

DESIGN PROPOSAL, PHASING & Detailing- L scale, M Scale & Scale

The design's primary goal is to remediate an industrial site in Gandhinagar, which has been excavated and contaminated due to ash dumping from the Torrent Power Plant. The 12-meter-deep excavated ash pond, situated 2km away from the thermal power plant, remains largely unexplored despite various ongoing activities such as grazing and morning walks. Recognizing the potential of the pipeline transporting bottom ash slurry from the power plant to the ash ponds, the project unfolds in two phases. Phase 1 involves implementing measures to separate the bottom ash from the water, while Phase 2 focuses on remediating the inactive ash ponds through phyto-remediation techniques.



PHASE II:

The phase two of the project then focuses on the remediation of the existing ash pond. This phase began with using the existing bottom ash on site and mixing 30% of it with existing soil to create island ponds within the ash pond that can cater the current activities in a more better way on the site like grazing and people gathering.

The islands made initially will initially foloow the phyto-remediation process with plantations and shrubs and slowly converting the place as a productive landscape.

PHASE I:

The phase one of the project includes making intermediates between the ash pond and the torrent power plant. The pipelines that are currently existing will prolong to continue the system of exit and hence deriving a method to tackle the ash seggregation within the system before it reaches the ash pond.

There are three intermediate water filtration units with 10 sedimentation tanks each which goes underground that collects the ash in the slurry form from the torrent power plant and then seperates it into bottom ash which is then can be collected by the trucks directly and water is then undergone a centrufiguel system of filtration from where the water runs of to the new pond.

The phase also joins in to develop the existing street network with the site for a better place making experience for the people.

Proposed phase plan-L Scale

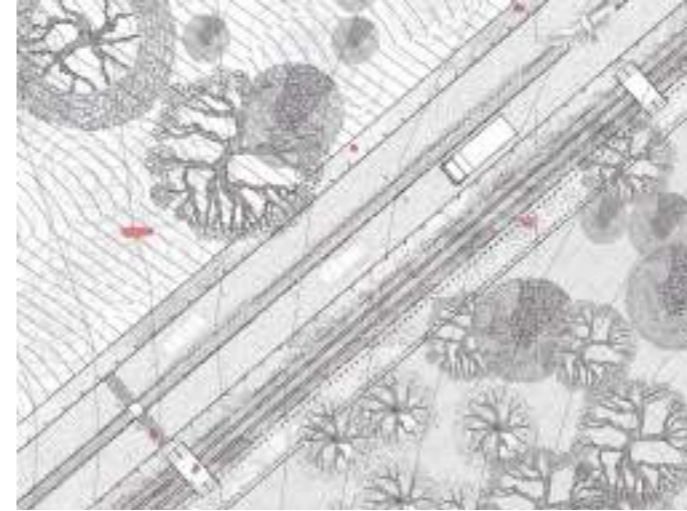
0 25 50 100M



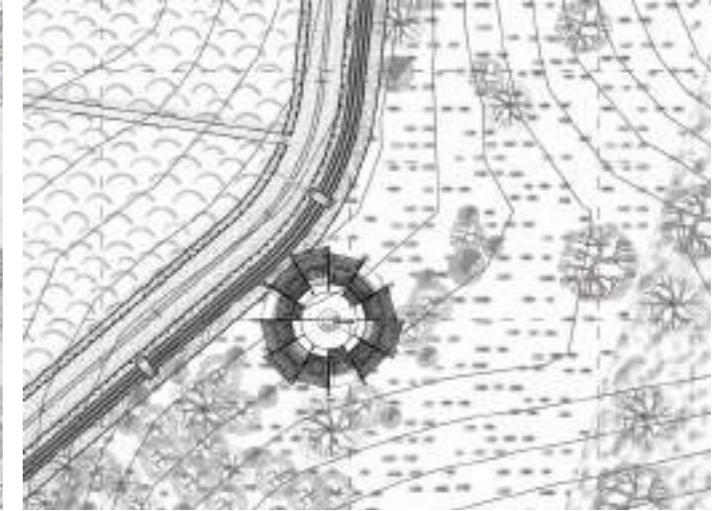


PHASE I- L scale Plan

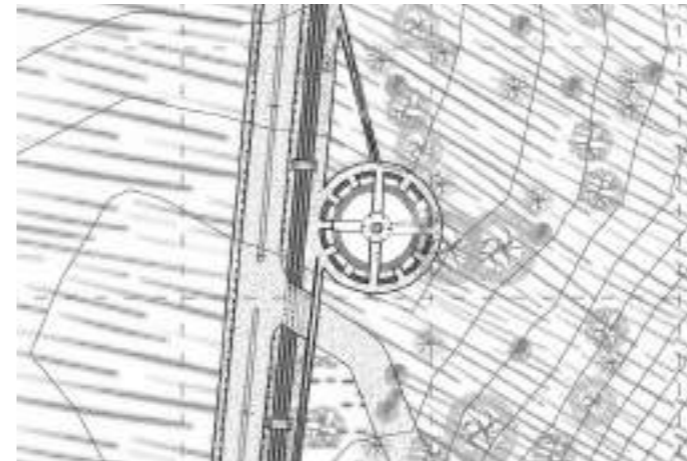
0 25 50 100M



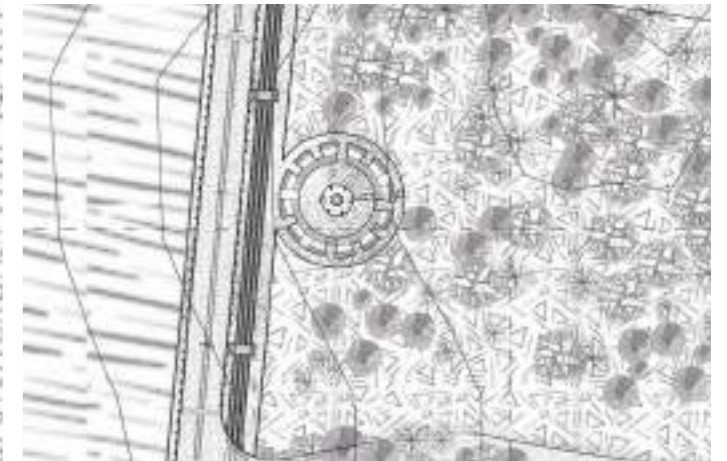
STREET REDEVELOPEMENT: The existing street is redeveloped with 3.6 metre wide roads on both sides with 1.2 metre median and a 2 metre footpath on side with addition of a swale system to facilitate the existing pipeline connection from the torrent power plant more effective.



