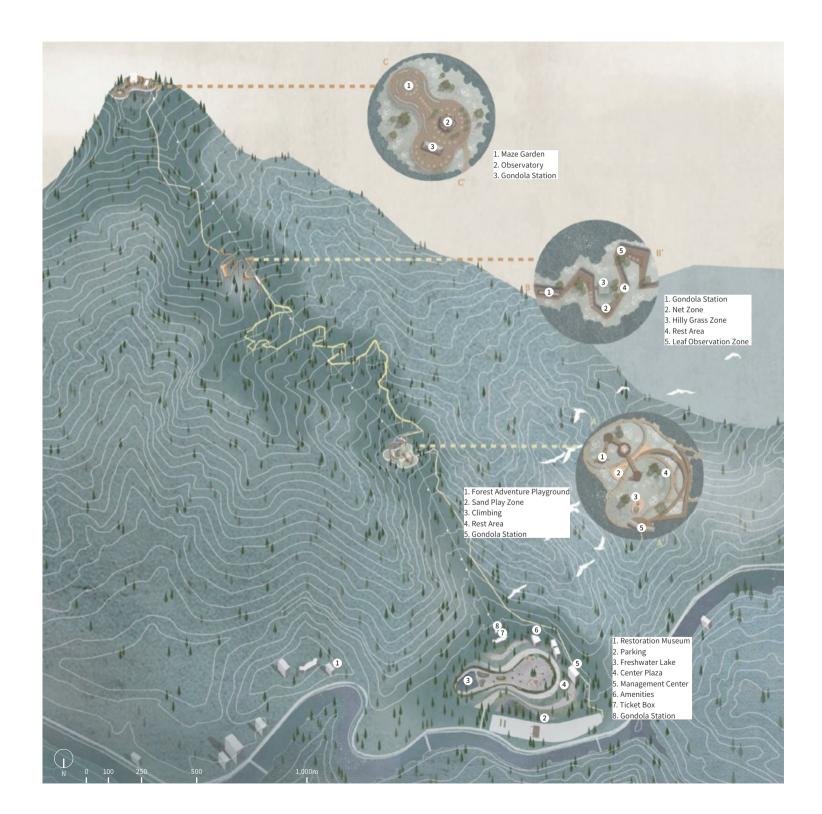
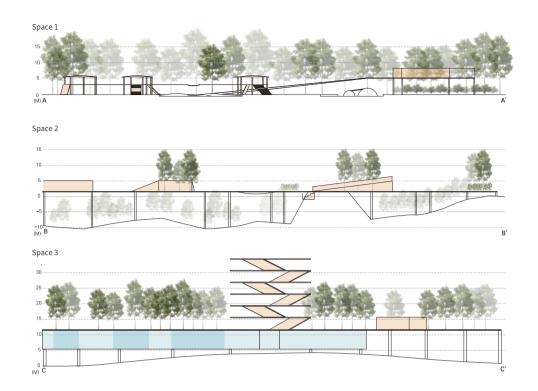
### 대상

# Coexistence -Aesthetics of Concession-

**김솔지·최지윤** 경희대학교 환경조경디자인학과





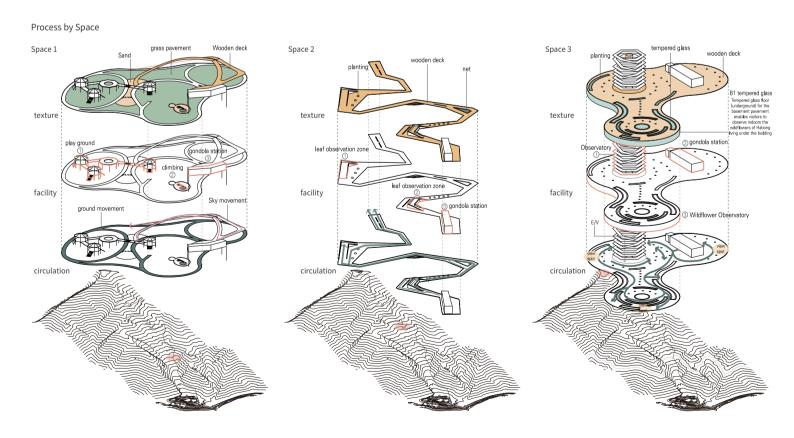
#### Site Analysis

The target site is Jeongseon Alpine Center in Mt.Gariwang, surrounded by mountains on three sides with the access path and road located to the north. The site consists of mountains except around the Najeon Station and has 5 campsites in total. The water coming down from the north-south flows through the Odaecheon Stream in the northwest direction of the site entrance and is connected to the Choyang River.

An alpine stadium for the 2018 Pyeongchang Winter Olympics was built in Mt.Gariwangsan. Since the Olympics ended, the target site has been facing an intense confrontation between local residents and environmental groups about its post-Olympic use.

