OASES FOR MINISTRY

A Proposal for Colegio Adventista Túpac Amaru
Juliaca, Perú

COLEGIO ADVENTISTA
"TUPAC AMARU"
JULIACA

FOLLOWING IN THE FOOTSTEPS OF THE PIONEERS

CATA Youth Workshop

"Too many, in planning for a brilliant future, make an utter failure. Let God plan for you. As a little child, trust to the guidance of Him who will 'keep the feet of His saints.' 1 Samuel 2:9"

Ellen G. White, Ministry of Healing, p. 170

Pioneers of Adventist Education, Plateria, Perú

PRINCIPLES + LESSONS

The history of Perú and the Lake Titicaca region provide a powerful testimony of what God can do to fulfill the mission of preaching the gospel through Seventh-day Adventist education.

In 1913, in the quiet Puno town of Plateria, missionaries Fernando and Ana Stahl and Aymara visionary Manuel Z. Camacho opened the first Seventh-day Adventist school in the nation of the Incas: Perú. It was also the country's first school to educate indigenous people, regardless of social or economic standing. At the time, the Aymara and Quechua people were mostly illiterate, ignorant of health principles, and oppressed and exploited by the Creole and Mestizo landowners. The Seventh-day Adventist missionaries and schools were generally welcomed by the indigenous communities, even in the face of strong opposition by the ruling national oligarchy, which was supported by the landowners, the bourgeoisie, and the Roman Catholic Church–the official religion of the Republic. By 1916, 2,000 students were registered in 19 schools; by 1924, 4,000 students in 80 schools; and by 1947, over 7,000 students in 109 schools.[1]

Church congregations followed schools. In 1916, the baptized membership in the Lake Titicaca Mission stood at 445; by 1940, the number of attending baptized members was counted at 6,579. Persecution of Seventh-day Adventists by the moneyed and religious elite was significant and violent, but the effort and sacrifice was not in vain because it ultimately inspired an amendment to the nation's constitution, recognizing and protecting religious freedom for all Peruvians. Perú and its Puno region are witnesses to the personal and social transformation enabled by Seventh-day Adventist education and its Christian principles. To this day, the nation recognizes its profound and lasting impact by celebrating the annual Adventist Education Day with expressive parades and festivities.

Today, Colegio Adventista Túpac Amaru (CATA) is playing a leading role in the efforts to extend the transformational impact of Seventh-day Adventist education. Located in Puno's economic hub of Juliaca–about 70 km northwest of Plateria–CATA is following in the footsteps of the pioneers. By God's grace, CATA is working for personal and social transformation in this booming, modern city. Ellen G. White writes that "the true object of education is to restore the image of God in the soul" (Patriarchs & Prophets, p. 595). The proposed plans and designs in this document are intended to support this purpose. They are inspired by the principles and lessons of the pioneers of Plateria.

[1] Charles Teel, Jr., "Fernando and Ana Stahl: Missionary Social Activists?", The Journal of Adventist Education, Summer 2013, p. 22-27

1 INCLUSIVENESS

In Plateria, Adventist education sought to uplift all people with the gospel, regardless of ethnicity, gender, or economic status. But it placed a special emphasis on the vulnerable and the oppressed.

2 CONTACT WITH NATURE

The distinct landscape of the Lake Titicaca region speaks of God's majesty and love. Ellen G. White reminds us to locate Adventist education where we can look upon his wondrous works.

3 PRACTICAL WORK

Because of its emphasis on practical skills, early Adventist education in Perú strengthened self-governance and self-reliance. This also helped to develop facilities and agriculture.

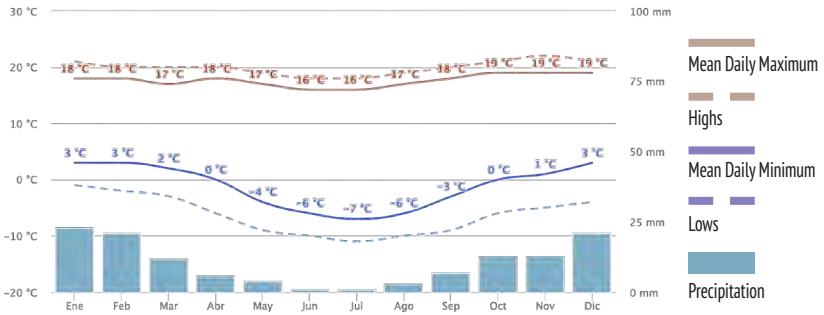
4 VALUING LOCAL CULTURE

Efforts to share the Word of God uplifted the Quechua and Aymara people, including their languages, histories, unique skills, and cultural contributions.

5 ORGANIZED COLLABORATION

Seventh-day Adventist education in Perú began with the dedicated collaboration between two foreigners, a local Aymara leader, and prayerful efforts to build trust in indigenous communities.

JULIACA



Temperature and Precipitation

OPPORTUNITIES + NEEDS

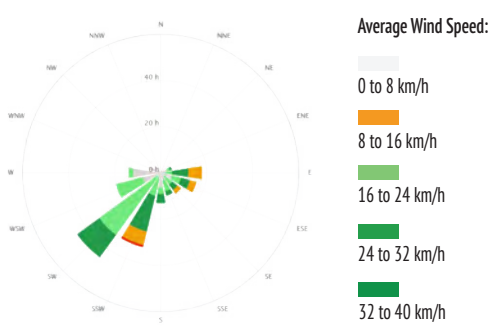
Juliaca is the commercial and econonomic hub of the Puno Region and one of the most developed cities in southern Perú. Its official population of almost 250,000 is estimated to be much higher, growing very quickly as increasing numbers of rural migrants are moving from accross the Altiplano to the city. It is a commercial city located at 3,825 m above sea level and serves as the key trade and transit hub between Bolivia and southern Perú. This reality brings distinct opportunities and challenges.

Like every growing city, it is a place of opportunity. Entrepreneurs, private ventures, and new ideas are welcome in Juliaca. Its openness to innovation and diverse practices enables new models of ministry and service. In traditionally Roman Catholic Perú, Juliaca is home to high proportion of Protestant Christians. Adventist Christian education is valued as a means to cultivate good morals, self-governance, and success in life in a city that prides itself in its self-reliance. Private citizens organize to shape innovative ventures and successful development projects without much help from government or centralized bureaucracies. Its primarily Quechua and Aymara citizens are resilient, hard-working people and have transformed a sleepy village into a large city, seemingly overnight.

But this fast growth has come at a cost. As the urban edge continuously expands, basic infrastructure has not been able to keep up. Only about one quarter of the city is estimated to be served by municipal sewer and water. Informal wastewater systems are increasingly putting the natural water table at risk, which is abundant but located very close to the surface. The flat and high desert plains of the Altiplano complicate stormwater management, bringing frequent flooding to this informally developed city with few gardens or park systems. All of this poses daily challenges to human health, which must also cope with a high UV exposure, cold nights throughout the year, and very windy conditions that stir up dust and pollution. Furthermore, Juliaca's status as a trading hub includes all the typical urban poverty and temptations that undermine God-centered, healthy lifestyles. This can be especially true for recently arrived migrants who lack an education.

"All real education must be education of the whole community, and it must take hold of the life which people live, making them more intelligent about this life."

E. A. Sutherland, Studies for Christian Education, p. 152



THE MISSION OF CATA AND VILLA HERMOSA

Colegio Adventista Túpac Amaru (CATA) is a Seventh-day Adventist K-12 school located in the busy Juliaca neighborhood of Túpac Amaru, in front of the public market that shares the same name. The educational institution is named after the historic Incan revolutionary who led the first indigenous uprising for American freedom against Spanish colonial oppression (November 14, 1780). The school is owned and operated by the Villa Hermosa Seventh-day Adventist Church, which is located on the same campus in the center of Juliaca. The mission of CATA is painted on the walls of its blue courtyards. Through teaching mentorship and through the learning of competencies, its mission is

"to form whole citizens, for this life and for eternity."

Its stated vision is to develop the spirit of service through an accredited, practical, and personalized education. Its declared values are love, obedience, self-control, and self-denial.

Today, CATA has approximately 1,200 students on less than 0.25 hectares–and it is growing. Due to its focus on Christian values and self-governance, CATA enjoys excellent academic scores and a highly respected reputation within the city. Although all of its teachers and administrators are Seventh-day Adventist, about 80% of the student body is not. This makes CATA a significant opportunity for the spreading and preaching of the gospel in the community, and frequently results in baptisms. CATA is preparing young people for Christ-centered leadership in private and public sectors of Juliaca and the region.

By God's grace, CATA is committed to the three angels' message, and to positive community impact. Its president and admistrative board are unpaid volunteers who believe in the power of Seventh-day Adventist education. A recent market study commissioned by CATA has revealed strong potential for increased student numbers, and a Master Development Plan was adopted in 2016. But until now, CATA's operations were restricted by its urban site limitations. Now its faithful associates and Villa Hermosa church have pooled resources to prepare for the expansion of Seventh-day Adventist education in Juliaca.

This document includes design and planning proposals for four new sites aquired by the CATA Education Association. In this context, the existing campus would be adapted for new urban ministries. Located in and around the city, each new site represents a distinct opportunity to extend the Christ-centered legacy of Plateria into the 21st Century. Each location seeks to reflect the glory of Jesus by meeting certain needs for local people. The overall project can be considered as similar to the analogy described by the Apostle Paul in 1 Corinthians 12:12-27. The specific functions of each site are unique, but the strategy is that of one integrated whole. Within Juliaca and the region, each site is a distinct "oasis"–a place to be refreshed with divine education.

1. CHILLA

This site is intended to function as the future center for K-12 education, including the new main campus for CATA. It is located in the Caracoto jurisdiction, approximately 5km southeast of the existing CATA campus (*).

2. AYAGACHI

This location is envisioned to become a farm and agricultural learning center, with a focus on native species and advancing local and sustainable practices. It is in the Cabana jurisdiction, 20 km southwest of the city.

3. CCACACHI

Located in the Ccacachi neighborhood of the city of Juliaca, this place is to become a center for health ministry and outreach. Overlooking the Río Coata, it is located about 5 km northeast of the existing CATA campus.

4. TUJSI

Perched on the shores of Lake Titicaca, this site is to serve as a spiritual retreat for the Villa Hermosa church, CATA, and local youth activities. Located in the Capachica jurisdiction, it is almost 40 km from the city center.

CHILLA

OASIS FOR EDUCATION

This expansive 26 hectare site is planned to become the new main academic campus of Colegio Adventista Túpac Amaru. This former llama farm has room to grow a leading institution of Seventh-day Adventist education. It is positioned to serve as an "outpost center" from which to work the city, which is visible in the distance and expected to surround the site within the next decade or two. This is a place that can model best practices in urban growth, healthy living, and Christ-centered community.

AYAGACHI
OASIS FOR AGRICULTURE

This peaceful 18 hectare location is planned to become a new agricultural learning center and working farm, inspired by Ellen White's counsel to recognize the power of agricultural work in Christian education. With sweeping views of the Altiplano mountains, it is a place where local and sustainable agricultural practices can be cultivated, tested, and advanced for the 21st century. The vision includes growing food for the CATA cafeteria and ministry through agritourism.

CCACACHI

OASIS FOR HEALTH MINISTRY

This 1.3 hectare site is planned to be a center for health ministry and outreach. It overlooks Río Coata and enjoys proximity and easy access to some of Juliaca's newest neighborhoods. This is a place where health needs can be met: dental work, physical therapy and rehabilitation, as well as education about nutrition and healthy lifestyles. The Lake Titicaca Mission already operates the Ccacachi church here, which has worked to build trust in the community.

TUJSI

OASIS FOR SPIRITUAL RETREAT

This dramatic 3 hectare property is planned to house a spiritual retreat center overlooking Lake Titicaca. The majestic views and micro-climate are perfect for youth activities, Pathfinder gatherings, inspired fellowship, agricultural learning, and aquaculture. This is a place where one can look upon the wondrous works of God. Located near the village of Escallani, the retreat center is also envisioned to yield rental income to help sustain its operation.

COLLABORATION

COLEGIO ADVENTISTA TÚPAC AMARU

This project was commissioned by the board of trustees of Colegio Adventista Túpac Amaru (CATA) in August 2018. CATA is a Seventh-day Adventist place of kindergarten, primary and secondary education located in the center of Juliaca, Perú.

Direction for the project was led by the diverse members of Asociación Educativa CATA, including President Emmer Calsin Molleapaza. Rolando Carcasi Condori "Pablo Roca" and Winston Ruso Quispe Flores "Russo" worked as project liaisons to help facilitate the process. See p. 82.

School of Architecture & Interior Design
Andrews University

The project was executed by the 2018 graduate Urban Design Studio at the Andrews University School of Architecture & Interior Design. Andrews University is a Seventh-day Adventist place of higher education located in Berrien Springs, Michigan, USA.

The graduate team of sixteen international architecture students was led by Professors Andrew von Maur, Christopher Perry, and Troy Homenchuk. The Urban Design Studio is an award-winning academic entity that serves communities around the world. See p. 82.

PROFESSIONAL ALUMNI

The project was supported in part by four practicing professionals who graduated from Andrews University. These alumni were selected for the project due to their expertise in architectural and urban design, their commitment to Seventh-day Adventist education, and for their native knowledge of Peruvian and South American culture. See p. 82 for more details.

These consultants also assisted the three native Spanish-speaking students in providing language translation for the rest of the team.

PROJECT DESIGN PRINCIPLES

As much as possible, the project team looked for the following design principles to govern the proposals contained herein.

1 The Word

The purpose of Christian education is to restore the image of God in the soul. Our source for what this means is the Word of God, and our work must ultimately point to His Word.

2 Inclusiveness

All people are in equal need of restoration, and our facilities must be designed to be welcoming to all. This includes designs that are accessible, edifying, comfortable, safe, and inviting.

3 Contact with Nature

God's creation speaks of His character, and we are counseled to behold it and its lessons about care, growth, love, and beauty. Our designs must celebrate contact with nature at all scales.

4 Practical Work

Christian education requires the development of practical skills that are of service to others and to self-governance. Likewise, our designs must be practical and serve the same goals.

5 Valuing Local Identity

The Aymara and Quechua people have a great heritage of architecture, urbanism, landscape design, stormwater management, agriculture, and aesthetic patterns. These should serve to inspire.

6 Organized Collaboration

The transformative work of early Adventist pioneers required God-led collaboration. Our designs will require collaborative strategies for implementation, operation, and long-term maintenance.

7 Human Scale

Just as the original creation included a physical place for humankind, restoration requires places designed and scaled for our bodies and our senses–rather than the scale of automobiles.

