

WE'RE NOT JUST ONE OF THE WORLD'S LARGEST FIRMS

WE'RE YOUR BEST PARTNER

BEST ADVISER AND SOLUTIONS PROVIDER

ABOUT AIDEA

WHO WE ARE

Aidea is a global integrated design and technology firm with a multidisciplinary practice. With over 1000 projects in 100 cities in 60 countries across 5 continents, Aidea ranks 44th in the World Architecture 100's annual survey of the world's biggest architecture practices.

We have been in practice for 27 years, integrating architecture, planning, interior design, environmental graphic design, and Virtual Design and Construction (VDC) as our core expertise.

We are recognized globally as a forerunner and expert on Virtual Design and Construction (VDC), the first Asian practice to embrace the leading-edge technology in 2005.

Aidea embraces change. We thrive on it. We know it's where **innovation** can flourish.

•

WE ARE A DESIGN AND TECHNOLOGY PRACTICE.

WE INTEGRATE MEANINGFUL
DESIGN EXPERIENCES,
PIONEERING TECHNOLOGIES,
AND CREATE PROGRESSIVE
PARTNERSHIPS TO DELIVER
TRANSFORMATIVE SOLUTIONS.

YOUR SUCCESS = OUR SUCCESS



INTEGRATED TEAM

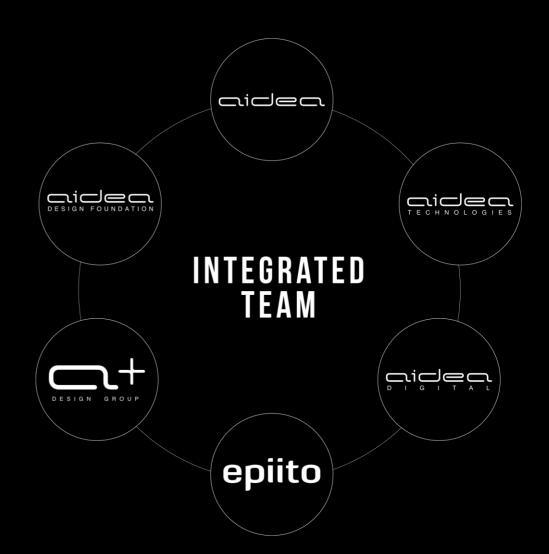
Aidea, Inc. is the heart of our operations and provides design expertise in the areas of architecture, planning, interior design, and environmental graphic design.

With Aidea Technologies, Aidea can provide customdesigned, cross border Virtual Design and Construction (VDC) solutions to consultants, contractors and other building industry professionals.

Epiito provides the valuable means for virtual prototyping, content creation and co-creation to enable communication, secure understanding and provide knowledge that is fundamental for qualified decisions among members of a project team regardless of geographic location.

A+ Design Group allows us to draw from the diverse range of expertise of our global alliance of 14 design practices, thus enabling us to meet the demands of complex, technically challenging projects.

Aidea Design Foundation is the component that allows Aidea to uphold our commitment to the promotion of education in the fields of design and technology. Through our foundation, Aidea can invest in the shaping of the solution providers of tomorrow.







INTEGRATED DESIGN

ARCHITECTURE
PLANNING
INTERIOR DESIGN
ENVIRONMENTAL GRAPHIC DESIGN
VIRTUAL DESIGN AND CONSTRUCTION





CUSTOM-DESIGNED SOLUTIONS

Aidea is invested in technological innovation to power creative collaboration, drive efficiency, and push for higher sustainability goals. Through data optimization, we maximize the use of digital technologies to improve quality, boost productivity, streamline project milestones and increase cost savings throughout the building lifecycle.

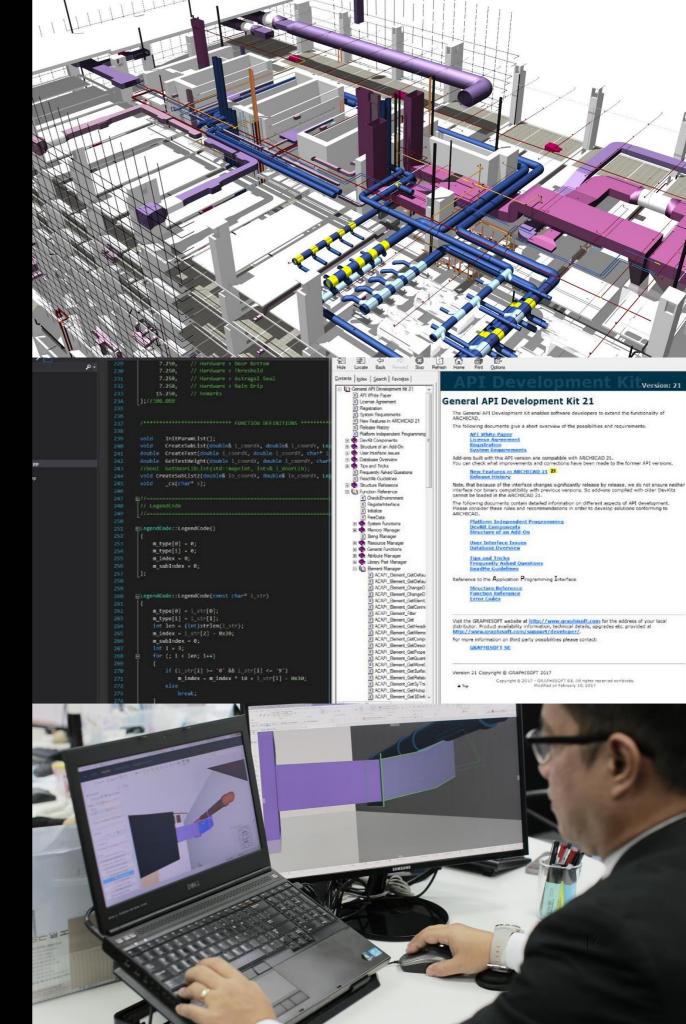
Aidea Technologies, subsidiary of Aidea, Inc., provides custom-designed technology solutions and support for Virtual Design and Construction (VDC) projects of design firms, home builders, design and build contractors and specialty contractors. Aidea Technologies offers a wide- range of VDC solutions including consultancy and transition services, process mapping and customization, high-end modeling and documentation, automation and software development.

VDC enables everyone involved in a project to simulate their work in a 3D virtual environment, where plans are tested and potential design dashes are resolved before any actual construction or fabrication is done.

Through the firm's in-house software development department, Aidea customizes programs that automate VDC processes and repetitive modeling tasks. These plugins automations help architects and designers analyze areas and efficiencies, check building code compliance, create dash detection reports, produce construction drawings, specifications, and tags, generate quantities and cost estimates, all in an instant. This

likewise allows us to configure our capability to cater to every dient's unique processes.

Innovation has changed our approach to projects by enabling us to deliver grounded end-user solutions faster through an efficient workflow. We share our knowledge with all stakeholders and in doing so, influence the way they work. Best of all, our technology team gives Aidea a unique differentiator and distinguishes us as no longer just a design firm, but a technology company as well. This distinction continues to create for us new avenues to open new markets and provide deeper value for our dients and partners.



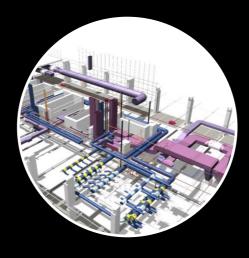


OUR INTEGRATED DIGITAL SOLUTIONS



BUILDING INFORMATION MODELING (BIM) FOR FM

Aidea Digital digitizes existing properties and facilities in preparation for facilities management covering modeling of buildings in the virtual environment and inputting of information and data to be extracted for further uses.



BUILDING DATA MANAGEMENT

Aidea Digital provides proactive management of data including collection, organization, analysis, storage, and sharing. We believe in the importance of a data-driven approach to strategic and successful decision-making. As data architects, we focus on developing robust infrastructure and systems for data to deliver value.



