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Level Design Assignment

CS:GO Custom Map Design

A school project where the primary aim was to create a well balanced level in Counter Strike Global Offensive, based on existing level design fundamentals set in the game.

Key proficiencies:

Sketching

Valve Hammer Editor

Design Process

Gameplay research → Classic map breakdown → Ideation sketches → Map construction

Step 1: Gameplay research included a play session and breaking down the gameplay systems to notice and account for when designing the new level.

Step 2: Next, I did a complete gameplay and meta breakdown of 'DUST 2' , a classic level design example to build off of. In the following image, the simplified breakdown is built back up to create a new map design.

DE_DUST 2
MAP BREAKDOWN

Primary Gameplay elements

- Round-based Gameplay.
- Weapon Selection strategy.
- In-game Economy Management.
- Effective Map Navigation and Control.
- Teamwork and coordination between team members.
- Objective based gameplay with consecutive timed rounds to determine winner in a variety of game modes including Death Match, Hostage Rescue and Bomb Defusal/ Detonate rounds which are the most iconic game mode in the series.

Level Design Breakdown
SPAWN POINTS

CT SPAWN

Long A: The CT team has three possible spawn points near the Long A area. These locations are towards the back of the CT side, close to the Long A doors and the pit area.

Short A: CT players may also spawn in three different positions near the Short A area. These spawns are closer to the A bombsite, near the CT ramp or the crossover to the A site.

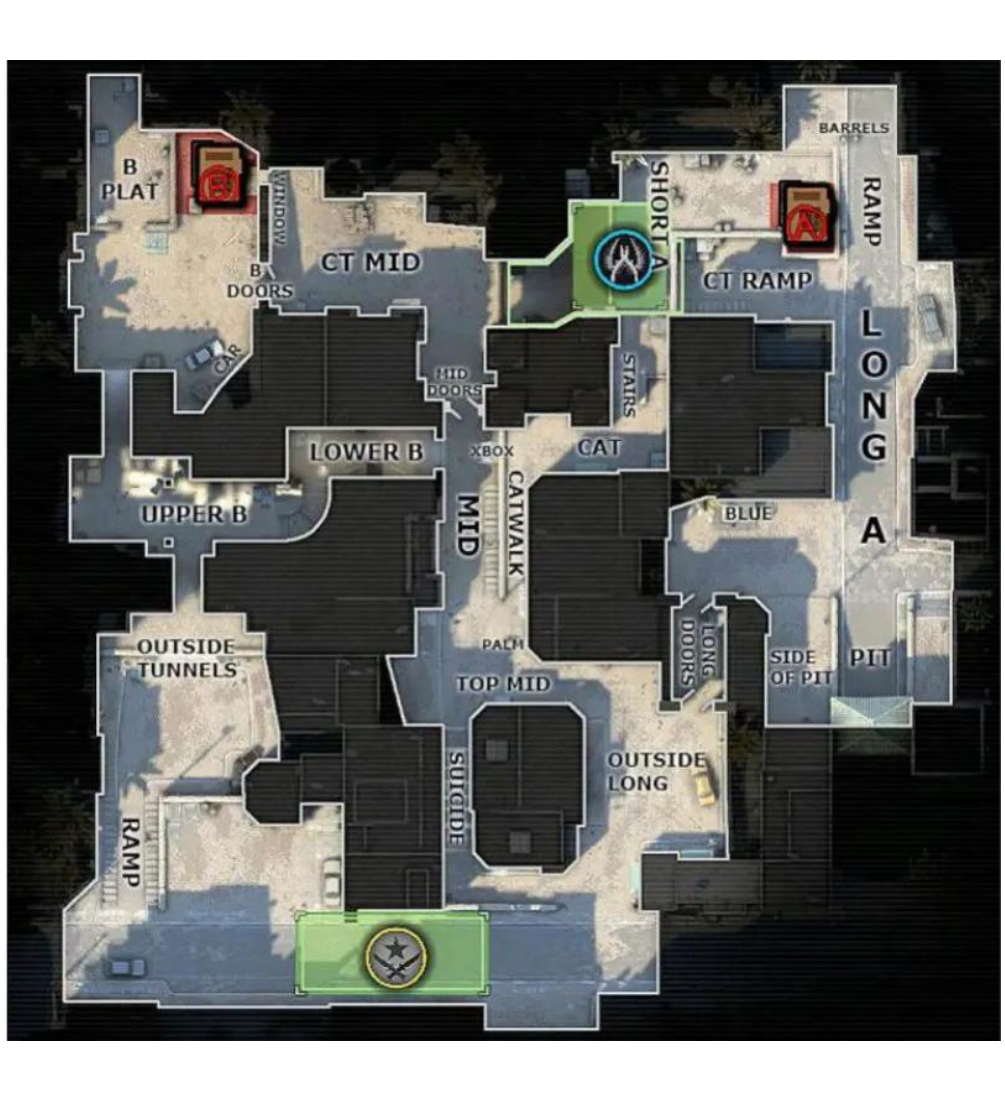
B: The CT team has two potential spawns near the B bombsite. These positions are at the back of the CT side, close to the B tunnels entrance.

T SPAWN

Tunnels: The T team has two possible spawn points near the entrance to the B tunnels. These spawns are closer to the middle area and provide quick access to the tunnels leading to the B bombsite.

Mid Doors: T players may spawn in three locations near the middle area. These spawns are close to the double doors or the lower tunnels entrance, allowing for fast access to mid or the B site.

Long Doors: The T team also has three potential spawns near the Long A doors. These spawns are closer to the T side and provide quick access to Long A or mid.


B PLAT
CT MID
CT RAMP
LONG A
LOWER B
UPPER B
CATWALK
MID
OUTSIDE TUNNELS
TOP MID
OUTSIDE LONG
RAMP
SIDE PIT
PIT

KEY NOTES

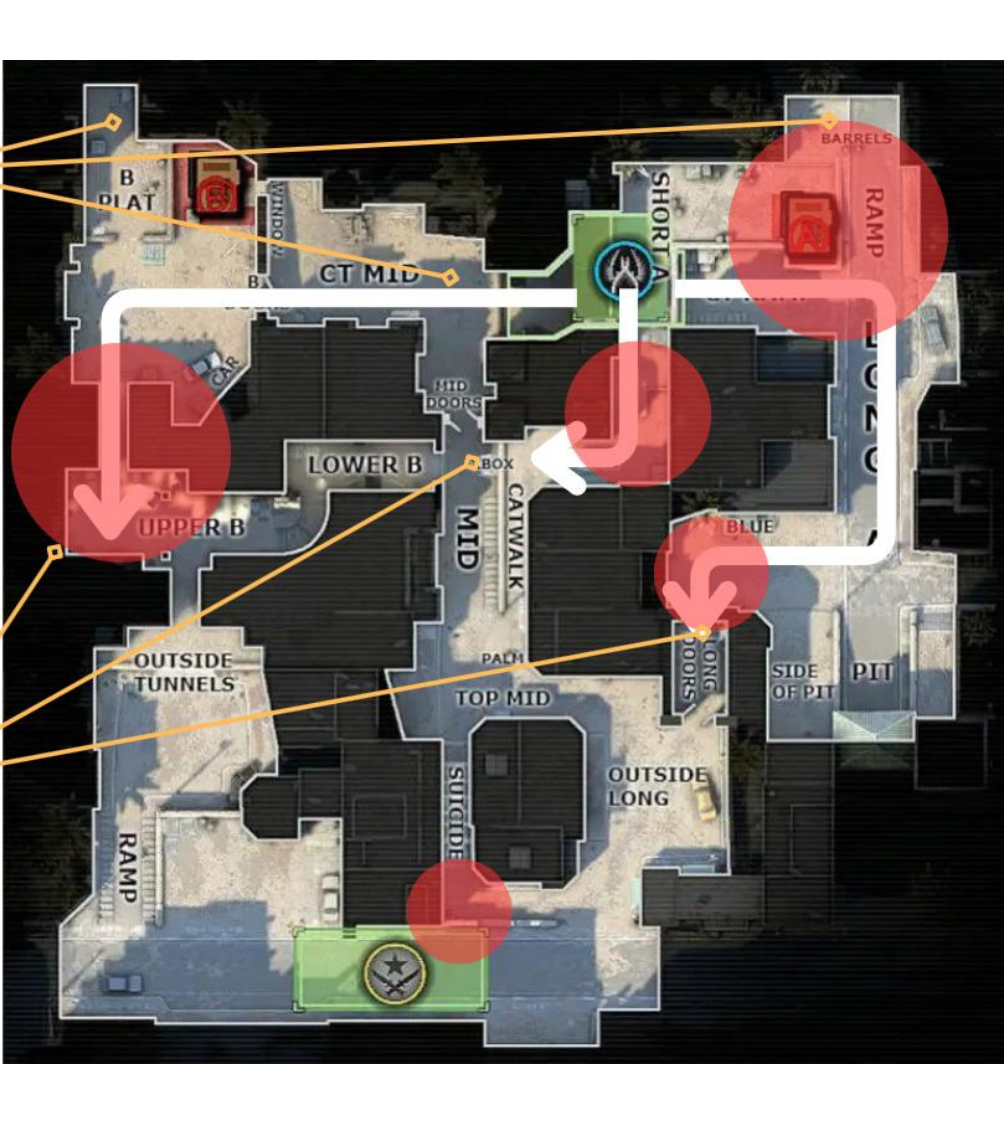
1. Spawn point positions near Tunnels have been created to support point B rushing for terrorists. Alternately CT Players spawning near the B tunnels can quickly take control of the tunnels or set up for a B rush.