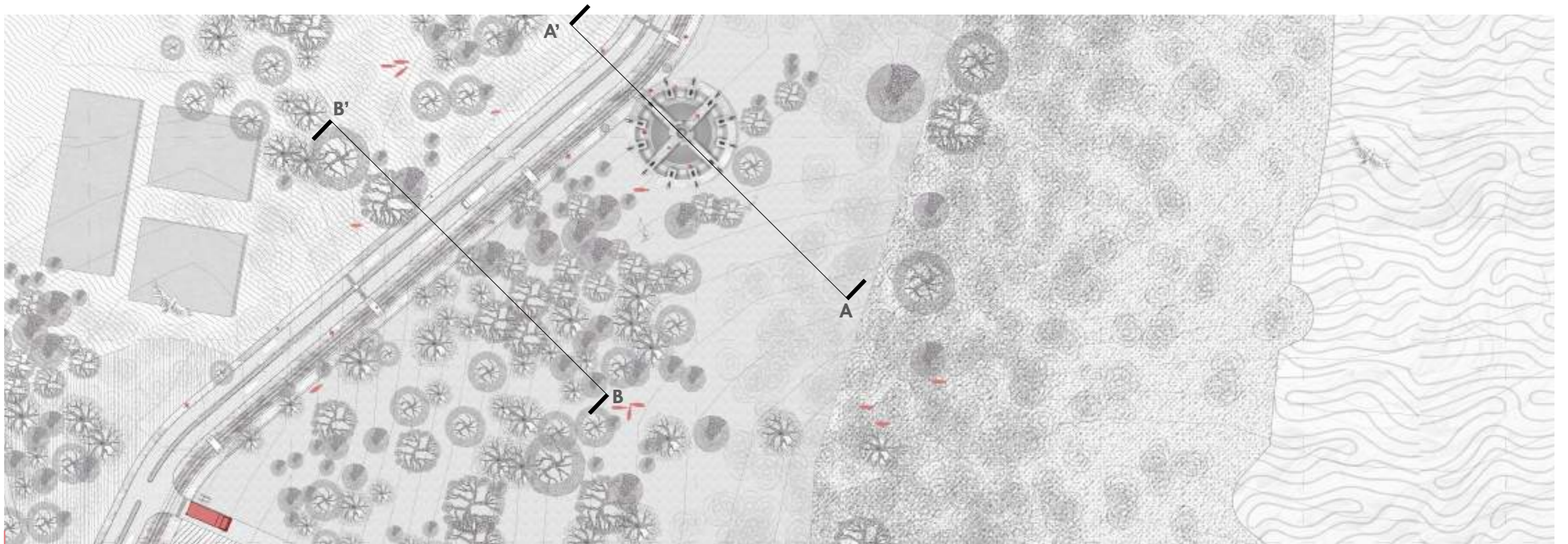
WATER TANK I: The water tank I is placed in between a level difference of 9 metres and hence the entire place feels like a stepwell inside making the process of filtration more transparent.



WATER TANK II: The water tank II is a 6 metre high tank with ramps running all along the made footpath to give an elevated view of what is happening ahead in the bottom ash pond.

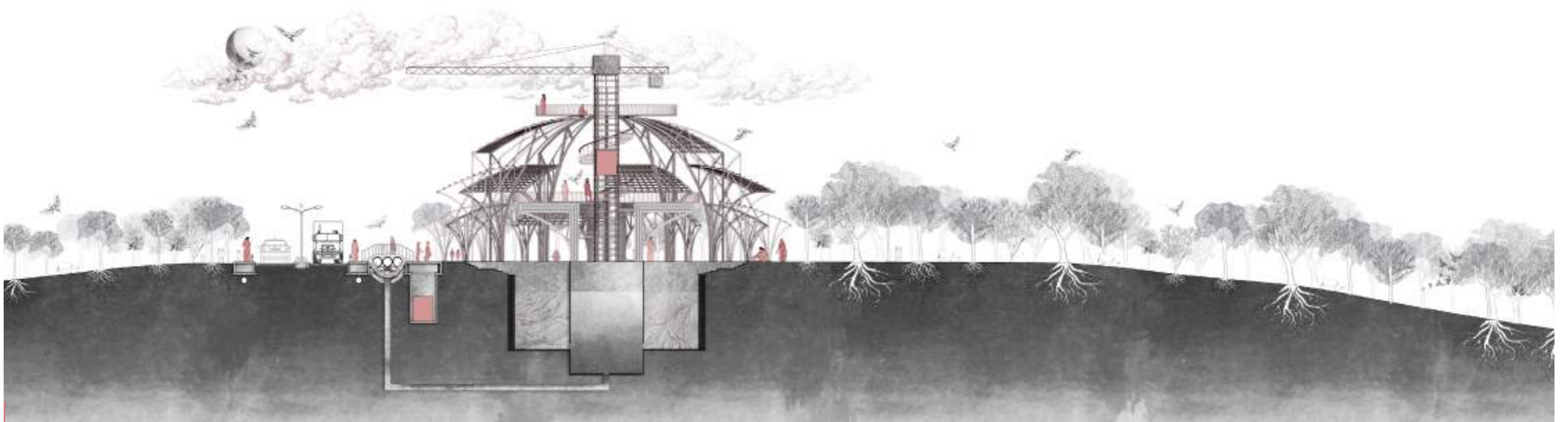


WATER TANK III: The water tank III is again a ramp based design with elevations taking the ramp through inside the water tank.