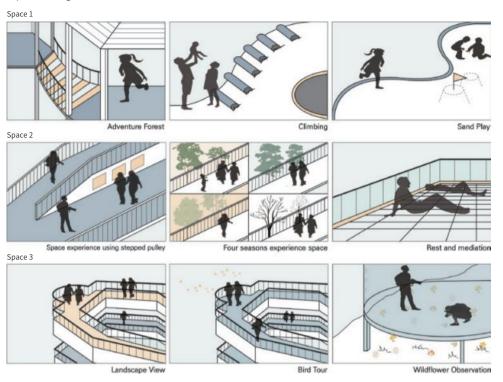
#### **Concept Description**

- 1. The existing landscaping was a method that leaned toward one of the benefits of humans and nature. We present a new concept of landscape in which nature and humans coexist equally.
- 2. Nature and humans provide advantages to each other. Humans restore, manage, and preserve nature by establishing natural preservation zones, and nature provides humans with a space for rest and healing and prevents various natural disasters.
- 3. Currently, Jeongseon Alpine Stadium is left unattended due to a conflict of interest. I can propose a compromise between the Forest Service and an environmental group



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#### Experience Program



#### Forest Adventure Playground



that insists on full nature restoration, local residents who want to maintain gondolas and operating roads, indifferent governments, and three institutions.

#### Infra Structure

1. Vitalization of the Local Economy: In the Jeongseongun Social Survey, 62.5% responded to the job sufficiency question that there were not enough jobs in their residential area. When asked whether there are enough jobs in Jeongseon-gun, 50.2% answered 'No' and 27.8% answered 'Average.' The 20~30 generation, the core economically active age group, mainly answered that there is relatively a lack of jobs.

2. Creation of Local Jobs and Vitalization of the Local Economy: It gives residents the authority to comment, promote, and educate, creating jobs in the community and inducing residents' interest in restoring Jeongseon Alpine Stadium. In particular, in the forest field, various forest resources can be utilized to create self-sustaining jobs centered on the community of residents.

3. Tour Network: Establish tourist routes and courses for each region in connection with various tourism programs in Jeongseon. Build a tourist network by linking the Aribau-gil(trekking course), which was connected to Najeon Station, to the target site to expand the walking path as well as with existing tourist courses such as Baekseok Falls and Romigian Garden. In addition, create the Gariwangsan Restoration Museum near the site so

that visitors can visually understand and feel the history and restoration process of the Jeongseon Alpine Center.

4. Eco Village: An eco-town is presented as a way of building infrastructure. We present an eco-village as a method of connected infrastructure and analyzed that there will be more stay-type tourists than short-term tourists in the area. Accordingly, form the Eco Village, an accommodation program, near Najeon Station by linking with the lodging businesses previously distributed from the site to Odaecheon. Well-established transportation infrastructure and convenient facilities near Najeon Station allows tourists to enjoy stay-type tourism more conveniently.

#### **Forest Road**

The existing forest road with a width of 12m was reduced to 4m, and damageable areas and natural preservation areas were created. It is designed to allow humans to use nature while minimizing natural damage using existing forest roads. By building a minimal forest path, we can respond quickly to disasters or crises.

#### **Experience Program**

Space 1: Adventure Forest, Climbing, Sand Play Space 2: Space experience using stepped pulley, Four seasons experience space, Rest and mediation Space 3: Landscape View, Bird Tour, Wildflower Obser-

#### Nature Restoration and Space In Long-term

Step 1: Originally, Mt.Gariwang is a primeval forest with an excellent natural ecosystem and is even called a 'repository of ecosystem.' It is classified as a natural resource protection area and has a high degree of conservation under national protection.

Step 2: The construction of an alpine stadium that began for the 2018 Winter Olympics collapsed the balance of the ecosystem. Many water pipes for spraying artificial snow were buried underground, and the grounds were cut and filled indiscriminately for slope construction. The stadium has been neglected since the Olympics, and to restore this, reorganize the water system and restore the topsoil lost in the cut-and-soil process to lay the vegetation foundation to regain the original look of Mt.

Step 3: Create a space first before a forest to increase autonomy in space composition and achieve harmony between space and vegetation more efficiently. Since the target site has a high degree of conservation, establish a preservation area for each stage of spatial composition. Step 4: Restore the nature sequentially through solutions such as water system maintenance and topsoil restoration. Along with the restoration, establish a tree system and manage it continuously through eco-tourism. Long-term management through monitoring systems ultimately leads to successful natural restoration.

Leaf Observation Zone



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## **The Garbage Collector**

하민지·이윤주 서울시립대학교 조경학과

The seas around the world are covered with ocean garbage thrown away by humans. At this rate, the amount of plastic flowing into the ocean per year will reach 29 million tons by 2040, the same as 50kg of plastic per meter of the entire Earth's coastline. It kills countless sea creatures and destroys the ecosystem, and eventually the garbage in the sea is returning to humans. Ocean garbage is now a matter of concern to all of us and should not be left unattended. We build a

resource circulation process for ocean garbage to bring the garbage-taken sea back to the public.