DIGITAL TWIN

Aidea Digital develops virtual representations of buildings and environments that serve as realtime digital counterparts of existing developments. The virtual replicas are used to run simulations, predict performance and harness data intelligence. Through digital twinning, we enable smart facility management for building owners and facilities managers.



SOFTWARE DEVELOPMENT

Aidea Digital designs and develops software solutions custom-designed for our partners' specific standards, processes, and workflows including feature extensions, integration of various platforms, and automation.



VIRTUAL CO- CREATION

In 2014, Aidea, in a joint venture with Danish partner BIM Equity, established Epiito to explore applications of VRin Virtual Design and Construction.

We developed Computer Automated Virtual Environment (CAVE) technology, which enables us to do virtual prototyping. With CAVE, owners, designers, and users can walk through a BIM model in virtual reality to experience the design of aroom, abuilding, apark, or even atownship. It is an extremely accurate communication tool, allowing stakeholders without technical training to become co-creators of their projects. Experiencing the BIM model in 1:1 scale enables the project team to assess space programs, wayfinding, operations, and logistics, and even to conduct orientation and training programs in virtual space before project construction.

Using an application, consultants around the world can connect their mobile devices to see exactly what the project team in the CAVE sees. This enables the whole team to collaborate in real time, examine options and propose solutions together, leading to faster and better diagnosis and decision-making.

As co-creators and integrators who manage multidisciplinary—often globally dispersed—teams, tools developed by Epiito allow for the tight coordination of each expertise to drive efficiency, quality, and unity of effort.





END-TO-END SOLUTIONS

A+ Design Group is a global alliance of 14 design firms from strategic countries formed by Aidea to cover end-to-end project lifecycle: from business development and project establishment through all the stages of design, construction, and building operations. Building upon Aidea as an integrated design provider, our allies in Asia, Europe, the Middle East, and the USA broaden and fortify our range of services, allowing us to take on complex projects while adding global experience to location-specific knowledge.

Cross-border collaboration allows us to see each other as partners rather than as supplier and client. This relationship allows us to explore unfamiliar territory together. The real strategic advantage is that with each project completed, both partners emerge mutually enriched by the experience of co-creation, ready and able to tackle ever greater challenges.

60+ 4000+ 400+

LOCATIONS.

PROFESSIONALS.

AWARDS

PLANNING

Location Strategy Land Use Planning **Urban Planning Master Planning**

DESIGN

Architecture **Engineering** Interior Design **Branding** Landscape Public Art

CONSULTING

Business Case Development Feasibility Studies Project Establishment Programming Technology Change Management





CARING FOR OUR FUTURE

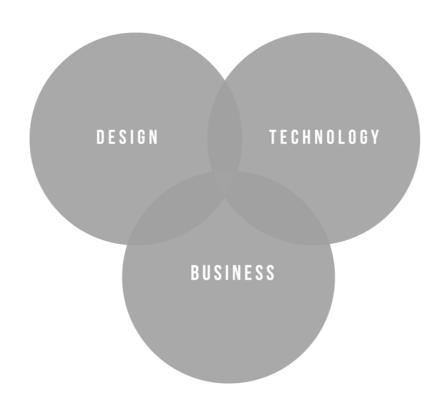
Our activities focus on empowering architecture and software programming students through scholarship and mentorship programs, and young elementary school students through the Philippine Department of Education's Adopt-a-School program.

The Aidea Design Foundation launched its **Scholarship Program** in 2012 with four college scholars. As of December 2018, we have had a total of 40 scholars and 18 graduates.

Through the Department of Education's **Adopt-a-School Program**, the ADF has been supporting Ganado Elementary
School in Biñan, Laguna, since 2015. Apart from providing
monetary and material support, the Aidea Design Foundation
enlists Aidea volunteers to initiate activities with the school
children to encourage reading, sports, self-expression, and
interest in design and the arts.

INTEGRATED APPROACH

INTEGRATED DESIGN AND TECHNOLOGY



Aidea believes in the transformational power of good design. Our design know-how informs our use of technology. This, in turn, empowers our design process. By practicing empathy, co-creation, and the integration of design and technology, we provide comprehensive solutions to meet your project goals.

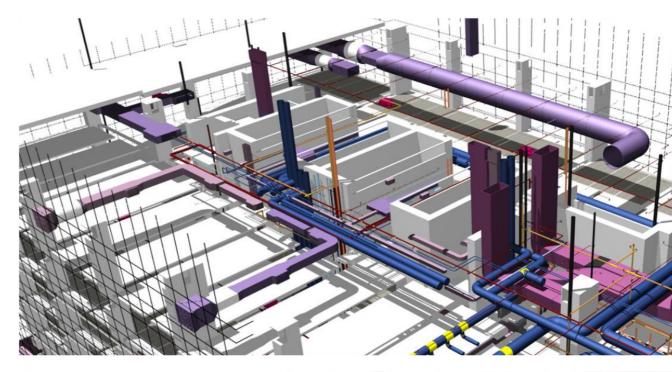
AS AN INDUSTRY LEADER IN INTEGRATED DESIGN AND TECHNOLOGY, WE LEVERAGE **OUR EXPERTISE, UNIQUE** PROCESSES, AND CONTINUOUS TECHNOLOGICAL INNOVATION TO CREATE MEANINGFUL **SOLUTIONS** THAT BRING THE BEST VALUE TO OUR STAKEHOLDERS. STAKEHOLDER SUCCESS IS **ALWAYS OUR GOAL.**

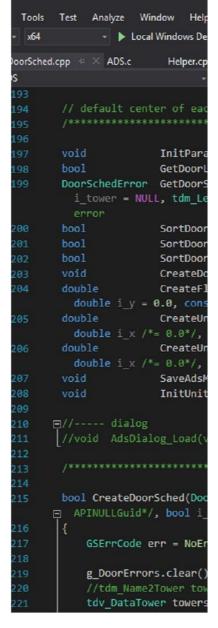
INNOVATIVE SOLUTIONS

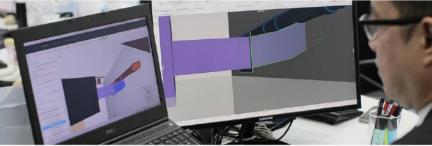
VDC, OUR PLATFORM FOR INTEGRATED DESIGN

Aidea is recognized worldwide as a frontrunner and expert on Virtual Design and Construction (VDC), having won top prizes in competitions such as Build London Live, Build Qatar Live, and BIM Buzz Singapore. As early as 2005, Aidea has catapulted itself as the foremost user of new platforms in technology. VDC has allowed the firm to take on even larger and more complex projects and established us as the trusted authority in VDC in the Philippines and overseas.

We are invested in technological innovation to power creative collaboration, drive efficiency, and push for higher sustainability goals. We use technology to test and prototype ideas, design and document drawings, and collaborate and co-create virtually in real-time regardless of global location. Through data optimization, we maximize the use of digital technologies to improve quality, boost productivity, streamline project milestones and increase cost savings throughout the building lifecycle.















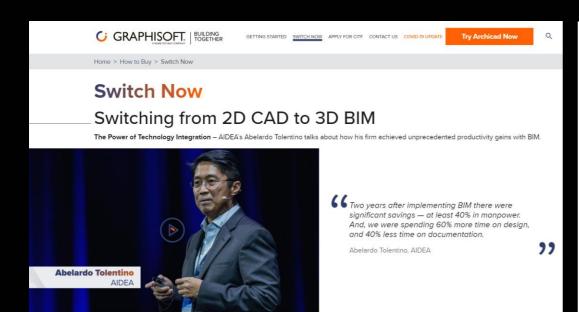
Nanked #39 in the World







INNOVATION COMPANY OF THE YEAR NORDIC AWARDS 2019













2011 BIMBUZZ SINGAPORE



LEARN MORE & WATCH VIDEO



PHILIPPINE DAILY INQUIRER

statista 🗸



Tech-driven Aidea brings exciting, transformative design solutions to PH



By Vaughn Alviar

Aidea marries technology with design in providing industry-leading end-to-end solutions for its partners worldwide.

