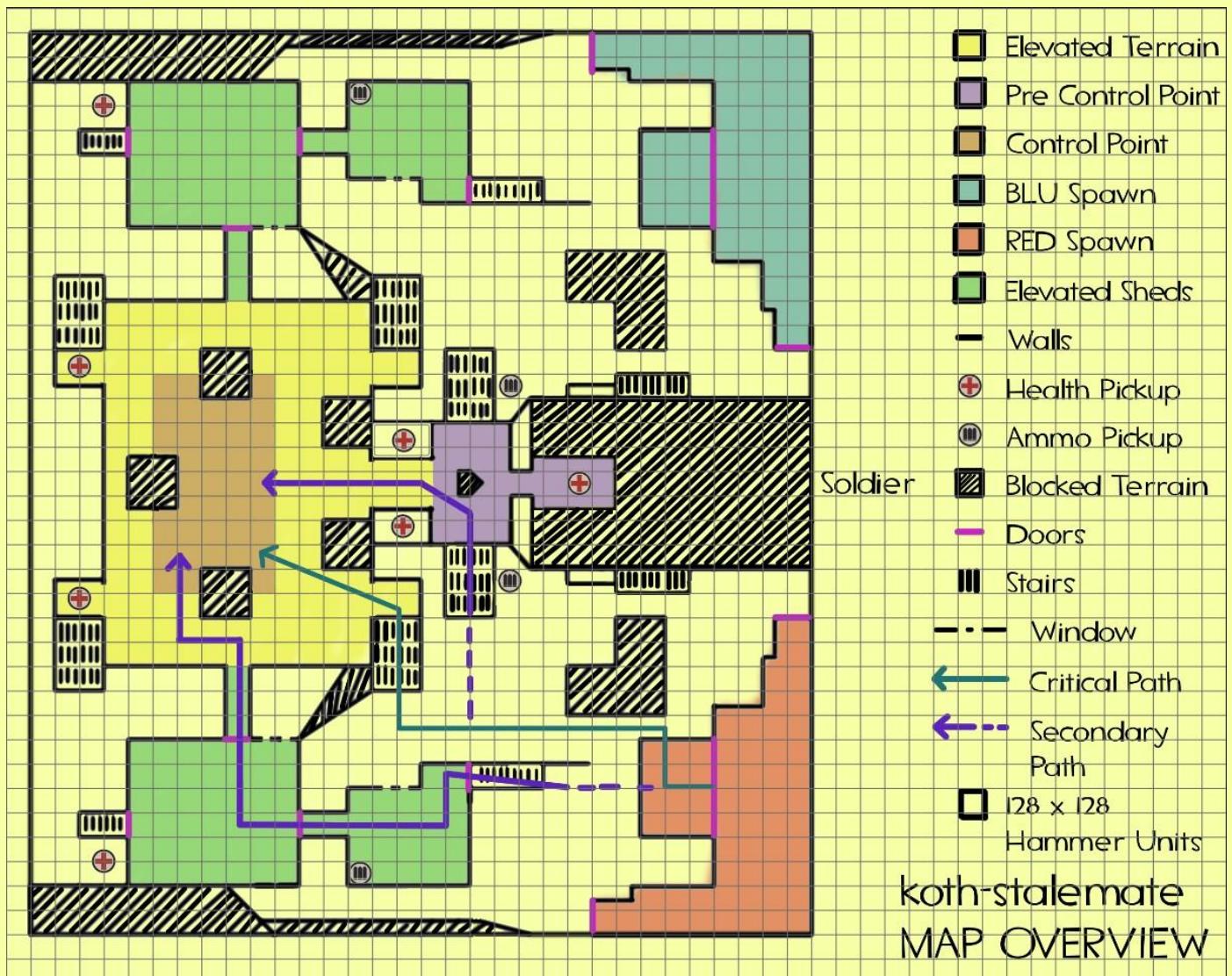


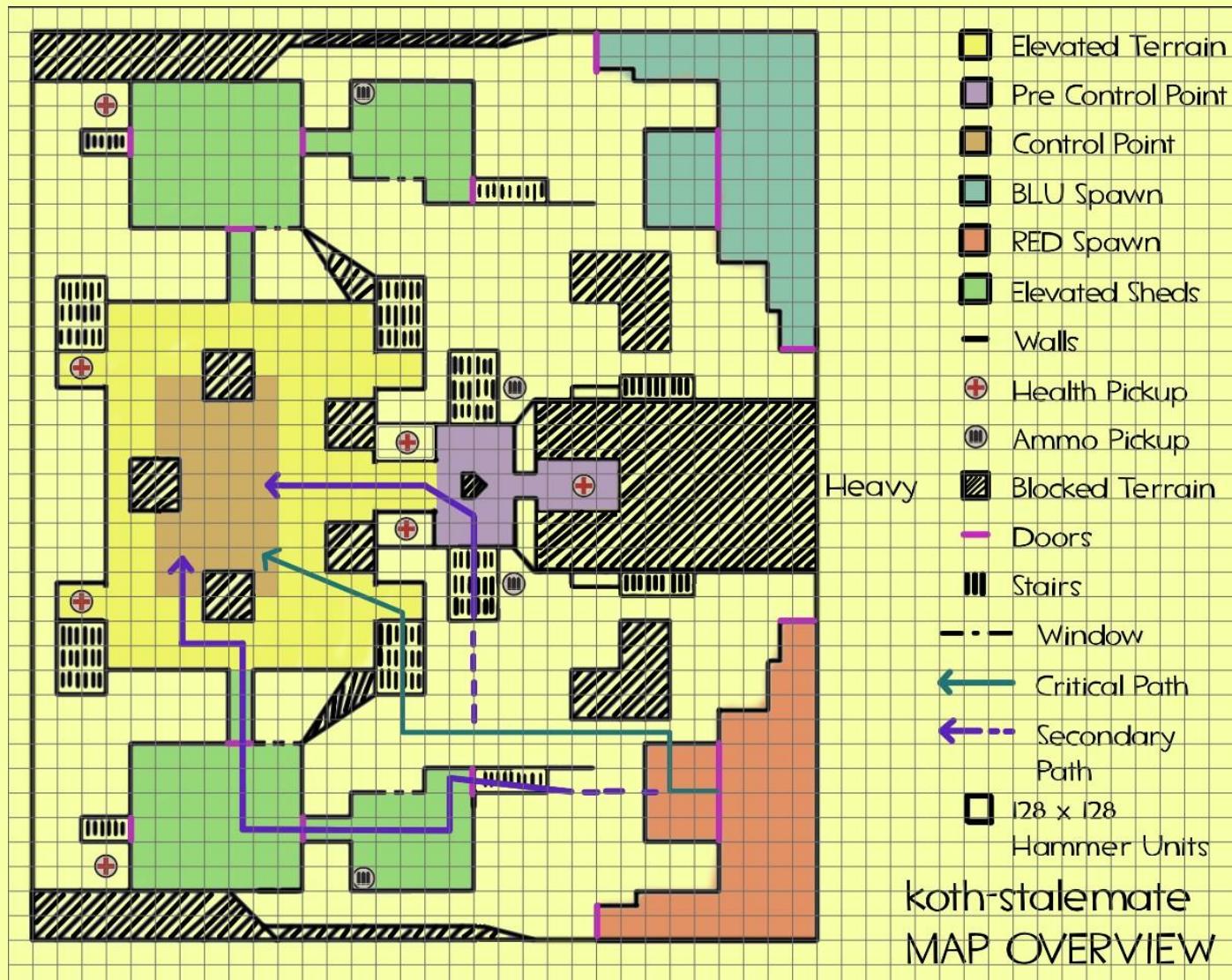


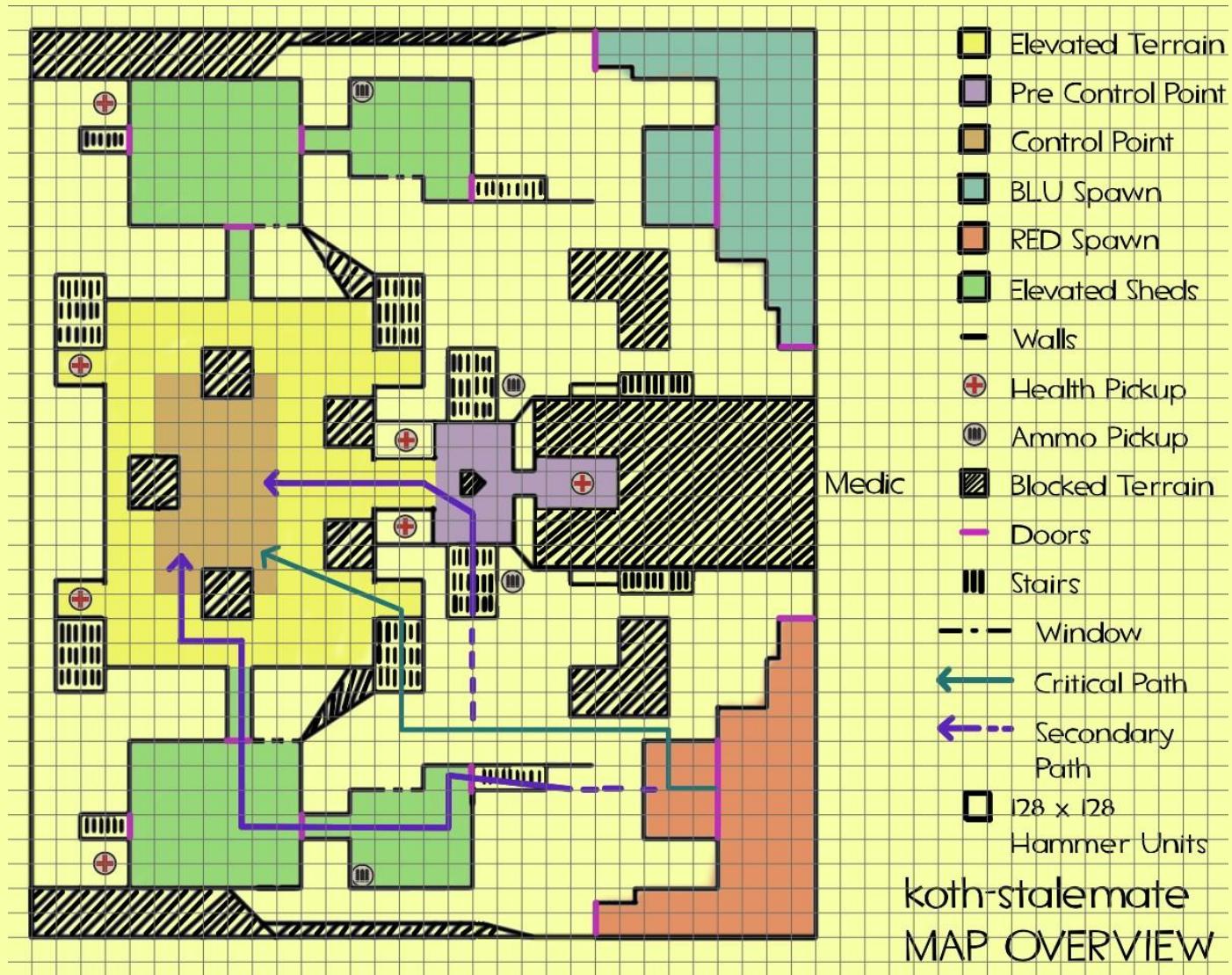
## Player Paths

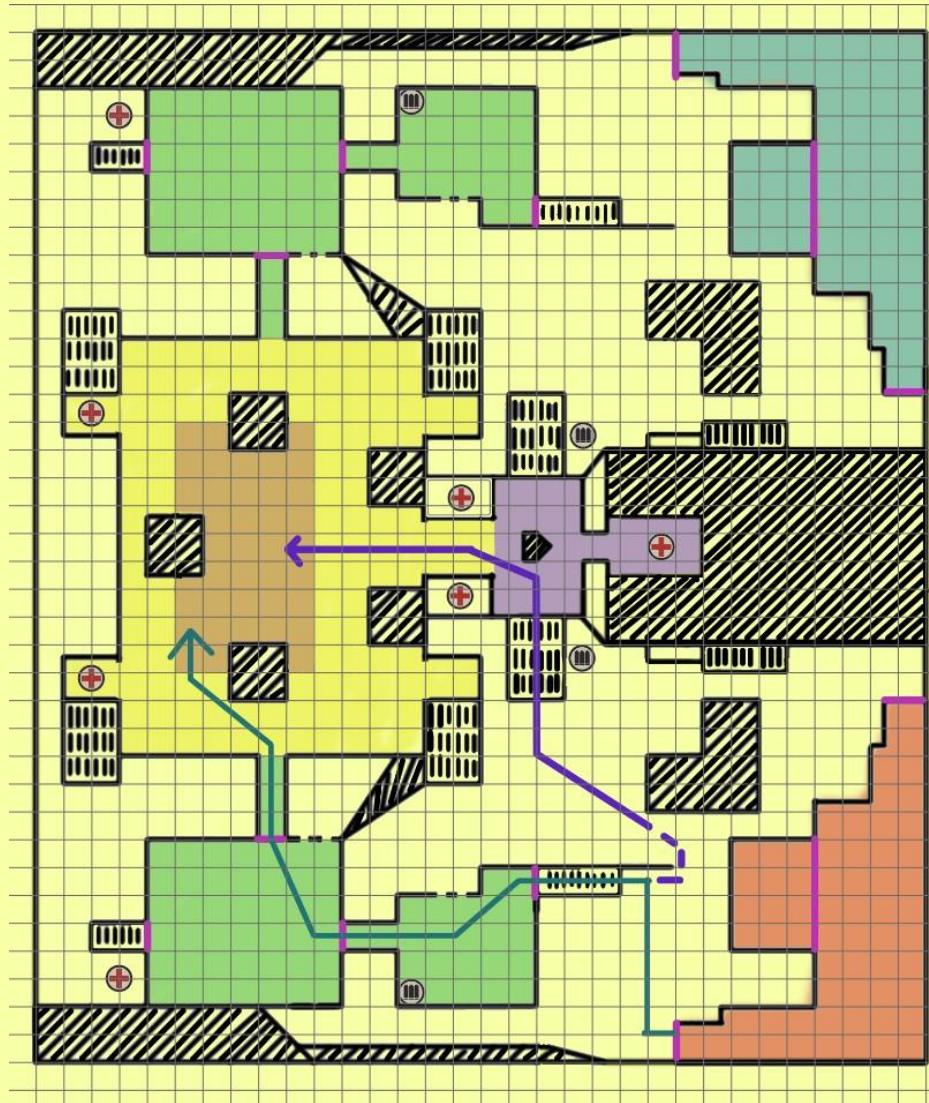
- Each character moves differently and has some unique elements present to gain an edge. The player usually takes the critical path but falls back to the secondary path at times due to predictability.