8 Health & Wellness

Promoting health is promoting the restoration of life. Our physical structures and places must promote active lifestyles, including through architecture, urban design, infrastructure, and agriculture.

9 Inspiring Behavior

Just as Christians can model good choices that uplift God's plan for creation, we can allow our facilities to support and celebrate such choices. CATA's projects can inspire Juliaca and point to our Creator.

PROCESS

ONLINE MEETINGS

Following a five-day visit in early August to Juliaca by Andrews University project team leaders, the work was commenced remotely from the School of Architecture & Interior Design beginning on August 27, 2018. Initial online meetings introduced important concepts, participants, stakeholders, and details. The starting point for discussion and decision-making was CATA's 2016 Plan Maestro de Desarrollo (Master Development Plan). Online meetings were conducted at various stages throughout the process in order to clarify various issues and address follow-up questions.

Correspondance was also pursued by email via the principal project liaison, Winston Ruso Quispe Flores–especially in late October, when Asociación Educativa CATA shared clarified details of program expectations for each project site.

SITE VISITS

On September 26, the Andrews University team and alumni arrived in Juliaca to begin documenting and assessing the four project sites in person. The site tours were led by CATA staff and associates, and project liaison Rolando Carcasi Condori "Pablo Roca". The team began with visits to the Chilla, Ccacachi, and Tujsi sites, followed by a visit to the Ayagachi site on September 27.

Site visits provided an opportunity for drone photography and for understanding existing conditions, topography, services, views, scale, landscape, neighborhood life, and context. It was also an important opportunity to discuss project potential with CATA representatives.

CATA ASSOCIATION MEETINGS

The Andrews University project team began its visit to Juliaca with an introductory presentation to the Asociación Educativa CATA on September 26, 2018. The graduate student team had previously prepared preliminary concept proposals for each site in order to promote responsive feedback and critique from the client. These proposals were presented on large-format prints and subjected to comments by the association members.

A further, more detailed meeting was held on October 1, in a small-group format. This gave association members and leaders a chance to provide more comprehensive and nuanced comments and direction for the project.

YOUTH WORKSHOP

On September 28, the Andrews University team conducted a design workshop with a diverse cross-section of about fifty CATA students representing various age groups. The three-hour workshop was hosted inside the CATA cafeteria. Its purpose was to learn from the students about the challenges and opportunities of the physical conditions at CATA, but also to learn about their hopes and concerns for the new campus location at Chilla.

The CATA students were organized into four focus groups, each led by Andrews University graduate students and alumni. The students' sophisticated and inspiring conclusions made a strong impression on the Andrews University team and strongly impacted the direction of the project.

ADVENTISM IN PERÚ

To better understand the story and power of Seventh-day Adventist education in Perú, the project team traveled to various historical locations. Guided by knowledgeable CATA staff and project liaison Rolando Carcasi Condori "Pablo Roca", the team visited Plateria on September 30. Here they were introduced to important structures and stories telling of the transformative impact of Adventist education.

On September 27, the Andrews University team also participated in the annual parade celebrating Adventist Education Day in Puno's main plaza. José Chávez, president of the Lake Titicaca Mission of Puno, welcomed the Andrews University team and helped to give a brief historical overview to help emphasize the significance of the CATA project.

LOCAL CONTEXT

The project team worked to understand local conditions by visiting various locations in and around Juliaca. Nearby Casa Kokan on Lake Kokan was studied to get a better understanding of existing spiritual retreat facilities. Various neighborhoods in Juliaca were visited to help get a sense of existing real estate development patterns, construction practices, and site work standards.

Led by project liaison Rolando Carcasi Condori "Pablo Roca", the team also visited various sites of historical and archeological significance, including Chucuito, Atuncolla, and Sillustani. These visits helped to reaffirm the cultural contributions and significance of local people, but also helped to provide inspiration for places designed for the human scale and authentic community life.

PROFESSIONAL CONSULTING

Throughout the process in Juliaca, professional alumni reviewed and critiqued the project proposals to help advance the work. Their ongoing participation in site visits, client meetings, and informal discussions helped them to gain a deeper understanding and provide meaningful project direction.

On October 1, the graduate student team engaged the consulting professionals in an extended workshop to critique the work and propose improvement strategies. This included drawing revised site plan concepts to address the issues identified during the visit. Two of the four consulting alumni also visited Andrews University in early December to participate in a final review of the work.

PUBLIC OPEN HOUSE

On October 1, the Andrews University team presented its preliminary concepts to the visiting public for informal review and comment at Villa Hermosa Adventist Church in Juliaca. This public open house event was anchored by a formal presentation on urbanism in the 21st Century, given by Professor Andrew von Maur.

The public open house was attended by a wide range of professional engineers, architects, educators, and various members of the public. In general, the concept proposals were well received and inspired commendation. The event and the proposals were covered by the evening TV news and a radio interview with Professor von Maur was broadcast on the local Seventh-day Adventist radio station.

"We are to be as wise as serpents and as harmless as doves in our efforts to secure country properties at a low figure, and from these outpost centers we are to work the cities."

Ellen G. White, Manuscript 119, 1902

CHILLA
OASIS FOR EDUCATION

1

CHILLA

"Our ideas of building and furnishing our institutions are to be molded and fashioned by a true practical knowledge of what it means to walk humbly with God."

Ellen G. White, Testimonies for the Church Volume 7, p. 93

OVERVIEW

The proposed main campus for Colegio Adventista Túpac Amaru aims to support Christian education as a lifelong, holistic personal and community pursuit. Within the growing urban context of Juliaca, the campus is envisioned as a restorative oasis that welcomes students, church members, and neighbors who seek such an education.

Fundamentally, the campus intends to enable CATA to grow its student capacity and carry its mission forward. This proposal creates an educational campus "neighborhood" centered on inicial (pre-K and Kindergarten), primary, secondary, technical, and agricultural education. Beyond this, the proposal includes provisions for health ministry, recreation, various business opportunities, and community life. Ultimately, this proposal seeks to support a Seventh-day Adventist vision for the holistic and Christ-centered education of mind, body, and spirit.

PROJECTED GROWTH

The proposed Chilla campus is intended to support the increase of CATA's existing student population from about 1,200 students to a total of up to 5,000 students.

Summary of Projected Growth

School	Target	Phase One
Inicial	400 students	75 students
Primary	1500 students	360 students
Secondary	2000 students	600 students
Technical	1000 students	300 students

PROGRAM

Summary of Long-term Facility Capacities

Building Type	Rooms/Area	Capacity
Commercial	150 spaces	N/A
Clinic	4000 m^2	300 persons
Library	3200 m^2	1000 persons
Music Conservatory	40 rooms	400 persons
	+ 2400 m^2 Auditoriums	
Creation / Redemption Museum	1000 m^2	500 persons
Main Cafeteria	4000 m^2	2000 persons
Stadium	8500 m^2	25000 persons
Faculty Housing	60 units	200 persons
Dormitory	100 rooms	400 students
Administrative Building	4000 m^2	60 persons
Inicial Education	20 rooms	400 students
Primary School	50 rooms	1500 students
Secondary School	66 rooms	2000 students
Technical School	40 rooms	1000 students
Auditorium	1700 m^2	2500 persons
Sports Buildings	6600 m^2	600 persons
Sports Fields	9000 m^2	800 persons
Agricultural Fields	8000 m^2	N/A
Greenhouses	8 structures	N/A


Modesto Borda, highway that connects to site


Mountain view from site


Existing CATA campus life

ILLUSTRATIVE SITE PLAN

A. THE WELCOME SECTOR
B. ACADEMIC SECTOR
C. SPORTS + AGRICULTURE
D. RESIDENTIAL SECTOR

NETWORK OF OPEN SPACES

In contrast to the city of Juliaca, the new CATA campus reserves a broad range of landscaped and open spaces. An intentionally interconnected network of plaza, park, boulevard, street, paseo, court, and field supports diverse activities and environmental controls. This promotes healthful and community living and is intended to connect with the surrounding areas as development expands in the future.

1 WELCOME PLAZA
2 COMMERCIAL AREA
3 RESIDENTIAL DWELLINGS
4 AMPHITHEATER PLAZA
5 CHURCH SITE (OPTIONAL)
6 AUDITORIUM
7 HEALTH CLINIC
8 CREATION MUSEUM
9 ADMINISTRATION
10 TECHNICAL SCHOOL
11 FELLOWSHIP HALL / CAFETERIA
12 INICIAL
13 PRIMARY SCHOOL
14 SECONDARY SCHOOL
15 DORMITORY
16 SPORTS FACILITY
17 GREENHOUSES
18 WATER TREATMENT PLANT
19 FACULTY HOUSING
20 RESIDENTIAL NEIGHBORHOOD
S SECURITY POINT

STORM WATER

A network of open spaces and waterways functions as part of the site's storm water management system. The flat site means water must be detained or infiltrate the ground locally. This is facilitated by features like various depressed plazas and pedestrian friendly stepped canals that can fill with water during rainstorms. Fields such as at the existing radio antenna serve as overflow areas.

BOULEVARD

The boulevard running north-south on the site serves many functions. It is the primary means for vehicular access to the campus and connects to the southern residential neighborhood. To accommodate events, on-street parking is provided in both directions for a total of 165 spaces. The planted median features constructed wetlands as part of the on-site wastewater system designed to serve all academic and sports facilities.

SECURITY

Discrete security points (S) at key locations on the site help control vehicular access to the campus. To help manage security the scale of the campus is generally reduced to a system of blocks. Within this arrangement, visitors to the campus would be limited to pedestrian plazas and paseos which can be controlled as needed; whereas courtyards could be entirely limited for use by students and authorized personnel.

THE WELCOME SECTOR

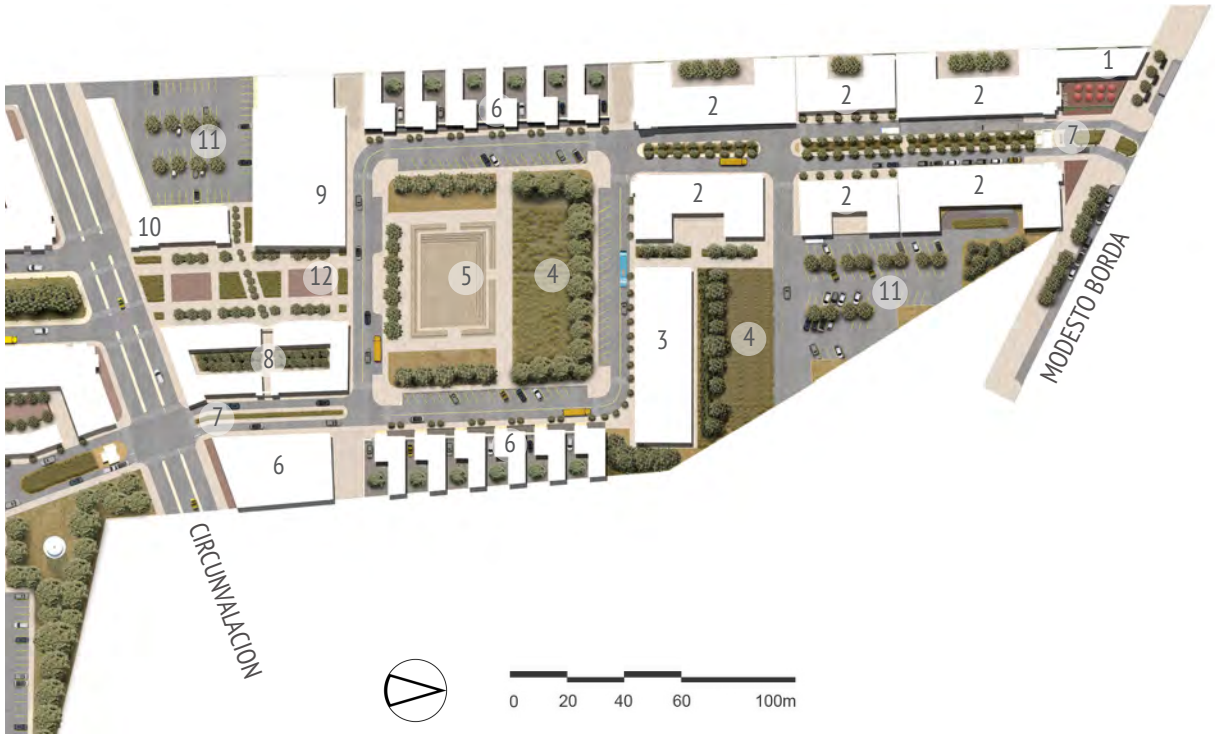
"Be not forgetful to entertain strangers: for thereby some have entertained angels unawares."

Hebrews 13:2

The Welcome sector is the public face of the campus, receiving students and visitors with the warmth of Christian mission. On the north end of this parcel is the primary entrance to the site along Modesto Borda; to the south, a planned Circunvalacion that is an opportunity to engage community.

Outside of the control point, programming for this sector includes a welcome plaza and vegetarian restaurant. To the south a generous colonnaded and planted boulevard accommodates commercial space which may be leased or sold to entrepreneurial Adventist businesses.

At the heart of the Welcome sector is a large planted plaza with a stepped amphitheater that serves to detain stormwater. Surrounding this is an auditorium and music conservatory, modest health clinic, a Creation museum, and a site potentially reserved for a future church building. From here a broad pedestrian paseo connects the plaza with the rest of the campus to the south. This sector is a destination in which medical ministry and education meets commerce and outdoor living for all citizens.



1 VEGETARIAN RESTAURANT
2 COMMERCIAL BUILDINGS
3 CHURCH SITE (OPTIONAL)
4 CONSTRUCTED WETLAND
5 AMPHITHEATER PLAZA
6 RESIDENTIAL DWELLINGS
7 VEHICLE SECURITY POINT
8 HEALTH CLINIC
9 AUDITORIUM + CONSERVATORY
10 CREATION MUSEUM
11 PARKING AREA
12 PEDESTRIAN PASEO

Bird's eye view of long-term vision, looking south

1. WELCOME PLAZA

A plaza fills the front of CATA campus with activity and places for meeting. Located prominently in the northwest corner is a vegetarian restaurant with protected outdoor seating. Just beyond the security point is an array of commercial and retail.

2. MODESTO BORDA

Proposed where the public bus system terminates along Modesto Borda is a formal, protected structure for waiting passengers. Along the street are spacious sidewalks and on-street parking, as well as planted infiltration areas for stormwater management that also soften the street with a touch of nature.