2. Players spawning near the middle area can potentially reach mid doors or challenge control over mid. This potentially leads to long range interactions.

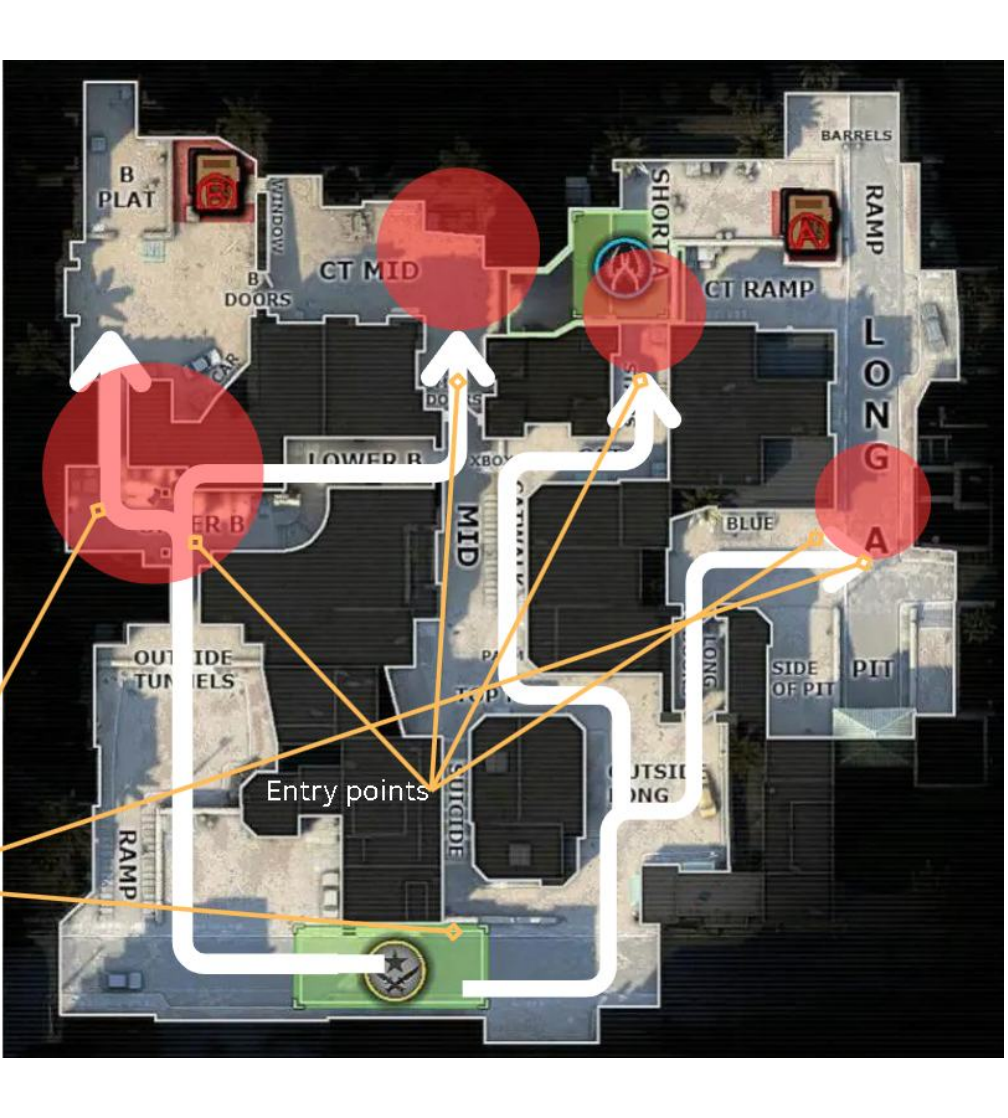
3. Most Long A interactions focus greatly on Smoke grenades to create safe passage points for terrorists to push through.