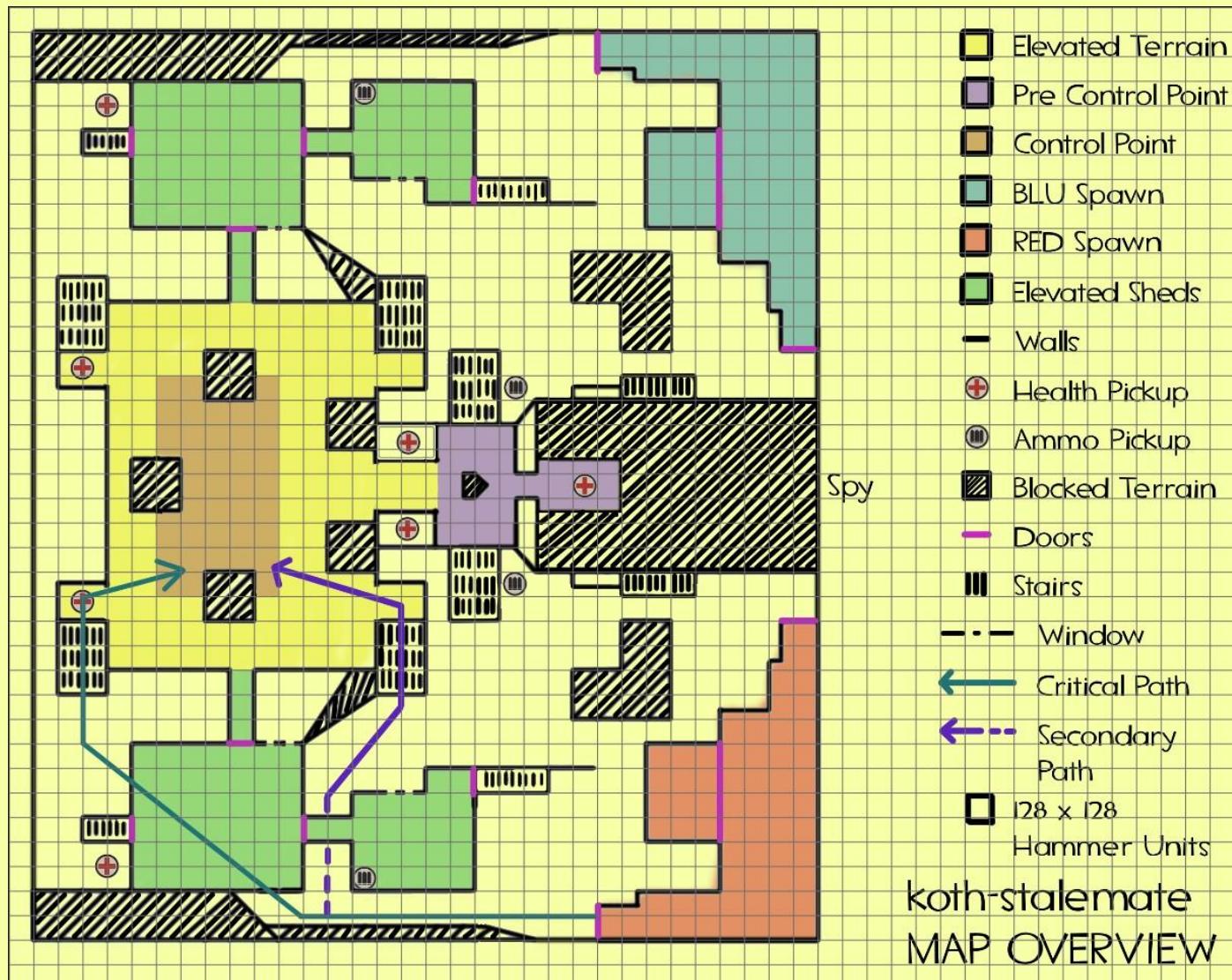


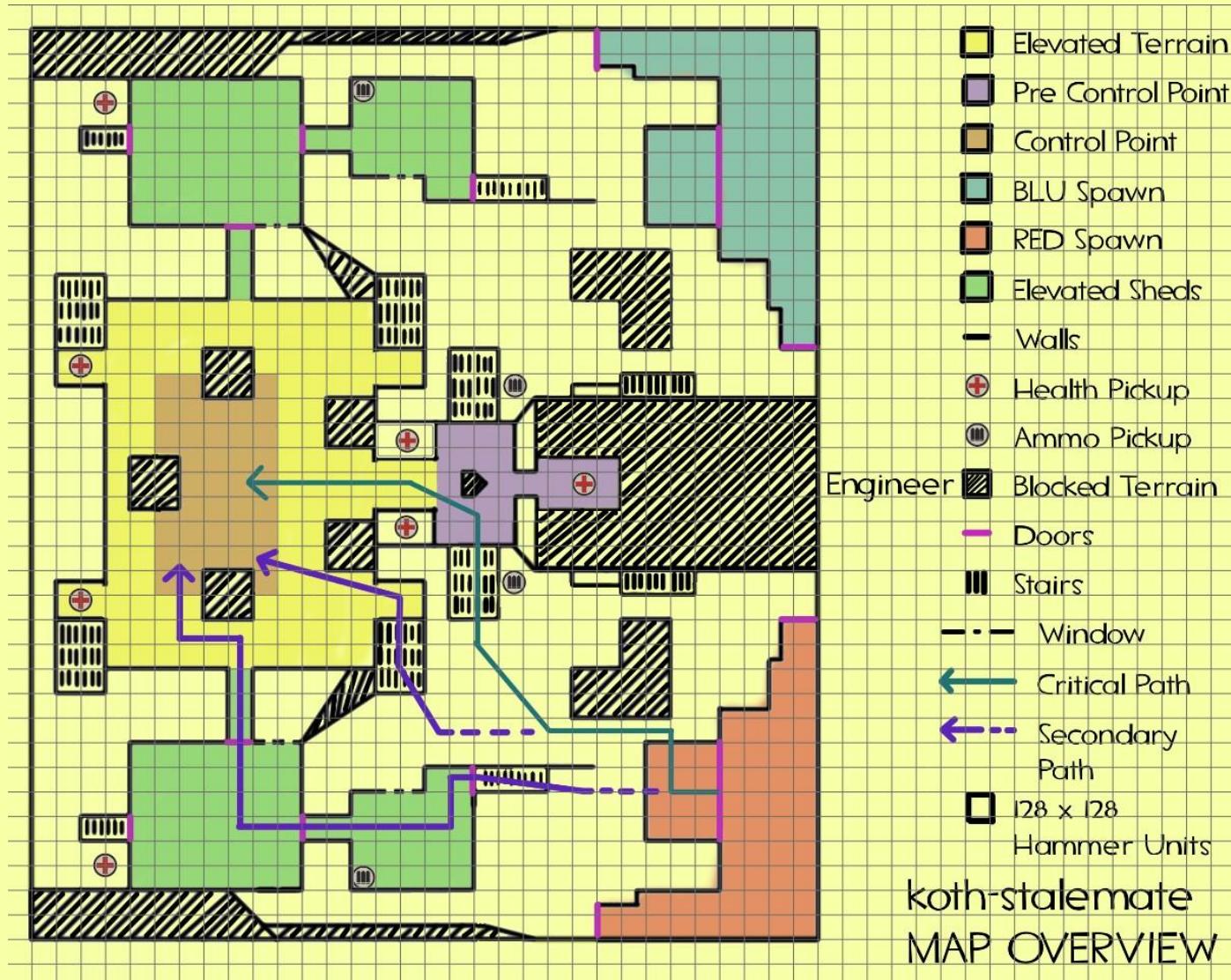


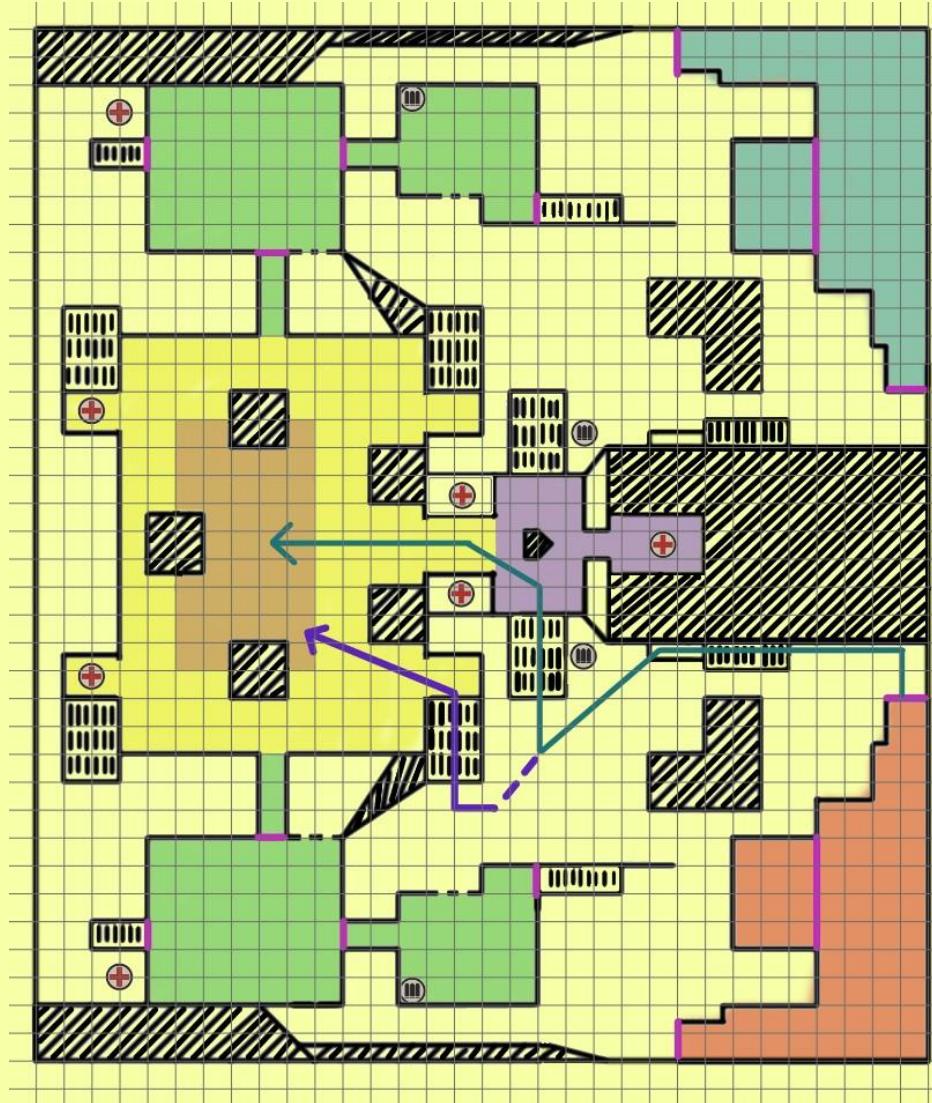
Sniper

- Elevated Terrain
- Pre Control Point
- Control Point
- BLU Spawn
- RED Spawn
- Elevated Sheds
- Walls
- Health Pickup
- Ammo Pickup
- Blocked Terrain
- Doors
- Stairs
- Window
- Critical Path
- Secondary Path
- 128 x 128 Hammer Units

koth-stalemate  
MAP OVERVIEW

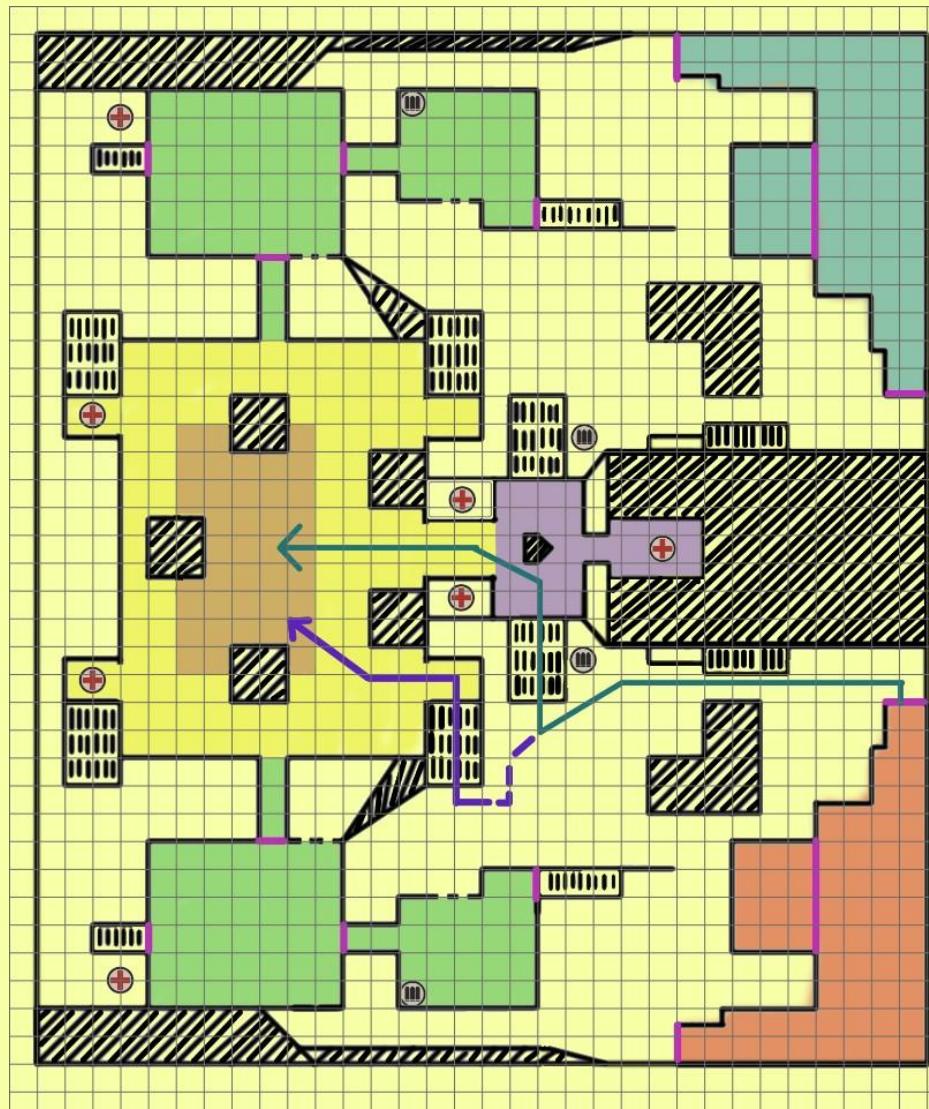






Pyro

- [Yellow Box] Elevated Terrain
  - [Purple Box] Pre Control Point
  - [Brown Box] Control Point
  - [Teal Box] BLU Spawn
  - [Red Box] RED Spawn
  - [Green Box] Elevated Sheds
  - Walls
  - ⊕ Health Pickup
  - ⊗ Ammo Pickup
  - Blocked Terrain
  - Doors
  - Stairs
  - - Window
  - ← Critical Path
  - ← Secondary Path
  - 128 x 128 Hammer Units
- koth-stalemate**  
**MAP OVERVIEW**

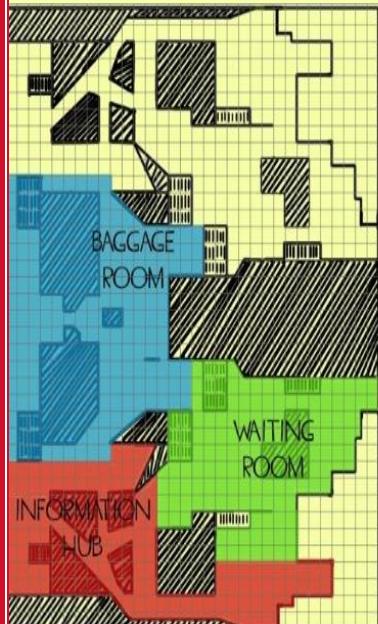


- [Yellow Box] Elevated Terrain
  - [Purple Box] Pre Control Point
  - [Brown Box] Control Point
  - [Blue Box] BLU Spawn
  - [Red Box] RED Spawn