3. LANDSCAPED SPACES

The network of spaces within this sector of campus is beautified by trees and other landscaping. The campus as an urban garden reminds us of our Creator God who makes beauty. Landscaping helps to soften reflected acoustics, attract song birds, and offers protection from UV radiation. Colonnades are also featured surrounding these spaces.

ACADEMIC SECTOR

"The healthfulness of youth requires exercise, cheerfulness, and a happy, pleasant atmosphere surrounding them, for the development of physical health and symmetrical character."

Ellen G. White, Fundamentals of Christian Education, p. 114

The academic heart of the campus is designed as a network of pedestrian spaces and blocks with inner courtyards. Each block is dedicated to a specific age group, can be controlled internally, and features a range of amenities. The technical school is to the north, where public access is easiest for evening classes and workshops. A central plaza for formacion is fronted by the administration, a fellowship hall and cafeteria, a library, and the stadium. Access to the remaining campus can be limited based on operational needs. Sports fields and parking are conveniently located at the central boulevard, with limited athletic courts and gardens inside each block.

1 TECHNICAL SCHOOL
2 ADMINISTRATION
3 FELLOWSHIP HALL / CAFETERIA
4 FORMACION PLAZA
5 LIBRARY
6 INICIAL
7 PRIMARY SCHOOL
8 SECONDARY SCHOOL
9 SPORTS FIELDS
10 AQUATIC CENTER
11 GYMNASIUM
12 WATER TOWER

Looking north at the library after a rain storm

1. INICIAL

Academic blocks are lined with colonnades and feature limited and controlled entrances for each age group. Wall surfaces are an chance for Bible verses, and murals with Adventist messages to encourage and educate.

2. PRIMARY SCHOOL

Buildings are lined with wide pedestrian walkways, lights, trees, and seating opportunities. The broad walkways can be accessed by service vehicles and may be inlaid with stone or tile-work. Colors and materials reflect the nature of Juliaca.

3. RETENTION CANAL

A shallow, stepped canal fills with rain after a storm and is suited to some planting, seating, and other activity during dry months. Native species planted here absorb storm water and may attract birds.

4. LIBRARY

The main library is connected to inicial and primary school by elevated bridges, with the passages below controlled for security. The rooftop provides open-air spaces and views of the mountains.

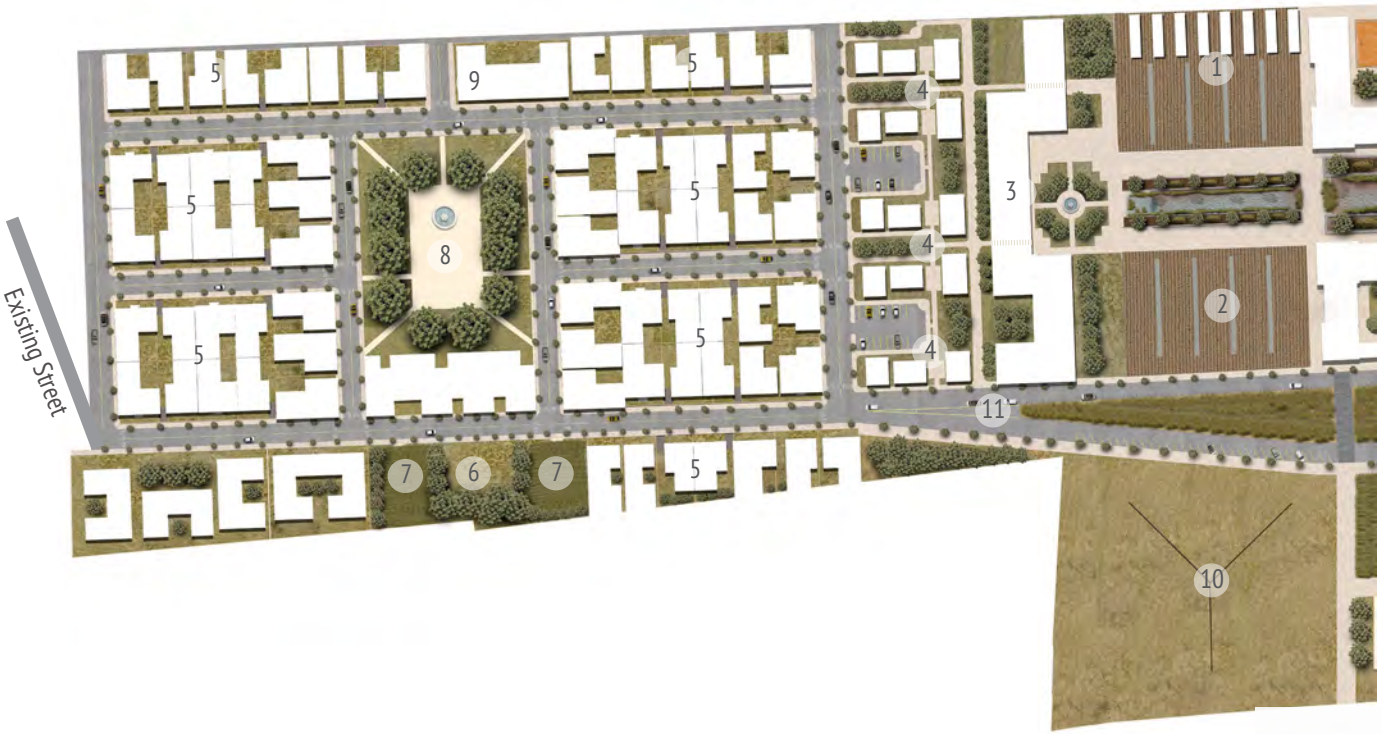
RESIDENTIAL SECTOR + AGRICULTURE

"Some do not appreciate the value of agricultural work. These should not plan for our schools, for they will hold everything from advancing in right lines."

Ellen G. White, Testimonies for the Church Volume 6, p. 178

This part of the site is anchored by the residential neighborhood which is already platted to the south of campus. The north-south streets in this neighborhood are aligned with landscaped courts surrounded by affordable faculty housing, which connect to paths that lead to dormitories and the campus. This way, the faculty housing helps to transition between the student housing and the neighborhood. Residential lots are intended to preserve at least 25% of the lot for gardens and open space. The dormitories overlook the agricultural fields.

1 GREENHOUSES
2 AGRICULTURAL FIELDS
3 DORMITORY
4 FACULTY HOUSING
5 RESIDENTIAL LOTS
6 PLAYGROUND
7 CONSTRUCTED WETLANDS
8 NEIGHBORHOOD PARK
9 CHURCH SITE
10 EXISTING RADIO TOWER
11 SECURITY POINT



Looking north accross agricultural fields

1. AGRICULTURAL FIELDS

The agricultural fields and greenhouses serve as a working component of Adventist education. Students are able to grow food for the CATA cafeteria and learn valuable lessons about God's creation and love.

2. RETENTION BASIN

The retention basin is part of the larger stormwater management system. When filled with stormwater it functions as storage for irrigation in agriculture and landscape maintenance.

3. TERRACING

The terraced steps are inspired by ancient stormwater systems in Perú. They allow for continued use of the perimeter if the water depth is low. The planted terraces feature native species that can absorb much water.

4. OPEN CAMPUS

At its southern end the campus is designed to open up to to the agricultural fields. This helps to anchor the secondary school blocks to agricultural learning and the mountain views towards the south.

CIRCULATION

PEDESTRIAN STREETS

By design pedestrian movement should be prioritized over automobile movement. Colonnades provide security from traffic, afford protection from the elements, and encourage social interaction. Pedestrian paseos should be made of stone or similar textured materials that prioritize humans over vehicles.

STORM WATER PARKS

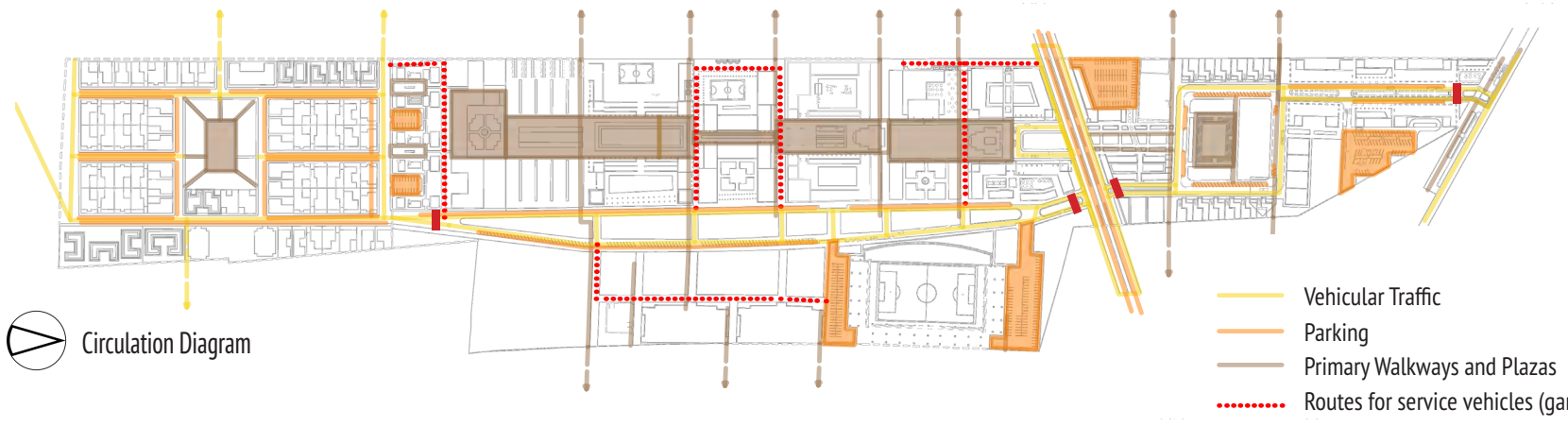
Storm water reservoirs can take up a lot of space. Since the climate is dry most of the year it, a good reservoir takes advantage of this. In storms water can be held or passed on for re-use. Steps at the edges may be used both as access and seating. When completely dry, the space can be for other activities. Native species that naturally absorb moisture are ideal here.

LANDSCAPE

Pedestrian plazas, paseos, and parks benefit from tree lines and landscaped areas. These promote beauty, the songs of birds, shade and shelter from UV radiation, as well as softer acoustics. Like the first Eden school, the CATA campus is to be presented as a garden, maintained by the student body as part of their pursuit in Christian education.

PARKING AREAS

In addition to vehicle circulation, space for parking is neccessary. As much as possible, off-street parking lots should be made of pervious gravel that enables rain infiltration to help with stormwater management, including in sub-surface areas.



Circulation Diagram

Looking north on residential street towards faculty housing and dormitory

"Our school homes have been established that our youth may not be left to drift...but that, as far as possible, a home atmosphere may be provided that they be preserved from temptations to immorality and be led to Jesus."

Ellen G. White, Testimonies for the Church Volume 6, p. 168

1. HOUSING COURTS

Some street views lead into landscaped courts lined with affordable faculty housing. Beyond, a passage under student dormitories connects the campus to the residential neighborhood.

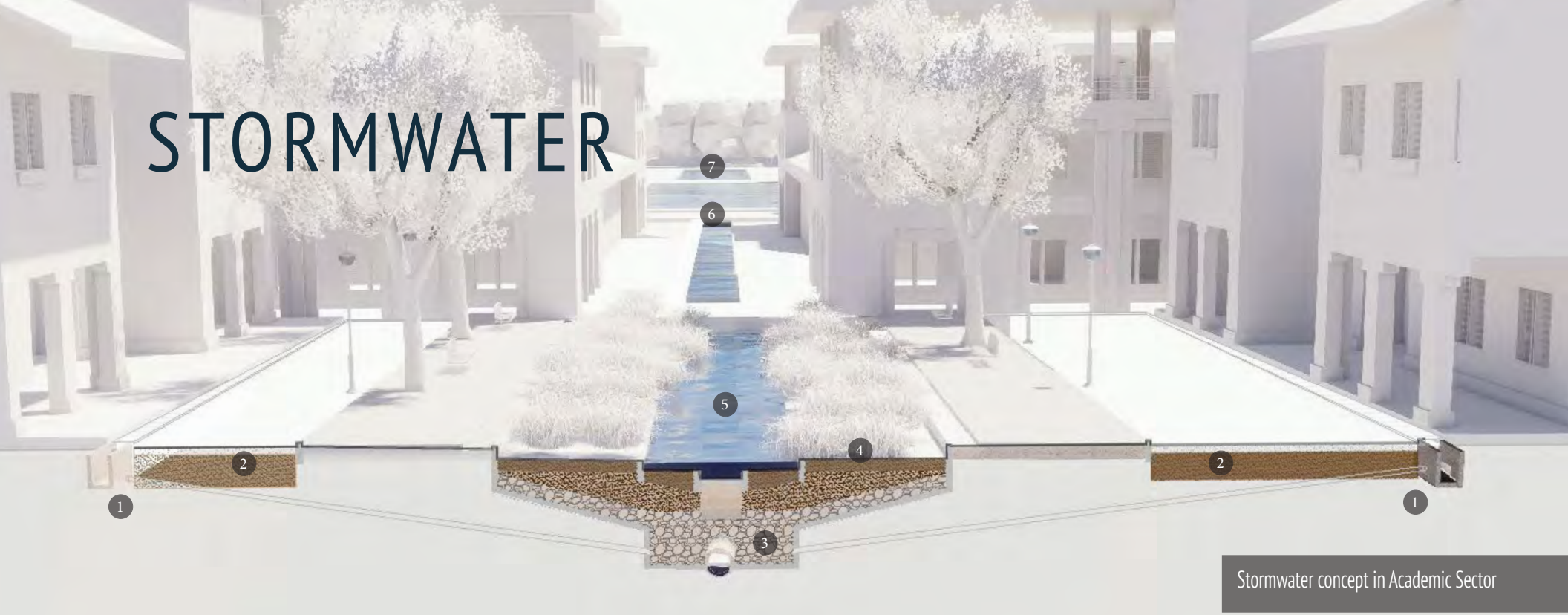
2. PRIVATE LOTS

Except at the park, all dwellings are set back by 4 meters to accommodate landscaped front yards and covered portales at entrances. At the sidewalk stand garden walls and visually open fences.

3. STREET DESIGN

Streets are two-way and provide parallel parking to one side. Lining them are sidewalks (2 meter minimum width) with tree wells for native species landscaping.