In 2003, Ar. Abelardo "Iojo Tolentino Jr. transformed an architecture firm's Manila branch, established in 1995, into Aidea. The team manning the now fully Filipino-owned company had survived the harrowing 1997 Asian Financial Crisis. With a good client base, Tolentino decided to rebrand.

After locking in early successes in 2005, Aidea sought a competitive advantage and found an answer in technology.

Driven by a desire to innovate,

bring success to all stakeholders and deliver services more efficient-ly, the firm heavily invested in technology. It pioneered virtual design and construction (VDC) in Asia and has since made it a goal to keep abreast of the latest.

The migration from analog "was chaotic. As with any kind of change, the start was difficult. It needed the effort of the whole organization to overcome these chalenges. The whole organization, such as human resources, finance, facilities and IT must help support the change," recalled Tolentino.

"Of course, the top management should be committed to the change. The biggest realization that we had throughout our journey is that the greatest challenge to change is not in the hardware or the software, but in people's mindsets," he added.

That decisive step morphed the company from a design to a "design and technology" practice, a workDigital transformation has

oven to be a huge advantage for the firm, not only in diversifying ervice offerings but, more impor tantly, in future-proofing the practice. Aidea has established itself as a global thought leader in digital transformation by embracing the idea that "data is the new currency", as Tolentino had put it.

Switching from 2D to a fully digital, model-based and data-drivoperation, Aidea can generate 3D models that are usable in the whole building lifecycle of clients. Through these, coordination becomes seamless, design clashes are resolved before construction or fabrication, and abortive works are reduced, thus saving time and lowering costs.

Capitalizing on its expertise, Aidea has diversified.

Tolentino explained: "Because of the knowledge we had of VDC, many firms wanted to work with us ... so we spun off a subsidiary called Aidea Technologies to provide custom-designed solutions for VDC migration.

Aidea has also positioned itself as a disruptor in the architecture. engineering and construction industries. Four years ago, it formed a software development team that explored automation and customi-

Today, its studios are bastions of cutting-edge technology, wherein designers and programmers are encouraged to create change, disin a future where design and techmutual empowerment.

Its designers benefit from in-

tedious and repetitive tasks. Its software can churn out contract documentation, specifications and bill of quantities, among others cutting down what was six months

time for research, ideation and the nurturance of long-term partnerships with clients. The firm's invest . Aidea operated fully and safely

of 800-plus projects in five continents. Ranked 39th, it is the highest-placed Filipino firm on the 2021 WA100, a list of the world's top keep its leadership by exploring erging trends like the Internet of Things, artificial intelligence and big data.

like to focus on high-impact technology that addresses the needs of the construction and design indus try by creating more solutions and

Embrace change, focus on your strengths

of work into just one. Technology gave Aideans more

ment in technology has resulted in an increase of at least 50 percent in productivity. During the pandem handling up to 80 projects in lockdown and onboarding new clients due in part to the firm's expertise in virtual and cloud collaboration. Aidea now boasts a portfolio

He concluded: "In all of this our biggest gain is in developing in our people the passion for innova tion. We envision that our commit ment to transformative solutions will help give rise to buildings that are smarter, more efficient and more people-friendly than ever be fore. The next several years will no doubt be some of our most exciting yet. We will continue to pursue op portunities to take our next Quan

FROM B2-6

By Tina Arceo-Dumla

Leaders of growth champions share some secrets to their firms' success

EMBRACE CHANGE,

Our people have to the growth of the company. Their malasakit (care) for passion for their

made us No. 1



We have always

relevant and high-

helped us acquire

gain their loyalty

quality content

and this has

Be aggressive and have the mindset of an Make every centavo count in operations





FOCUS ON YOUR STRENGTHS





Aidea

Creating Solutions for all Stages of a Building Life Cycle

or the team at Aidea, the focus has been very clear since its genesis - to leverage the latest technology so they can continue to provide cutting edge solutions in the field of large scale commercial, residential and industrial development. The journey to become Aidea, a design and technology firm, started 25 years ago in Manila, Philippines with a less than 10-member team. Even at the time of the 1997 Asian financial crisis, the team at Aidea continued growing the business and in 2001, won a major design competition for a high-rise residential project from the biggest developer in the country, Ayala Land. "The accolade we received really boosted the growth of the company and pushed us from

As time passed, Aidea expanded further but the constant need to grow smarter impelled it to find technology that could give it a competitive advantage. Soon, the team at Aidea were introduced to Building Information Modeling (BIM), an intelligent 3D model-based process that gives professionals the tools and insight to efficiently design, construct, and manage infrastructure. After careful evaluation of BIM, the team at Aidea decided to go ahead with

small to a medium sized company thus

helping us expand," says Jojo Tolentino,

President and CEO at Aidea.

"It was chaotic," says Tolentino "but we stood by the decision and migrated everything to BIM. Our productivity took a hit for the first 3 months; but

the same; and by 2005, the

transition from 2D to 3D was

6 months later, we knew we had made the right decision." BIM gave Aidea a competitive advantage helping it deliver quality work. It also optimized Aidea's workflow and created more income streams to benefit from. Since Aidea was the first to take the leap and move to BIM's 3D model, it gained international recognition as a reputed architectural firm that is BIM-based and this helped it secure more projects globally and locally. "Because of the knowledge we had of BIM, many firms wanted to work with us and understand how to use BIM efficiently, so we spun off a subsidiary called Aidea Technologies provide custom-designed solutions for BIM migration, integration,

> and automation," says Tolentino. The team at Aidea then went on a joint venture with its Danish partners and started a Computer Automated Virtual Environment (CAVE) technology-based company called Epiito in 2014. With CAVE, designers, owners, and users could walk through a BIM model in virtual reality to experience the design of a building, a room, a park, and even a township. It is an accurate communication tool that allows stakeholders without technical training to become co-creators of

> > Expanding further in 2020 through its subsidiary, Aidea Technologies, Aidea continuous to push for the potential for automating processes

> > > for the AEC industry. From an in-house initiative to improve efficiency and productivity as a response to demand from its global clients and partners, its automation solutions now serve as a new service and product for the firm to diversify. "Our plug-ins enable architects, engineers, and contractors to indulge in solving strategic and higher-order challenges,



as well as generate overall savings in time and money," adds Tolentino. Through Aidea's advances in digital delivery, it provides solutions that encompass the entire building lifecycle. Appreciating Aidea's automation solutions, Graphisoft, said. "Aidea has been pushing Archicad's capabilities to its limits and automating the most tedious workflows that can save them the most time in delivering projects. Their level of documentation optimization makes it possible to deliver a project in a fraction of the time needed with conventional workflows. Of course, to do that, they are very strict in terms of modeling compliance, because everything from scheduling to automatically arranged and published layouts come from the model. This is how they create a competitive advantage." Aidea's add-ons automate repetitive tasks that liberate designers from the tedium of repetition and allow them to spend more time designing. The company aims to provide automation such that designers can creatively deep-dive as a rule, not a luxury.

Describing a challenging project that Aidea had to complete, Tolentino said that they had to create a stadium with a design build contractor for the Southeast Asian Games in 2019 within 18 months. Aidea was called upon early in the design stage to assess the feasibility of the structural system. Aidea built a BIM model of the proposed design as a tool

for testing and validating the concept for performance and constructability. Since none of the other project team members or stakeholders were BIM users, the model helped to visualize and define the project for all involved and allowed for full appreciation for the project mission. The model was also used for early fabrication of various construction components, fasttracking the delivery process. Tolentino believes that with the BIM model as the central repository where all contributions were consolidated, coordinated, and aligned, the efforts among the architects and engineers crystallized in a design that remained true to the original intent. The project was completed ahead of time and generated overall project savings for all the

As for the future of Aidea, "we would like to focus on high impact technology that addresses the needs of the construction and design industry by creating more solutions and tools." says Tolentino. The team at Aidea is also venturing into AI and generative design to create more responsive design solutions, and are working to integrate IoT and other emerging technologies. Lastly, Aidea is also developing its own facilities management platform to take BIM all the way to building management sites. "The goal is to be relevant on all the stages of a building life cycle," he concludes.