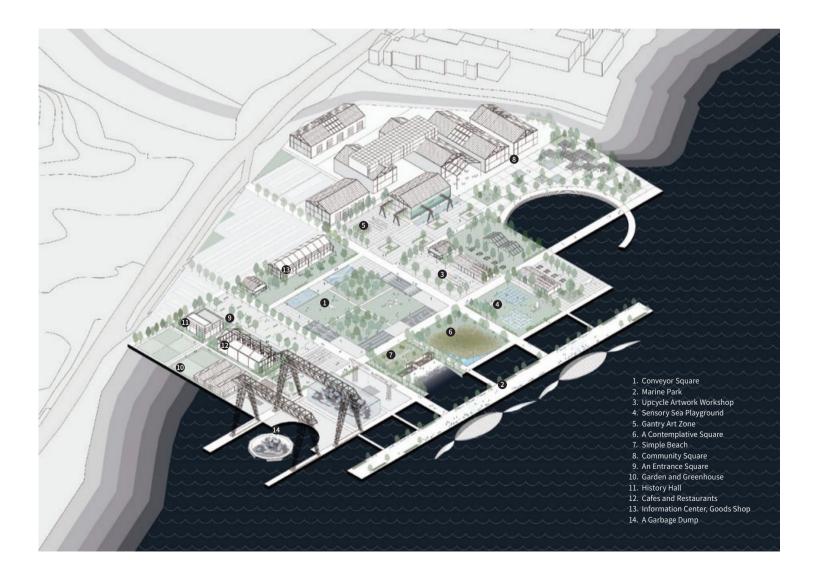
#### Collection and Disposal of Ocean Garbage

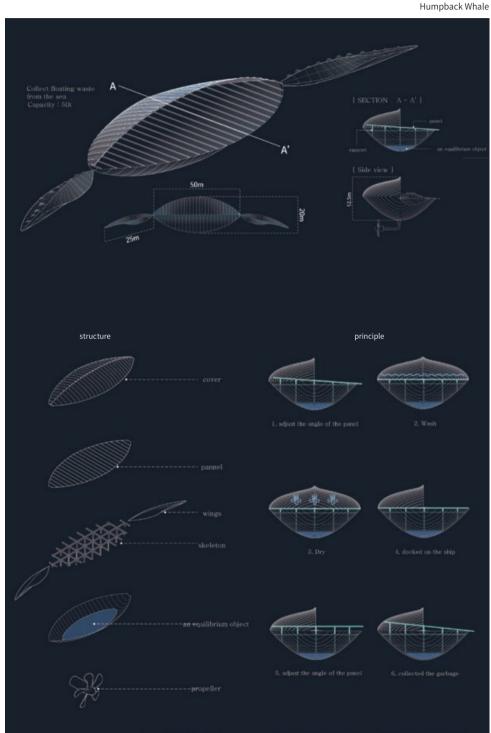
Currently, coastal garbage on Geoje Island is carried out through marine purification projects. However, since it is not known when or how much garbage comes in, the hand-picking collection method consumes a lot of manpower, time, and budget, so efficient collection of ocean garbage is not possible.

Most of the collected garbage is left on the coast, illegally incinerated, or illegally dumped due to the absence of a pretreatment facility that removes salt or foreign substances. In the end, ocean garbage collected on Geoje Island is being incinerated about 91 percent, even though most of it is recyclable.

#### **Resource Circulation Process of Ocean Garbage**

In conclusion, garbage is not being used as a resource due to inefficient collection methods that consume a lot





of manpower, time, and budget, and most of them are processed by incineration, which is not eco-friendly.

Therefore, it is necessary to establish a process to efficiently collect ocean garbage and utilize it as a resource. The process consists of a series of processes: production, use, consumption, collection, transportation, pretreatment to make these garbage recyclable, and upcycling to create higher added value than recycling. Through this process, ocean garbage can circulate in

Currently, pretreatment and upcycling facilities, which are industries that deal with waste, are recognized as avoidance facilities, and there are many difficulties in planning despite high needs. Therefore, the goal of design is to create a new productive landscape with industrial and landscape characteristics within Geoje Island by highlighting the landscape characteristics of the waste industry.

#### **Collection and Transport**

The collection of ocean garbage should be managed continuously, not once. The collection structure is more efficient than conventional methods and can continuously collect ocean garbage. The design motif of the collection structure is humpback whales, and the structure collects floating garbage from the sea. The operating principles of the structure are as follows. After adjusting the angle of the collection panel, collect the incoming garbage, and wash and dry it to remove odors. After that, it is docked on the ship and collected the

The collection ship is a means of transportation to transfer the garbage collected by the structure to the pretreatment plant. The garbage collection structure is docked to the collection ship and the garbage is collected. Collecting a certain amount of garbage, the ship travels by sea to the pretreatment plant.

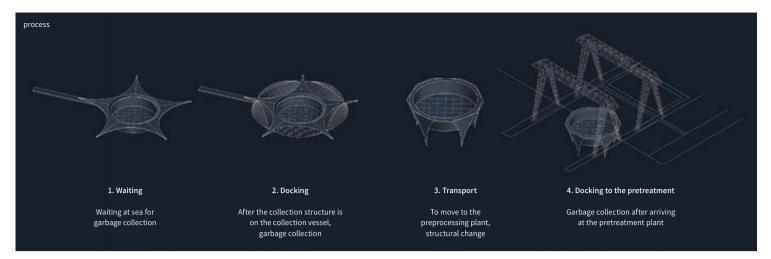
#### **Pretreatment, Upcycling Plant**

By utilizing the foundation of the shipbuilding industry and tourism resources in Geoje Island, the process efficiency of pretreatment and upcycling facilities and the landscape of the industry are achieved at the same time. The target site is an industrial complex that manufactured and assembled shipbuilding blocks in the north of Geoje Island. It remains a closed factory at the moment. There are distinct grid-shaped divisions for each company, and the Goliath and Gentry cranes used in the factory remain on the site.