STORMWATER



Stormwater concept in Academic Sector

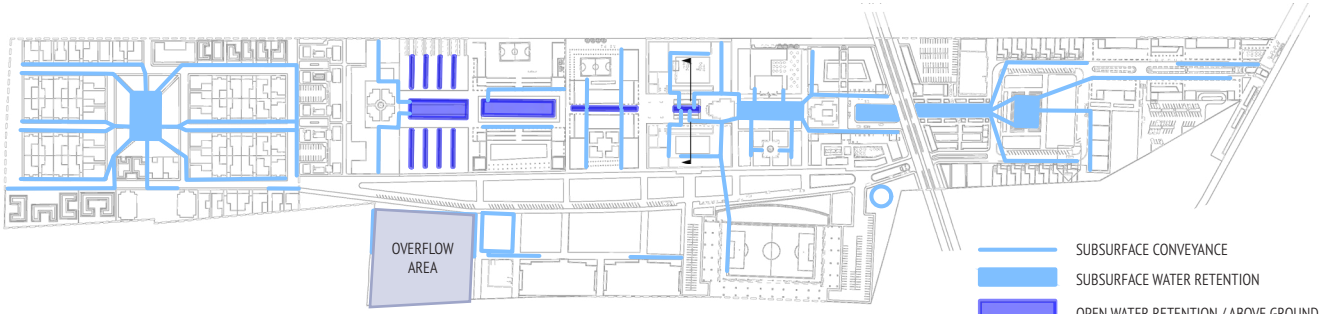
THE ART OF STORMWATER

The ancient Aymara and Inca builders understood how to manage stormwater efficiently and elegantly–even on flat sites. Contemporary practices in green infrastructure are reviving many of these historic techniques, as can be seen in the Altiplano. The CATA campus is a model for the best practices in local stormwater management.

Tiwanaku, Bolivia

COMBINED STORMWATER MANAGEMENT CONCEPT

1. Storm drains channel runoff into underground gravel reservoirs
2. Pervious stone paving above subsurface gravel conveyance
3. Subsurface gravel channels detain and convey stormwater
4. Native moisture-tolerant species in engineered soils absorb initial stormwater run-off and enable local infiltration to the aquifer
5. Stepped, open retention canal allows for collection of stormwater from the surface and conveys it towards retention areas
6. Open reservoir serves as detention basin
7. Secondary reservoir serves as retention basin and can be used as distribution pool for agriculture and landscape irrigation

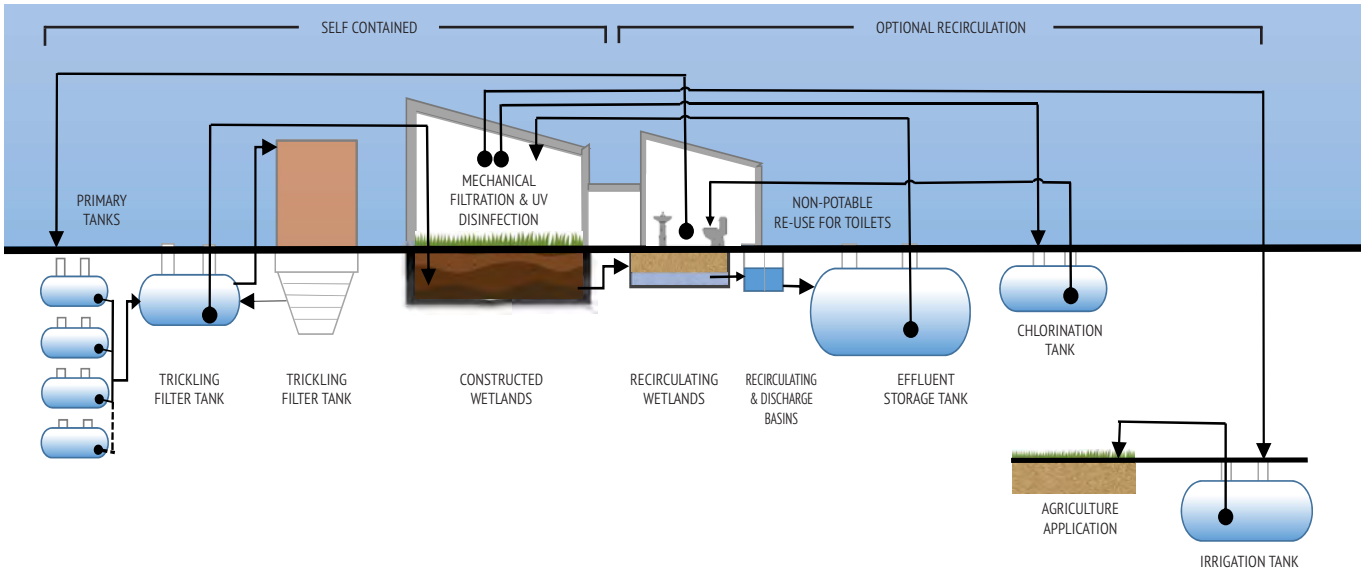


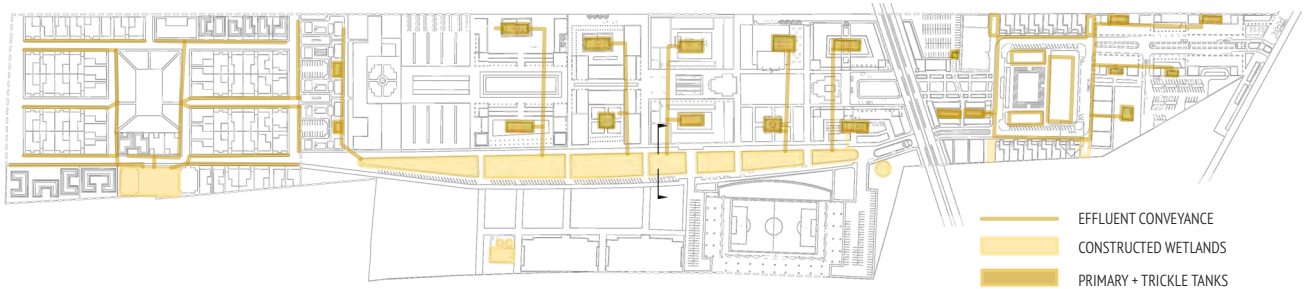
Stormwater Diagram

WASTEWATER

The wastewater concept for CATA is a self-contained system. A system of primary and trickling filter tanks collect wastewater within each block. Circulation through trickling filters containing aerobic bacteria, algae, fungi, and protozoa break down solids in an environmentally friendly way. The resultant effluent is then conveyed a short distance to the central boulevard, which features a Subsurface Horizontal Flow Constructed Wetland (SSHF CW), which have been employed in Perú.[1] Solids are further degraded by plants that eliminate smell and toxins.

An optional system to improve environmental performance and harvest greywater would be a recirculating system, included in the complete diagram below.[2] Recirculating sand filter tanks physically break down remaining waste particles even further. Solids are periodically cleared at the discharge basin. Effluent storage tanks mechanically manage flow for further purification. The chlorination tank water prepares water to for re-use for non-potable plumbing, and the irrigation tank water is redistributed for use in agriculture or landscape maintenance.





Wastewater Diagram

1 Gauss, Martin; Constructed Wetlands: A Promising Wastewater Treatment System for Small Localities - Experiences from Latin America, published by WSP Water and Sanitation Program, 2008

2 Steinkraus, David; New rural campus includes graywater reuse, constructed wetlands and advanced rainwater runoff strategies to return as much water as possible to the local aquifer, onsiteinstaller.com

Constructed wetland boulevard

Constructed wetland in high desert

ARCHITECTURE

MISSION + MESSAGE

Express the mission and message on the buildings using things such as murals, banners, and Scripture principles and passages.

ENTRANCES

Traditional Aymara and Inca entrances suggest strength and mass. Use traditional proportions and materials like natural stone to emphasize entrances.

CULTURAL HERITAGE

Local designs often imitate distant models without regard to site, climate, or heritage. Consider traditional approaches in responding to climate and material choices. The Aymara and Inca heavy stone and earth construction results in architecture that generally appears low, massive, and strong.

LIMIT NUMBER OF FLOORS

Buildings that are 2-4 floors help occupants maintain a connection to ground-level activity. Lower buildings also allow more natural light to reach the lowest floors. Limiting building height helps human scale of community, allows greater access to light, and benefits health by encouraging the use of stairs.

HORIZONTAL EXPANSION

Plan for horizontal rather than vertical expansion. A vital benefit to this form is it allows completed buildings with proper roofs at each phase.

LOW WINDOW-TO-WALL RATIO

Limiting the amount of glass prevents heat loss, thus saving energy needed in heating. It also helps prevent over-lighting a room which can result, paradoxically, in the need for more artificial lighting during activities that require visual concentration. Use a window-to-wall ratio of about 30%, which provides enough light for typical education-related activities.

"Some may ask, Why does Sister White always use the words, 'plain, neat, and substantial,' when speaking of buildings? It is because I wish our buildings to represent the perfection God requires of His people."

Ellen G. White, Evangelism, p. 378

4. Interior Courtyards
Provide interior courtyards, not only for light, but to protect from wind. Courtyards also provide space for athletic courts, gardens, service areas, parking, and workshops.

Bird's eye view of typical academic block

1. THERMAL MASS

Solid thermal masses like concrete, solid masonry or stone absorbs radiant heat directly from the sun. In the late afternoon and evening, it radiates the heat back out, serving as a passive source of heating. Walls, roofs, and floors can all provide the passive benefits of thermal mass.

2. EARLY MORNING DIRECT SUN

Orient classrooms, where possible, for direct sun exposure between sunrise and 8:00 A.M. This will allow direct solar heat gain before classes start, reducing the heating load. Size and orient windows to let in the early morning sun onto adjacent walls and floors that provide thermal mass. Use roofs for photovoltaic solar panels where practical.

3. SHADING

Providing shading over walkways and using colonnades is encouraged. Provide shade structures on balconies, roofs, near plazas, and other places used for outdoor activity. This will allow more time outside enjoying the benefits of sunlight while protecting from direct UV radiation exposure.

REINFORCED CONCRETE

Construct multi-story buildings with professionally engineered, reinforced concrete frames with masonry infill panels. Proper engineering is critical in the design phase not only for normal structural strength but to withstand seismic activity.

FINISH MATERIALS

Finish materials are preferably natural, locally available, and are the product of local craft and tradition. Use stone, stucco-covered masonry, tile and wood that can be both constructed and maintained using local workers and knowledge.

Fellowship Hall/Cafeteria, Plaza Elevation

ADOBE INFILL

It may be advantageous to consider the use of adobe with sliding joints as infill for reinforced concrete structures. This would provide both the desired thermal mass for energy efficiency, and better performance in case of seismic activity. While adobe as a structural material does not perform well under seismic conditions[1], it can perform well when used as infill for engineered reinforced concrete frame buildings, provided with sliding joints that will allow deformation during seismic events without damaging the structural frame. [2]

1 "Product development of earthquake-safe houses and schools" http://elpub.bib.uni-wuppertal.de/servlets/DerivateServlet/Derivate-1482/dd0905.pdf p 30, 49

2 Preti, M. M., Bettini, N. N., & Plizzari, G. G. (2012). Infill walls with sliding joints to limit infill-frame seismic interaction: Large-scale experimental test. Journal of Earthquake Engineering, 16(1), 125-141.

Technical School rooftop view

"On every hand, vast, rugged heights, in their solemn grandeur, spoke of eternal endurance and majesty."

Ellen G. White, Education, p. 34

1. ROOFS, NOT FLOORS

The practice of using an unfinished floor structure as a roof over a period of years is not good stewardship. It leads to damage that is costly to repair; a floor does not function well as a roof. Finish roofs on completed phases.

2. ROOFTOP OUTDOOR SPACE

Rooftop spaces offer unique access to sunlight, fresh air, improving both the health and experience of students and staff. Use selected roofs as additional outdoor area for classes, recreation, assembly, and viewing God's mountains.

3. LIMITED USE OF WOOD

Though wood may be less plentiful in the region, it is significant as a secondary or tertiary material. Use wood prudently to soften the hardness of masonry buildings, provide important tactile variety, and help maintain a connection to nature.

PHASE ONE

A CONCEPT FOR HOW TO START

This proposed plan for the first phase organizes the phase one program requested by CATA. The basic capacity requirements of the first phase are as follows:

Inicial School	75 students
Primary School	360 students
Secondary School	600 students
Technical School	300 students

The phasing plan seeks two main goals:

First, to establish an "armature", or order, for the site before the whole project is completed. This includes defining the main connections on the site, such as road access and wastewater systems. This has to be done so the systems will function properly even though only a part of the final plan has been built.

Second, it seeks to immediately establish a complete sense of place with only phase one components. The plazas that run along the central axis serve this function. Each plaza functions as a social gathering place and a stormwater management device. The plaza is the center of the place, and a starting point for future growth.

"It may sometimes be necessary, however, to select a site on which no improvements have been made and no buildings erected."

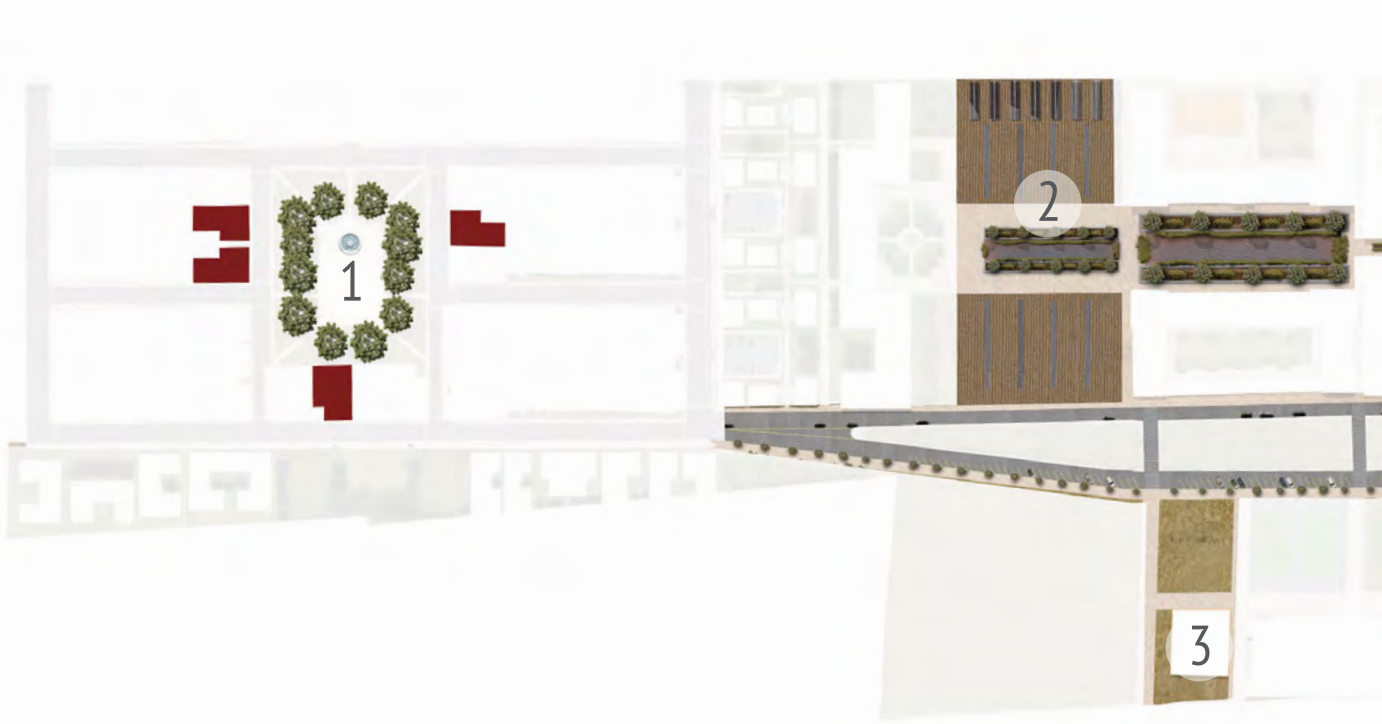
Ellen G. White, Counsels on Stewardship, p. 275

1. Residential Park

Trees and basic infrastructure should be provided in this park, parts of which can function as a constructed wetlands wastewater system. As much as possible, initial construction should focus here.