  - [Green Box] Elevated Sheds
  - Walls
  - ⊕ Health Pickup
  - Ⓐ Ammo Pickup
  - Blocked Terrain
  - Doors
  - Stairs
  - Window
  - ← Critical Path
  - ← Secondary Path
  - 128 x 128 Hammer Units
- koth-stalemate  
MAP OVERVIEW**

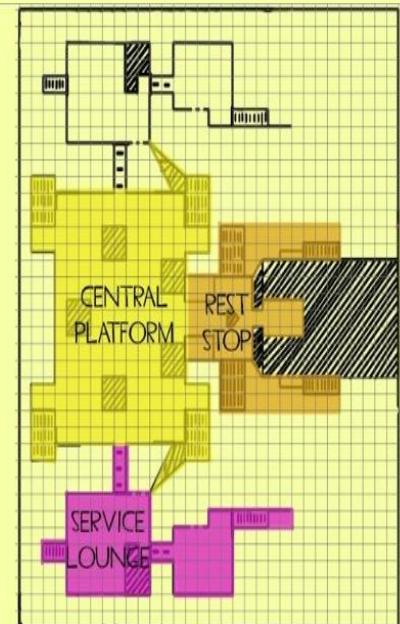


## Zoning Tables

- Each class performs differently based on areas. Some are better than the others. Here is a table showcasing how each class works in different areas by comparing them.



	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop	SUM
Scout	1	3	1	2	2	3	12
Soldier	2	1	3	2	1	2	11
Heavy	2	2	3	2	1	1	11
Medic	1	3	2	2	2	1	11
Sniper	3	1	3	1	2	1	11
Spy	1	3	1	2	3	1	11
Engineer	1	3	2	2	1	1	10
Pyro	2	3	1	2	3	1	12
Demoman	2	1	3	2	1	3	12
SUM	5	20	19	17	16	14	

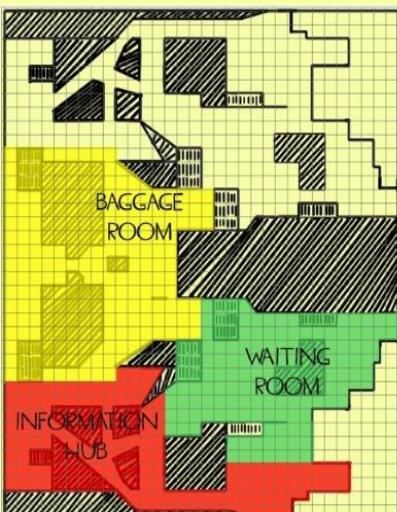
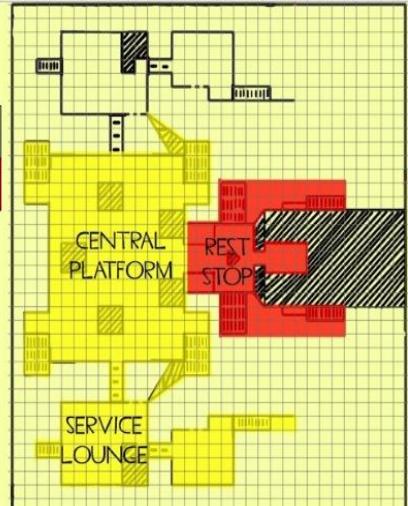




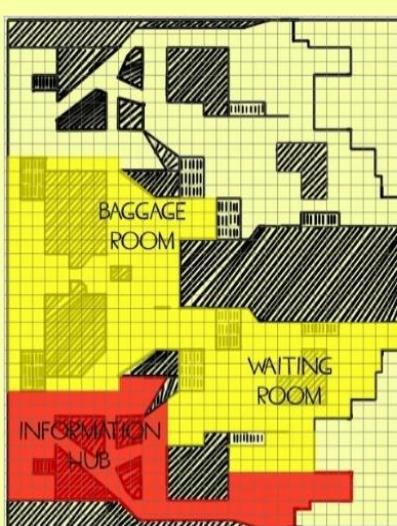
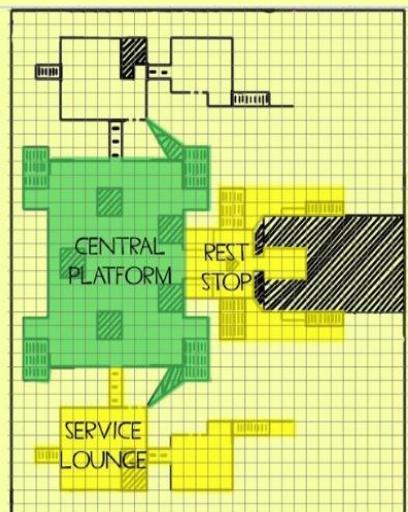
- Following is the zoning table for each class, showcasing their weaknesses and strengths in map.