Level Design Breakdown
CHOKE POINTS

CT CHOKE POINTS


Sniper Camping positions
Common Terrorist entry points

T CHOKE POINTS


Entry points
Entry Sniper positions

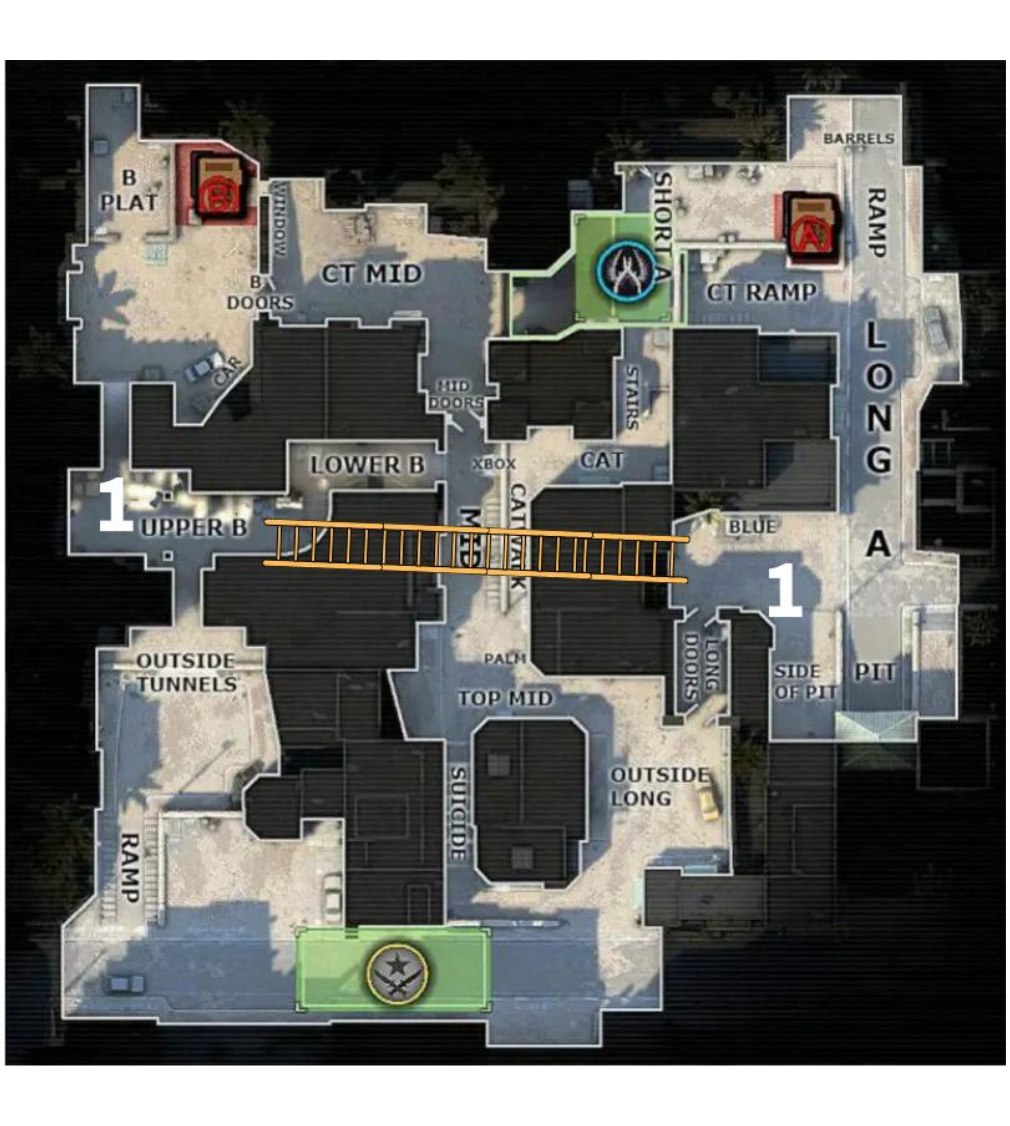
KEY NOTES

1. Primary conflict resolution behavior: Grenade spam.

2. **CT main interaction parameters:**
   - Defense
   - Position Rotation
   - Economy Management

   T interaction parameters:
   - Offense
   - Entry fragging
   - Communication
   - Time & Economy Management

3. Choke point addition suggestion:
   Risky Underpass from Long A to Upper B
   (For quicker rotations at later point of a round, high risk high reward)



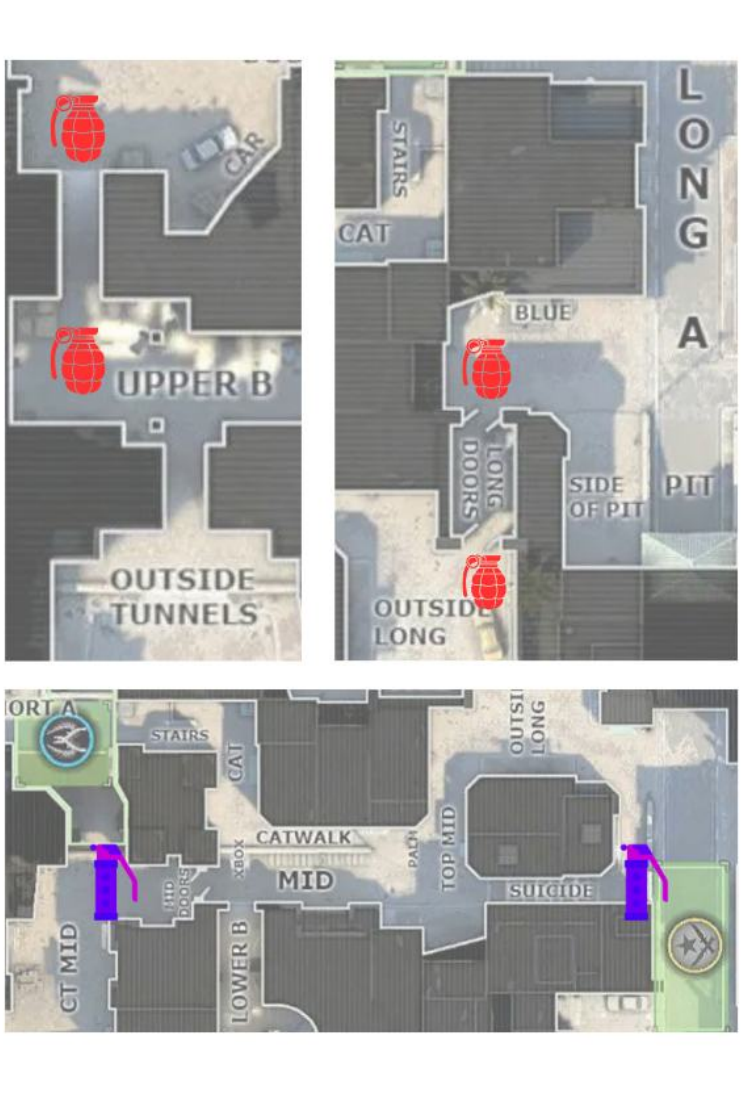
Level Design Breakdown
NADE ZONES

NADE ZONES

Mid Doors: Players often throw smoke grenades to block the line of sight through the mid doors, denying information and preventing the CTs from spotting or challenging the T side.

Long A: Smoke grenades are commonly used to block off the Long A area, creating a safe passage for the T side or denying the CTs' vision.

B Tunnels: Players frequently use flashbangs or HE grenades to clear the B Tunnels, which can be a common entry point for the T side or a defensive position for the CTs.