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WATCH GRAPHISOFT KCC 2018: POWER OF TECHNOLOGY INTEGRATION



WATCH GRAPHISOFT BUILDING TOGETHER WITH AIDEA

➡ ByDesign Season 3, Episode 3: Reality Shift



WATCH BY DESIGN SEASON 3 EP 3: ALL TOGETHER



WATCH WSC POLAND 2019: THE BIG SHIFT



WATCH AUTODESK ASEAN: SUCCESS PROJECT DELIVER'



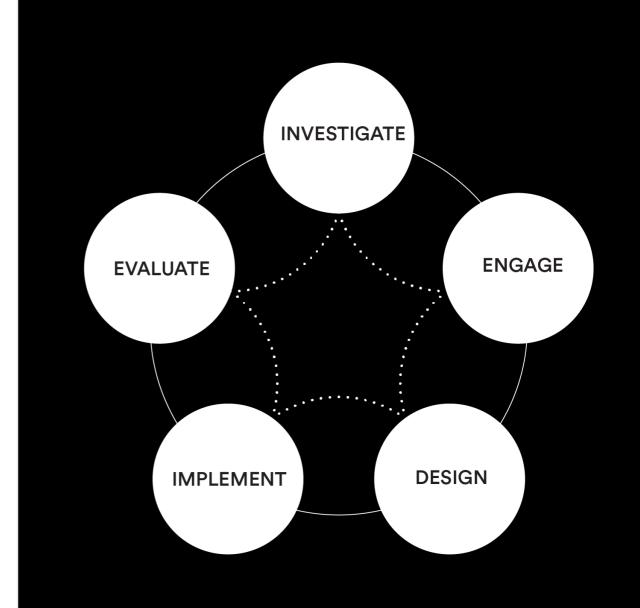
INTEGRATED APPROACH

INTEGRATED DESIGN AND TECHNOLOGY

Traditionally, architectural work is the result of a linear process and execution methodology. These processes are passive, inflexible, and place value on production rather than innovation, strategic thinking, and conceptual ideas that drive better projects.

Our process assembles a collection of methods tailored to the unique situations, user groups, and context in which a project is located. This approach allows for fluid movement between different phases as required by the solution development trajectory, resulting in robust and relevant design solutions.

It is a process that powers **innovation**.























GILAN/ HEERIM ARCHITECTS & PLANNERS CO.