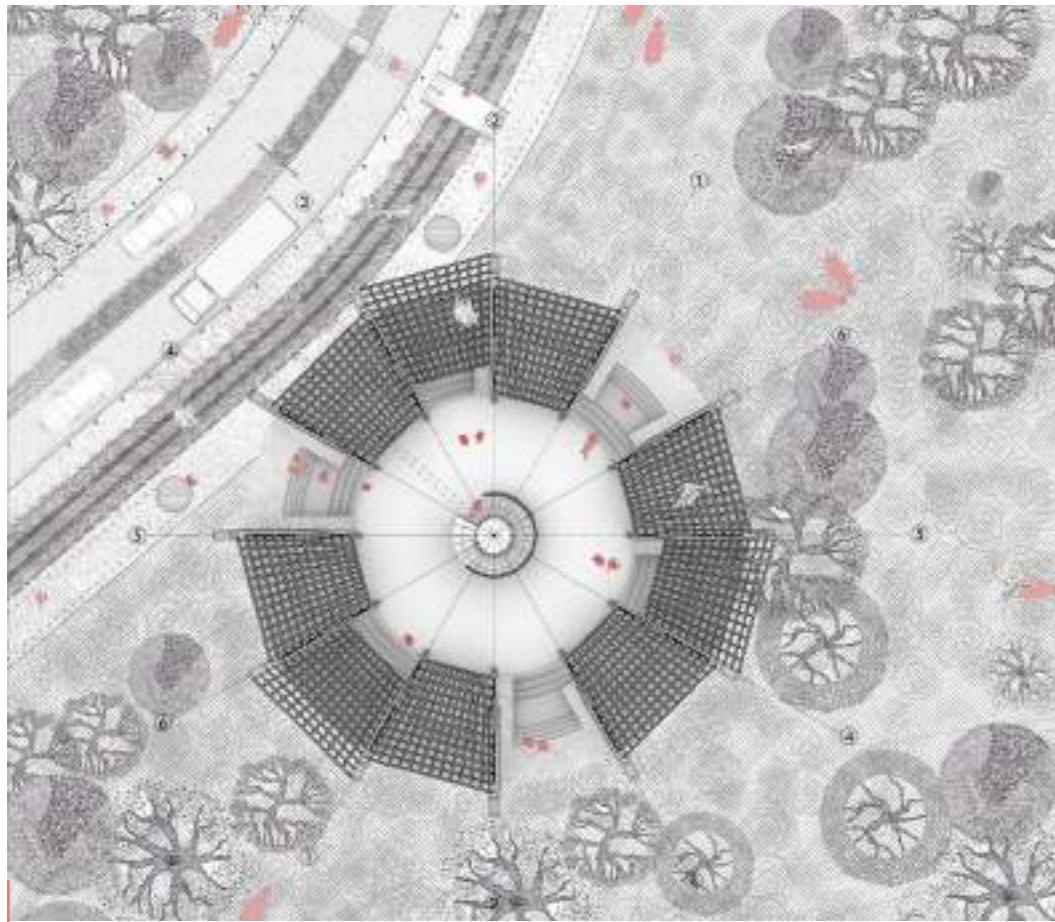
WATER TANK I- M scale Plan

0 25 50 100Mt



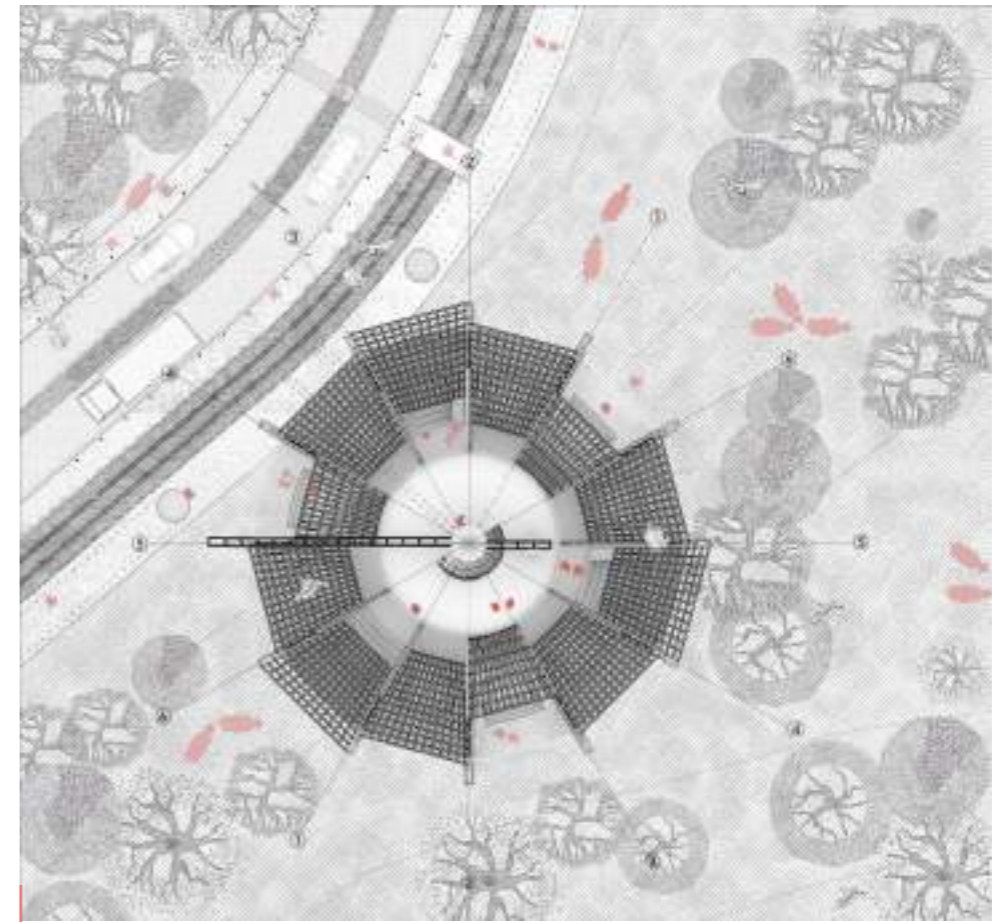
Section AA'