2. Agriculture + Stormwater System

Establish the agricultural fields and central features of the drainage system early. This will promote agricultural learning and sustainable stormwater management from the beginning.



3. Water Recirculation (Optional)

The 2016 CATA Master Plan includes goals for high levels of environmental sustainability. This recirculation plant can enable re-use of the effluent overflow from the constructed wetlands, serving as a source for graywater irrigation.

4. Athletic Fields

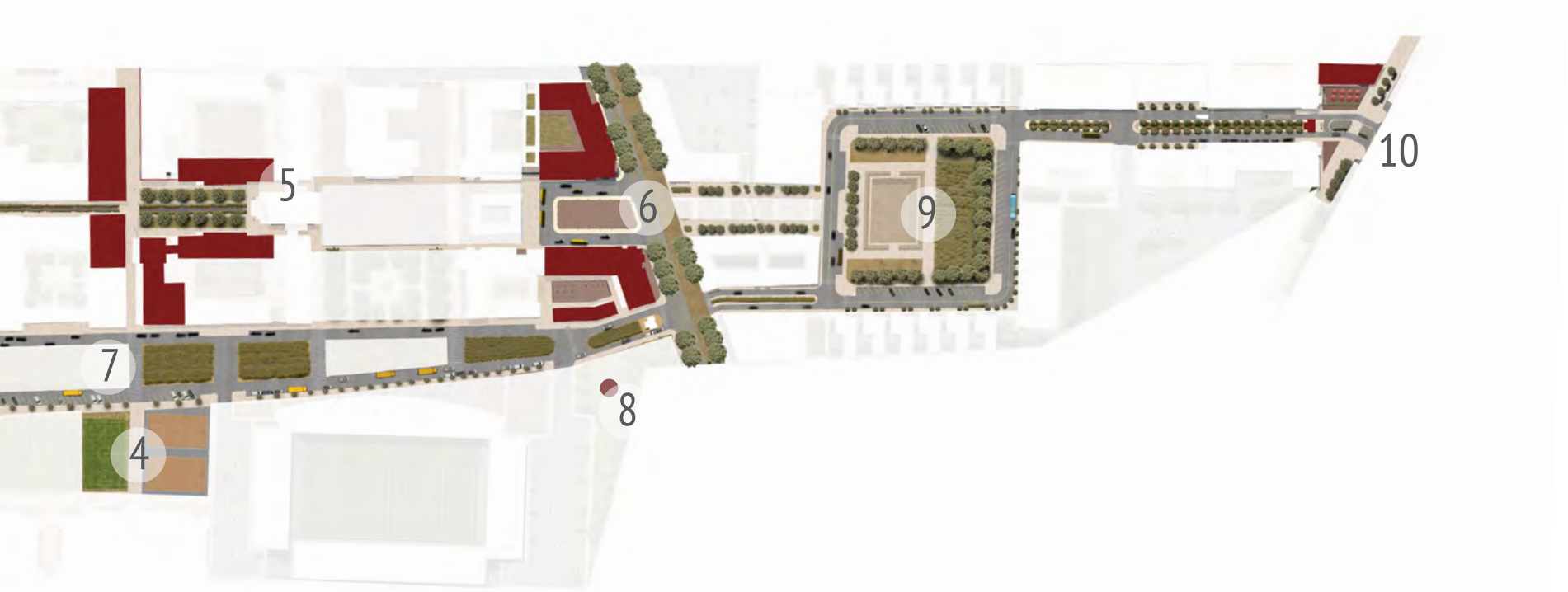
Construct athletic fields and facilities sequentially, establishing first those closest to the phase one buildings.

5. First Academic Plaza

The first academic plaza serves as a starting point for the growth and completion of the educational blocks. Prioritize buildings bordering the main educational plaza, filling gaps with garden walls. This gives an immediate sense of place even though only some buildings are built. The plaza serves as a connection, provides stormwater solutions, and also vehicular/pedestrian access solutions. All these things must be started and established at the beginning.

6. Fronting Circunvalacion

Before Circunvalacion is built, this part of the site can serve as a linear park with the technical school framing the main pedestrian access route. Once Circunvalacion is built, the already completed technical school will provide a ready front face and a vehicular drop-off area for the campus.



7. Constructed Wetlands Boulevard

Sections of the constructed wetlands boulevard are self-contained, so pieces of it can be built at the same pace as the buildings. Connect the road to residential if access is desired from the beginning.

8. Water Tower

Include the water tower in phase one to provide pressurized water from the start of construction. Locate the water tower centrally to provide for the entire site.

9. Amphitheater Plaza (Optional)

Build the outdoor amphitheater early to allow events to be held, cultivating the idea that this is a community destination. It is also important to established it as a stormwater management device when construction begins.

10. Welcoming Entry

The entry plaza establishes a visible presence on the main road and welcomes students and visitors to the site. It also serves as a security checkpoint and provides retail and outreach opportunities.

"Look at nature. There is room within her vast boundaries for schools to be established where grounds can be cleared and land cultivated."

Ellen G. White, Testimonies for the Curch Volume 6, p. 178

AYAGACHI
OASIS FOR AGRICULTURE

2

AYAGACHI

"[Agricultural] work is essential to the education most favorable to spiritual advancement; for nature's voice is the voice of Christ, teaching us innumerable lessons of love and power and submission and perseverance."

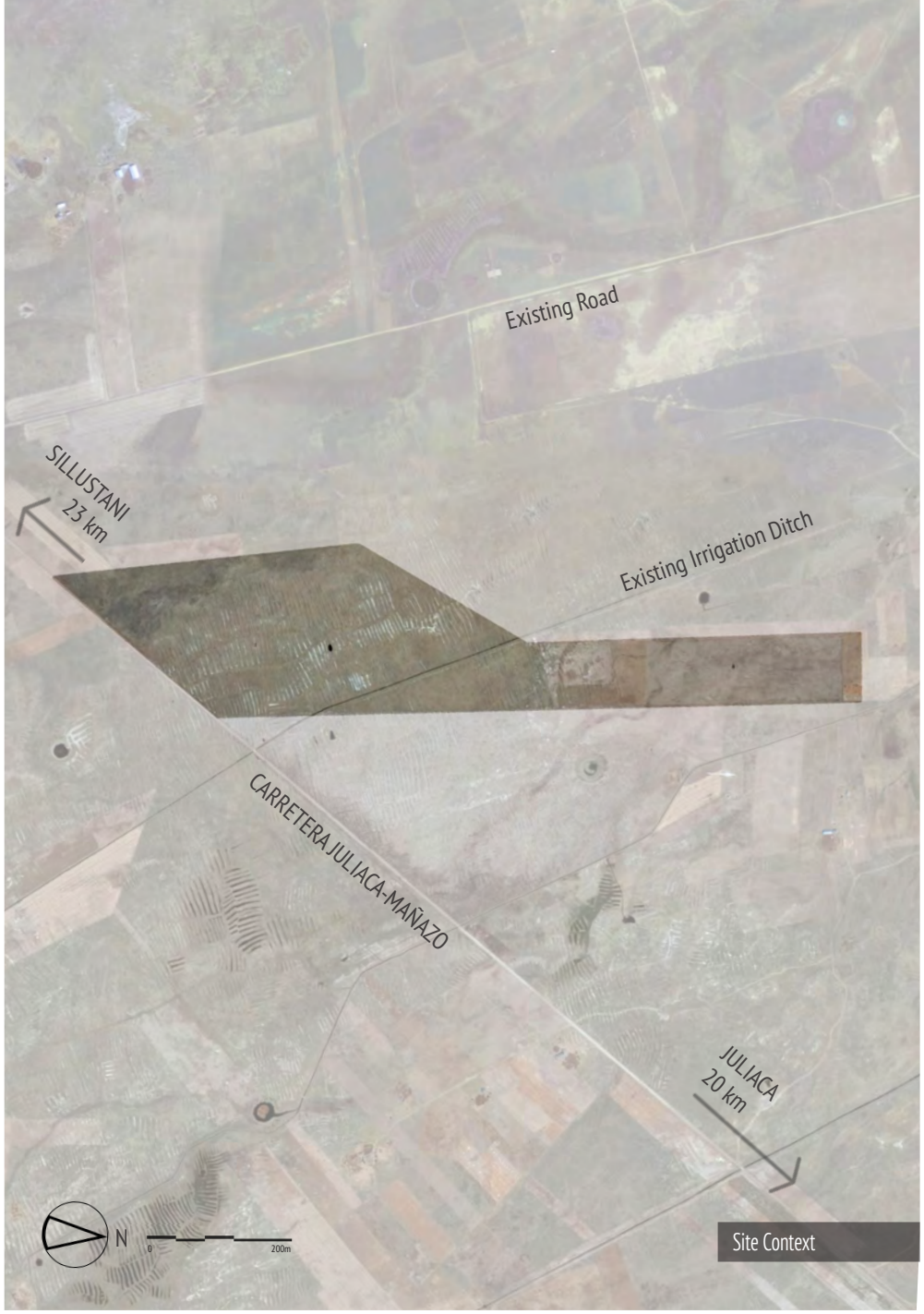
Ellen G. White, Testimonies for the Church Volume 6, p. 178

OVERVIEW

The Ayagachi site is proposed to become the leading agricultural learning center of the Altiplano. This concept invites students from Colegio Adventista Túpac Amaru and visitors from the region to come and learn about food cultivation, animal care, traditional and contemporary agriculture practices, and environmental stewardship.

This project site is envisioned as a working laboratory for healthy agriculture and sustainability practices. The farm is to produce food for the CATA cafeteria and the animals on site, but also intended to advance knowledge through experimental practice. One goal is to achieve complete energy independence through the use of passive systems, photovoltaic panels on roofs, wind turbines to operate the irrigation system, and a composting and recycling facility.

The proposal seeks to establish an authentic sense of place grounded in the climate, historic practices, and local culture. The design of the rural farm hamlet promotes protection, shared use of resources, communal learning, and close contact with agricultural work and animal life amongst sweeping views of the Altiplano plains and mountains. This authentic experience is conceived to extend the ministry of agricultural education to agritourism–especially given the site's relative proximity to one of southern Perú's most significant archeological destinations: Sillustani.



Site Context

PROGRAM

Land Use

Buildings	0.4 hectares
Parking and Circulation	1.4 hectares
Irrigation + Wastewater	.4 hectares
Animal Grazing Uses	2 hectares
Cropland	13.8 hectares (77% of land)

Cropland + Greenhouses
Land dedicated to crops and greenhouses, with supporting buildings such as barns, milking sheds, tool storage, and grain storage. Native crops include potatoes, quinoa, corn, wheat and beans. Experimental crops to be grown in the greenhouses include fruit and berries, peppers, herbs, and tomatoes.

Animals
Working animals such as sheep, alpaca, llama, vicuña and guanaco. Large grazing areas near the farm hamlet will bring these animals into proximity with humans on a daily basis. Exhibit animals such as viscacha, taruca, Andean fox and suri cordillerano are proposed for the zoological area, north of the constructed wetlands.

Classrooms
Students and guests are meant to learn about agricultural techniques, as well as farm management issues. This includes animal care and breeding, crop production, food safety, ecosystems, invasive pests and diseases, marketing and trade, nutrition and wellness, sustainable agriculture, food security, etc. This can also include the production of packaged goods to be sold in a small farm store. Seating for 35 students in four classrooms.

Visitor Center
Provides information and services to visitors and guests, including a meeting space for 250, a courtyard and cafeteria. Offices for day employees are to be located here.

Guest + Student Housing
Housing in a farm hamlet for guests, students, and on-site caretakers. Twelve duplex buildings with 10 beds beds per building. Each group of three duplexes has an open classroom facility in a small square and garden walls to create a level of security and privacy for guests.

Electricity
Electricity is to be generated onsite from solar panels and windmills to make the Ayagachi experimental agricultural center completely energy independent.

Irrigation System
Water is to be harvested from underground aquifers and run through a series of canals to irrigate the site. Water from wells can provide drinking water for human consumption.

Processing Facility
Compost, manure and sewage are to be processed on site, and waste reduction techniques will be utilized.

Parking + Circulation
Compacted gravel drives, walks and parking areas will make circulation through the site convenient for visitors.


View from site looking southwest


Typical water source at site


Existing adobe structure on the site

ILLUSTRATIVE SITE PLAN

1. VEHICLE ACCESS

Except for farm vehicles, the entire site is for pedestrian movement only. Parking spaces are provided for visitors at the east edge of the site.

2. FARM HAMLET

The farm hamlet is to be a model for rural development. Its design is inspired by local vernacular traditions and their passive energy strategies, as well as by advanced sustainability technologies.

3. WARU WARU FIELDS

These fields are intended to produce regional foods that will help to combat malnutrition in the region and will provide crops needed for CATA's food supply. The fields restore the indigenous technique of Waru Waru agriculture.

4. CONSTRUCTED WETLANDS

Wastewater effluent, after it exits a septic tank system, can be used to grow ichu in subsurface constructed wetlands. Ichu can be used for feeding animals and other uses.