The design was carried out in five stages to achieve the three goals of remembering the shipyard, efficiency of the waste disposal process, and program planning to experience the waste process.

In the first step of leaving a trace, the skeleton is made using the shape of the site. In the second step, the center frame is selected. Next, for the efficiency of the process, the layers are separated, and a pretreatment process

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Transportation

is placed underground, and upcycling companies and programs are placed on the ground.

#### Pretreatment plant

Ocean garbage flows from the ground and moves underground. The pretreatment process is carried out around the mainframe.

Recyclable garbage is first sorted, and plastic and nonplastic are second sorted. Plastic and glass are crushed to become a resource called flakes, and classified waste is cleaned. Thereafter, the plastic type is reduced to become an ingot or compressed to form pellets. Pellets become long fibers through melt spinning, and when cut, they become short fibers. Other treatment facilities include deodorization facilities, and the water used in the cleaning stage is purified and discharged to the sea. Resources that have been pretreated are moved to the ground and stored in the material bank, and upcycling companies obtain materials.

### **Upcycling Company**

On the ground, upcycling is located with the material bank. Companies develop and sell products through the resources of the material bank. The rest of the space is used as a park for citizens and tourists.

The ground movement is a structure that circulates

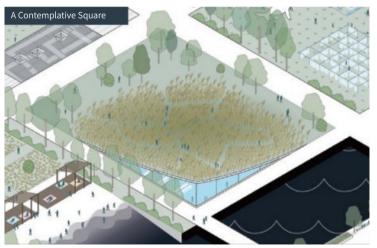
along the main frame. The program was conceived through four strategies: 1. the experience of the garbage process 2. the contrasting landscape of nature and industry 3. upcycling experience and education 4. leisure and relaxation, and community.

People have new experiences in this space. Experience the garbage process and nature's contrast, meditate and realize awareness of garbage.

In the modern era of coexistence with pollution, it will not be long before the industry becomes a familiar landscape.

















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#### Forest Culture Space

# Win-Win Project: Shared Value

**박민철·한정무** 영남대학교 조경학과

#### Overview

Taehwagang River: It is a national river and is home to more than 700 species of animals and plants, and has excellent landscape value.

Taehwa River's Station: Among the train stations that opened on December 28, 2021, the utilization rate is the highest so far. And its routes are to Seoul and Busan.

Samsan-dong: This is the center of public transportation in Ulsan and is a busy city with a high population density.(8,610.04 people/km)

Industrial Complex: Ulsan Mipo Industrial Complex, a large national industrial complex, has many petrochemical companies.

#### Status

Samsan Landfill: 30 years after the end of the landfill, you can use it freely without worrying about ground subsidence.

Yeocheon Landfill: 20 years after the end of the landfill, management is required by 2032, because subsiding the ground by about 20cm every year.

Yeocheon Reservoir: Water from Yeocheon Stream enters the Taehwa River in case of a flood, and non-point pollutants flow into the city between Sam-san and Yeocheon Landfill.

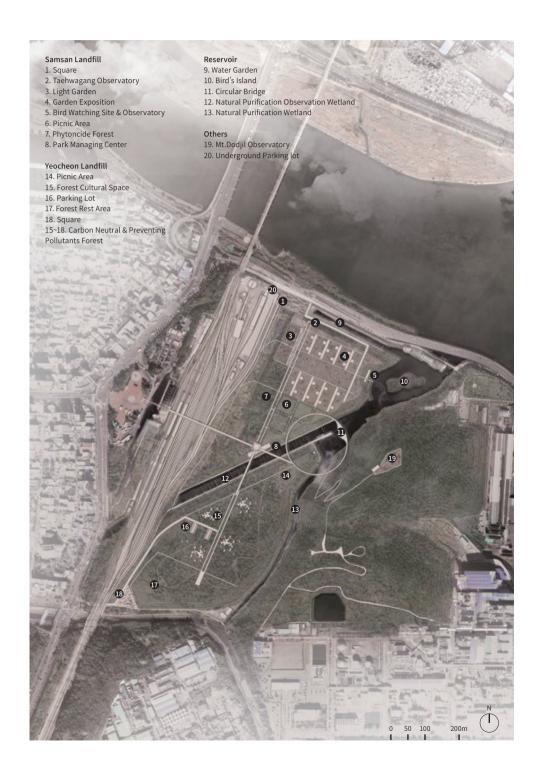
Mt.Dotjil: It is a mountain with excellent landscape value where Samsung's founder, Chairman Lee Byung-Chul, built a villa.