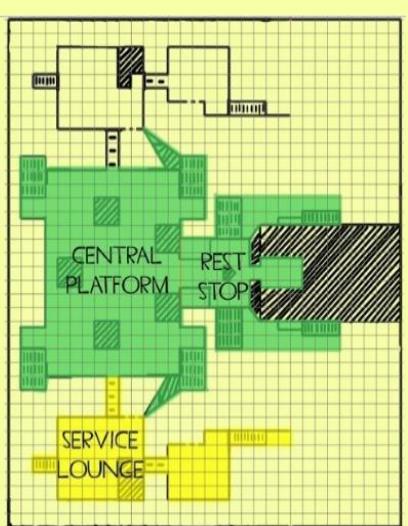
	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Scout	Green	Red	Green	Yellow	Yellow	Red



	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Soldier	Yellow	Green	Red	Yellow	Green	Yellow

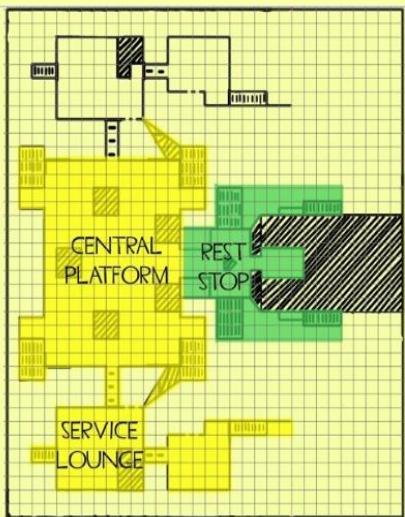


	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Heavy	Yellow	Yellow	Red	Yellow	Green	Green

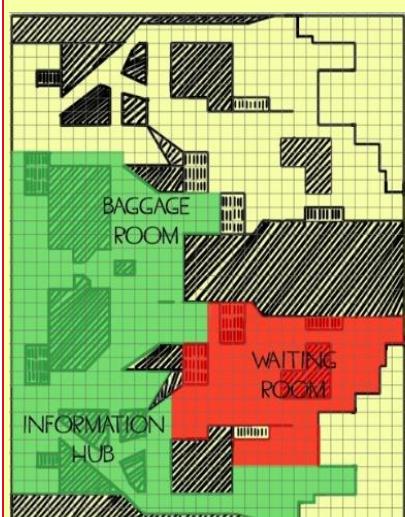
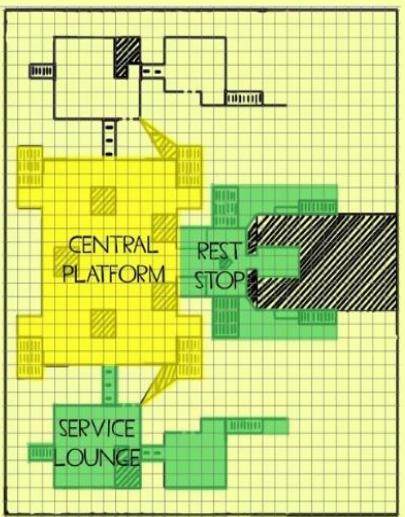




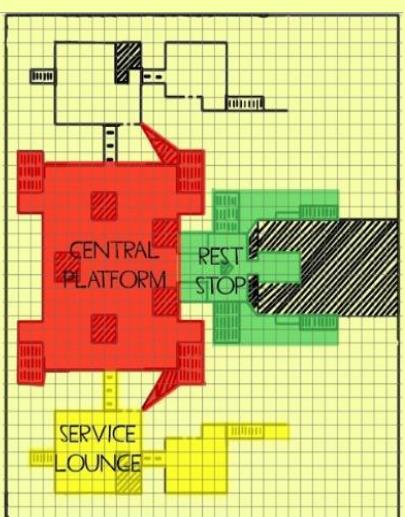
	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Medic	Green	Red	Yellow			Yellow



	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Sniper	Red	Green	Red	Green	Yellow	Green

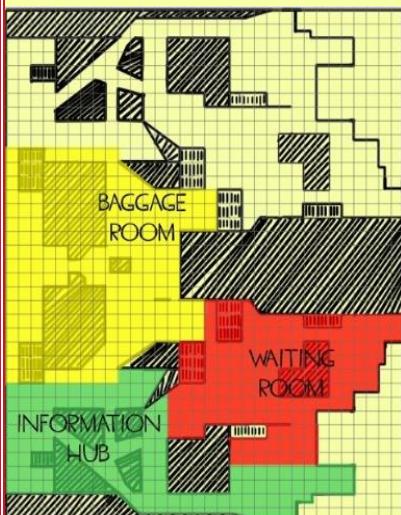
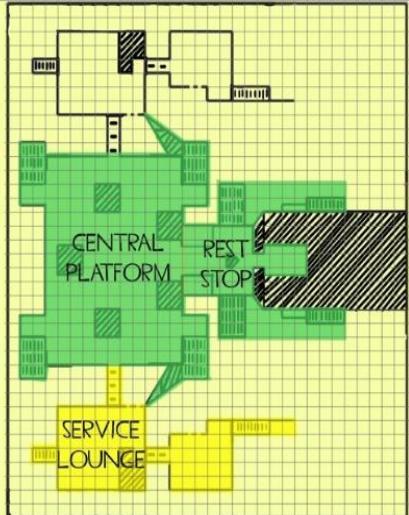


	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Spy	Green	Red	Green	Yellow	Red	Green

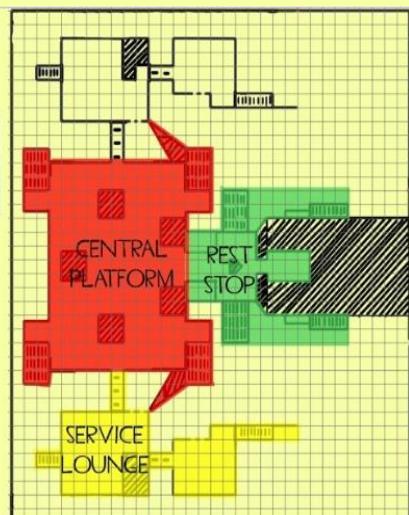




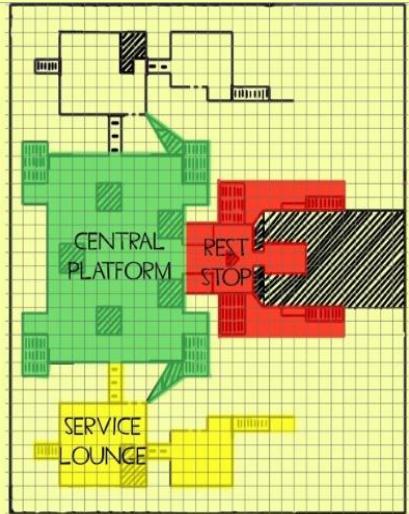
	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Engineer						



	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Pyro						

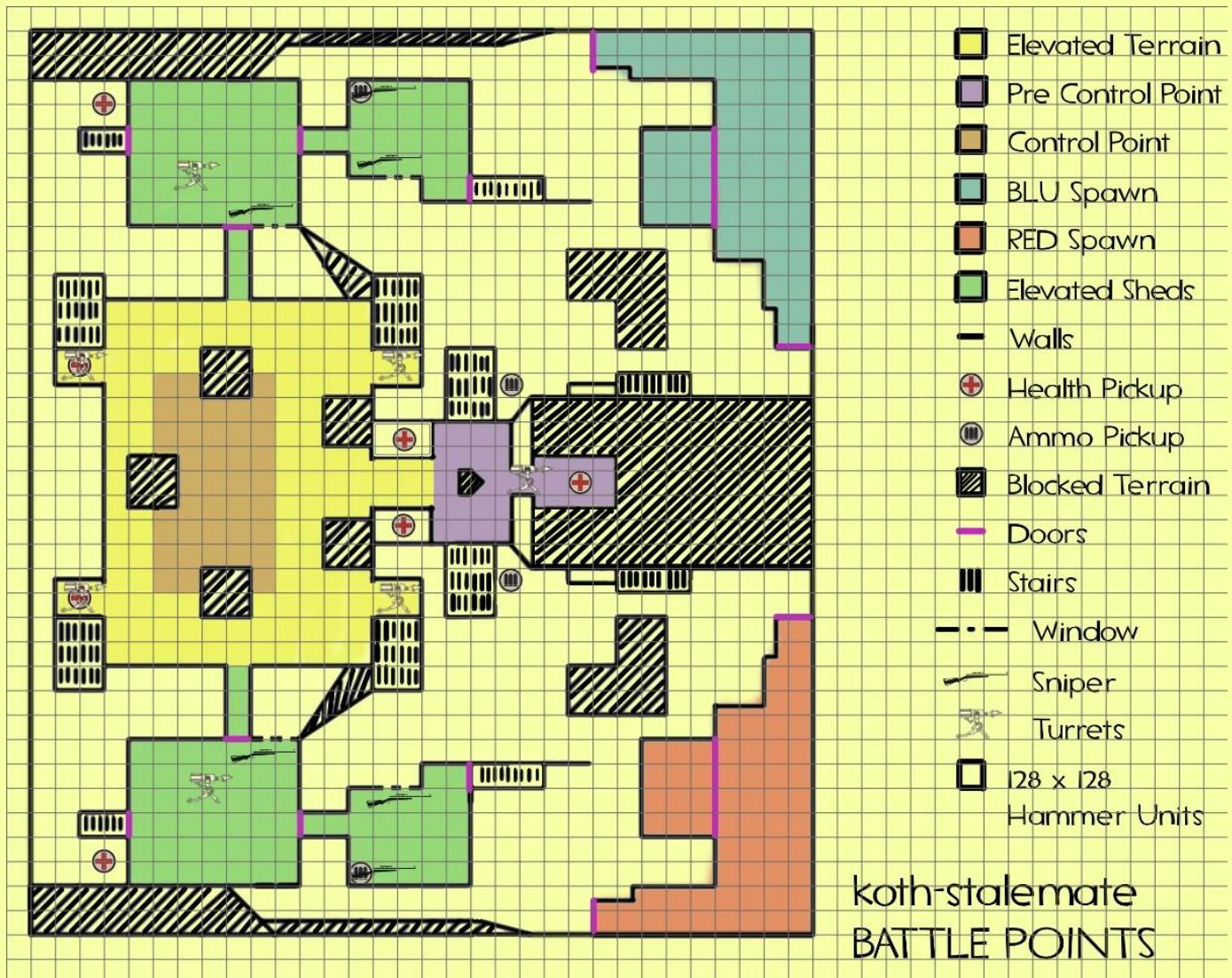


	Baggage Room	Waiting Room	Information Hub	Service Lounge	Central Platform	Rest Stop
Demo man						