ARCHITECTURAL BIM INTEGRATION & DOCUMENTATION IN COLLABORATION WITH: HEERIM ARCHITECTS & PLANNERS



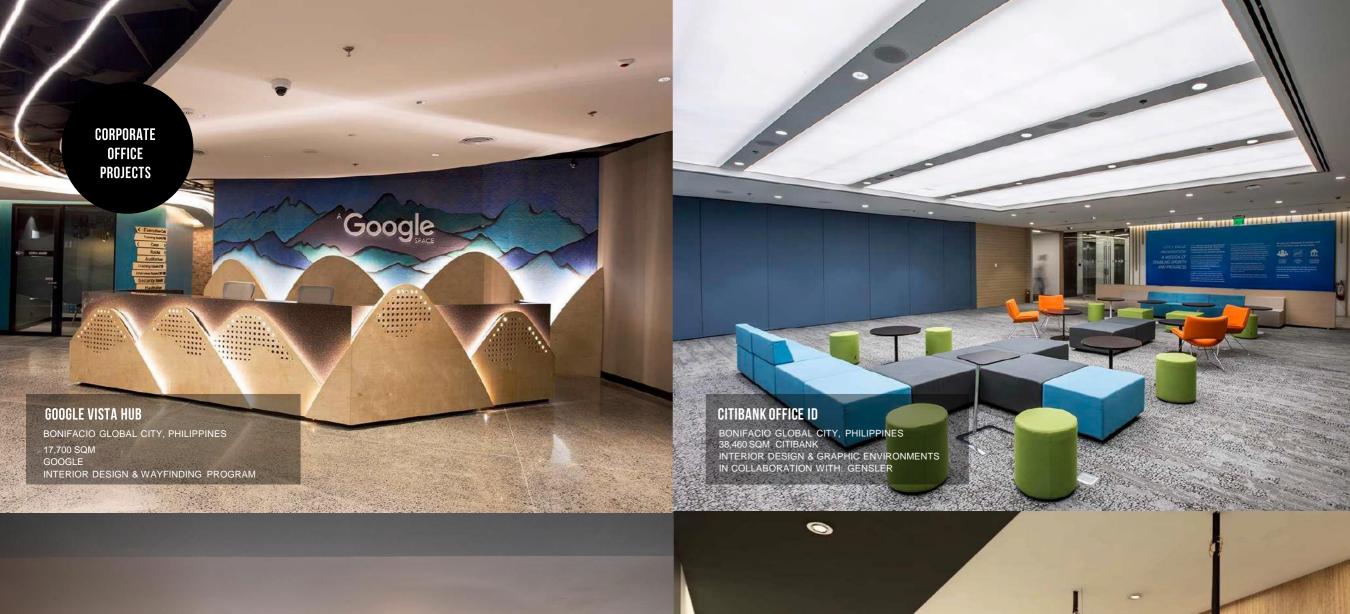






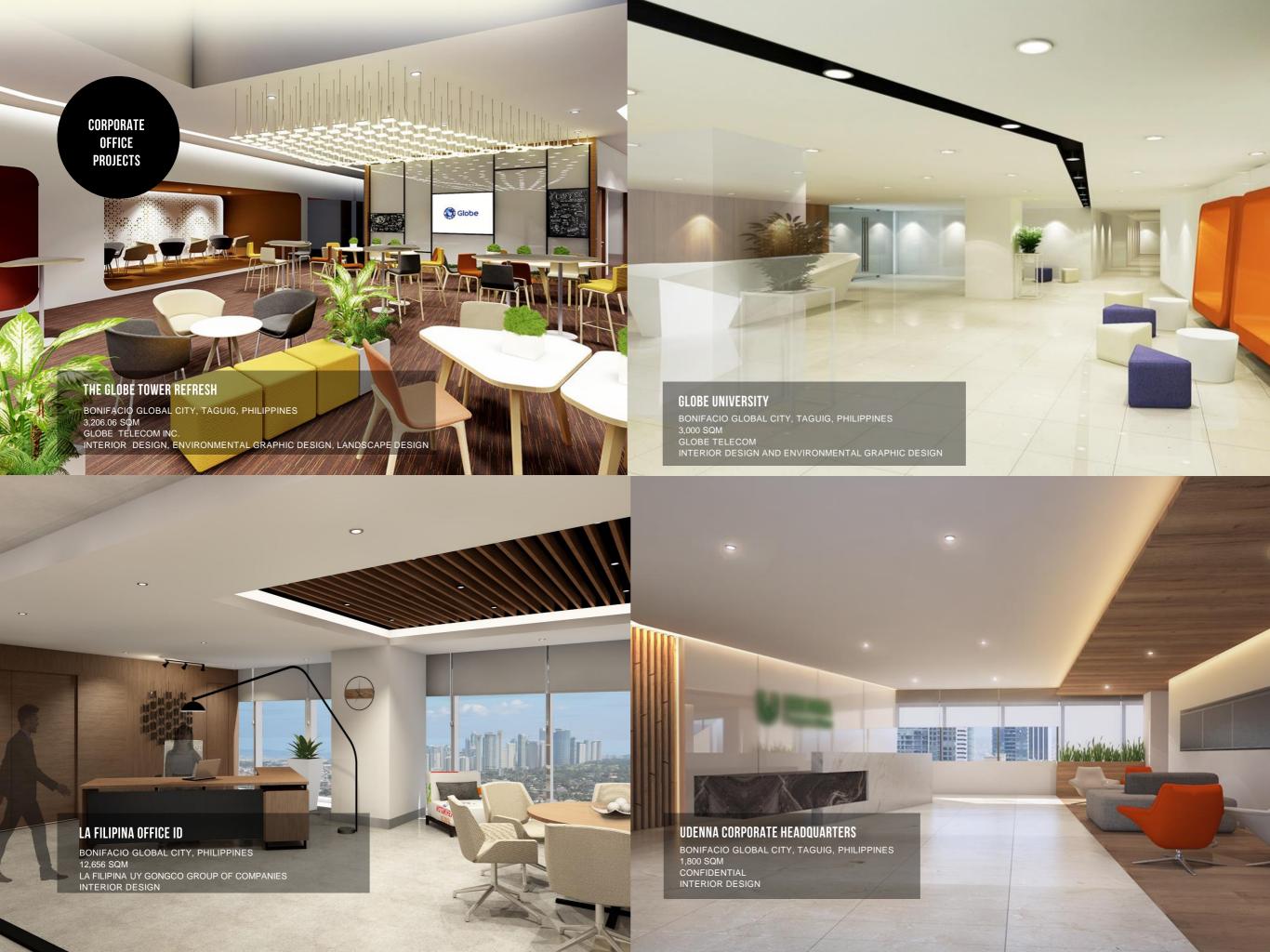


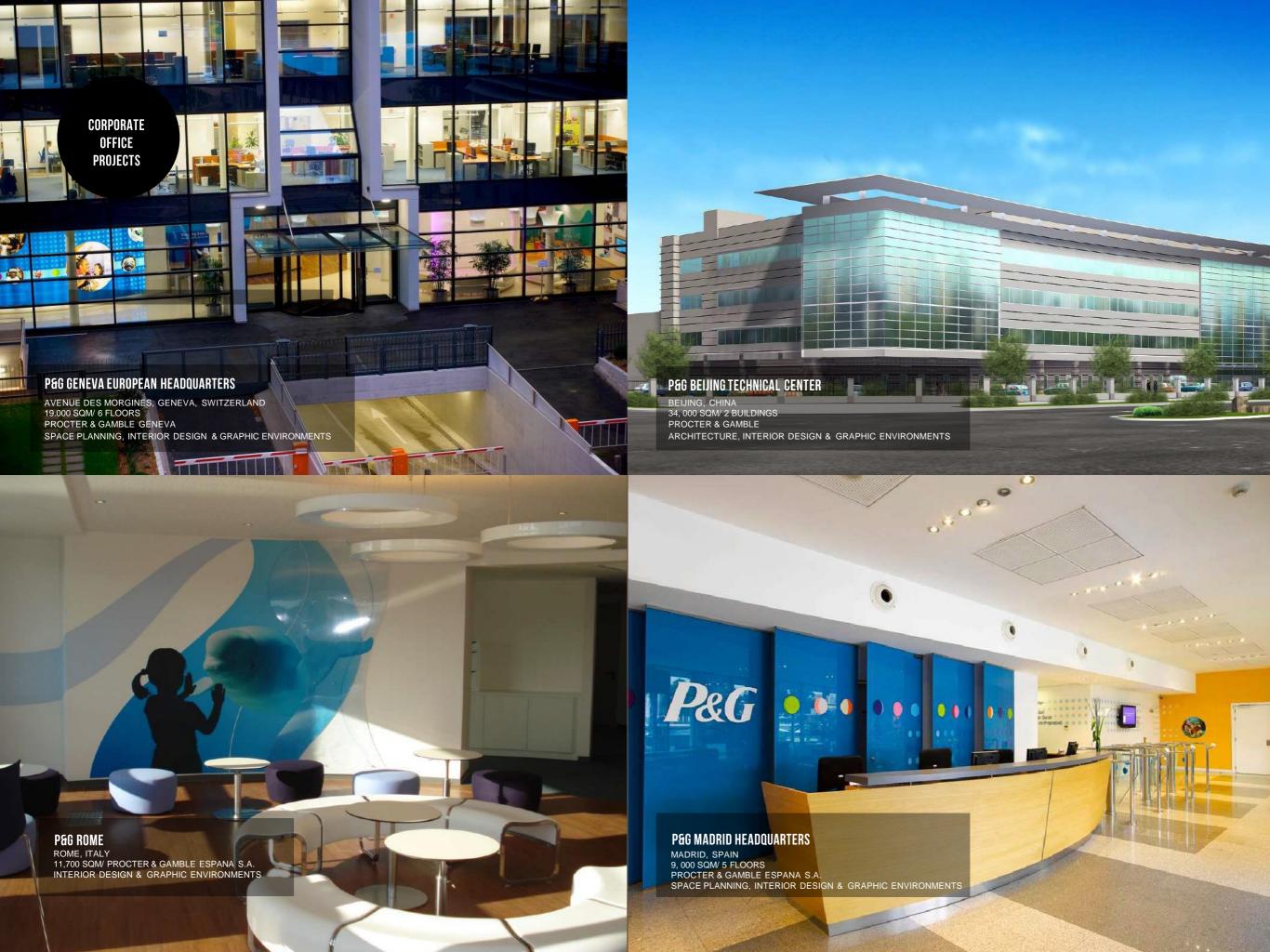


















NESTLE FRONTIER BATANGAS CITY, PHILIPPINES 35 HECTARES NESTLE PHILIPPINES, INC.

MASTERPLANNING, ARCHITECTURE, INTERIOR DESIGN & ENVIRONMENTAL GRAPHIC DESIGN

MIXED-USE DEVELOPMENT PROJECT

China

Client: Confidential
Size: 130, 802 sqm
Typology: Mixed-Use
Services: Masterplanning
and Architecture

2022

Year: 2020

This project spans the entire spectrum of a mixed use components: hotel, office, corporate headquarters, residential, retail, and recreational in one mammoth development. The vision behind it is the creation of a life-giving, smart city within a bustling modern metropolis in China. It is envisioned as an urban oasis that would connect the future inhabitants and users to nature and the biodiversity present in the area.



MIXED-USE DEVELOPMENT PROJECT

China

Client: Confidential 130, 802 sqm Size: Typology: Mixed-Use Services: Architecture

Year: 2020

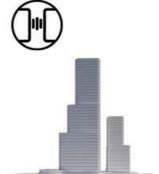
This project spans the entire spectrum of a mixed use components: hotel, office, corporate headquarters, residential, retail, and recreational in one mammoth development. The vision behind it is the creation of a life-giving, smart city within a bustling modern metropolis in China. It is envisioned as an urban oasis that would connect the future inhabitants and users to nature and the biodiversity present in the area. This new sustainable, connective, and technologicallyenabled environment positions the project as a landmark for the town while maximizing value and the land use.