#### Re: Connect

Korea achieved unprecedented growth in the world and is enjoying economic prosperity beyond what we could have imagined half a century ago. But is it correct that Korea is enjoying real prosperity when environmental issues plague the world? We found a solution to this in sharing. We instinctively try to own what we can, but when we instead share what we hold with others, we reap many rewards. In this way, if citizens, companies, and countries all share their interests with each other, a shared value creation space will be created where everyone can win. And the shared value creation space, where social and economic values coexist, will connect nature and urban.

#### **Design Necessity**

This location, which is adjacent to the Taehwagang River and Mt.Dotjilsan, is passed through by a wind path and

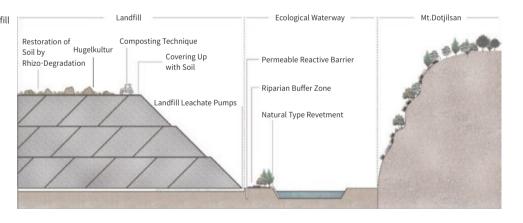




Ecological Restoration of the Reservoir



Ecological Restoration of the Landfill



the green axis, and is adjacent to Samsan-dong, one of the central cities of Ulsan, so there are both urban and natural needs. However, it has been neglected for a long time because it is corporate property. Therefore, reflecting ecological, cultural, and economic needs, we are trying to connect the city with nature by creating a shared value creation space (eco-complex cultural park)

that can benefit citizens, companies, and government

#### 'Lotte Fine Chemical Co.' and 'Carbon Credit'

From 2015 to 2020, Lotte Fine Chemical Co.'s estimated carbon debt is about 104 billion won, which is a risk to corporate management. Afforesting a carbon-neutral forest on the target site generates 18,502,500 won per

year. This is equivalent to the amount of carbon dioxide emitted by 260 cars per year.

The price of carbon credits in Korea is rising every year, and considering that Lotte Fine Chemical Co.'s carbon collection technology(CCU) is installed on the site, more profits for carbon credits are expected.

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## **Recover a Lost Village**

Due to the Jeiu April 3 Incident in 1948, Goneul Village was burnt and many were slaughtered. Other destructed places were restored and developed again, but Goneul Village was not restored and left in vain. That's why it's called the lost village. Cultural assets around the village lost its historic implication as they were left in vain and degraded.

We propose a design that restores the publicness of the site by reviving the place of livelihood and reviving the layers of lost memories of the village. As a strategy to recover the place of the residents' livelihood, the stream is restored to the form of dry stream, which is common type of streams in the nature of Jeju, by mixing greens

#### **Byeoldobong Peak**

Byeoldobong Peak was the living place of the residents of Goneul Village, but it turned into the place of refuge as well as slaughter for the residents as the Jeju April 3 Incident took place.

It is currently being used as hiking trail and resting place without reserving the memory. By utilizing the existing

terrain, the memory of the space will be revitalized to revere the memory of victims and to activate the sentiment of home-coming by symbolizing the old village.

문민정 · 김현수 · 전유경 · 태지혜

한경대학교 조경학과

"Peaceful Goneul out of tragedy" had the course starting from the slaughter sites such as Goneul Village, Center Goneul, the former Hwabuk police office and seashore, and then moving to the Seaside Wall working as a guardian, Goneul Village working as hometown, and open place on the Byeoldobong Peak.

The site of past slaughter, the sea shore, high stone walls

will be built to express the stifling sentiments of the victims at that time, and the visitors can feel the sense of openness and freedom when they face the open field.

#### Center Goneul

Center Goneul is surrounded by Hwabukcheon Stream and the sea shore. And the town has characteristics of traditional Jeju basalt walls. However, after the reclamation, it has dramatically damaged by flood, arousing the public sentiment toward recovering the publicness of the town.

The old remains of the town will be used along with the old map, so that the water-friendly space with the identity of Goneul Village, the natural difference of height and the various natural beauties will be expressed.

"The Land with Stagnant Water" has the course of expressing the identity the historical implication of Goneul Village with water as life style, which starts from the Seochakmul, Hwabukcheon Stream, and then Andeureongmul.

The pocket space will be made to allow the visitors to grasp the overall scenery of the Hwabukcheon Stream,

Goneul Village, Byeoldobong Peak and the sea water

#### **Hwabuk Fortress**

Hwabuk Fortress is composed of a wall to protect the village. Later, it was used as the Hwabuk National School, and then at the break of Jeju April 3 incident, the residents of the village were slaughtered at the place. Currently, it is used as the youth cultural center. This place will be reorganized with a walking trail where people can see the historical character and a space where children can run around.

"Time of Goneul Village Connected with History" has the course starting from Hwabuk South Gate, the site of slaughter, and then leading to the informative Hwabuk Fortress, former Hwabuk police office, pumping station, Center Goneul, Goneul Village, and Byeoldobong Peak. The open site in front of the former Hwabuk police office, from which the incident started, will be organized with a frame for past, and it will be used as the educational place with the historic information inside the building.