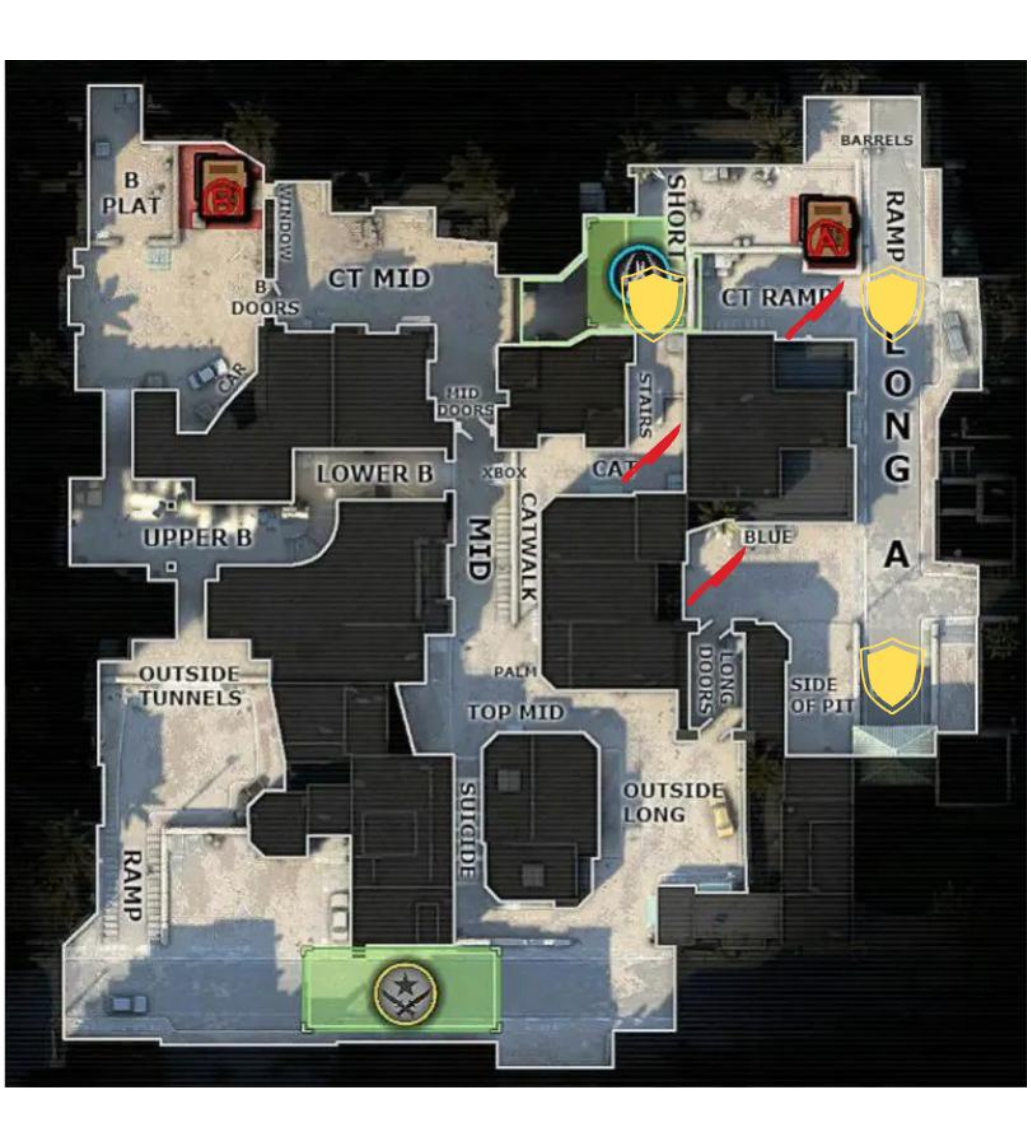
Level Design Breakdown
BOMB SITES

SITE A

The A bombsite on Dust 2 is located towards the right side of the map when viewing from the Terrorist spawn area. It is commonly referred to as "Short A" due to its proximity to the Short A pathway.

T Entry points:
- **Long A**
- **Short A- Mid doors to CT Ramp**
- **Short A- Stairs to Short A**

CT Defense points:
- **A Pit**
- **CT Ramp**
- **Goose platform at Short A**



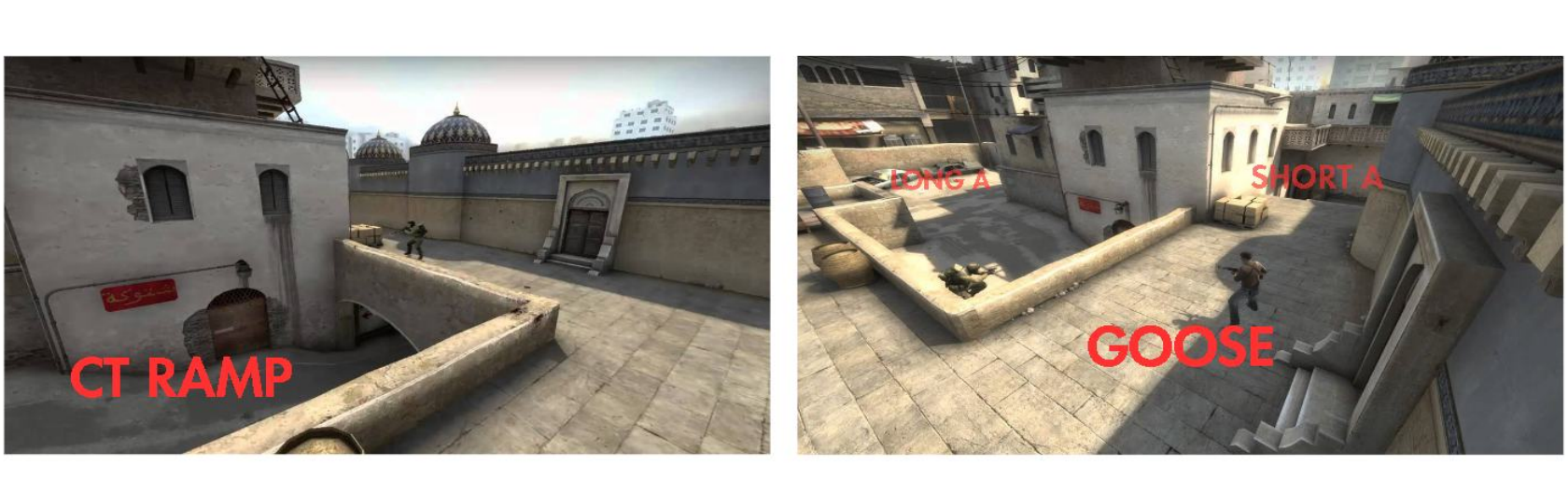

CT RAMP
Short A
GOOSE

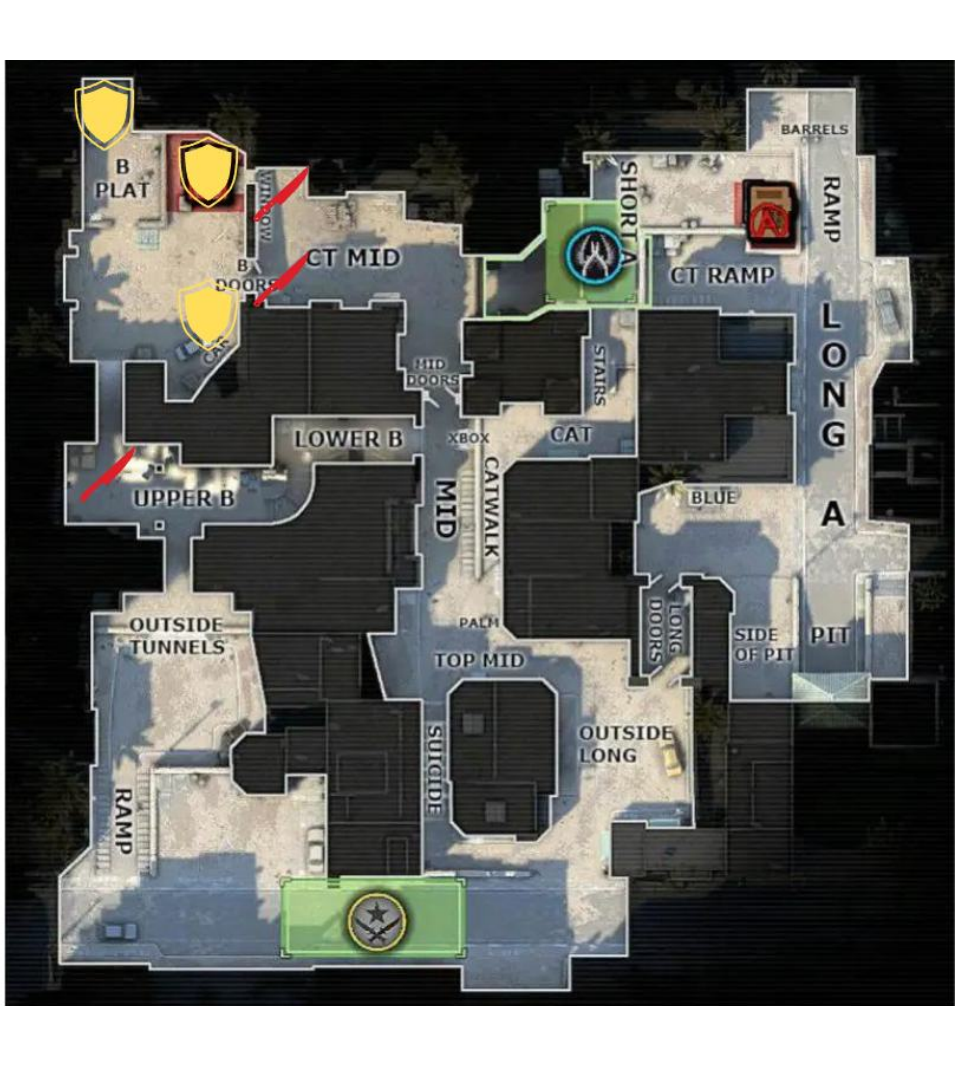
Fig: SITE A

SITE B

The B bombsite on Dust 2 is located towards the left side of the map when viewing from the Terrorist spawn area.