5. ANDEAN ZOO

The zoo is to include both working and exhibit animals common to the region. Working animals produce wool and other products to be sold. This program supports learning and family recreation.

6. GREENHOUSES

Crops that don't grow in the Altiplano climate will be cultivated in in the controlled environments of greenhouses.

7. IRRIGATION SYSTEM

Water drawn out of the underground aquifer is to be stored in puquio-like wells before it is pumped into the irrigation canals that lead to the waru waru and animal pens.

8. WIND TURBINES

Three wind turbines generate electricity for water pumps and the irrigation system. The turbines are part of the mission to advance knowledge about sustainability technology in the region.

1. VISITOR CENTER

The visitor center serves as the entrance to the farm hamlet, providing information and services to visitors. It also houses a meeting space for 250 people, a cafeteria, and 4 classrooms.

2. HOUSING COURTS

Guest and student housing includes bedrooms for 120 people, with the ability to use them as family bedrooms or dormitories. Caretaker housing is projected for 2 units housing 5 people each.

3. CLASSROOMS

Each housing court features an outdoor classroom in the small courtyard. These can be used for informal lessons on shearing, milking, basketweaving, etc.

4. WORKING PLAZA

This space is surrounded by large buildings and flexible spaces that can be used as temporary barns, milking sheds, outdoor kitchens, recycling centers, farm stores, storage, or as needed.

Looking south at the Visitor Center

1. CELEBRATING WATER

This harvesting basin will collect water to be used for irrigation and animal drinking water. Inspired by ancient indigenous culture, water is celebrated throughout the farm site.

2. STORMWATER

A system of drainage channels and detention areas helps to manage stormwater and feeds a network of 'tree wells' to help with landscape irrigation.

3. PLACES FOR REST

Simple benches are part of the stone walls. Providing places of rest offers opportunity to reflect on the blessings of agricultural labor.

4. ANIMAL INTERACTIONS

Zoo animals are free to roam into the courtyards and plazas, encouraging hands-on encounters for visitors.

WORKING LANDSCAPE

CHOCLO CORN

Ayagachi is devoted to Altiplano agriculture, its advancement and production, as well as being an opportunity for agritourism.

QUINOA

Special attention is given to helping local crops thrive throughinovative and traditional cultivation methods.

POTATOES

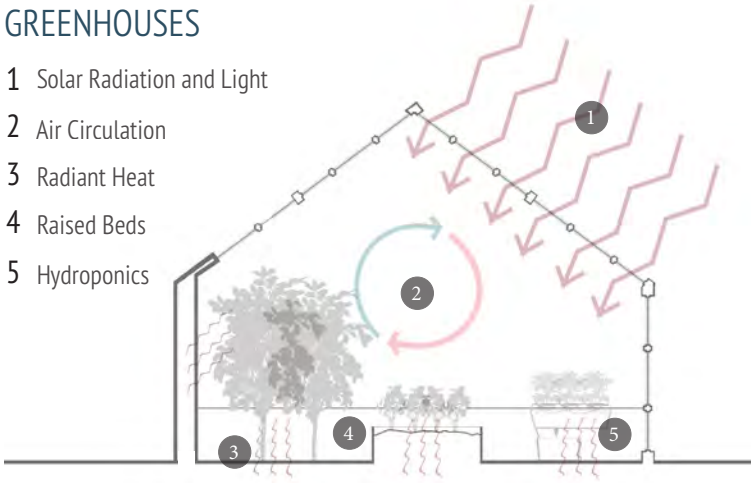
Growing ancient staple crops like potatoes finds expanded growing potential using experimental agriculture methods.

WORKING ANIMALS

As a working farm, livestock is considered an asset to production and learning. Besides other Andean animals selected for the zoo, working animals include sheep, cattle, and llamas.

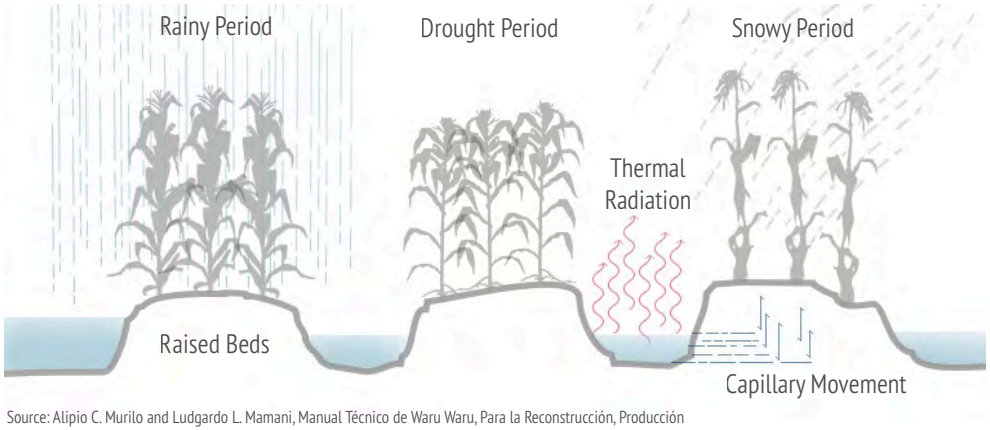
GREENHOUSES

1 Solar Radiation and Light
2 Air Circulation
3 Radiant Heat
4 Raised Beds
5 Hydroponics



WARU WARU

An Agricultural System for Cold Climates



Source: Alipio C. Murilo and Ludgardo L. Mamani, Manual Técnico de Waru Waru, Para la Reconstrucción, Producción y Evaluación Económica, Puno, Perú, Programa Interinstitucional de Waru Waru, 1992

WATER

1. WARU WARU

The majority of the site's southern end is reserved for restoring and using a waru waru system.This is a historic indigenous system designed to take advantage of the passive thermal properties of water.

2. PUQUOIS

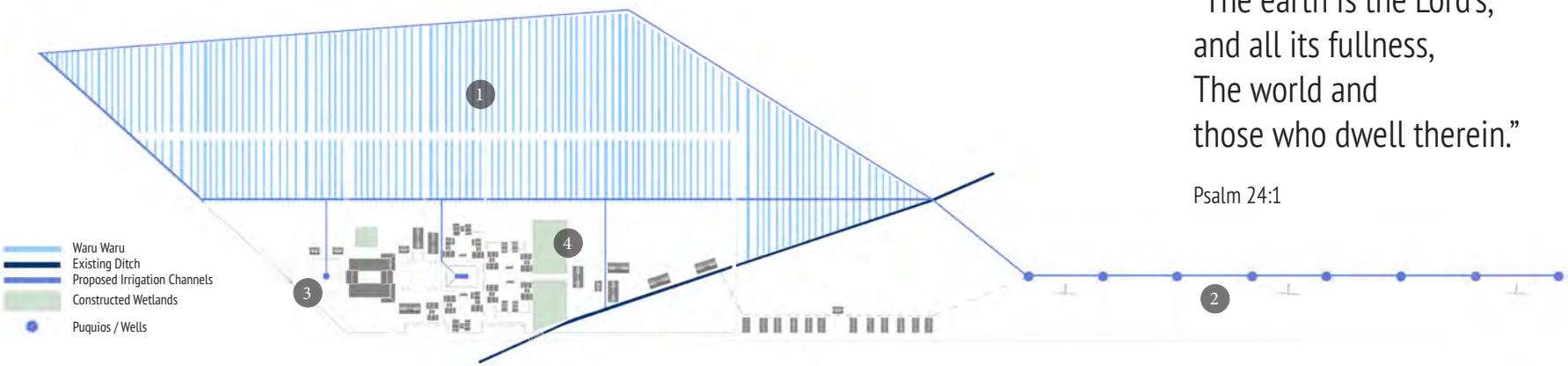
Traditional Nazca aquifers serve as inspiration for the well system employed on-site. Existing shallow pools are exploited to supply water to the entire site.

3. WATER FEATURES

Water features in the hamlet plazas are inspired by ancient Inca and Aymara water harvesting systems.

4. WASTEWATER

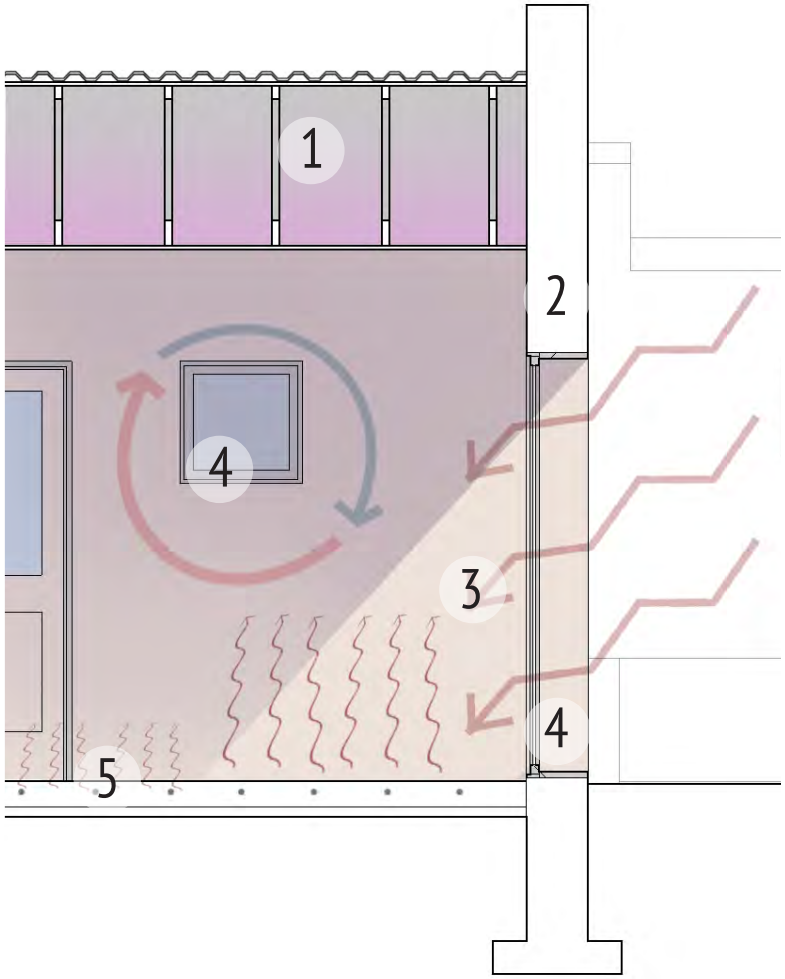
Wastewater effluent is treated on-site through the use of subsurface horizontal flow constructed wetlands. Also see p. 33.



"The earth is the Lord's,
and all its fullness,
The world and
those who dwell therein."

Psalm 24:1

GREEN ENERGY



1 A thick, insulated roofing system allows for captured heat to remain in the rooms throughout cooler times of day. Insulating the roof ensures that the heat brought into the space during the day does not escape through the roof.

2 Sustainable and traditional adobe construction helps regulate interior temperatures throughout the year. Solar heat gain is passively collected and stored in the mass of adobe walls throughout the day. When temperatures fall during the evening, heat begins to dissipate back into the space.

3 Limited and carefully positioned openings maximize surface area of the adobe and facilitate other passive strategies including, but not limited to, light infiltration. Due to their thermal mass, adobe surfaces and tile floors warmed by the sun are capable of storing the solar energy.

4 Openings provide opportunities for natural ventilation, supplementing the temperature regulating properties of adobe construction. To take full advantage of both the solar heat gain and natural lighting, larger windows are permitted in northwest-facing walls.

5 There is potential for in-floor hydronic radiant heating. Due to its efficiency, a hydronic system is preferred over a fully electric system. Should such a system be employed, it would be powered mostly, if not completely, by the roof-mounted solar panels.

"In the building of houses it is especially important to secure thorough ventilation and plenty of sunlight. Let there be a current of air and an abundance of light in every room of the house."

Ellen G. White, Counsels for the Church, p. 149

SUSTAINABLE ENERGY

Ayagachi is a site with potential for both agricultural advancement and implementation of sustainable practices. Climate and location both present unique challenges to what can be achieved on this site. The architecture seeks to preserve Peruvian customs and identity. At the same time it should employ design and building methods with the aim of creating a holistically sustainable development. Adobe construction, found throughout the Altiplano, Not only is this construction method financially sustainable, being a vernacular building standard utilizing local materials and very easily employed, it is also an environmentally friendly construction type. In terms of building, climate and location both present unique challenges to what can be achieved on this site. The architecture seeks to preserve Peruvian customs and identity. At the same time it should employ design and building methods with the aim of creating a holistically sustainable development. Adobe construction is a vernacular building standard found throughout the Altiplano. This construction is easily employed, financially viable, utilizes local materials, and is considered environmentally friendly.

The thick walls of Adobe construction provide a large thermal mass for solar heat gain, storage, and dissipation into the various spaces of a building. A limited number of thoughtfully placed window and door openings ensure maximum surface area for solar heat absorption and storage, light infiltration, and natural ventilation.

Modern energy production methods and technologies are proposed throughout the site. Wind turbines located in the northern fields transform the Altiplano winds into power to run Ayagachi's irrigation systems. These turbines could be engineered, manufactured, and maintained by students and instructors. Additionally, there is the potential for a future rubbish-to-energy conversion facility, poised to help alleviate some of the trash problem the people of Juliaca and the surrounding areas experience. Integrating modern alternative energy-production technologies would contributes to the goal of being self-sustaining, and make Ayagachi a landmark for sustainable, self-contained, off-grid design in the Altiplano.

PHOTOVOLTAICS

Due to its elevation and proximity to the equator, Ayagachi is a prime candidate for solar energy production. Because the site is located in the Southern hemisphere, roof mounted solar panels should be located on the northern face of a sloped roof. Additionally, for buildings whose ridge lines run north to south, placing solar panels on both sides of the roof will take full advantage of the site's solar potential.

Potential energy production depends on the type of panel used, but with the most efficient 250 Watt solar panels, each roof section of the hamlet could produce between 3.25 and 7 kilowatts.

WIND TURBINES

The Ayagachi site is in a vast open space, and as such is suited to the implementation of wind energy. Wind turbines have been located in the northern fields of the site and would be the primary source of energy for the irrigation system, directly connected to the pumps used to bring groundwater to the surface.

Initially, three turbines mounted 20 meters high would produce 75 kilowatts--more than enough electricity usage to power the six well pumps drawing groundwater for the irrigation system. The excess kilowatts produced by the turbines would be used to power the hamlet, pump the irrigation water to the fields, and supply the greenhouses.