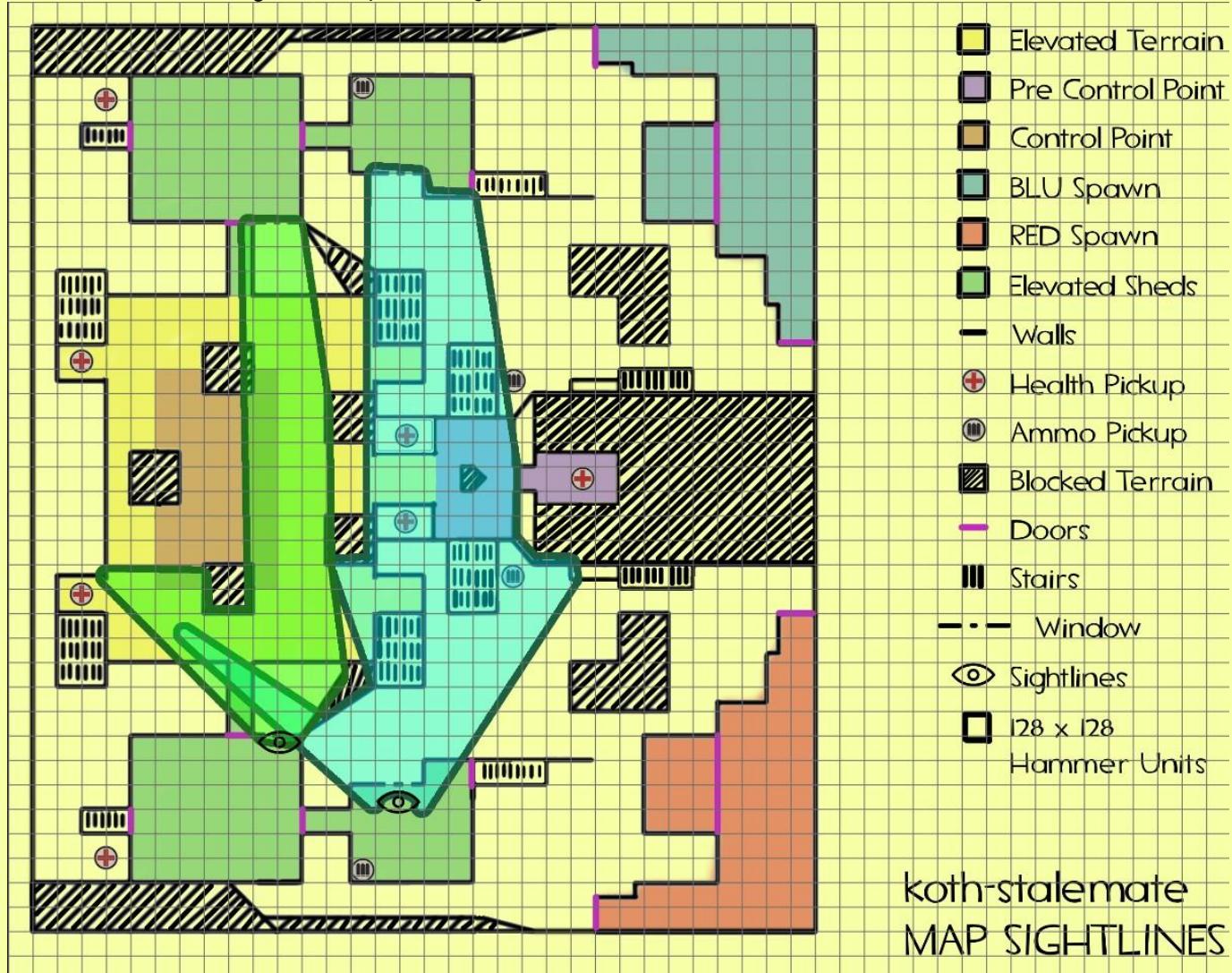
- Certain classes don't move around much across the map but rather play passively and support other classes. Engineers and Snipers are the perfect examples due to their passive but important roles.





## Sightlines

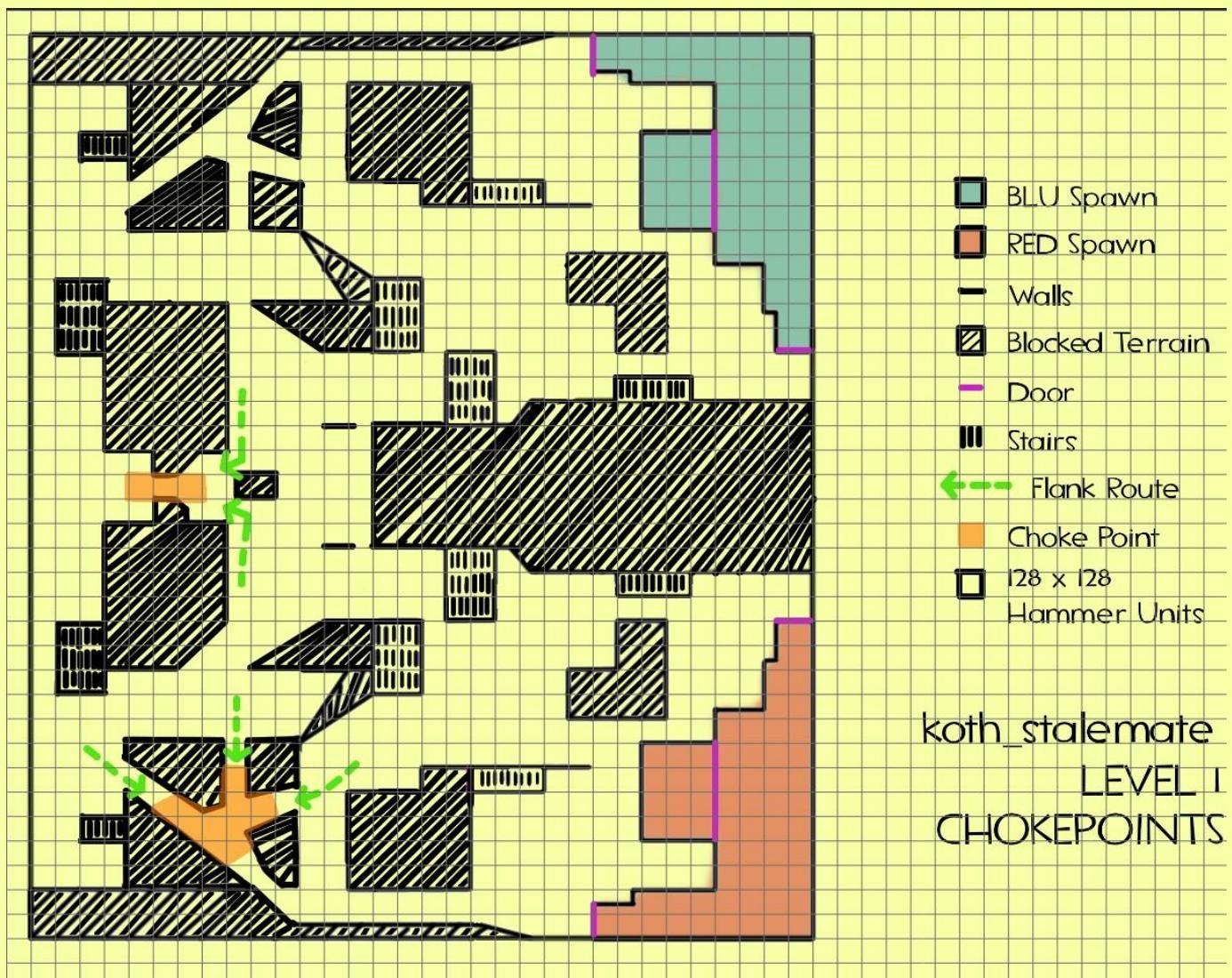
- This map contains many sightlines, some bigger than the others, but none of them covers the whole objective. The players can still flank these points and take out opponents through multiple ways.

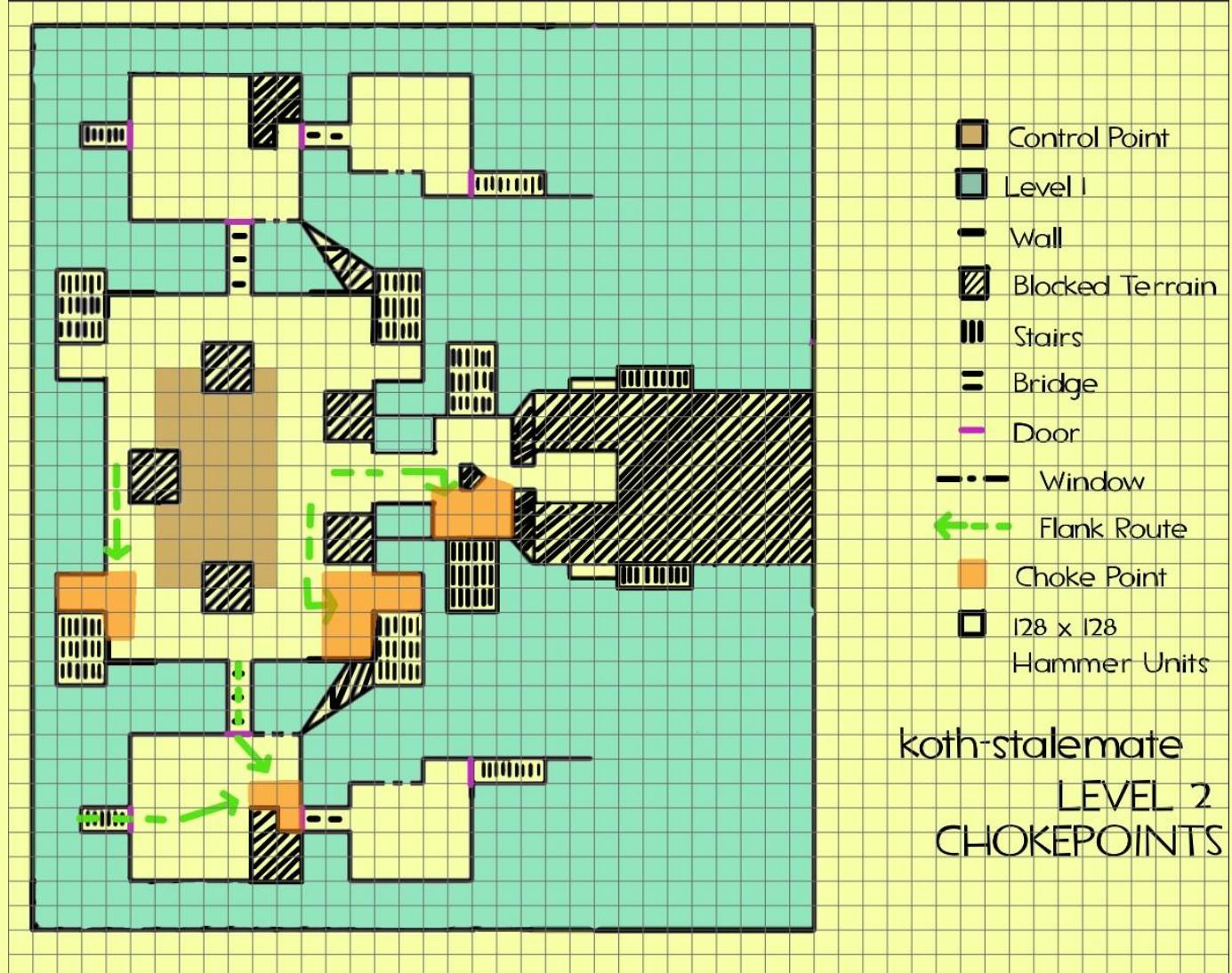




## Tactical Zones

- This map contains many chokepoints on both levels of the map. Some are centered around certain characters due to the different critical paths of each class.