#### **Byeoldo Signalling Terrace**

It was used as a means of conveying the situation of the enemy's invasion and is surrounded by the Byeoldo Seaside Wall which was built by the residents to protect the village. The wall is still remaining at the place, but poor management has damaged the historic implication of the place. A program to offer direct and indirect experiences over the guardianship of the space will be

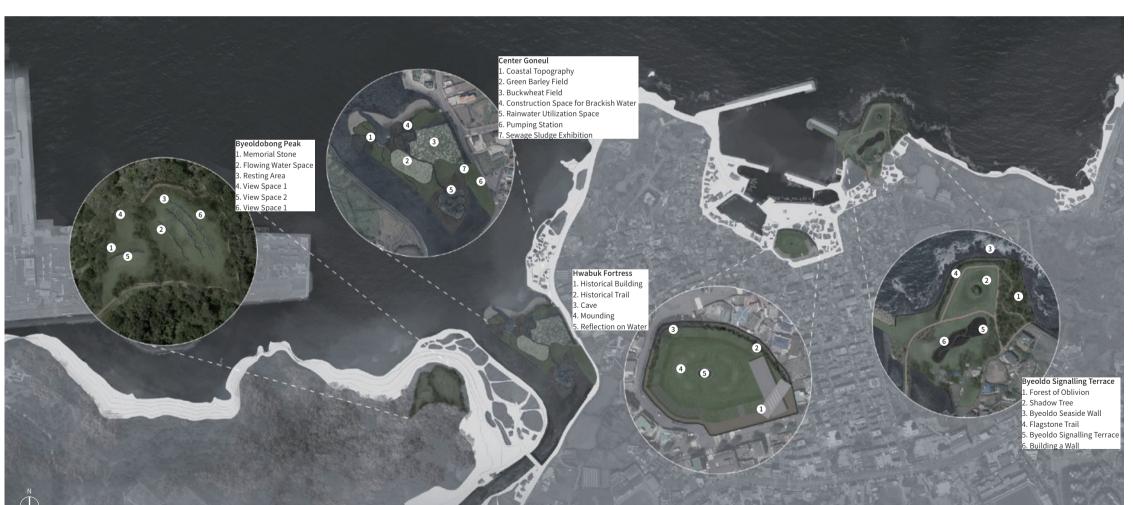
"Peaceful Future of Goneul" is the route of prayer for the peace and well-being of the village, which starts from the Byeoldo Signalling Terrace with the meaning of guardianship, leading to the Byeoldo Seaside Wall, Hwabuk Fortress, Haesinsa Temple, Goneul Seaside Wall, and then going to Goneul Village and Byeoldobong

There will be a newly built stone wall connecting the collapsed gaps of the Seaside Wall, which mens the extension of guardianship to the village and then to the

Byeoldobong Peak







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## **Over the Train Depot**

#### **백두희·김나래** 경희대학교 환경조경디자인학과

#### **Project Overview**

Background: Redevelopment projects are being actively carried out in the areas of time-worn apartments around Sindorim Station and Guro Station on Seoul Subway Line 1 in Guro-gu, Seoul. Relocating the train depot to Gwangmyeong is considered as essential for Guro to grow qualitatively as well as quantitively. However, the residents of Gwangmyeong are strongly opposing the plan. If the plan is carried out, the current social complaints on noise and scattering dust confronted by residents of Guro will also be carried into Gwangmyeong. Design Purpose: Instead of simply moving the train

depot to another city to eliminate the current social issues, we wanted to change the railway depot from NIMBY (Not In My Back Yard) to PIMPY (Please In My Front Yard) in more creative way. This design will provide solutions to satisfy residents of both areas who are in social conflict.

#### Strategy

Keep the Train Depot and Execute 3-Dimension
 Development

Utilize Upper Space of Train Depot: Provide connecting routes and infrastructure by carrying out 3-dimension

development on the upper part of the existing train depot without transferring the facility to Gwangmyeong. The railway site has large-scale space and locational advantages, making it possible to become a facility for revitalizing the under-developed areas in the city. It can be evaluated as a positive project target to solve community disconnection, and noise with landscape architecture design.

Allow Empty Spaces for Lighting and Ventilation: The environment under the artificial ground must overcome poor natural lighting and natural ventilation. In addition, it has a physiologically negative effect and



psychologically negative effect on workers who are conducting daily train maintenance due to its closed structure.

When looking at the development case of artificial ground with three-dimensional complex, it is often found that the completely blocked ceiling lowers workers' satisfaction. Therefore, spacious holes for lighting and ventilation will be allowed in various places in the artificial ground making users and workers comfortable anywhere on the site.

2. Integrate Disconnected Regionals

Build an Overpass and Pedestrian Bridges: It is designed to facilitate movement between regions by building an overpass connecting Guro 10-gil starting from Guro 1-dong and Guro-dong 43-gil starting from Guro 2-dong, and creating pedestrian bridges connecting Guro 1-dong

and 2-dong.

Collaborate with Neighboring Infrastructure: The entrance to the walkway will be made at the point of contact with the bus stops such as Solgil Park Station and Guil Woosung Apartment Station to facilitate transfer and movement. A green trail connected to the surrounding green areas (Hwawon Children's Park, Shin-Guro Reservoir, etc.) will be developed. Also, a walkway connected to Guro Olle-gil will be built.

3. Build Green Areas as Live Zone

In Guro-gu, high-density residential areas that require environmental improvement are widely distributed, and the density of the underprivileged is high, so it is necessary to improve green welfare by expanding park green park areas. Therefore, green areas in various types for citizens to enjoy will be created.