SOLAR WATER HEATING

Active solar water heating is a good alternative to fossil fuel or natural gas-fueled water heating methods. This system is self-contained, relatively small, and can be either roof-mounted or placed on grade.

Active solar water heaters harness the sun's energy, which is collected through a small photovoltaic panel to power a small water heater, which then provides the building with heated water.

Active solar water heating is cost-effective and suited for small residential units—such as those proposed for Ayagachi. This would be roof-mounted on spaces not already utilized for photovoltaic arrays.

EDUCATION + AGRITOURISM

1. WORKSHOPS

Workshops engage students and tourists with courses on agriculture, and crafts. Outdoor classrooms also serve as a communal kitchens.

2. COURTYARDS

Visitors would explore traditional courtyard complexes—informed by those found around Atuncolla—that include outdoor classrooms and ovens.

3. BUILDINGS

The project is a living laboratory to preserve, teach, and advance traditional building techniques on-site. This includes adobe, stone, thatch, and stucco.

Section of Courtyards looking north

"From the light given to me there is to be opened to our youth means whereby they, while attending the school, may learn how to use tools. Buildings should be erected on the school grounds by the students themselves."

Ellen G. White, Manuscript Releases Volume 2, p. 212

Bird's eye view looking northwest

1. WARU WARU FIELDS

These existing fields are to be reconstructed and designed to function in combination with the irrigation system.

2. CONSTRUCTED WETLANDS

Constructed wetland recreate the natural treatment of wastewater and provide the wastewater system for the site.

3. WIND ENERGY

Wind turbines provide electricity to power the irrigation system and supply the greenhouses.

4. SOLAR ENERGY

Solar panels are integrated into metal roofs to power all local functions in the hamlet.

"Our means is to be used in providing cheerful rooms, healthful surroundings, and wholesome food."

Ellen G. White, Counsels on Health, p. 277

CCACACHI
OASIS FOR HEALTH

3

CCACACHI

"I should not want to live unless I could live to do some good to others."

Ellen G. White, Manuscript Releases Volume 1, p. 32

OVERVIEW

The Ccacachi health and ministry center is proposed to be an oasis for the community in need of health services and health education. The center plans to provide services in physical therapy, mental health therapy and counseling, and a small health clinic that will focus on dental, dry eye, and other limited health care needs. The center will also work to promote the Christ-centered Seventh-day Adventist health message, including education about healthy lifestyle choices.

Work has already begun in the community through the Ccacachi Seventh-day Adventist Church, which is located on the site. Ccacachi is one of the newest neighborhoods in Juliaca but is easily accessible via the 34H bridge. The area of informally developed structures is susceptible to seasonal flooding by Río Coata.

DESIGN VISION

The Ccacachi project focuses on general education for health and wellness. It emphasizes connections to nature and outdoor life in its urban setting and considers the holistic impacts that new development will have on the community. This includes restoration of the Río Coata riverfront as a healthful destination. The proposal seeks to provide efficient spaces that are functional and help to uplift the character of Christ, presenting a model development for the city.

Site Context

PROGRAM

Buildings	Area	Capacity
Dental Clinic	1,000 m^2	
• Dental	550 m^2	100 persons
• Office	450 m^2	10 offices
Health Clinic	3,000 m^2	
• Nutrition Center/ Library	540 m^2	150 persons
• Physical Therapy	1,200 m^2	100 persons
• Commercial	480 m^2	4 units
• Guest Housing	780 m^2	6 units
Mental & Family Therapy	1,350 m^2	100 persons
Vegetarian Restaurant	380 m^2	250 persons
Commercial Space for bookstore, health shop, etc.	N/A	N/A

Ccacachi Seventh-day Adventist church is existing on the site; it and the 905 m^2 of land it sits on is owned and operated by the Lake Titicaca Mission. The church site must be respected but can be integrated into the overall planning vision.

"The Saviour made each work of healing an occasion for implanting divine principles in the mind and soul. This was the purpose of His work. He imparted earthly blessings, that He might incline the hearts of men to receive the gospel of His grace."

Ellen G. White, Ministry of Healing, p. 8

Looking south on Jiron Canaan from the park

Looking west at Ccacachi Adventist Church

CATA is committed to personal health ministry

1. Dental Clinic

- 1st floor: dental clinic
- 2nd floor: leasable office space

2. Health Clinic

- North courtyard 1st floor: main entrance to health clinic
- North courtyard 2nd floor: access to guest housing
- South courtyard: all-season atrium
- Exterior colonnade with protected seating and waiting area

3. Commercial/Housing

- 1st floor: Retail spaces facing street for bookstore, health shop, etc.
- 2nd floor: guest housing units for visiting physicians

4. Family Therapy Clinic

- Family therapy, behavioral therapy, physiotherapy, group therapy, etc.

5. Vegetarian Restaurant

- Includes raised and covered outdoor seating area with views of river

6. Ccacachi Adventist Church

7. Fellowship Pavilion

8. Existing Storage

9. Entrance Plaza

10. Riverfront Plaza

11. Playground + Athletic Court

12. Malecón

- Pedestrian and bicycle friendly
- On-street parking with tree line

Bird's eye view looking north

SITE DESIGN

Colonnade

Semi-Public

Private

Views

Axes

PLACEMAKING

- Buildings and courtyard designs promote views across the river.
- Colonnades are covered social spaces to provide shade and seating for those waiting to be treated.
- Network of courtyards and plazas help shape strong sense of place.
- Colonnades within internal courtyards used for covered circulation.
- Framed entrances and views align accross site.

Pedestrian Traffic

Vehicular Traffic

Parking

Garbage

Gated Access

Ramps

ACCESS & CIRCULATION

- Pedestrian-friendly malecón at river.
- Vehicle lanes narrow to slow traffic.
- Parking along riverfront.
- Riverfront plaza extended to the river.
- Site gated for security.
- Low ramps go up to building level for accessibility.
- Garbage dumpsters shared between buildings and placed with easy access to the street.

Inspiration for riverfront plaza steps

Inspiration for riverfront plaza fountain

Inspiration for malecón details

Inspiration for riverfront steps

Gravel

Pervious Paving

Infiltration

Water Retention

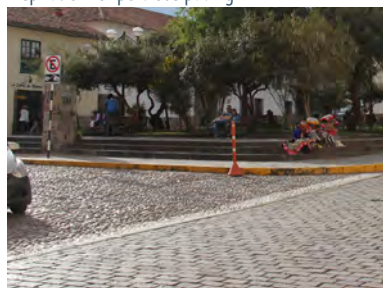
Biomicrobic Wastewater System

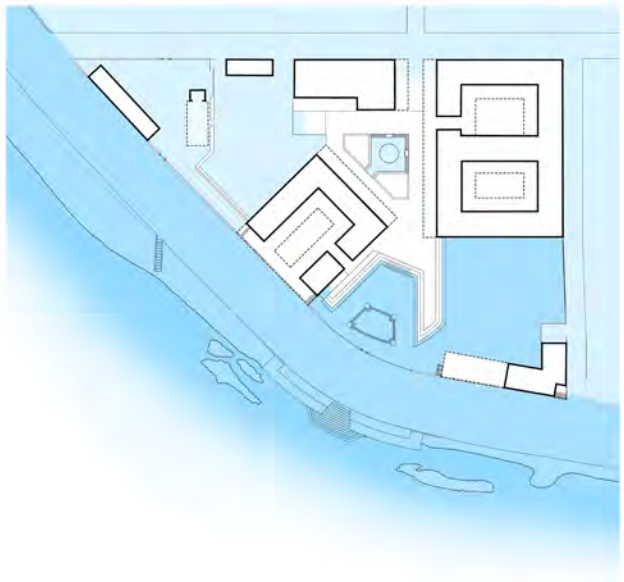
STORMWATER & WASTEWATER

- Pervious paving used to help reduce stormwater runoff.
- Water detention areas shaped by terracing at riverfront plaza help to manage stormwater during heavy rains, and also celebrate water feature.
- Self-contained bio-microbic wastewater systems (such as MicroFAST® systems) are shared between buildings.

Installing a biomicrobic wastewater system

Inspiration for pervious paving





3.5m

3m

2.5m

0m

FLOOD ZONES

- Stipa Ichu is grown along river bank to help fight against erosion and beautify the riverfront.
- Plazas inspired by Incan terracing systems to mitigate flooding.
- Flooding normally rises 2.5m above the river, but occasionally will rise to 3m, covering the original site level.
- To prevent flooding inside the buildings, the building grade was raised at least 0.5m above the original grade.

Inspiration for terracing

Inspiration for stipa ichu planting

A MALECÓN FOR ACTIVE LIFE

1. STAIRS

Stone stairs help shape a strong access to the river. Once the river is cleaned, this can be a site for baptisms. Shown: Casa Kokan

2. MURALS

The riverfront facade of Ccacachi church is an opportunity for sharing the gospel through murals. Shown: CATA's existing inicial.

3. FENCES

Wall and metal fence combinations provide security and help shape an open, welcoming environment. Shown: Plaza de Armas, Juliaca.

Río Coata elevation looking north

“Out-of-door life is a means of gaining health and happiness...
Nature is the great restorer of both soul and body.”

Ellen G. White, Medical Ministry, p. 232

4. LAMPS

Street lamps are scaled for pedestrian use and provide a safe and comfortable environment. Shown: Cusco.

5. ARCH

Gated entrances to the site formally mark and celebrate important points of transition while maintaining security. Shown: Lake Titicaca.

6. PAVING

Streets and pedestrian paving continues the tradition of design with stone patterns. Shown: Paving typical of Chucuito and Escallani.

WELCOMING ENTRANCE

STOREFRONTS

Good storefronts attract attention to merchants while maintaining an attractive face on the street. Shown: Cusco storefronts below residential units.

FACADES

A simple, elegant building face is the backdrop to community life and sets the character of the site. Shown: Plateria.

BALCONIES

Balconies inexpensively enlarge a dwelling unit and provide an alternative outdoor space, often covered. Shown: Cusco.

Jiron Canaan Elevation

Looking south towards river upon entry on site

1. COLONNADES

The colonnades on the health clinic are designed to provide shelter for pedestrians, visitors, and patients. These are social spaces with seating that can be used as outdoor waiting areas.

2. ENTRANCE PLAZA

This gathering place provides a peaceful oasis where people can rest and interact. Its step-down design accommodates storm-water. A fountain and greenery soften the acoustics and remind us of God's creation and love.

3. SIMPLE BUILDINGS

The architecture of the family therapy clinic is simple and economical, reflecting values of a mission humble service.

"The fewer grand buildings there are around our institutions, the less vexation we shall experience."

Ellen G. White, Testimonies for the Church Volume 7, p. 88

RIVERFRONT

COURTYARDS

These provide healthy outdoor pockets that would be private and safe to the occupants using them. They also help access natural light and ventilation for the building interiors.

SHADED RECREATION

These simple shading devices can protect against harmful UV radiation of the sun and provide a pleasant adjustable environment.

ESPLANADE

Tree lines can enhance esplanades, especially at pedestrian-friendly waterfronts like in Puno. Because they narrow the space of the street, they naturally slow traffic.

North-south section looking east

"And on the Sabbath day we went out of the city to the riverside, where prayer was customarily made; and we sat down and spoke to the women who met there."

Acts 16:13

Looking west along Malecón on Calle Jordan

1. NATIVE SPECIES

Planting at the river helps to reduce erosion by slowing water currents and anchoring bottom sediment in place. It also helps to absorb stormwater during rain events.

2. STEPPED TERRACING

Diverse terracing in key locations helps to enable access to the river for special events such as baptisms, but also for informal social gathering.

3. MALECÓN

The riverfront esplanade on Calle Jordan is designed to promote active lifestyles: recreational walking, biking, with slow-moving traffic and parking. The street is cobbled with pavers and lined with trees.

4. SECURE ACCESS

The gates are security checkpoints for the site. They are part of wall and fence combinations that preserve visibility and safety.

"Let our students be placed where nature can speak to their senses, and in her voice they may hear the voice of God. Let them be where they can look upon His wondrous works, and through nature behold her creator."

Ellen G. White, Fundamentals of Christian Education, p. 320

4

TUJSI

OASIS FOR SPIRITUAL RETREAT

TUJSI

"The constant contact with the mystery of life and the loveliness of nature, as well as the tenderness called forth in ministering to these beautiful objects of God's creation, tends to quicken the mind and refine and elevate the character."

Ellen G. White, The Adventist Home, p. 142

OVERVIEW

The Tujsi project site is intended to become a spiritual retreat center for CATA and the Villa Hermosa church. The new retreat center is to be used for school retreats, seminars, church gatherings, botany education programs, and Pathfinder events. It is also expected to yield revenue as a rental facility for other groups in the region.

Due to its relatively remote location, the need to provide infastruture for the facilities provides an ideal opportunity to integrate sustainable design and systems for power, water, waste and heating.

The steep topography of the site poses unique challenges in terms of construction and access. At the same time this affords visitors stunning views and mild climate of the Lake Titicaca shoreline.

PROGRAM SUMMARY

Total Visitors on site
up to 800 people max.

Meeting Hall capacity
400 people max.

Dining Hall capacity
400 people max.

Overnight Visitors
400 people max.

Overnight Camping
100 campers max.

Family Guest Rooms
50 families max.

Parking Spaces
20 parking space total

Access for the disabled is required to all primary site amenities.

Lodging
1,300.00m^2
300 people

Primary Meeting + Dining Hall
1,150.00m^2
500 people

Secondary Meeting Hall + Guest Housing
290.00m^2
100 people

Plaza + Multi-purpose Space
680.00m^2
400 people+

Visitor Center
320m^2
100 people

Outdoor Amphitheatre
300 people

Caretaker Dwelling
1 family


Looking northwest on the site


Andean flora

A UNIQUE MICRO-CLIMATE

Because of Lake Titicaca, the site at Tujsi enjoys a wetter micro-climate in a relatively arid region. This allows for plants to grow all year long, without the usual irrigation needs. The proposal intends to take advantage of this by planting more trees throughout the site. This climate also enables the cultivation of a wider range of Andean flora and medicinal plants, which are to be grown throughout the site.

A trout hatchery is proposed as part of the project just off shore from the retreat center, consistent with traditional Lake Titicaca culture. Settlements such as Uros—floating on man-made islands of totora reeds just outside of Puno—use this same technique for breeding and catching trout.


Hatchery at Uros

Illustrative Site Plan

1. LAKESIDE PLAZA

The amphitheater located at the shoreline is set into the landscape and allows for gathering at the water's edge. This assembly space is intended to create a beach plaza where people can enjoy lakeside events. The lakeside plaza is accessible via a ramp system.