0 5 25 50 Mt



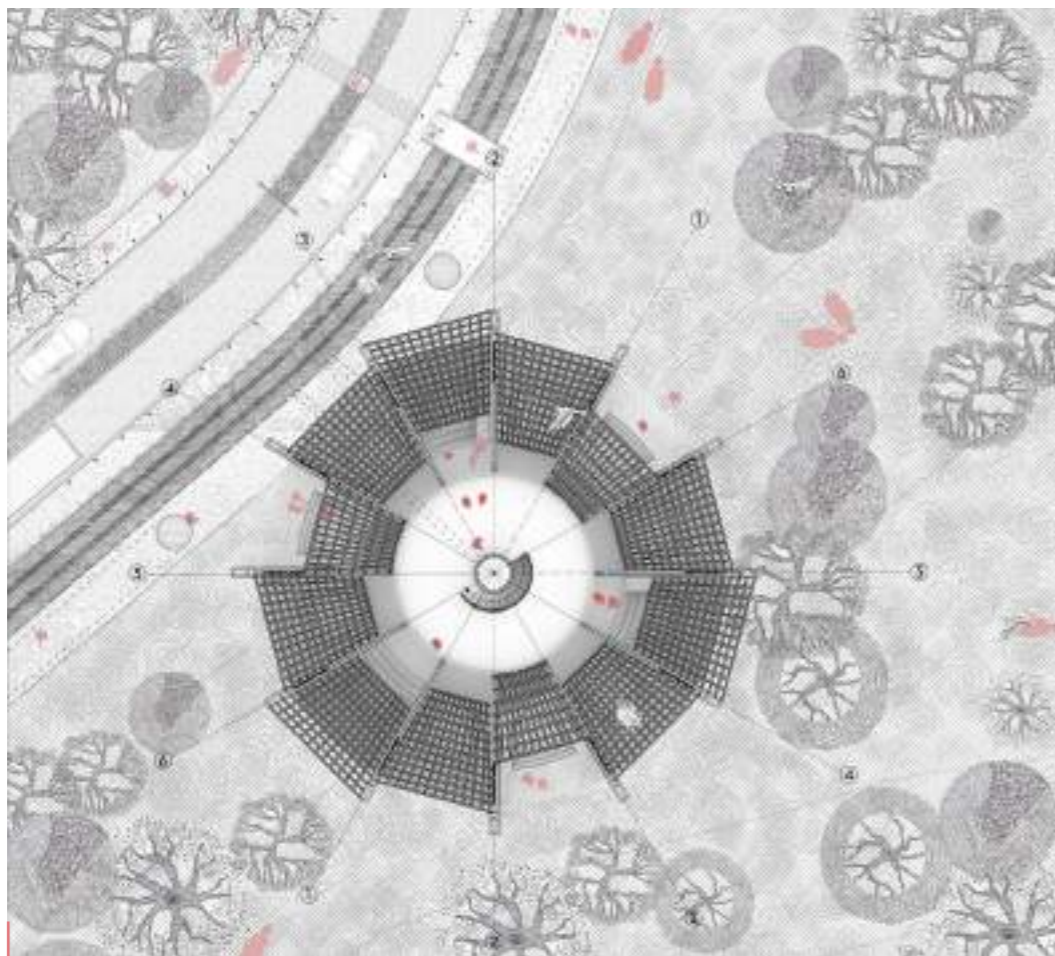
WATER TANK I- Plan at Lvl +4mt

0 5 10 25mt



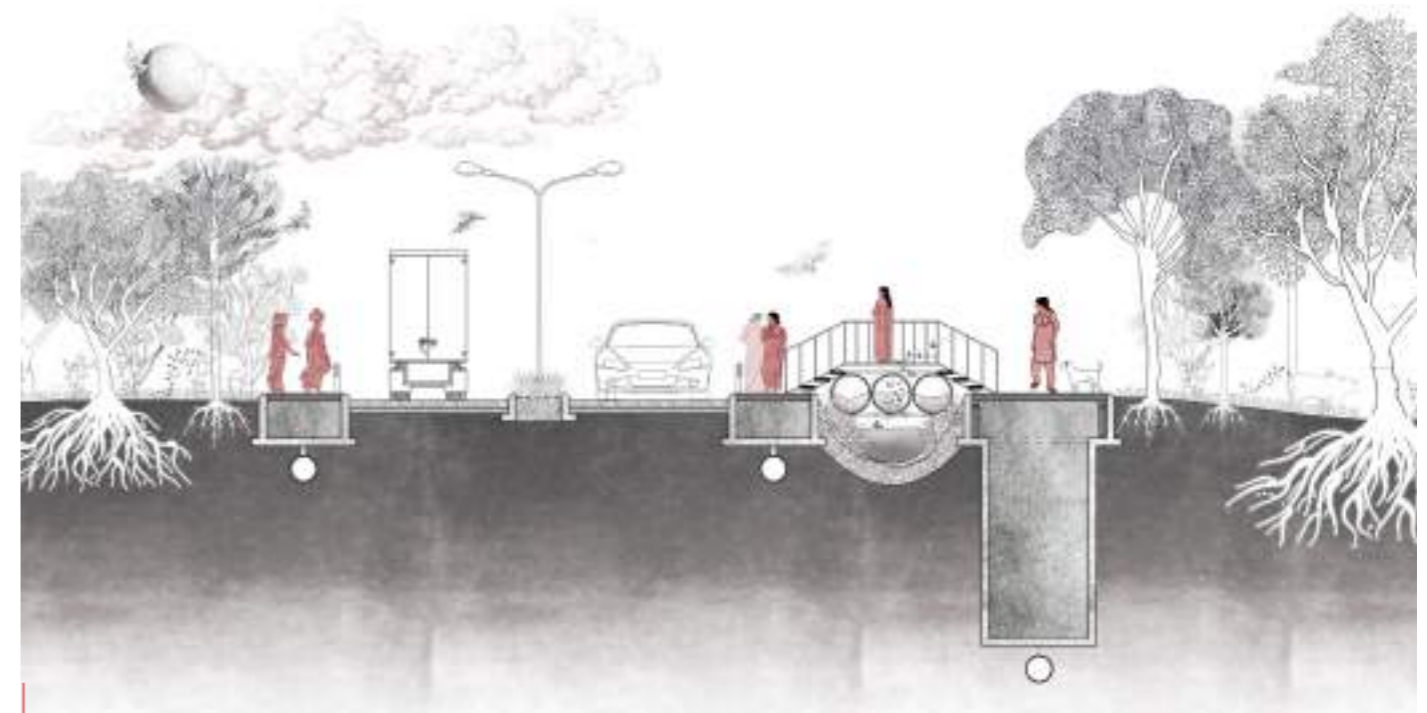
WATER TANK I- Roof Plan

0 5 10 25mt



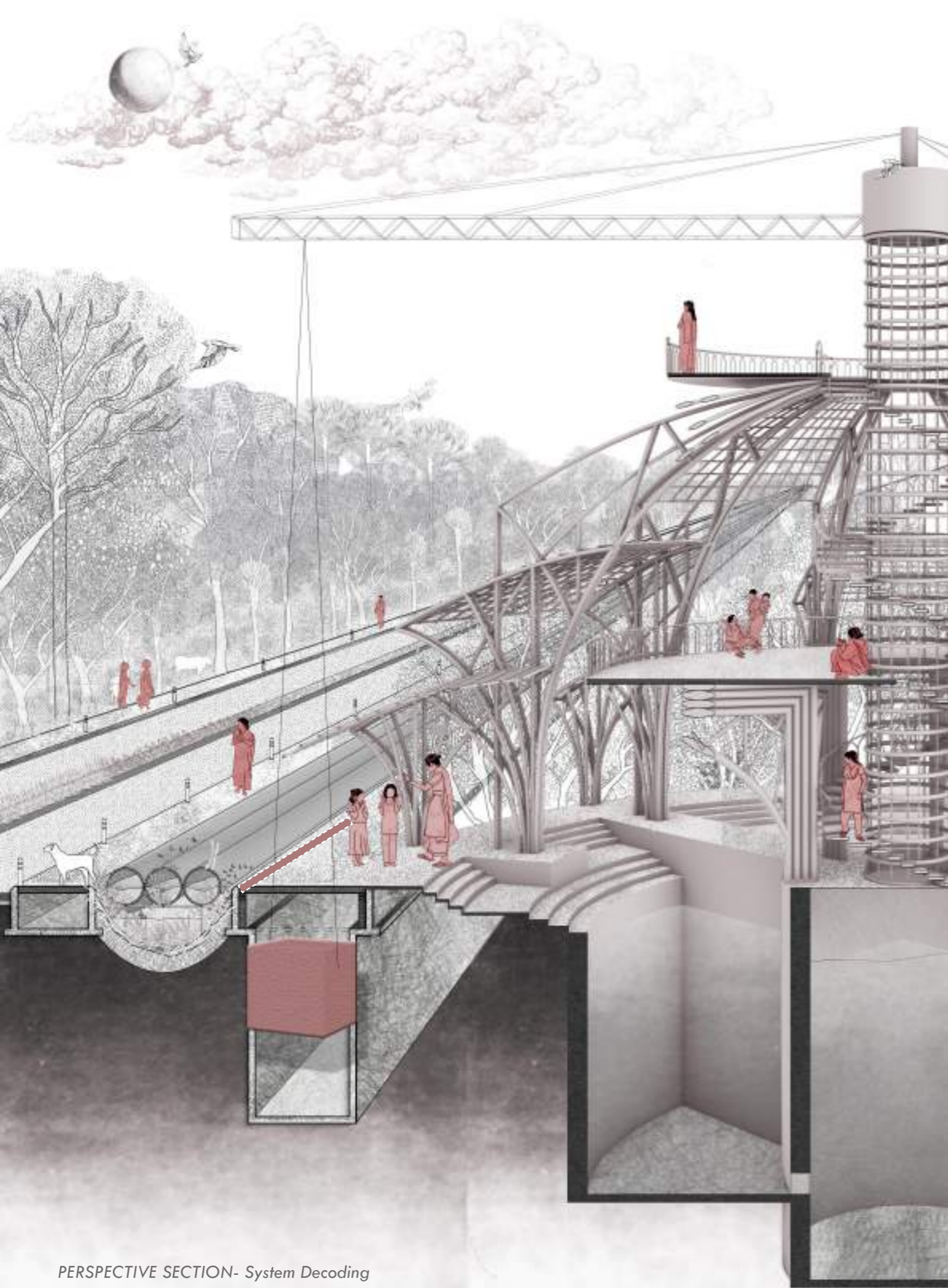
WATER TANK I- Plan at Lvl +10 mt