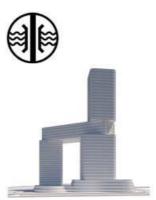
OPEN LOOP

SCHEME 01



PAIRED TOWER

SCHEME 02



BRIDGE SPAN

SCHEME 03







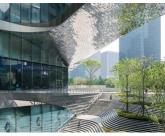
























CEBU YACHT CLUB MASTER PLAN

Cebu, Philippines

Client: Confidential
Size: 305, 400 sqm
Typology: Hospitality

Services: Masterplanning and

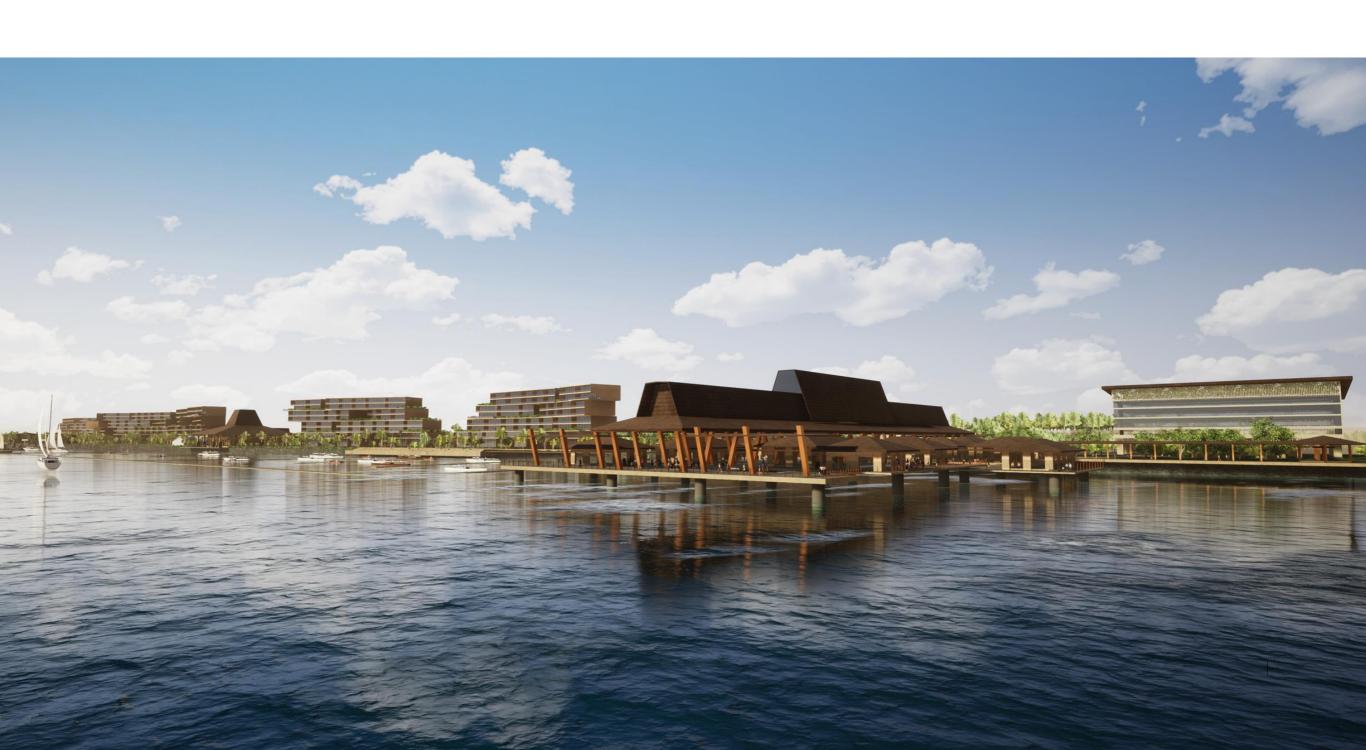
Architecture

Year: 2020

This project involved the expansion of an existing yacht club, the redevelopment of the waterfront edge, and the development of the

surrounding areas for hospitality

accommodations and residential condominiums.



CEBU YACHT CLUB MASTER PLAN

Cebu, Philippines

The project enjoys a close proximity to a major international airport and the mixed-use hospitality, retail, and commercial components envisioned for the development can serve both the immediate community as well as departing air travelers in what can be seen as an open air, seafront extension of the airport's pre-departure lounge.

The residential expansion further inland is large scale and dense but the blocks are broken into smaller elements to create a friendlier scale, to take advantage of the benefits of the waterfront site, and to facilitate balconies and other outdoor spaces that cater to views of both the water





















Culture

Charm

Luxe

CAMPUS REDEVELOPMENT

Makati City, Philippines

Client: Confidential Size: 56,400 sqm Typology: Institutional

Services: Masterplanning, Architecture,

Interior Design and

Environmental Graphic Design



NESTLE FRONTIER

Batangas City, Philippines

Nestle Philippines Inc. 35 Hectares / 3 Buildings Client: Size:

Typology: Industrial

Services: Masterplanning, Architecture, Interior Design and

Environmental Graphic Design

2009 - 2012 Year:

The Nestlé Company envisioned its fifth facility in the Philippines as the "Factory of the Future" —nurturing technology, people, and the environment within a harmoniously sustainable "eCo-mmunity". Considered to be among the company's most advanced facilities worldwide, the project is located within a 28-hectare development in Tanauan, Sto. Tomas, Batangas.

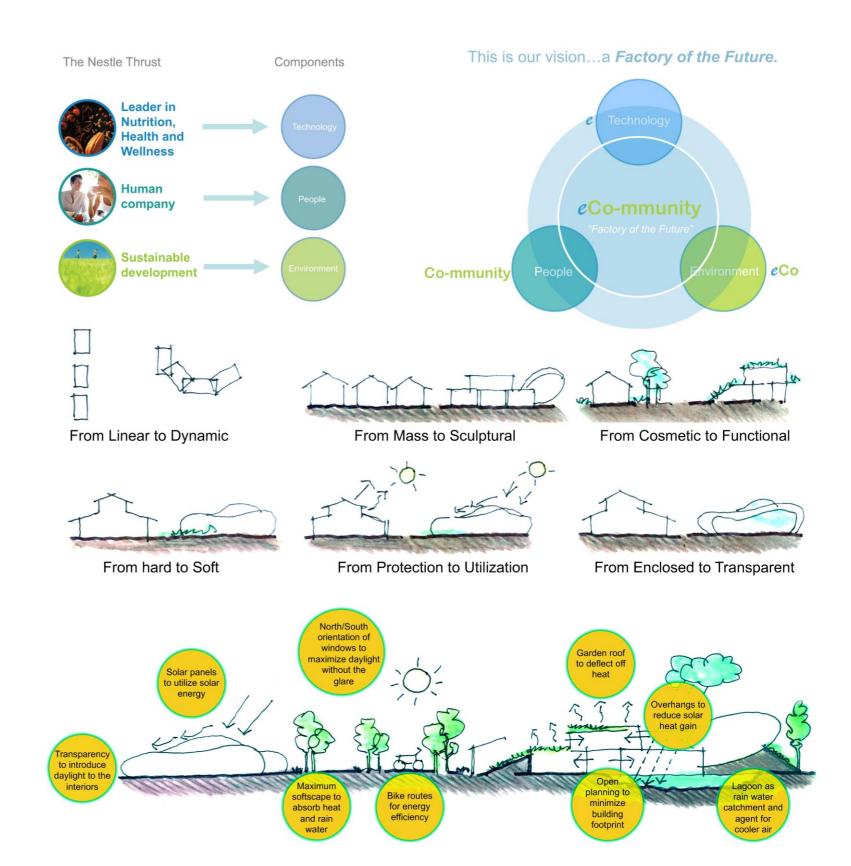


NESTLE FRONTIER

Batangas City, Philippines

The prime design challenge was to create appropriate containers for all of the factory's proprietary production processes in an idiom expressive of cutting edge modernity as well as of the company's commitment to the highest standards of quality and health and safety.

Beyond the creation of merely functional sheds, we designed sensorial architectural experiences that would enhance the various activities for which the buildings cater, be they for workers or visitors alike. The enclosing volumes are articulated to convey externally a message of advanced food processing expertise, and internally to provide spatial moments that surprise and delight. The final forms are the result of diligent design explorations and an intuition about what the place should express.