2. MAIN MEETING HALL

The main meeting space for the retreat center is sized to hold up to 500 occupants with a separate auxiliary space for dining. Its proximity to the water allows visitors to be present among nature and reflect upon the goodness of God's creation away from the busy tasks of daily life.

3. SMALL MEETING HALL

This is for small meetings up to 100 people. The building includes guest rooms and smaller conference and activity spaces.

4. LODGING

Lodging on site takes the form of a rural hamlet, drawing on multiple buildings to shape community-centered outdoor spaces. These spaces follow a primary axis down to a larger central outdoor plaza that services the main meeting hall for the site.

5. CAMPING AREA

6. WELCOME CENTER

Located at the main road, this building serves as the receiving area for guests to the site before they make their way down to the main center. It also houses the caretaker family.

7. WATER TANK + HERB GARDENS

Site section looking northwest

ROAD

VISITOR CENTER

LODGING

DINING HALL

LAKESIDE PLAZA

HISTORIC METHODS

The Tujsi retreat center is situated on a steep hill on Lake Titicaca, much like the hillside villages of ancient Incan civilizations. Methods of retaining and terracing found at the historic site of Machu Picchu are utilized throughout this site to allow buildings and gardens to sit within the steep terrain. The use of retaining walls also assists in the construction of the vehicular access ramp down to the central hamlet. The hamlet is intentionally far from the road to promote a peaceful environment.

STEWARDSHIP

CAMP + LEARN

Pathfinder clubs will be able to come to the Tujsi retreat center to get away from the urban centers and form a stronger connection with God, nature, and among themselves. Through camping, nature exploration and environmental lessons and activities, Pathfinders can earn honors at the same time as learning to become better people and true stewards of the world.

PERSONAL INVESTMENT

CATA and Villa Hermosa intend for students and church members to participate in the construction of retreat facilities and the continued maintenance of those facilities and landscape features. This action of giving of oneself to the creation of this retreat center activates a personal investment of those participating and will increase the level of care and love of the site.

CULTIVATION

The cultivation of native Andean flora will help to maintain the site, keep it beautiful, and produce herbs and medicines that can be used at CATA and the retreat center. Landscape cultivation, together with passive and active sustainability systems, promote a holistic learning experience of how to live in harmony with God's creation.

"The youth should be led to see the true dignity of labor. Show them that God is a constant worker. All things in nature do their allotted work. Action pervades the whole creation, and in order to fulfill our mission we, too, must be active."

Ellen G. White, Education, p. 214

Bird's eye view looking southeast

1. LAKE STEWARDSHIP

The lakeside plaza and ramp access enable visitors to participate in educational events about lake ecology and stewardship, the fish hatchery, and the mighty power of God the Creator.

2. STONE STRUCTURES

Site development will require significant investment in retaining walls for ramps, roads, gardens, and buildings. This can be an opportunity to teach construction skills and promote multi-generational collaboration.

3. CAMP SITES

The camp sites for tents are located on terraces overlooking the lake and adjacent to herb and medicinal gardens. The site seeks to engage young people in learning about creation and the stewardship thereof.

4. FORESTRY

Increasing the number of trees on the site creates habitat for birds and other wildlife to delight visitors. Trees also help to prevent soil erosion and can be harvested for timber.

LANDSCAPE DESIGN

TERRACES

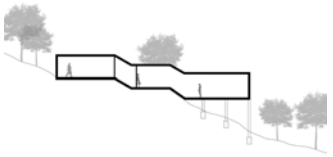
Terraces shape steep sites into various levels of flat terrain in order to lessen its slope and create smaller occupiable spaces. This requires the use of ramp or step systems to give the landscape architectural form. Terraces also enable agriculture. Terraces at Tusjsi are proposed to be created using the cut + fill method and should be supported by stone retaining walls tied back into the earth and stone of the slope.

Cut + Fill

GARDENS

Retaining walls present an opportunity for gardening on steep slopes. The micro-climate at Lake Titicaca enables a broad range of species cultivation, which means that the terraces at Tujsi can offer a diverse range of herbs, medicinal plants, food, decorative landscapes, and habitat for birds and other animals. Gardens will be an ornament to the cascade of retaining walls and help control soil erosion.

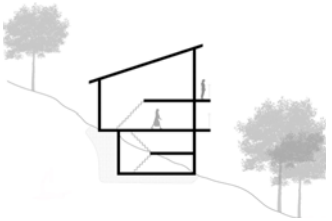
Stilts



PAVING

All paths, stairs, plazas, ramps, and drives on the Tujsi site are proposed to be paved with locally available stone. This will give the work a natural and attractive character and will provide durability in the face of stormwater erosion. On driveways, the stone cobble texture will naturally slow down vehicular operation.

Retaining Wall + In Site



INFRASTRUCTURE

Stormwater Runoff

Stormwater at Tujsi poses an erosion challenge. Terraces and ground pavement will need to facilitate channeling stormwater towards local infiltration areas, where moisture-absorbing plants and engineered soils can mitigate possible erosion.

In the hamlet, where hardscape predominates, plazas and paths are shaped to channel stormwater through a series of infiltration terraces before reaching Lake Titicaca. Stormwater infiltration and detention areas have also been provided at the main driveway ramp that that provides access to the hamlet.

Agriculture

The unique micro-climate at Tujsi enables unique agriculture. Delicate herbs and medicinal plants are easier to cultivate here than in most Altiplano sites, so agriculture at Tujsi will primarily focus on these. The site plan disperses agricultural terraces to extend their beauty across the whole site while enabling the convenience of access.

Forestry / Solar Field Area

The southwest corner and top of the site present two options for development. Option A is to pursue forestry, which helps to prevent soil erosion, enhances local water quality, and offers the benefit of harvesting timber—a renewable and sustainable resource for construction and other craft projects. Small forests also provide habitat for wildlife and birds.

Option B is to dedicate this land to a solar field for clean, safe, and renewable power generation. These photovoltaic solar panels can power the water supply system but woud require a relatively expensive battery system to be practical. Alternatively, photovoltaic panels can be mounted on roofs.

"Everything that wears by use needs to be diligently cared for lest they will go to ruin. The Lord calls for men who accept responsibilities to show an earnest, honest zeal, to make the very best of the land.

Ellen G. White, Education, p. 214

WASTEWATER

The wastewater system for Tujsi is inspired by the low-tech strategy employed at Casa Kokan. A series of gravity-fed settling tanks are located in the north corner of the site. Each tank progressively removes waste solids until a final trickling tank filters the effluent for release into a drain field and then Lake Titicaca. A healthy wastewater system will be critical here in order to safeguard lake ecology, the hatchery, and swimming opportunities.

HAMLET PLAZA

Plaza section looking northwest

GATHERING SPACES

Steep slopes provide unique challenges and opportunities for activities with large gathering. Stepped seating, inspired by Cristo Blanco in Juliaca, has been proposed at the hamlet plaza and the lakeside plaza. The hamlet plaza itself is located on the roof of a large multi-purpose hall that has been cut into the slope. This hall can be designed as a small indoor gymnasium or other event facility. The plaza and buildings have been arranged so that views of Lake Titicaca can be enjoyed deep inside the hamlet.

Fellowship plaza looking northwest at the small meeting hall

1. PLAZA WITH A VIEW

The fellowship plaza is built on the roof of the multi-purpose hall below. The plaza promotes social interaction and outdoor events. It also preserves majestic views of Lake Titicaca from throughout the hamlet.

2. STAIRS AS SEATING

The stairs that provide pedestrian shortcuts throughout the site widen out at the fellowship plaza. This allows them to be used as seating during events or for informal rest and social interaction.

3. ACTIVE FRONTS

All building fronts take advantage of the lake views and include porches or balconies. This keeps building facades active and promotes social interaction in the hamlet.

4. VEHICLE ACCESS

The proposal includes access for authorized vehicles and service delivery into the hamlet. The stone paving and integrated channels are designed to reduce surface runoff to mitigate erosion.

RETREAT DWELLING

1. DORMITORY LODGING

Dormitory buildings are intended to house visitors overnight in shared open rooms with bunk beds. As shown in this view, the building has a second story balcony and outdoor terrace for exterior occupation and circulation.

2. FAMILY LODGING + GARDENS

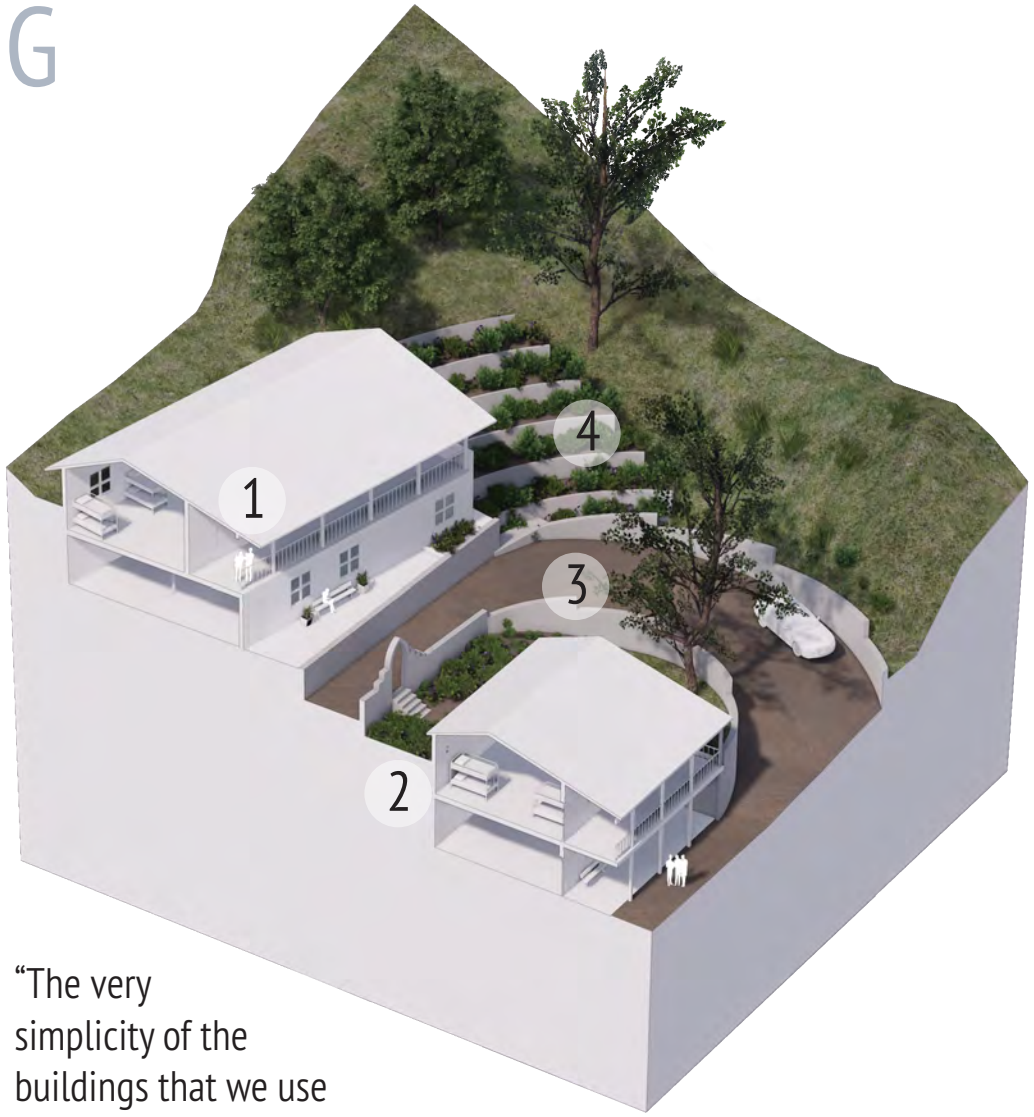
Three separate buildings are available to house families or small groups. Buildings are designed with access to private balconies, porches, or gardens. This enables the retreat center to operate different types of events and promotes small group interaction.

3. ACCESS DRIVE THROUGH SITE

The access drive extends from the main road to the hamlet center. It is only intended for authorized vehicles and occasional deliveries. Its materials, design, and character will resemble historic, pedestrian friendly townscapes.

4. BIO GARDENS + AGRICULTURE

The history of Andean culture on Lake Titicaca has seen the cultivation and growth of crops along the high plains and mountainsides of the region. Portions of this site have been dedicated to the development of agriculture and medicianl plants as seen here.



"The very simplicity of the buildings that we use will be a lesson in harmony with the truths we have to present."

Ellen G. White, Medical Ministry, p. 309

View from the visitor center

1. VISITOR CENTER

A staircase leads from the roadside visitor center and caretaker dwelling straight down to the hamlet. The hamlet plaza is visible from above.

2. OUTDOOR CAMPING

Open terraces have been preserved for camp sites between herb and medicinal gardens. This open area also buffers the hamlet from the main road.

3. RETREAT LODGING

The lodging buildings are clustered within the hamlet have been arranged to maximize views through the plaza and over Lake Titicaca.

4. MEETING PLAZA

The hamlet plaza is at the center of the composition and is fronted by the meeting halls and dining facility. The lakeside view is preserved at the plaza.

ACKNOWLEDGEMENTS

PROYECTO INTEGRAL DE DISEÑO ARQUITECTÓNICO ASOCIACIÓN EDUCATIVA CATA

This project was commissioned jointly by the Asociación Educativa CATA and the Villa Hermosa Seventh-day Adventist Church in Juliaca, Perú. It was prepared by the 2018 Urban Design Studio at the Andrews University School of Architecture & Interior Design for the glory of God, and to help advance the joint mission of Colegio Adventista Túpac Amaru and IASD Villa Hermosa.

This is the joint work of the school and the church, which includes the participation of all members of the congregation and of the teachers, parents, and the active participation of Diego Pinto Apaza (Director), Dino Alexis Apaza Sosa and Yolanda Alvaro Quispe (Administration), Soledad Huanca Queque (Nurse), Severino Mendoza, and many others.

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COMISIÓN DEL PROYECTO: COMPLEJO EDUCATIVO AE CATA

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- Rolando Carcasi Condori "Pablo Roca"
- Gloria Nelly Mamani Apaza
- Betty Huanca Mamani
- Julio Miranda Ch., honorary member
- Roberto Gonzalez Sánchez, honorary member

The commission has worked with the following boards of directors and with the representatives of Villa Hermosa Seventh-day Adventist Church: the district pastor and head elders respectively.

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School of Architecture & Interior Design
Andrews University

OASES FOR MINISTRY

A Proposal for Colegio Adventista Túpac Amaru in Juliaca, Perú