0 5 10 25mt

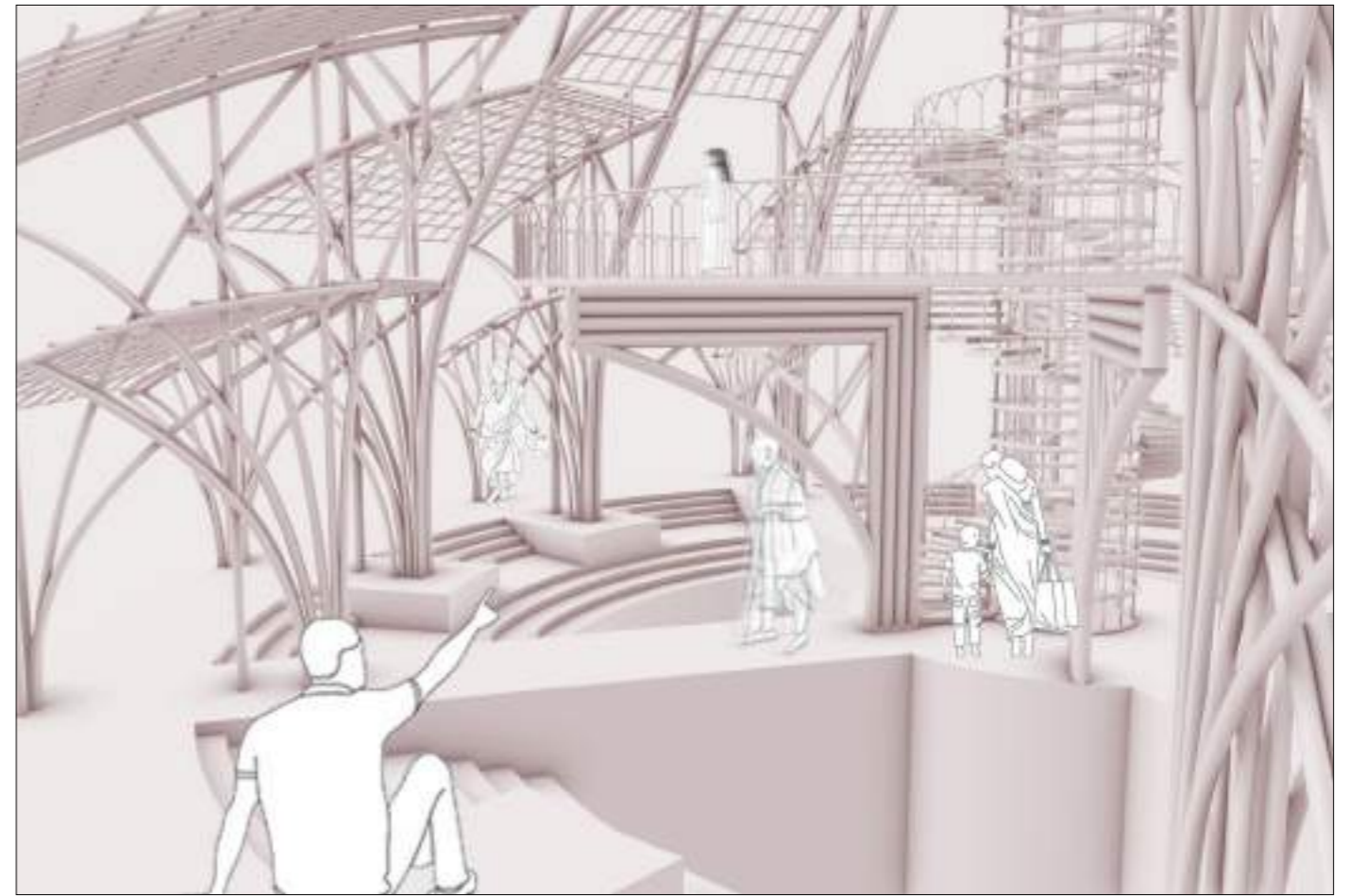


Section BB'- Newly proposed ROW along the pipeline

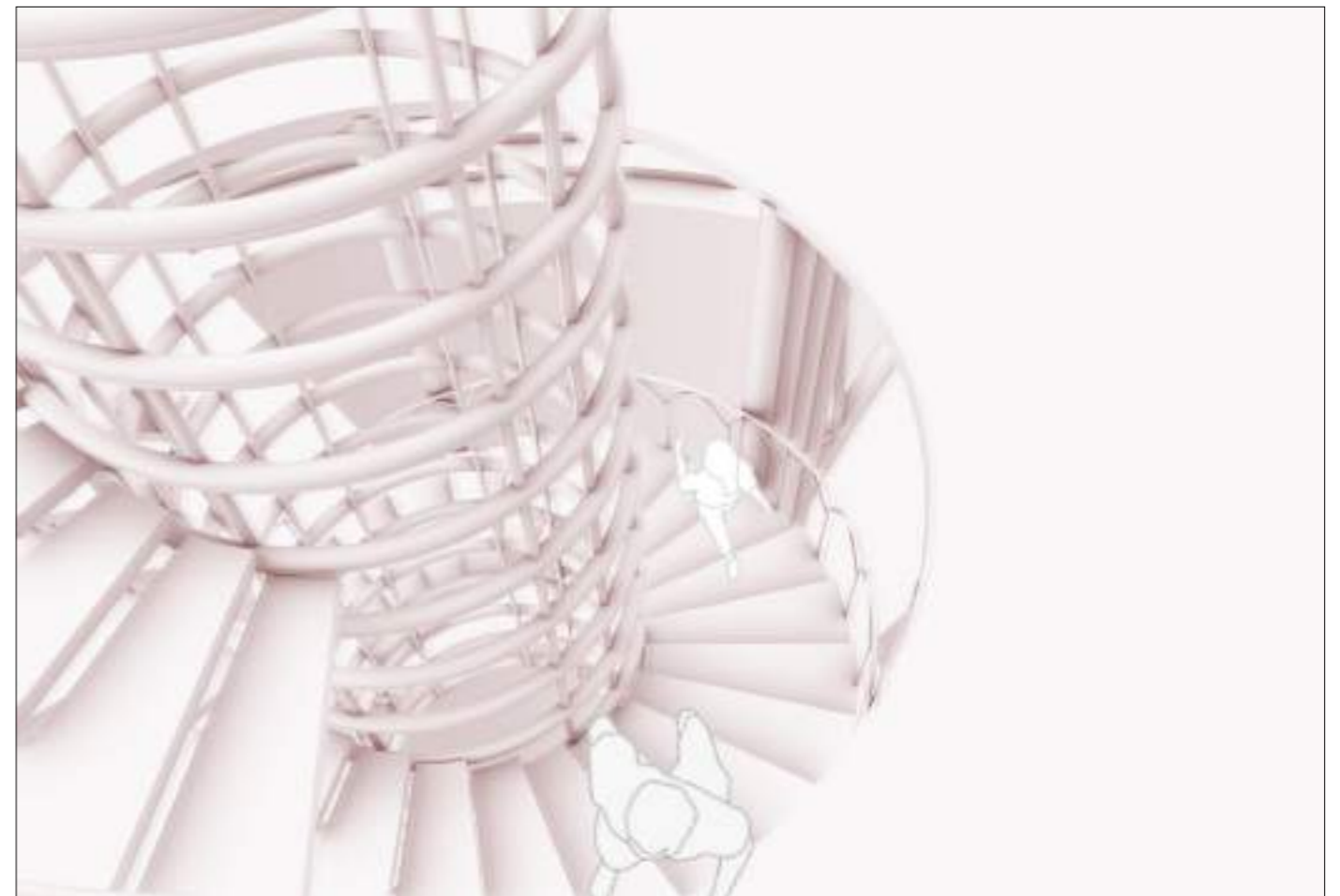
0 1 2 5 10 MT



PERSPECTIVE SECTION- System Decoding



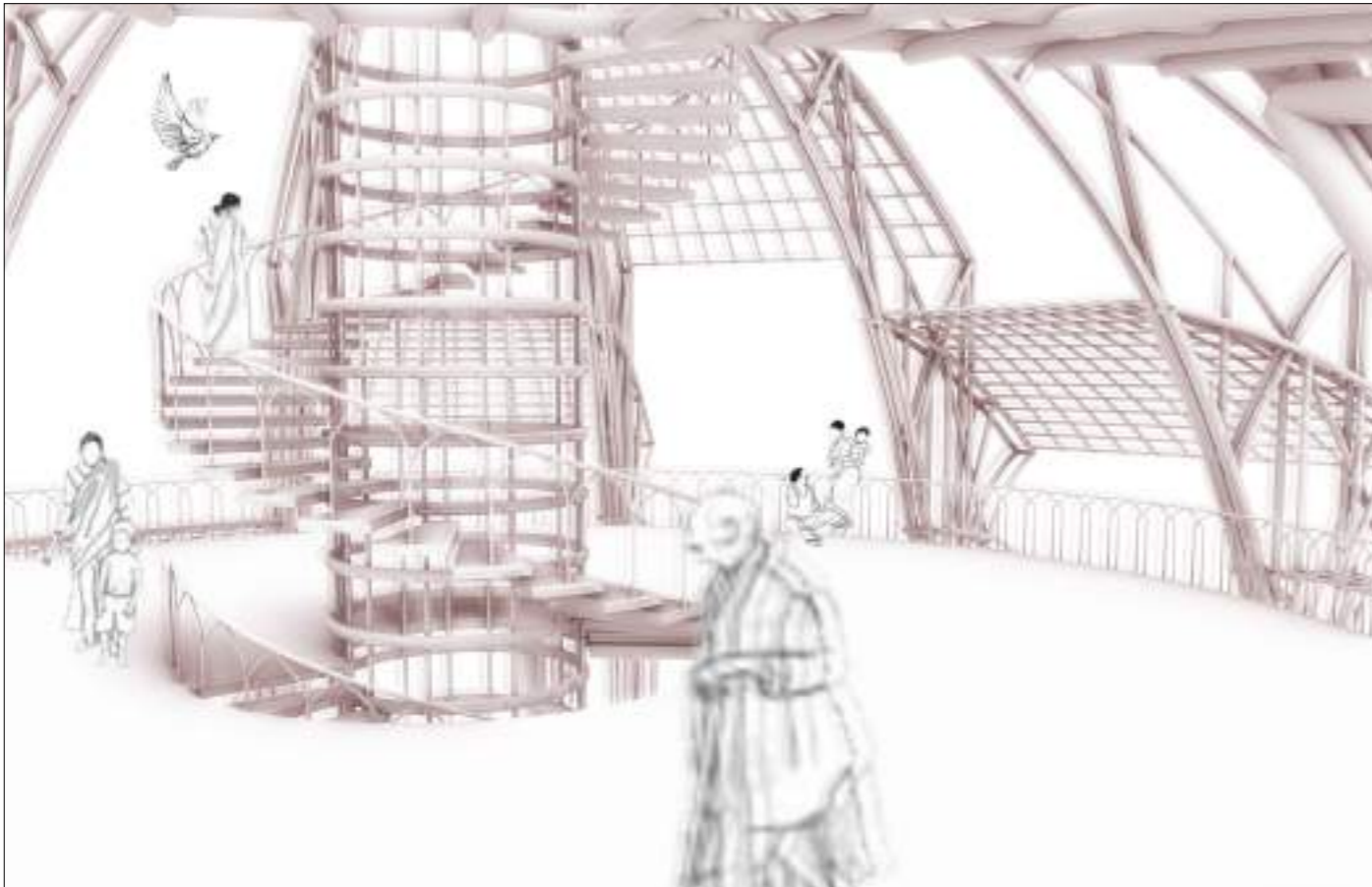
The proposed segregation water tank is also a initiative to develepe a a communal space within the community. The space is designed in such a way that it can facilitate entire bottom ash-water segregation while at the same time becomes a common space for the nearby villages.