NEW SENATE BUILDING

Bonifacio Global City, Taguig, Philippines

Client: Hilmarc's Construction Corporation

Size: 131, 570 sqm Typology: Institutional

Services: Architecture, Interior Design

and Environmental Graphic Design

Year: 2017 Design Competition

The design concept for the New Senate of The Philippines was born from the position that what makes a building meaningful is derived not exclusively from form but more so from the narrative behind it that resonates with the identity and values of a people.



















































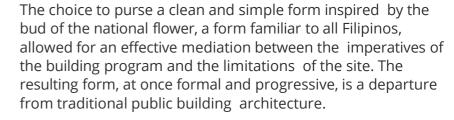












The unique ovate shape makes the building easily recognizable and created the opportunity to provide separate entrances and circulation routes for the senators and the public. The intricate façade design forms layered walls that do not so much as separate but acknowledge, encourage, and celebrate collaboration between the citizenry and the nation's lawmakers.

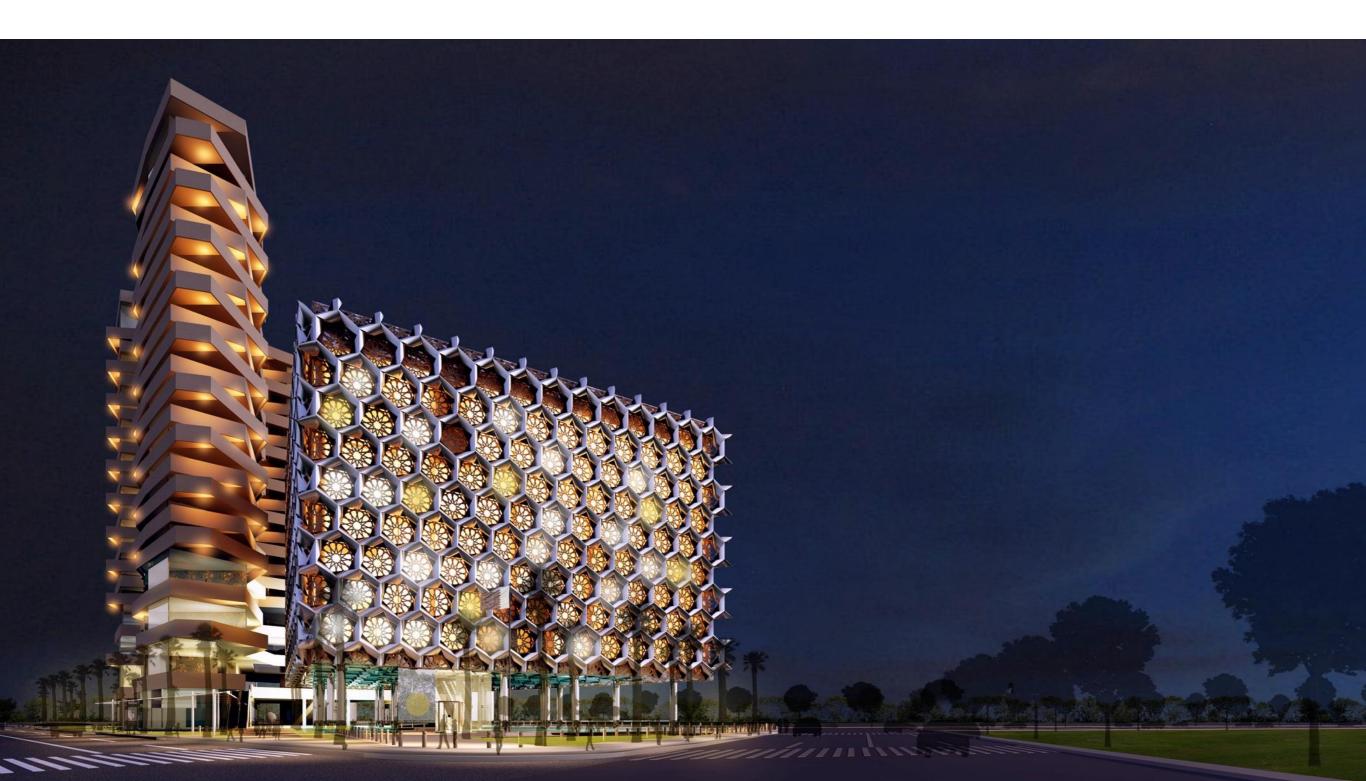
QATAR EMBASSY

Manila, Philippines

Client: Khatib & Alami - Saudi Consolidated

Engineering Company

Size: 55, 680 sqm Typology: Institutional Design Competition An embassy speaks the universal language of diplomacy. It speaks function, a purpose, its people. It represents Qatar's culture and embodies their way of life. Qatar's Embassy in Manila is a great opportunity to narrate the story of a desert people's journey towards a strong national identity, setting the tone for a smooth engagement between two cultures.



QATAR EMBASSY

Manila, Philippines









The design showcases a taste of Qatar with the focus on islamic and family values, a glimpse of their art and architecture, and a feel of home. The vertical development is rooted in tradition and built up and through modernity. The ground floor is intended to be a space of integration where the Philippines meets Qatar within the perimeter of sustainability that evokes social justice, cultural wealth and ecological restoration.

BUILD LONDON LIVE 2012

London, United Kingdom

Client: The Open BIM Build London Live Award

Typology: Institutional International BIM Competition

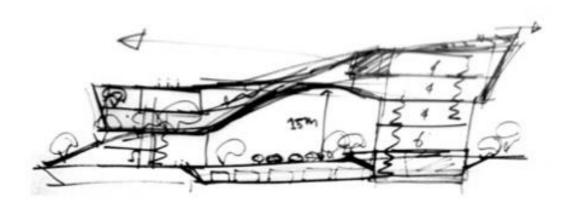


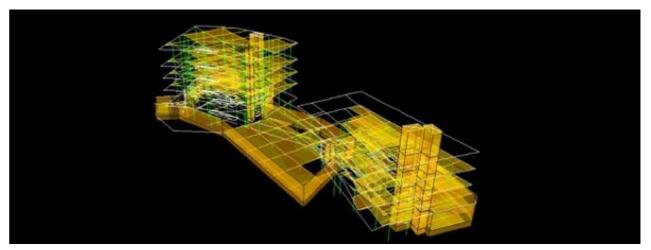
BUILD LONDON LIVE 2012

London, United Kingdom

Aidea's Build London Live outing in 2012 was the firm's first and most challenging virtual build in which the team squeezed two months' worth of work into two sleepless days. From noon of May 21 to noon of May 23, ten participating teams, including those from the United Arab Emirates, India, Ireland and Chile, worked live on the marathon design challenge.

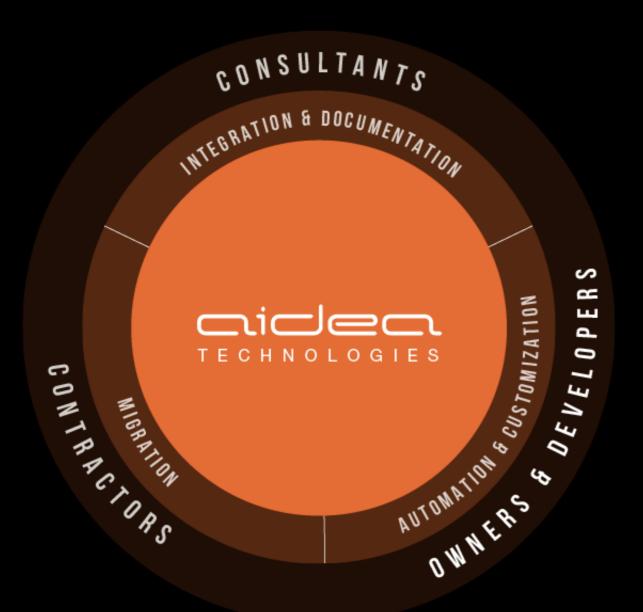
Teams only learned about the design problem on the day the competition started: to build a museum that would immortalize events in London that year, notably the 2012 Olympics and Queen Elizabeth II's diamond jubilee. The proposed site is on a rotunda near the O2 Dome and London Park, a space split by a road requiring architects to design two interconnected buildings.