T Entry points:
- **B Tunnels**
- **Mid to B**

CT Defense points:
- **B Platform (Long Range)**
- **Backsite**
- **B Doors**



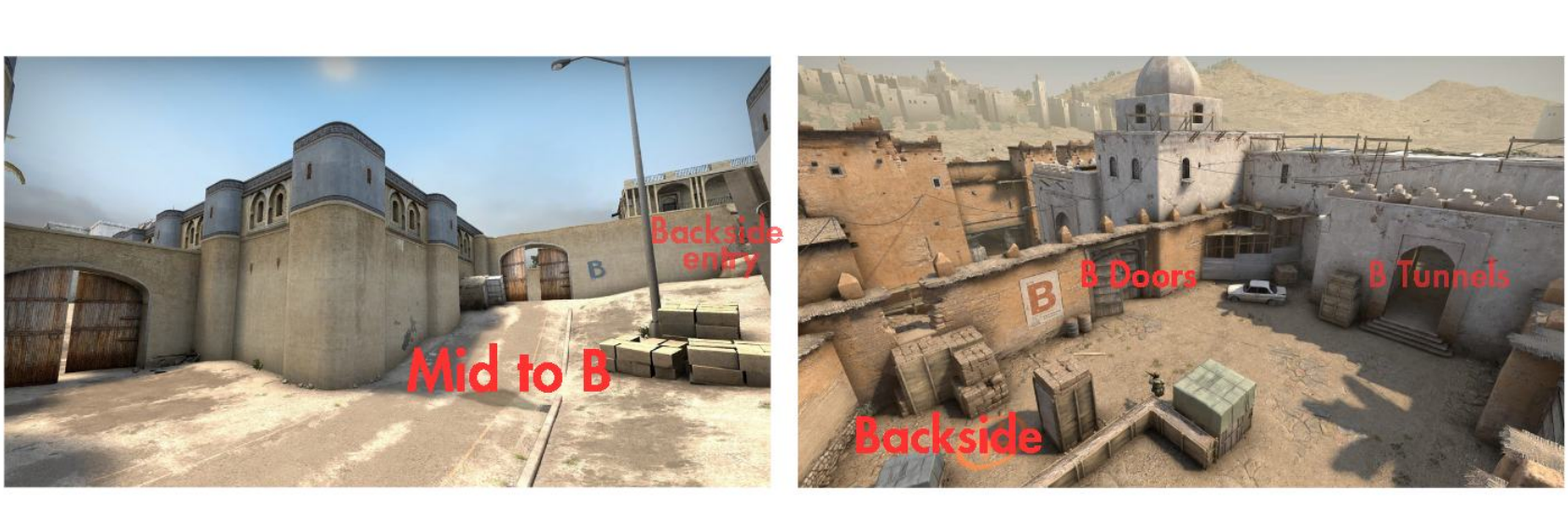
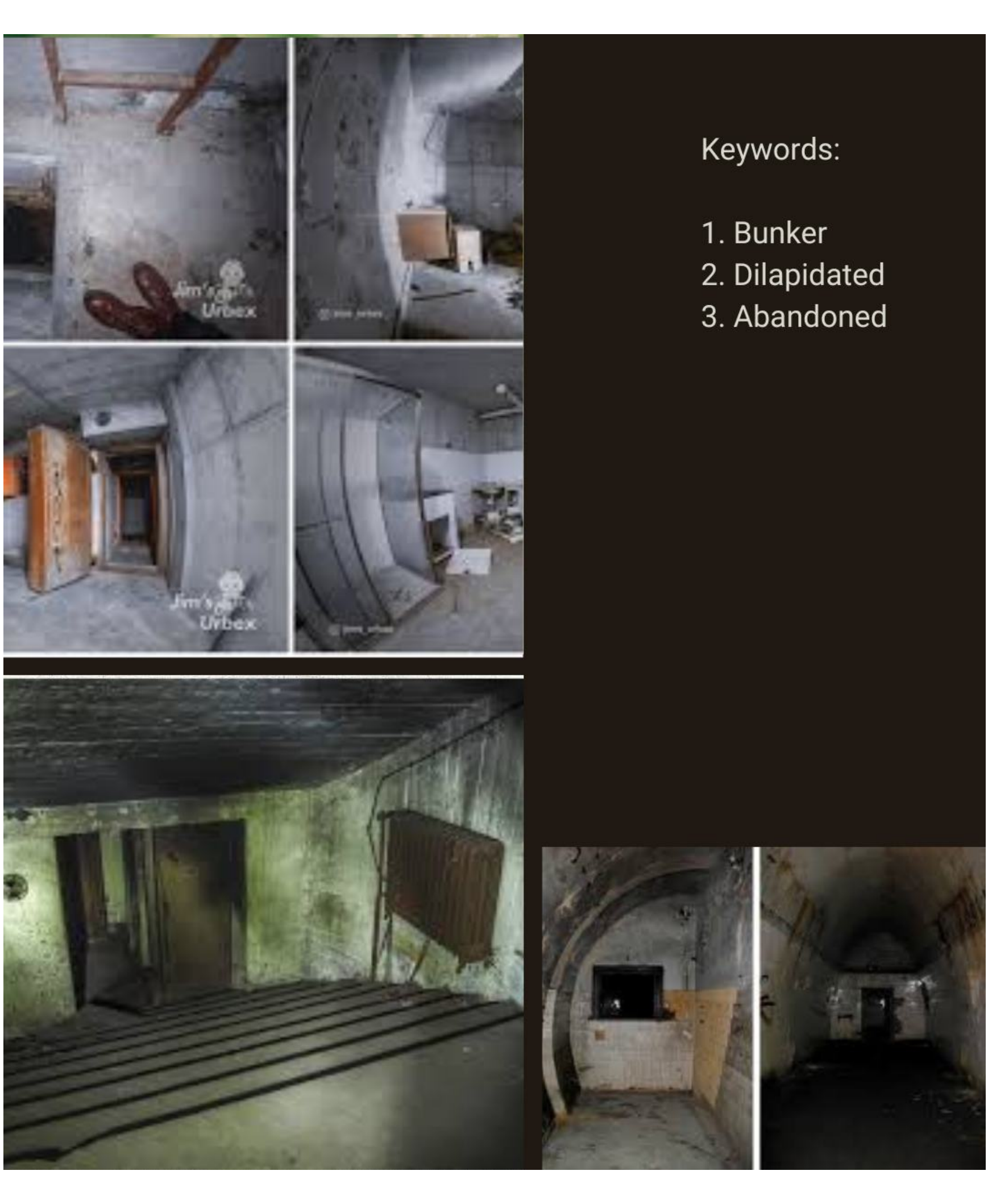

Mid to B
B Doors
B Tunnels
Backside

Fig: SITE B

KEY NOTES

1. Clearing camping enemies requires entry fraggers to spam a variety of explosives to eliminate/ push back attackers from defensive positions near choke points at bomb site entries.
2. It is favorable to hold/ push positions based on constant team communication. I personally try to hold/ push positions as a Sniper.
3. Key difference in gameplay for terrorists compared to counter terrorists being that of roles assumed based on game objective. CTs hold and defend bomb sites while Ts push and plant at a bombsite of their choice. This causes each team to approach each site and position uniquely.