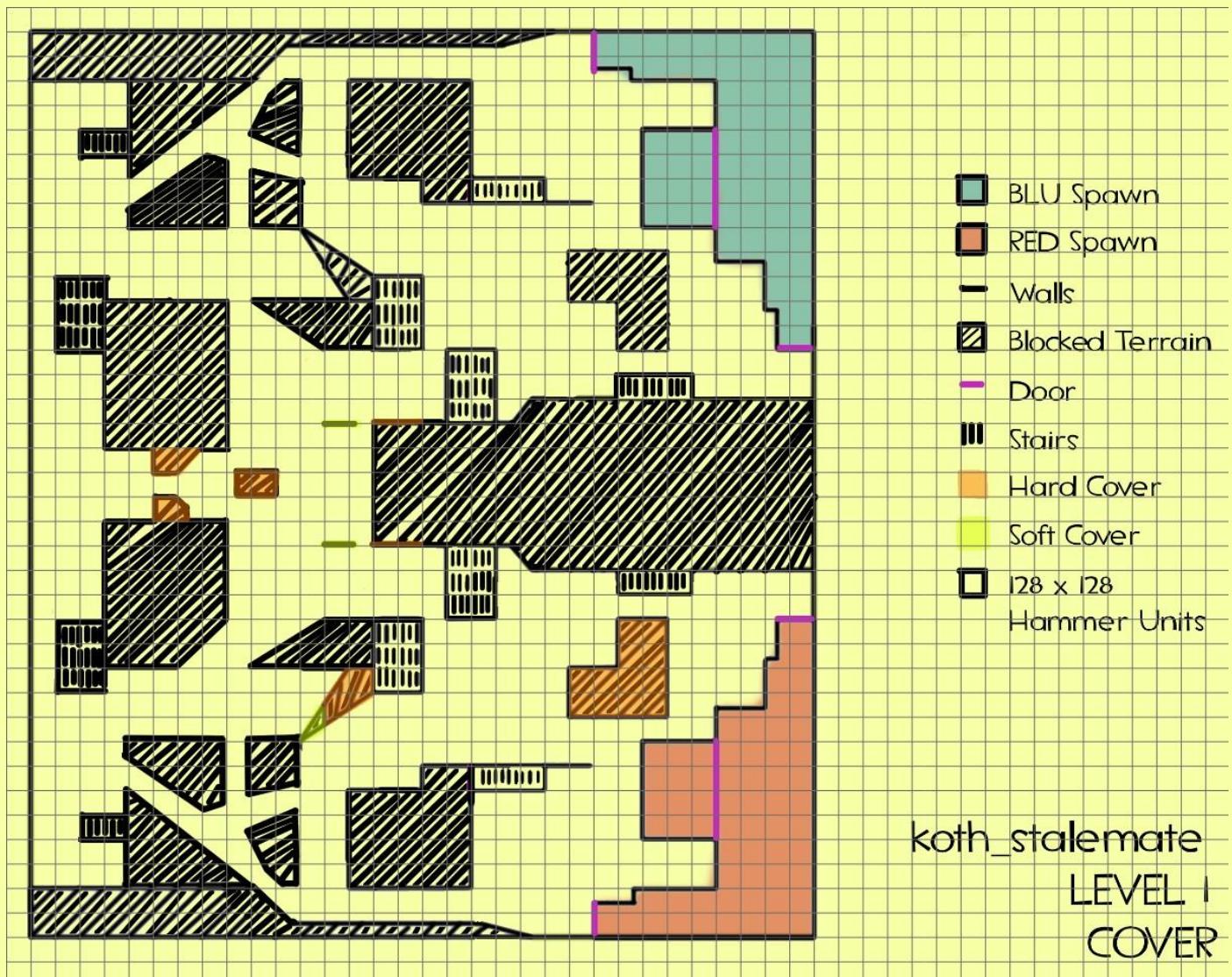


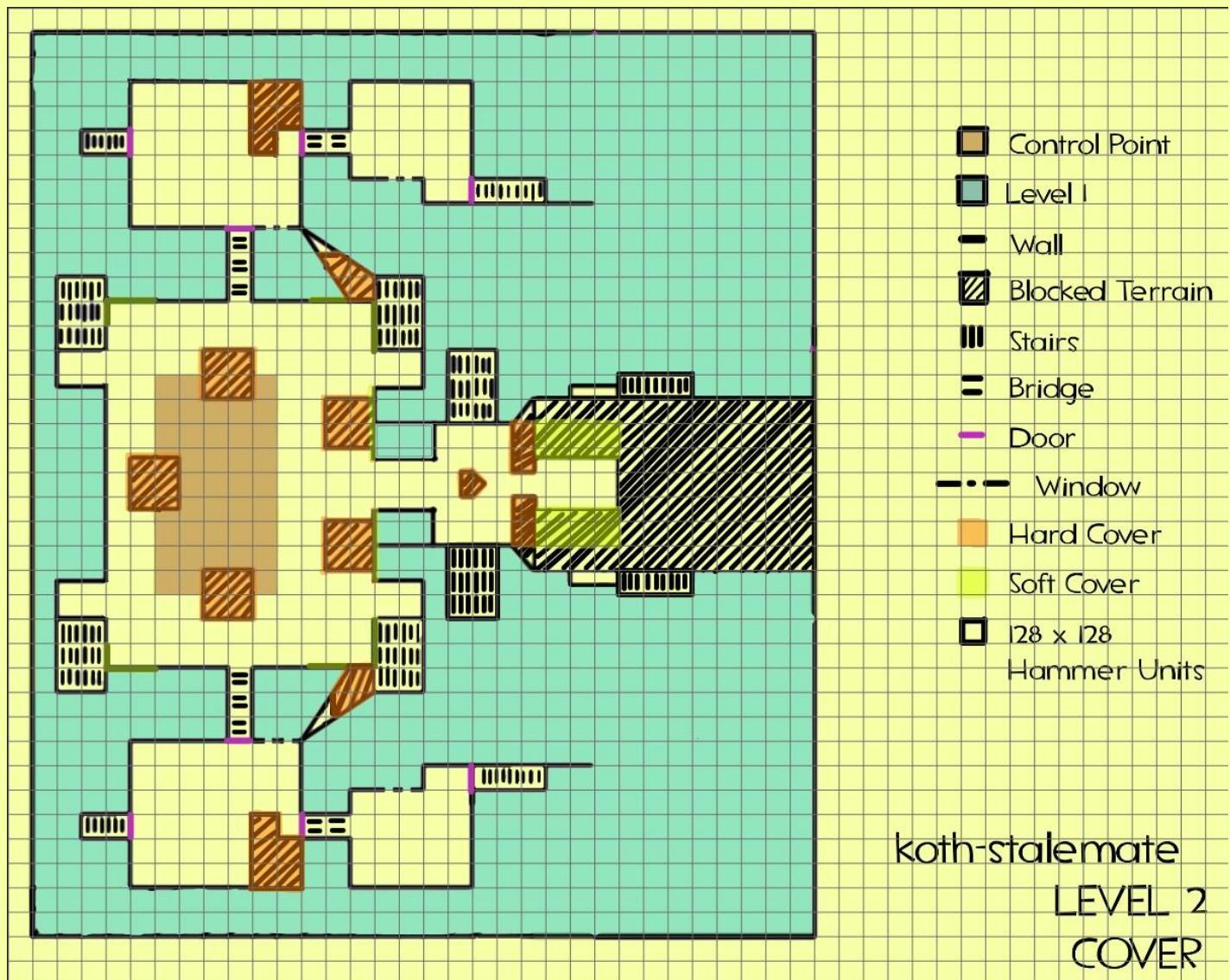


- The choke can be flanked by multiple paths and change the course of the conflict.



- Players get enough cover throughout the map to use. Most of them are hard covers but around the edges of the control point are soft covers as players need to survey the control point before attacking.







## Balance Considerations

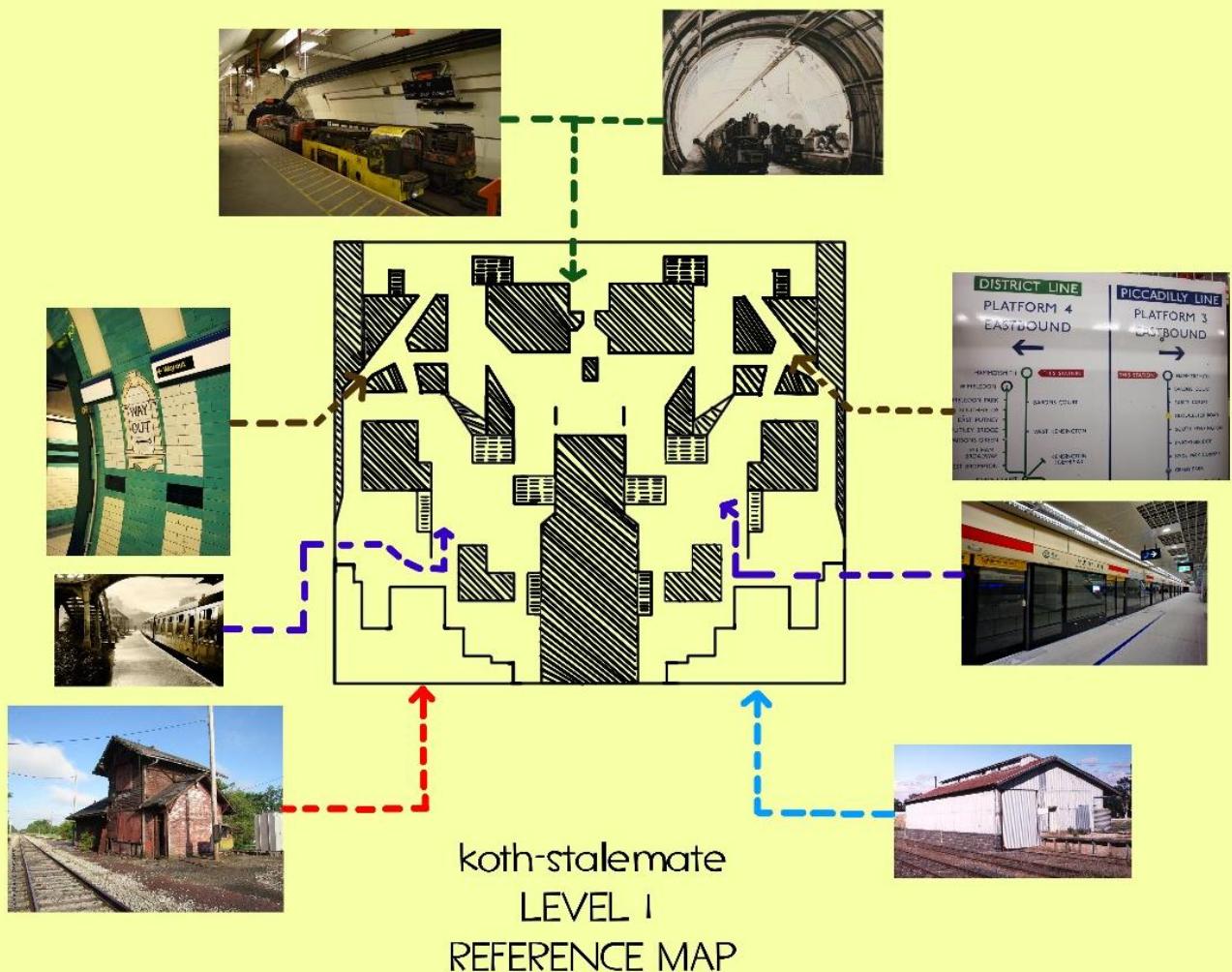
- The map is symmetrical to not give any player an advantage over others. This enables both teams to contest the control point fairly without favouring one side.
- Since both teams start from the same side in opposite directions, the area of first conflict is placed further to avoid the issue of spawn camping.
- The spawn points are placed at equal distances from the control point. This makes sure both teams reach the point at similar times.
- Pickups are equally spread across the map, ensuring neither team gets an advantage over them.