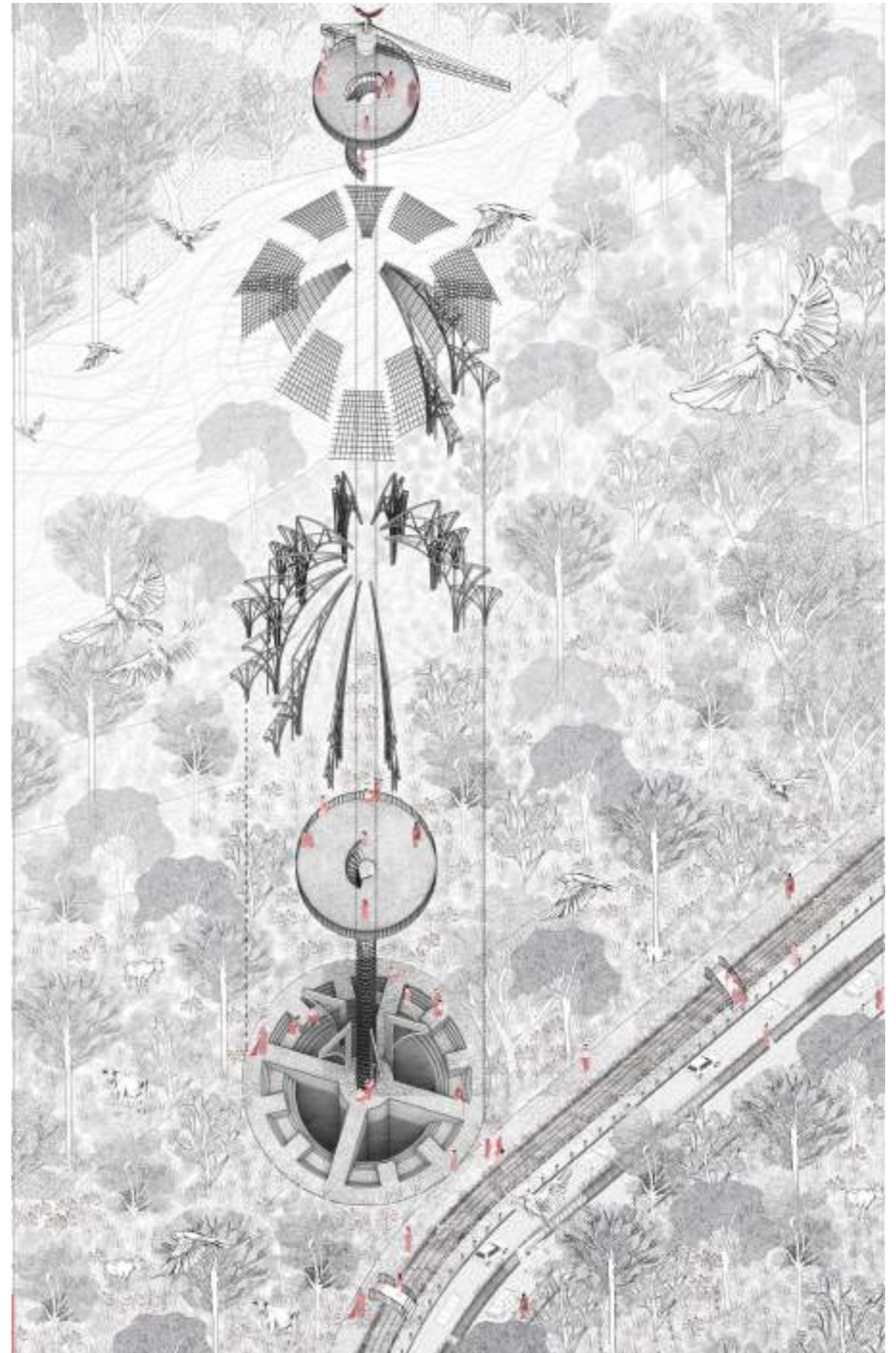
The designed water tank is of multiple levels creating an opportunity of for various placemaking cells as the spaces around develepe.



The 20 metre high segregation-water tank can also act as a watchtower of the entire community. Since the space around is highly cover with tree cover and varying levels, the high watchtower can also bring in more closure to the designed space.