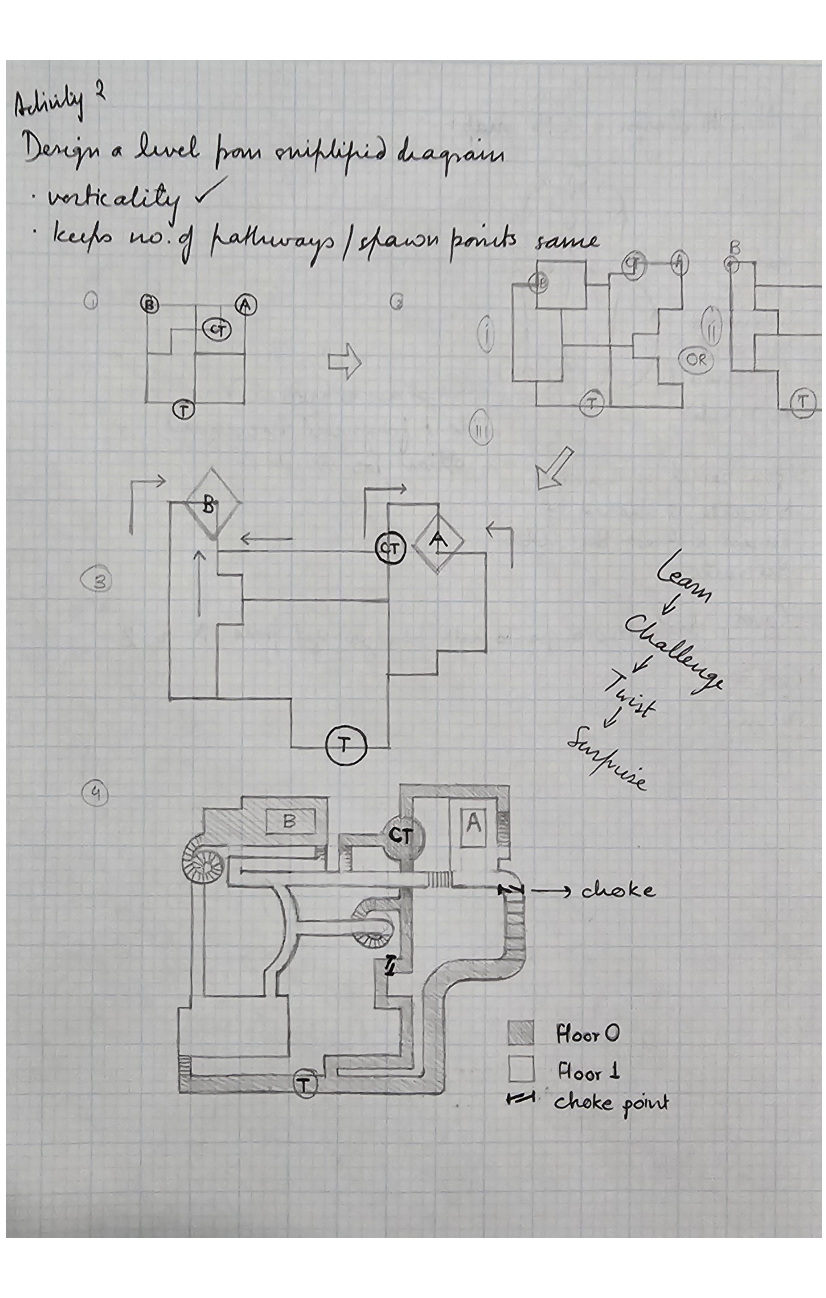
Visual Moodboard



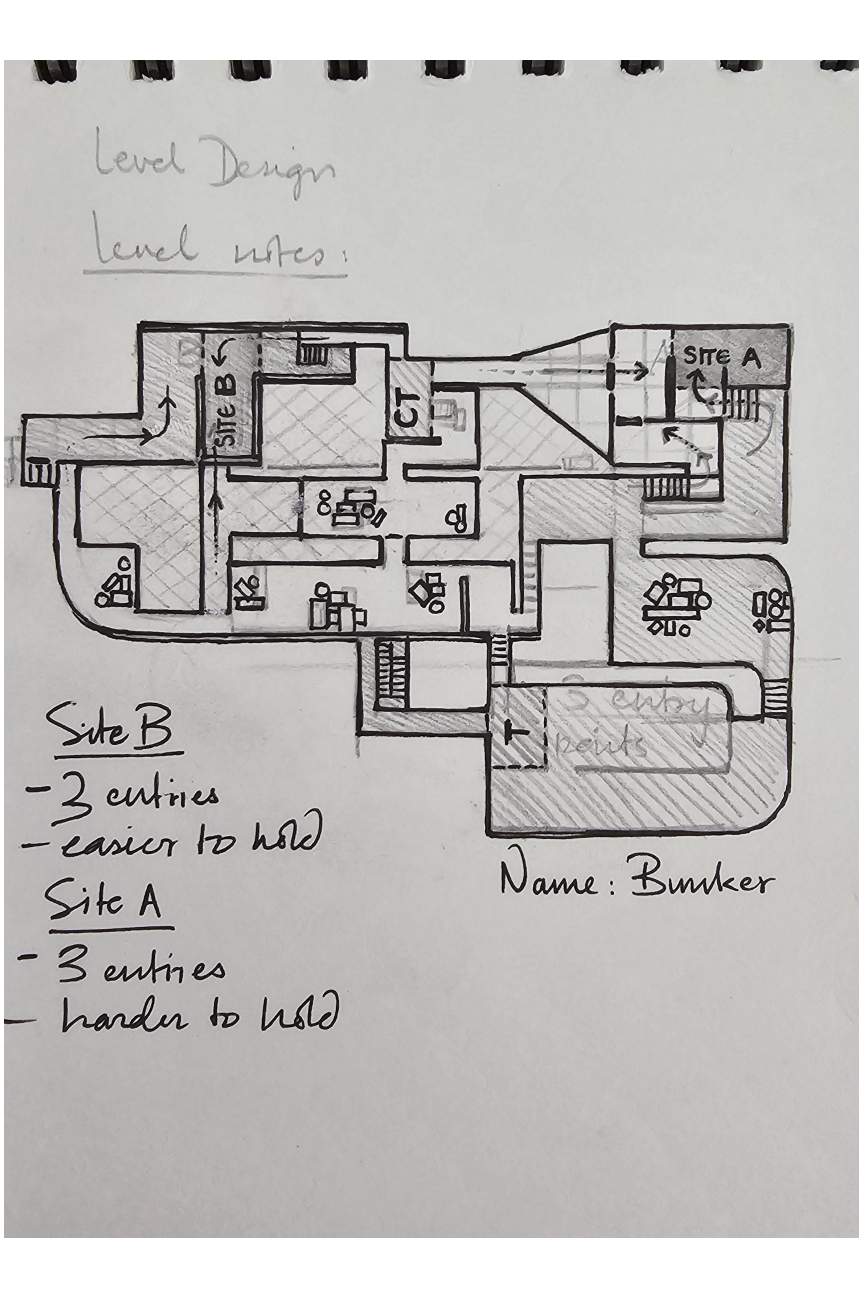
Keywords:

1. Bunker
2. Dilapidated
3. Abandoned

Sketches


Activity 2
Design a level from simplified diagrams
· verticality ✓
· keep no. of pathways / spawn points same
Learn
Challenge
Test
Surface
choke
Floor 0
Floor 1
choke point