# AESTHETICS

## Visual Development

- The map is set on a train station on the hilltop. RED team has a more antique station made of wood and brick whereas BLU team has a modern and sleek station. The map is enclosed completely except the area behind the spawn points. The map's setting aligns with 'The FRIENDS Test', titled 'The One with the Train Station'.





koth-stalemate  
LEVEL 2  
REFERENCE MAP





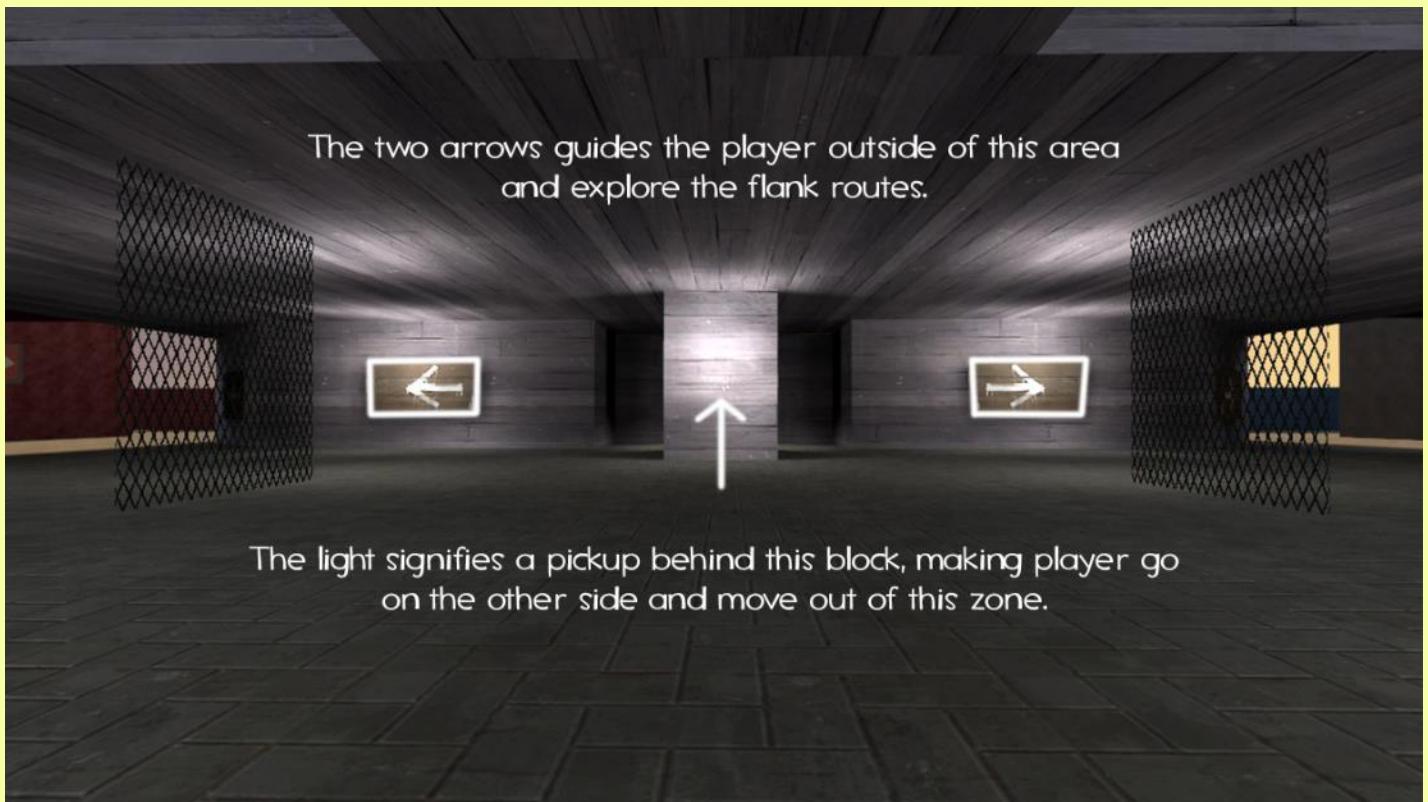
## Affordance

- Team Fortress 2 uses affordances to guide the players to point of interests. It is done often to not let players get lost especially in maps with a large scale. This can be in the form of arrows, mesh overlays and lighting.





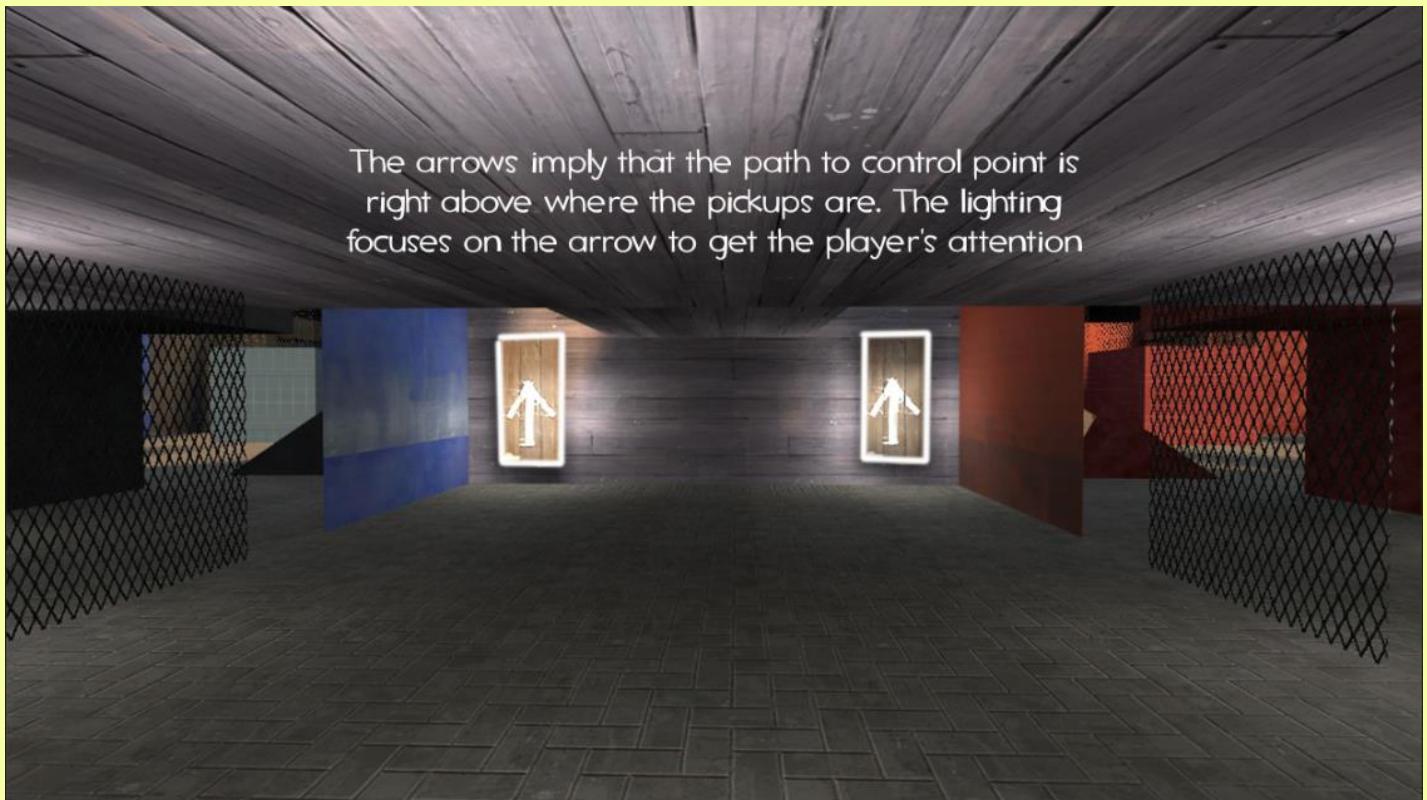
The arrows guides the player to the control point which makes the center area easy to navigate.



The two arrows guides the player outside of this area and explore the flank routes.

The light signifies a pickup behind this block, making player go on the other side and move out of this zone.





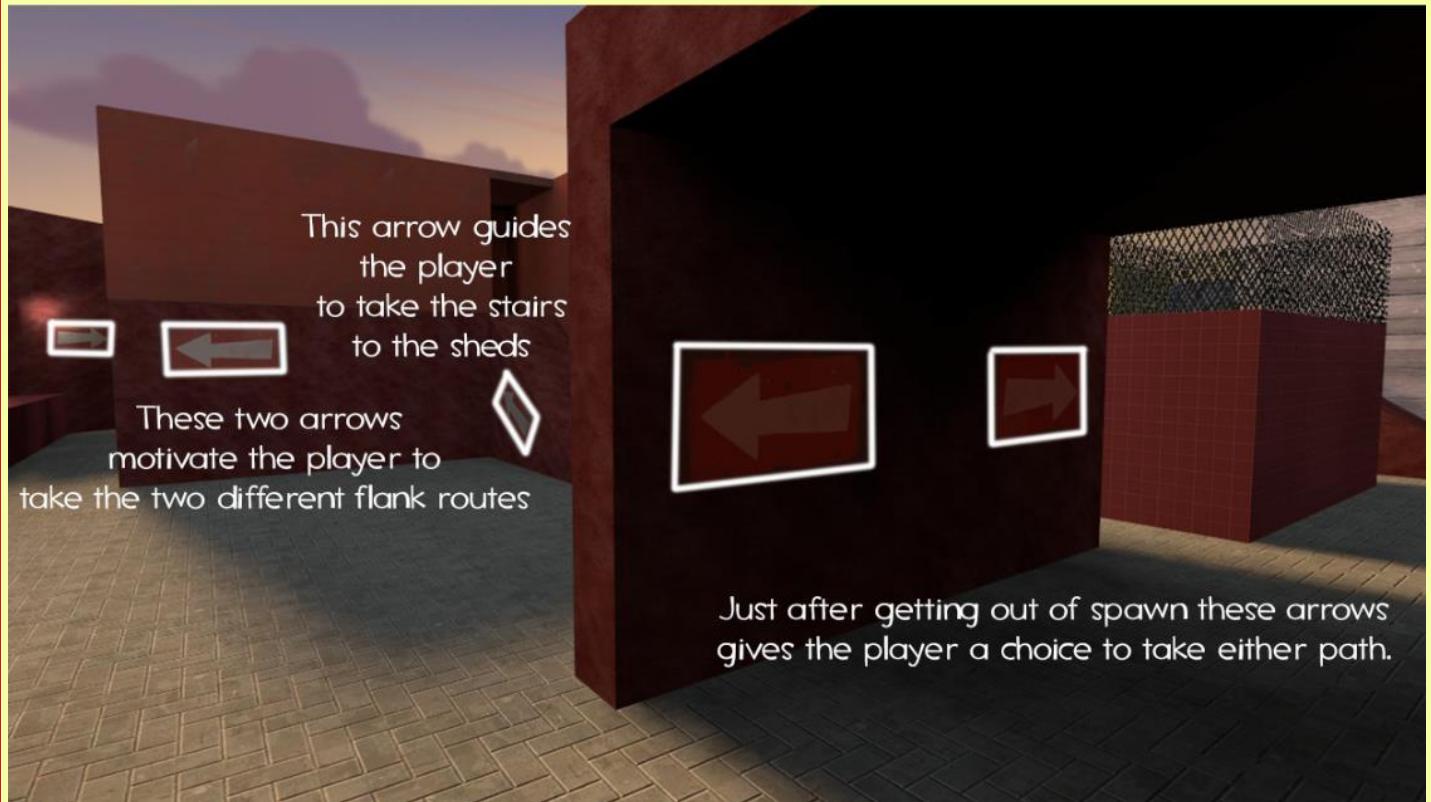
The arrows imply that the path to control point is right above where the pickups are. The lighting focuses on the arrow to get the player's attention



The first aid kit overlay is to let the player know of an important medical area.