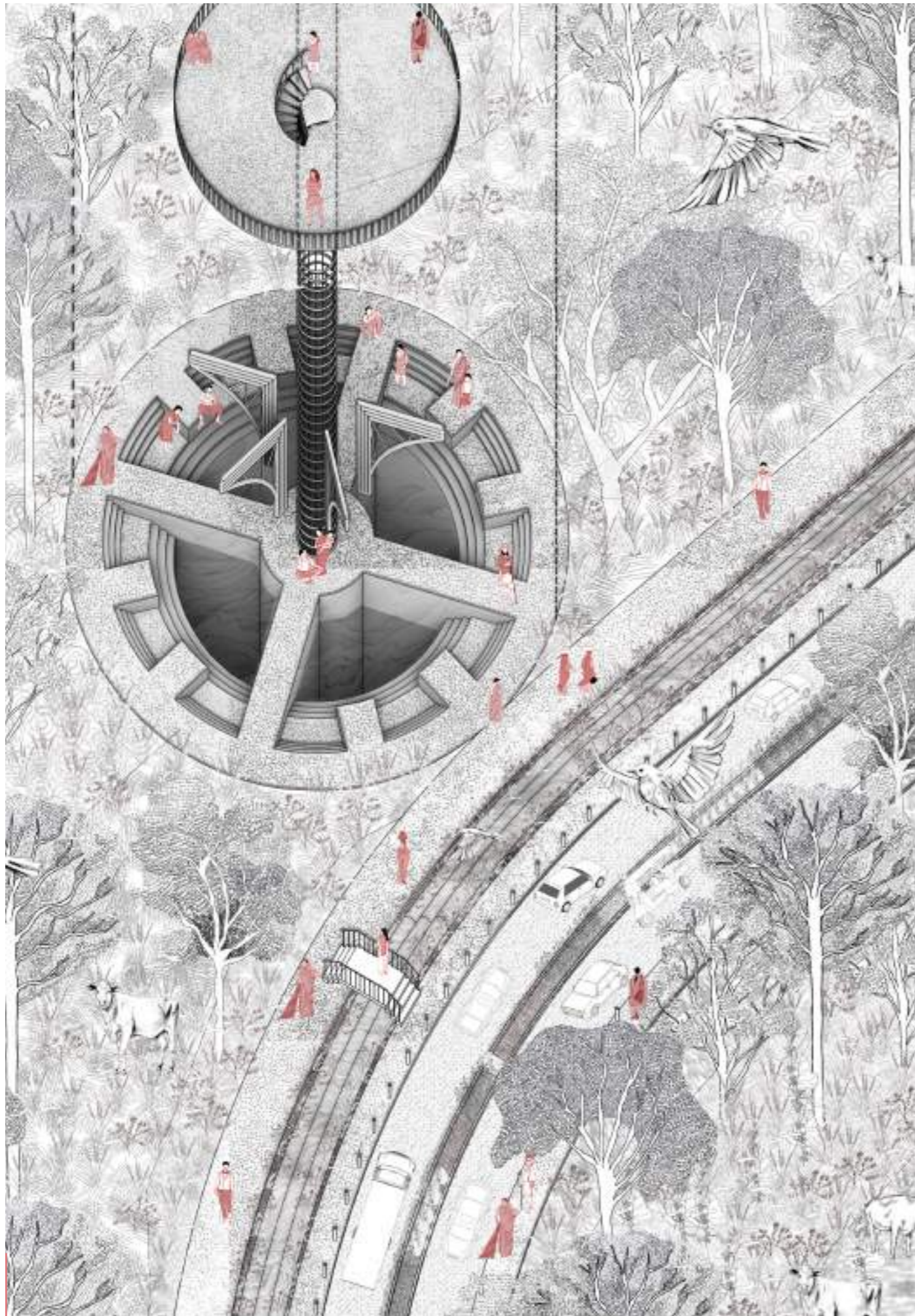


The larger aim of the segregation-water tank is not just a space for ash-water separation but also to meet the larger concern of the community of not having a communal space that can generate more interactions and also can be a future for more such disposal systems.

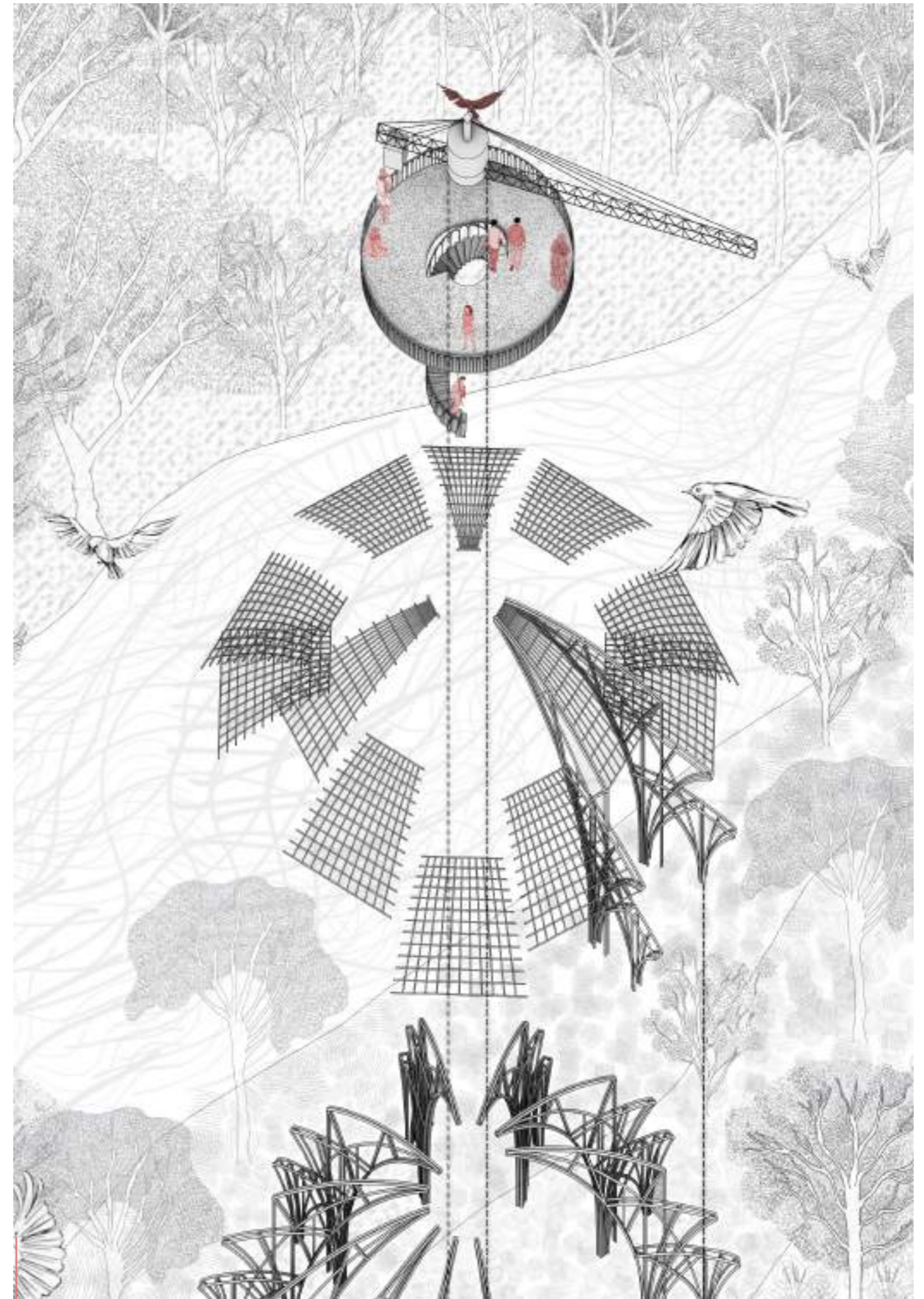


Exploded Axonometric of the entire water tank system: Structural Analysis

Phase one involves creating intermediary structures between the plant and the ash pond. Existing pipelines will be extended to incorporate a system that segregates ash from the slurry before reaching the pond with underground filtration units with sedimentation tanks; each will collect and separate bottom ash for direct truck collection while purifying water through a centrifugal filtration system, channeling it to a new pond.



Exploded Axonometric of the entire water tank system: Contextual Relations



Exploded Axonometric of the entire water tank system: Watch tower and bamboo structures