Deconstruction of Dust 2

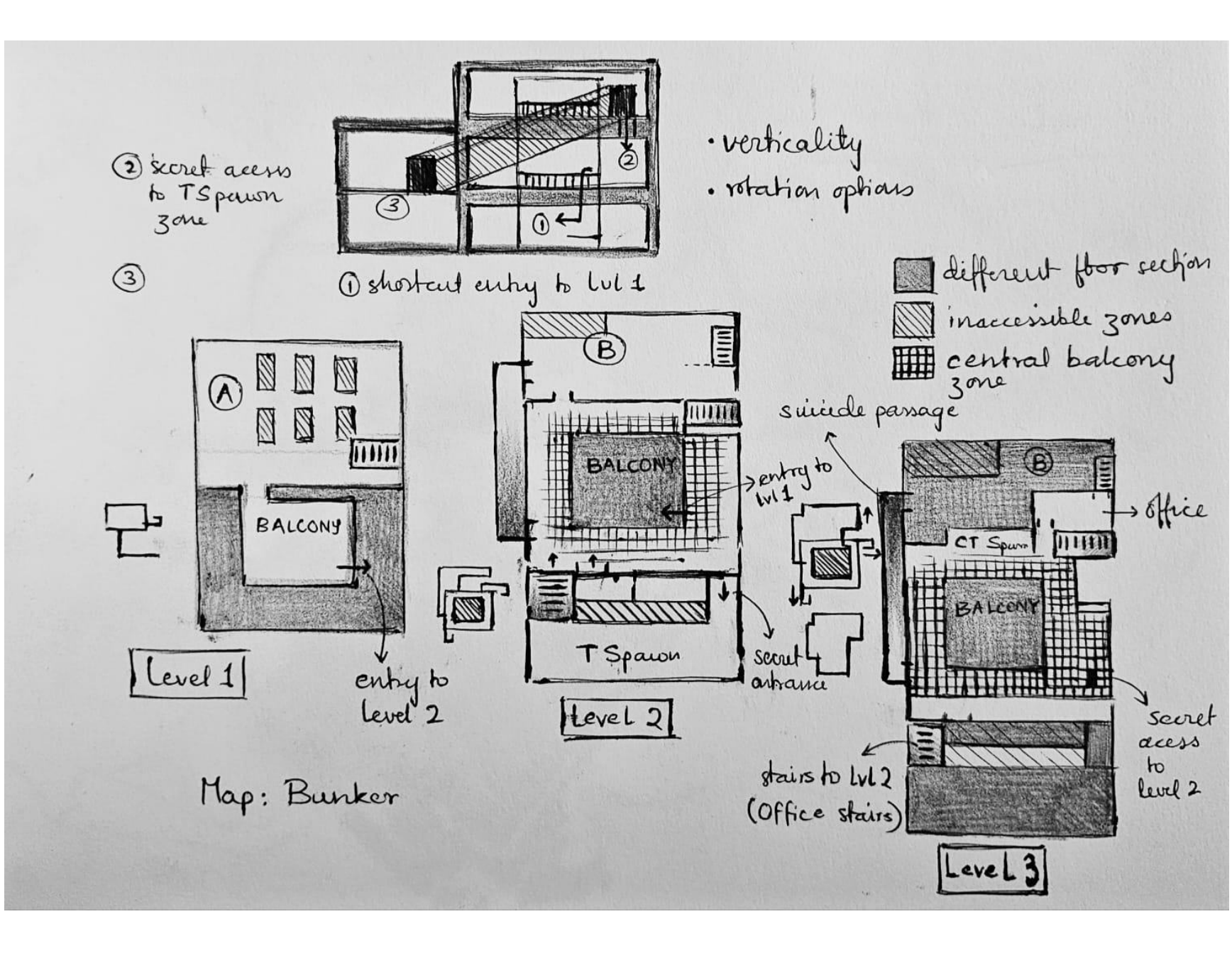

Level Design
Level notes
SITE A
SITE B
CT
Site B
- 2 entries
- easier to hold
Site A
- 3 entries
- harder to hold
Name: Bunker

Initial map sketch

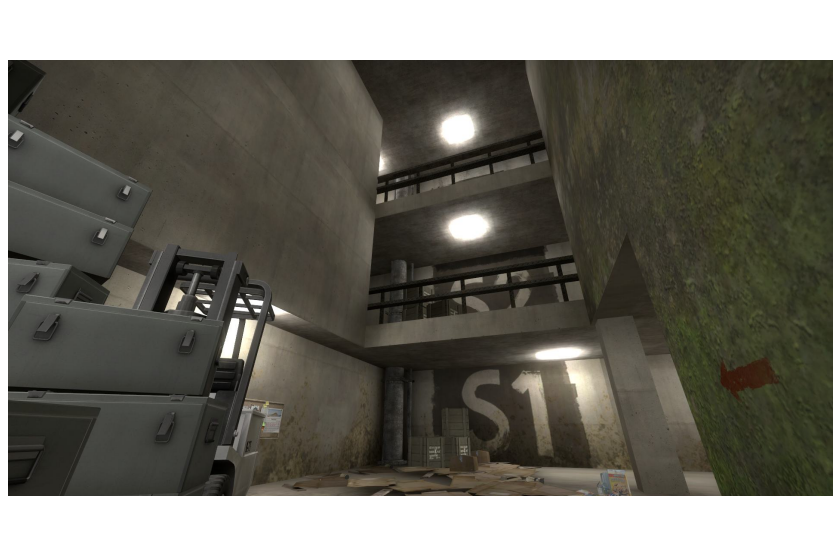
Final Map Design

Map name: Bunker

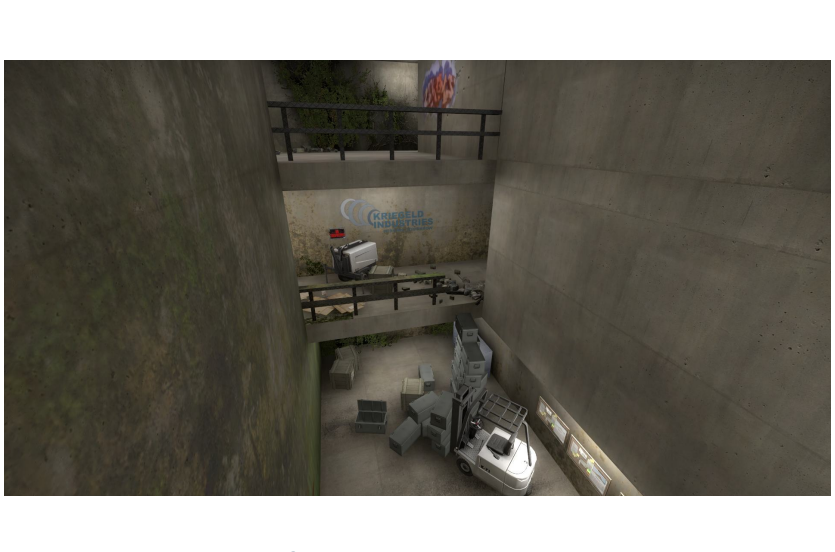
A final sketch prepared below to determine the entry points, potential choke points and holding zones. This sketch was treated as a preliminary idea, many spaces were later deemed unneccessary and the entire engagement space more optimised around 'verticality' , which was the primary approach to the uniqueness of the proposed level.