These arrows guides the player to a large pickup but only to those who are directly facing this area from the control point.

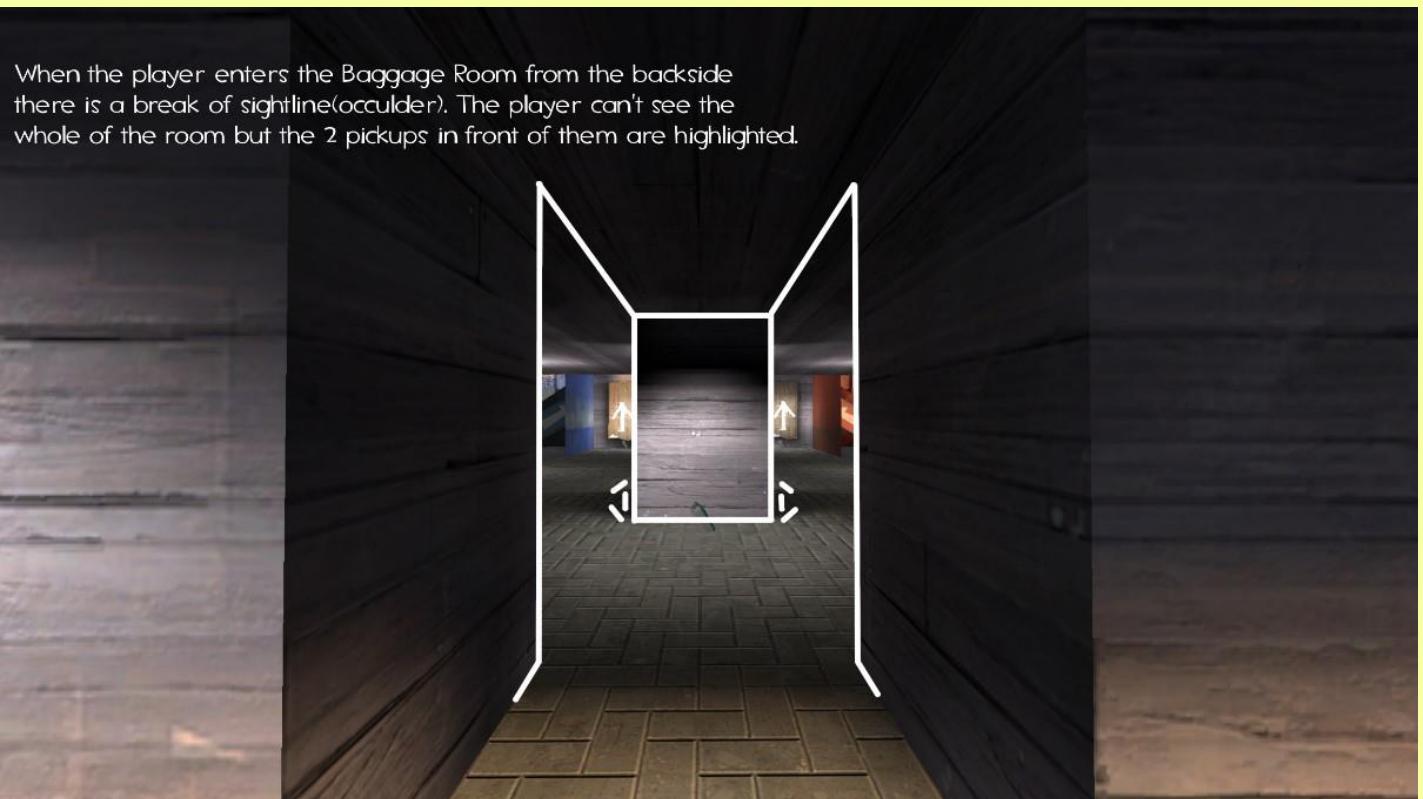
The shape of this block makes the player go in the direction its facing.





## Occluders

- Occluders are placed around the map to break down big sightlines. This gives both sides an equal opportunity to attack due to the block in front of them.



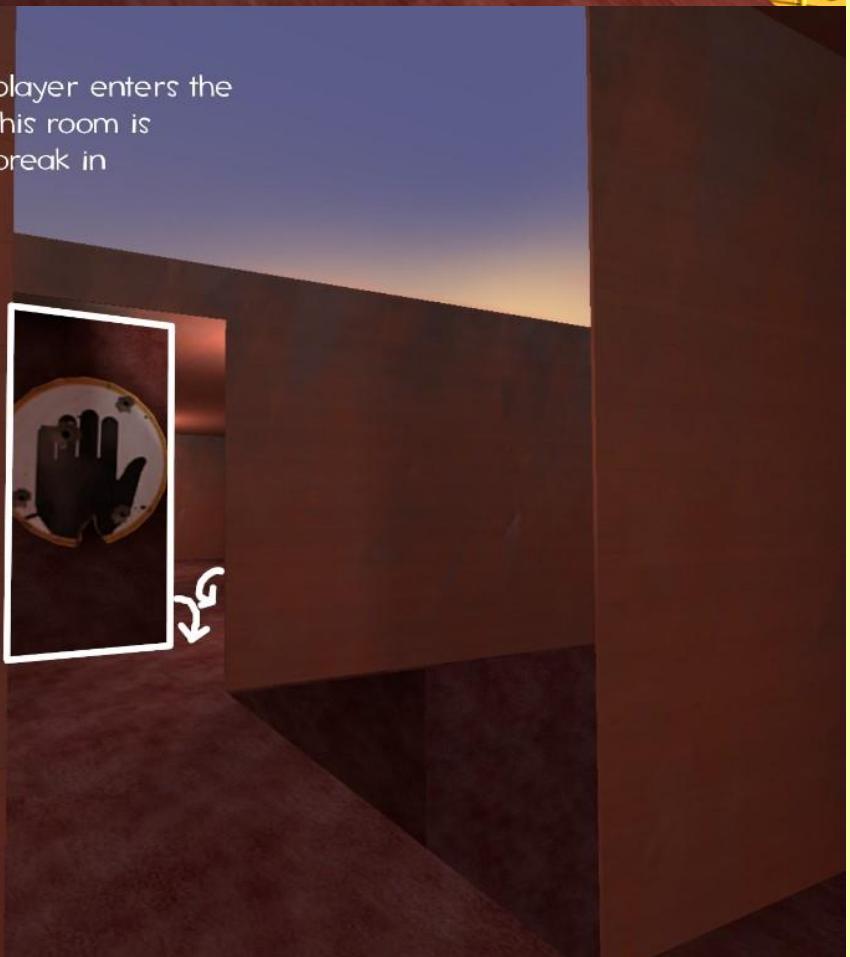
When the player enters the Baggage Room from the backside there is a break of sightline(occulder). The player can't see the whole of the room but the 2 pickups in front of them are highlighted.



The player's vision is blocked here right as they go up the staircase in the center to act as a buffer and give a minute delay before the conflict. This oculder makes sure players from each side have some cover right before they get onto a fight.



This oculder is placed right before the player enters the second room in the Service Lounge. As this room is predominantly occupied by snipers, this break in sightline is helpful for flanking.





# TESTING

## Testing Plan

Playtesting was used to check out how well my map fares with the TF2 conventions. I will be watching how players play the level and see what works and what doesn't. Playtesters will be asked to play the level and answer some questions in the questionnaire.

#	Questions	Answer Type
1	Which team did you play from?	Choice (Red, Blue)
2	Which class did you play as?	Choice (TF2 Classes)
3	Did the map feel fair?	Choice (Yes/No)
4	Did the map feel big?	Choice (Yes/No)
5	Area/Areas which need improvement.	Choice (Areas of the Map)
6	Why those areas needed improvement?	Text Box
7	Thoughts on Number of Pickups?	Rating
8	Route taken to reach Control Point?	Choice(Routes to reach Center)

## Changelog

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V 1.0



- Map size decreased by closing in all sides of the map.
  - More Pillars added around the Control Point for cover.
  - Spawn Rooms made shorter by decreasing the path length to each side.
  - Cover has been added to the central partition between the two teams.
  - Sightline from the first shed after spawn is toned down.
  - New Room added at the back most spot on the partition.
  - Area under the Control Point is accessible.
  - More pickups were added across the map.
- 

## V 2.0

- Map size has decreased further down.
  - Previous pickup locations were changed, and new ones are added.
  - Numerous sightlines have been reduced further down.
  - Size of the area under the Control Point has been reduced and removed a small room underneath it.
  - Size of the area at the back of the partition has been decreased.
  - More cover was added in the central partition area.
  - Position of the staircase to go to the partition has been changed.
- 

## V 3.0

- Height of cover near the spawn has been increased.
- Increased the height and length of the wall near the staircase of the first shed.
- Area under the two sheds has been blocked down.



- New route added within the closed area underneath the second shed for a new pathway.
  - New cover added at the doorstep of the second step by making it a 50-50 now.
  - The door and window location has been interchanged inside the second shed.
  - All walls and floors are aligned with the Hammer Grid.
- 

## V 4.0

- Map size has been reduced further.
  - Pillar near the Control Point has been removed and positions of the cover have been tweaked.
  - Area under the Control Point has been revamped by adding more cover and leading lines for the player.
  - Staircase leading to the control point has been rotated to make the area underneath standout.
  - More pickups are added under the Control Point.
  - New bridge was added by reducing the width of the floor towards the end of the partition which leads underneath the Control Point.
  - New wall was added near the edges of the control point to guide the player towards the flanking route.
- 

## V 5.0

- New set of staircases was added behind the Control Point.
- Area under the Control Point has been made easier to navigate through.
- Exit at the back of the area under the Control Point has been blocked.



- New Large Pickup has been added to the room at the back of the partition.
- New Cover Added near the Large Pickup to reduce the sightline.
- Height of the pillar on the edge of the Control Point has been increased.
- Position of two pillars near the Control Point has been changed.

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#### V 5.1

- Flank route near the second shed was adjusted to make the route start earlier and appealing.
- Props are added around the map to guide the player around it.
- Spawn locations are set for each type of class to motivate players to take certain paths.

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#### V 6.0

- Area behind the second shed has been closed off.
- New path was added to reach the room with the large pickup.
- Size of the large pickup room has been decreased with glass windows added on the sides.
- New Path added at the back area of the underground point under the Control Point.
- The position of a block underground has changed to decrease the sightline by half.
- Window size of all sheds has been decreased.
- Walls besides the pickups in underground area have been split.
- More Pickups added at the flank route and near the staircase of the second shed.



- Path before flank route has been shortened and angled towards it.
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V 7.0

- Changed the length of the ledge at the sides of the large pickup.
- Buffer has been added right after exiting the big entrance from the spawn room.