A green network is built by creating a street tree connected to the surrounding green space, and an idle space around the train depot is made as a blocking forest to minimize dust pollution in the neighboring houses. In addition, there are Guro Forest, where you can feel the whole nature, and Lane Garden, which functions as water storage and purification.

4. Improve the Quality of Life of Guro Residents

Use the Development of Low Height Noise Barrier to Near Railway: Most of the soundproof techniques that have been used so far are sound-absorbing and reflective soundproof walls, but they have limitations to reduce railway noise. Therefore, we intend to utilize a method of blocking or absorbing noise right near the railways. This can dramatically reduce the noise generated and spread by railways, compared with soundproof facility which is installed on the side of railway areas.

Types of Trees That Can Cut off Dust and Noise from Train Depot: Zelkova trees, strobe pine trees, peach trees, cherry trees, oak trees, snowbell trees, etc

Noise Reduction Effect: 75 percent reduction in automobile noise when creating a forest along and in the center of the motorcar road.

Air Purification Function: A tree absorbs 35.7g of fine dust per year.

Multicultural Family Support Center: Comprehensive services such as Korean language education, family training and counseling, information providing, and career building are provided to support stable settlement such as early adaptation, and social and economic independence for multicultural families.

5. Recycle Wasted Resources

Meta-energy Harvesting: It is possible to convert sound energy into physical energy using the sound pressure. The physical energy will be converted into electrical energy using vibrating characteristics of it. The sound energy, by moving magnetics, will create electronical current for the use of artificial land space. This method is also used in moving coil microphone.

Rain Garden: It is a rain garden that can be expected to have effective rainwater management and aesthetic effects by locking rainwater as much as possible and permeating it through the garden. It is possible to prevent the heat island effect around the train depot and recycle it into water to be used for maintenance in the artificial land. It also serves to circulate water in the city center.





#### Program

Field Trip to Train Depot: It will change recognition on the site as a NIMBY (Not In My Back Yard) into as PIMPY (Please In My Front Yard) by operating field trip programs for persons including students from the communities.

Exhbit and Explain Energy Harvesting: A program that communicates the principles and information on noise energy harvesting used in the target site and allows you to see figures when noise is being changed into energy in real time.

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## Blue Carbon: Where Carbon Should Go

정조은·강지원·오성건·위신애·지다희 가천대학교 조경학과

#### Step 1. Prepare

1. Restoring Shoreline

Due to the monotonous and unnatural concrete embankment caused by the reclamation process, several problems are occurring. Whenever it rains, the surrounding farmland is damaged by the flooding and the contaminated water is discharged, making abalones dead

Therefore, we would restore it as a natural shoreline with tidal flats by removing the concrete on the coastline and bringing back to the coastline before reclamation.

2. Water Quality Remediation

The water quality of the 'Sa-nae' lake has fallen to

grade 6, the worst for agricultural water. Despite the prohibition of fishing activities, they are indiscriminately carried out in 'Sa-nae' lakes. The resulting fishery waste is piled up on the floor of the in-house lake. In order to prepare for flooding, the water level must be adjusted by sending water to the sea, however, it is now unable to do because of the water pollution. Before the progress of reverse reclamation and the inflow of seawater, minimal water purification work should be done to prevent the surrounding ecosystem from being destroyed.

3. Mudflat Use Area

For effective tidal flat management, we divided the use of tidal flats into three categories.

(1) Experience zone for activation of tidal flat ecotourism, promotion of tidal flat values and conservation

(2) Protected areas for monitoring important organisms

(3) Production area for residents such as installation of aquaculture facilities and commitment of seedlings

#### Step 2. Restore

The existing embankmen of Sa-nae Lake served as a road. It prevents the normal flow of seawater and reduces the flow rate, causing excessive accumulation of fine sediment around it, which eventually adversely affects the marine ecosystem. Therefore, for the easy



[ Division of mudflat ] [ Restoring shoreline ]

Step 2. Restore

Step 1. Prepare

[ Stepwise opening of embankment ]



en flow into the target site due to changes in the tide level, it is at any time. However, it must be adjusted through the flood-



the time of completion of the restoration, the site has the natural system the floodgates are not required, and they can be opened at all times of



[ Bridge construction ]

Step 3. Sustain



restoration of the mudflat, the flow of seawater must be similar to the original condition, so it is necessary to dismantle the existing embankment over three stages and build a new bridge that can distribute seawater while playing the role of a road.

#### Step 3. Sustain

1) Sea Forest

Sea forests are places where large seagrass grow densely like bushes. Sea grass absorbs carbon dioxide enough to store 83,000 tons of carbon per square kilometer.

Sea forests are the basic food source for marine life, a nursery for fish and shellfish, and a spawning ground, and at the same time, they are also hiding places to find food or hide from predators. The sea forest forms a rich fishing ground where various marine life overflows

in the surrounding waters, forming the basis of the sea ecosystem. More than 10 million species and 70 percent of the ocean's creatures are born and live in sea forests. 2) Salt Marsh

Halophyte, an important species that makes up the coastal wetland ecosystem, is used to create destroyed coastal ecosystems and restore wetlands. It plays various roles such as preventing soil erosion, reducing scattering dust, purifying eutrophication materials, and providing habitats and food for various creatures.