② Secret access to T Spawn zone
③
③
① shortcut entry to Lvl 1
· verticality
· rotation options
different floor sections
inaccessible zones
central balcony zone
A
B
BALCONY
BALCONY
suicide passage
entry to lvl 1
B
CT Spawn
BALCONY
office
Level 1
entry to level 2
T Spawn
secret entrance
Level 2
Secret access to level 2
stairs to lvl 2 (Office stairs)
Map: Bunker
Level 3

Sketch showcasing level interconnectivity



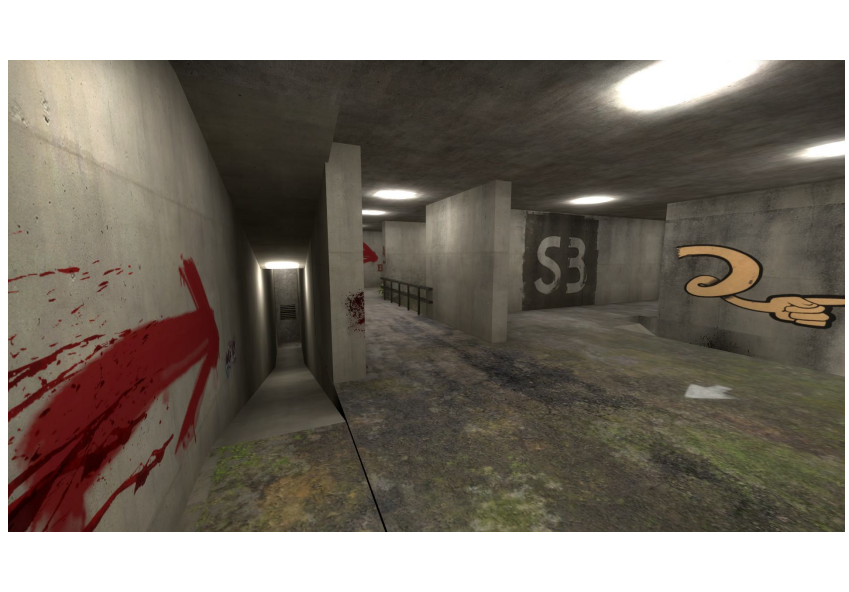
In-game shot of Balcony point 1



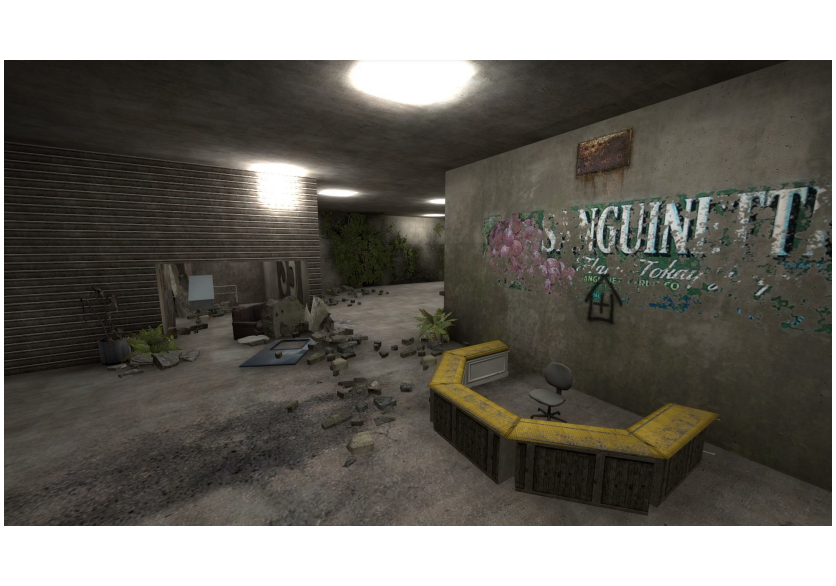
In-game shot of Balcony point 2

I handcrafted every part of this map keeping **verticality** in mind. Unlike the usual linear design language of CS:GO's level designs, this arena is spread out over three floors in a bunker. The bombsites are spread out over three floors, with tight corners and interconnected tunnels. This allows for a lot of unexpected gameplay situations and unique gameplay logic to revamp the normal game flow of Counter Strike.

The unique gameplay flow mentioned is further strengthened by the central balcony choke point in the arena where all the floors open up to give a high amount of visibility across different floors. This allows for **area control, enemy position tracking and maneuvering in emergency situations.**



Suicide passage connecting Lvl 3 T-side and bomb site B. Aim is to allow for CT rotations in late round strategy.



CT Spawn area connecting to office and CT stairs.

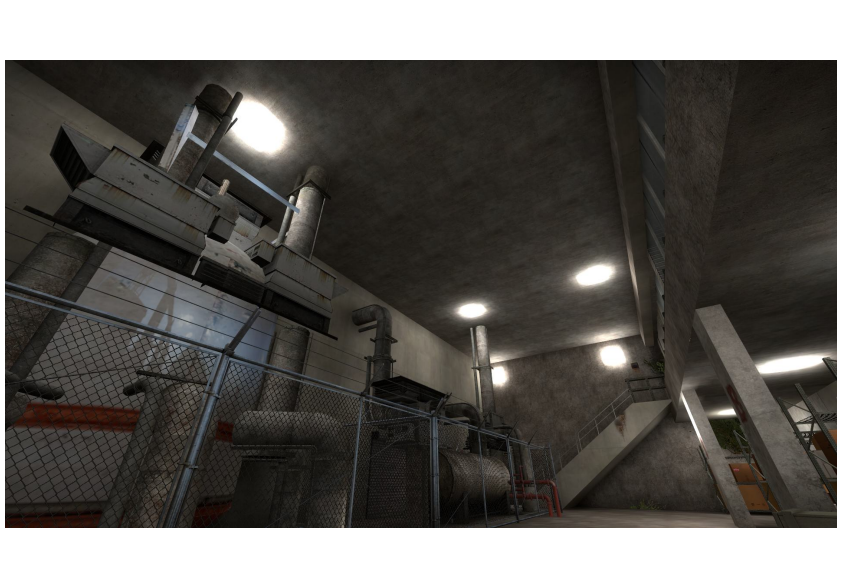
Bombsite Gameplay distinctions:

Site A

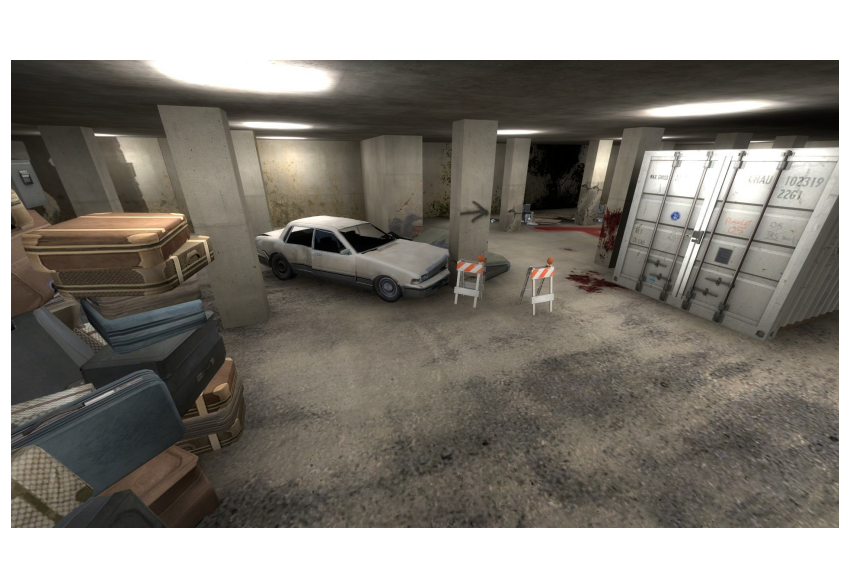
Entry points- 2
T hold zone
Short-range combat zone
Average time taken to reach:
CT: 22 s
T: 15 s

Site B

Entry points- 3
CT hold zone
Med-range combat zone
Average time taken to reach:
CT: 11 s
T: 23 s



Site A



Site B

Main Map Features:

1. **Verticality**: The level was divided into three floors stacked atop one another with a central balcony section which would be important to hold for lateround strategies. Bomb sites: Keeping the previous point in mind, the bomb sites were laid on top of one another while giving each team easier access to either bomb site.

2. **Entry points**: There are 3 entry points for the Counterterrorist (CT) bomb site, which makes it easier for the terrorists to enter and surprise the holding team. Meanwhile the Terrorist (T) bombsite has 2 entry points but a lot of segmentation in engagement spaces making it harder for the T side to hold.

3. **Choke points**: A major staircase connecting all floors nearer to the CT side makes it an important choke point for the CT to hold. Also, a long side entry to the CT bomb site makes it an important chokepoint to hold.

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