Salt marshes are about 44 times and 55 times faster in carbon absorption than temperate forests and tropical forests, respectively.

Some species with good autumn leaves are also valuable as landscaping resources planted for coastal landscapes. When the tidal flat is restored, biological

resources become abundant and naturally function as a sanctuary for migratory birds. This place will be created and utilized as a wetland deck road that emphasizes the natural environment and ecology such as migratory bird protection areas.

#### Program

It is a program that can be used as an ecotourism destination when the tidal flat is activated and a program that can revitalize local commercial districts. A research center is established for continuous tidal flat ecological research. Through "flogging" where volunteer work and exercise can be done together, clean mudflats can be maintained with continuous participation of

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## Streams as Urban Wetlands

**전효정** 서울시립대학교 일반대학원 조경학과

Rivers and streams have greatly impacted on formation and development of city. Especially in Hanyang, which had been planned under the influence of the chinese city plan scheme Zhouli Kaogongji, streams of Cheonggyecheon seem even more primarily decisive in positioning of public organisations and streets. In addition, these streams had played a role as urban infrastructure such as water supply, landscape corridor and drainage system, and as home to arts and social cohesion. According to the rapid urbanisation from early 20's however, the most of the waterways in and around the city started to be covered to be roads, thus these leave til today only as underground structures carrying sewage.

In 2005 Cheonggyecheon was restored and in 2010 the first part of Samcheongdongcheon was followed for renaturation, as the urban needs have changed. But the spring water of Samcheongdongcheon has still been directly drained through the sewerage at the foot of mountains, the groundwater is not recharged and Cheonggyecheon is artificially fueled by the water pumped up from Hangang River.

And a couple of years ago, the city announced that until 2050 this Cheonggyecheon water supply system will be halt and they are going to try to restore the stretches and the basin of Cheonggyecheon to source water to it. I envision now through this design project how the urban streams are to be, coping with issues written below.

#### Deal with Issues

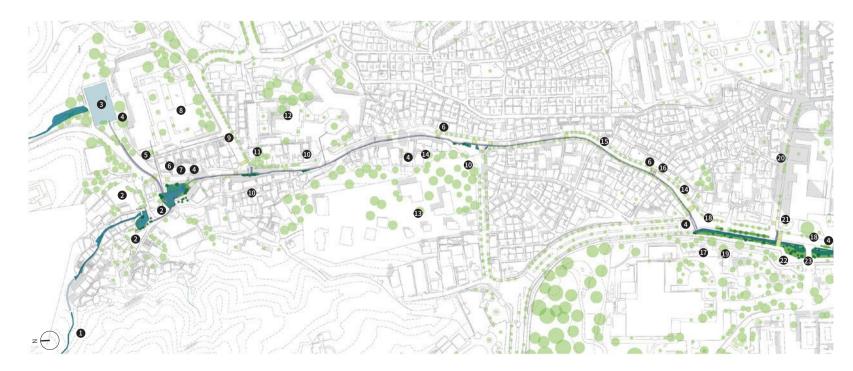
- 1. How the spring water from mountains is deliver to Cheonggyecheon.
- 2. How the natural, cultural and historical landscapes of the urban stream are to be restored.
- 3. How the these landscapes stay cool in spite of the specific weather patterns in KR and moreover, how this new urban fabric can be adapted to the current extreme weathering events such as flashflood and drought.
- 4. How the spatial conflict with roads and some private properties, where the stream was existed, is well mediated.

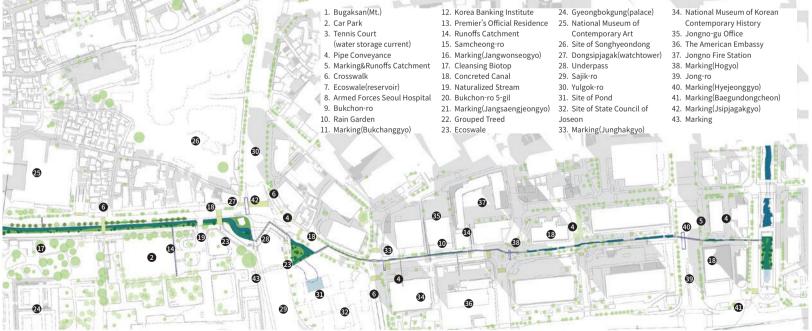




#### Strategies

- 1. Set a separated channel underground pipe or canal for the spring water and use the sewerage connection for emergency bypass in rainy seasons.
- 2. Bring in a reservoir where more than 2 flows of stream collect, to recharge the ground water and retain water in preparation for heavy raining.
- 3. Establish rainwater management system surface water catchment, greenroofs, cisterns, rain gardens and cleansing biotop etc to supply the water ordinarily to the water ways even when the dry season and to reduce floods by relieving burdens on the drainage system.
- 4. Diet roads where possible and take it as core pedestrian zone to link openspaces nearby.
- 5. Restore historical and cultural landscapes by recovering riparian zones.
- 6. Consider land purchase or Piloti-type open noticeas urban wetlands, if necessary.





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