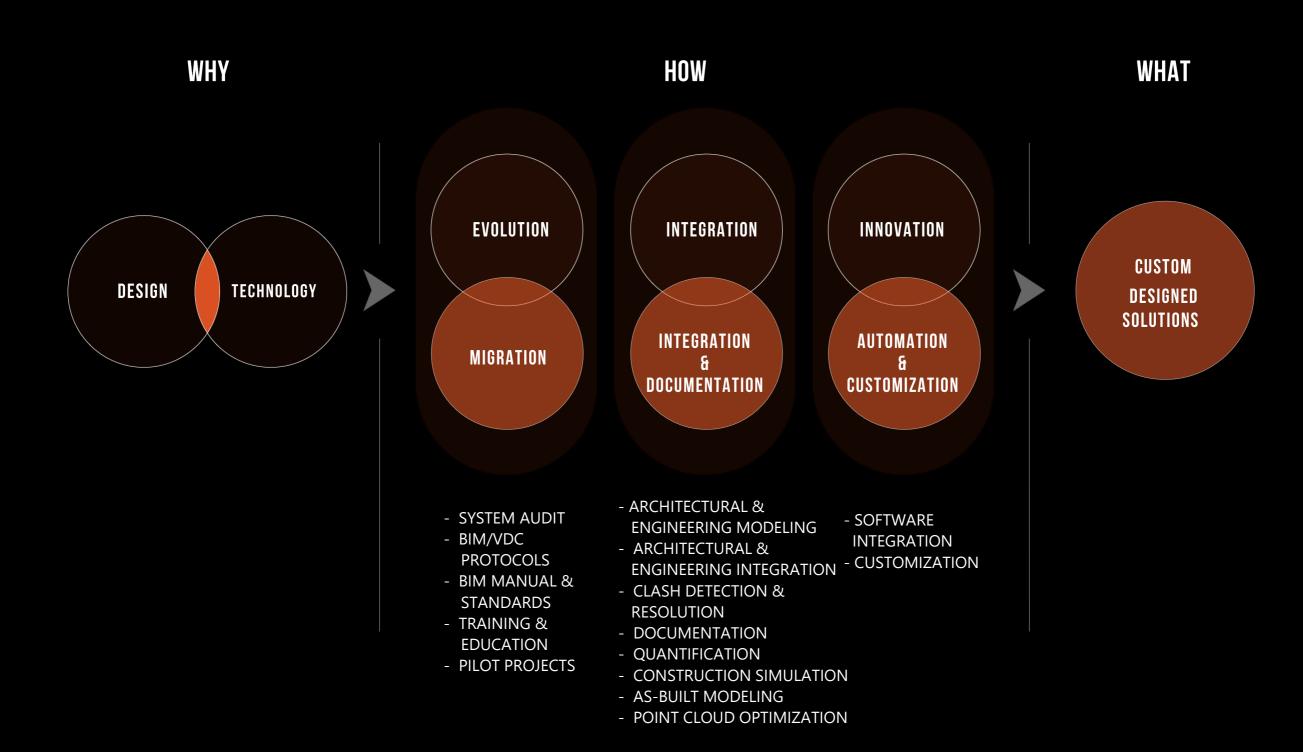




AIDEA TECHNOLOGIES

"WE PROVIDE CUSTOM-DESIGNED TECHNOLOGY SOLUTIONS FOR VIRTUAL DESIGN AND CONSTRUCTION (VDC) PROJECTS."

OUR PROCESS



OUR PROCESS

MIGRATION

ALIGNMENT STRATEGY & CUSTOMIZATION TRAINING

Aidea Technologies provides migration solutions, education, and training to consultants, contractors, and owners and developers for a seamless transition from 2D drafting to full VDC implementation.

We customize and design VDC migration strategies aligned with client vision, business goals, and project workflows.

INTEGRATION & DOCUMENTATION



Aidea Technologies integrates all data models into a reliable single source of truth for all project teams to work on. Our automated checking solutions validate codes and standards and detect clashes to optimize project coordination.

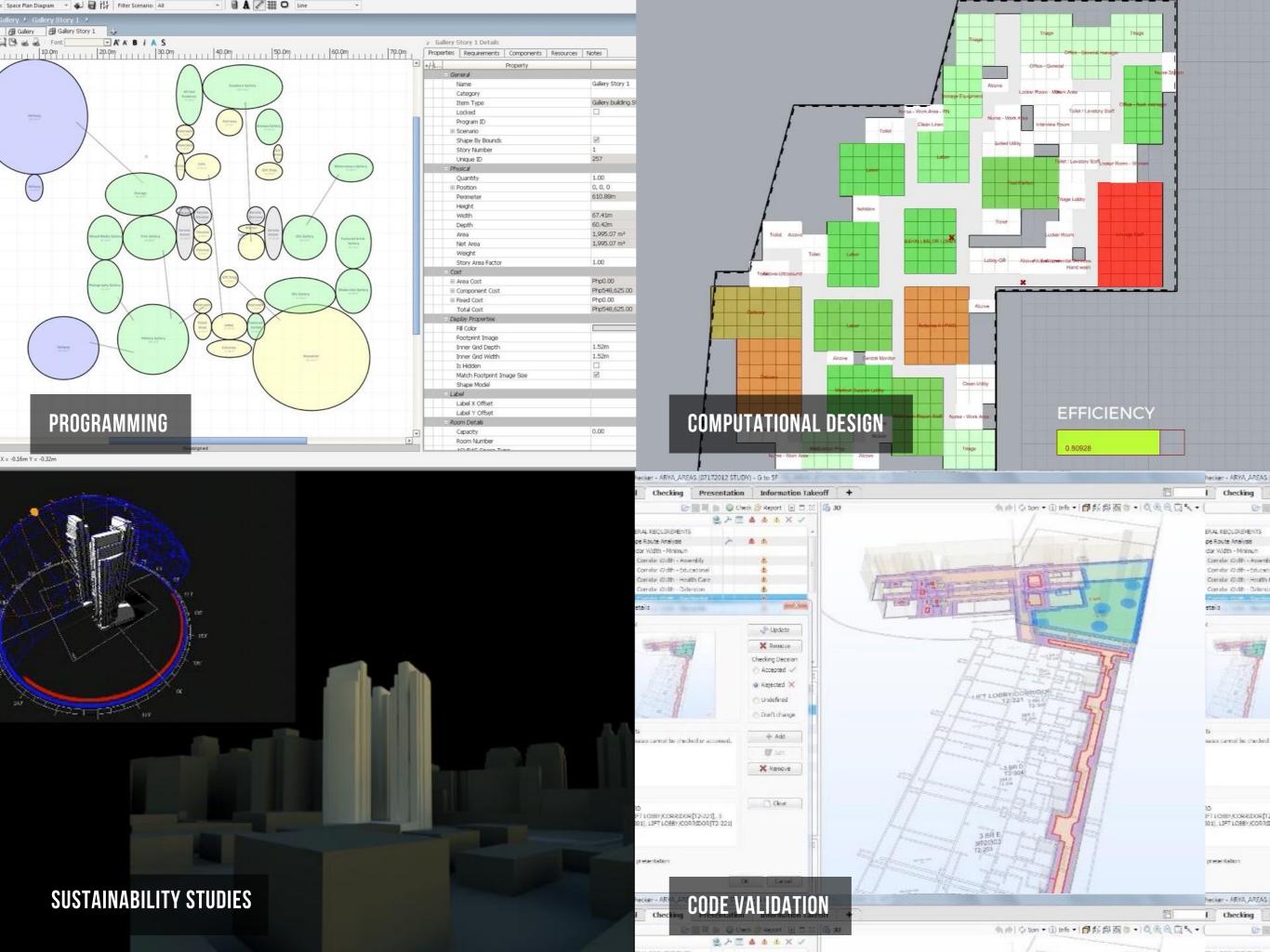
Our models are an effective means for generating design, integrating architecture and engineering, and generating documentation. They incorporate all valuable data regarding the building process as well as all details necessary to make comprehensive estimates and ultimately, to construct the project.

AUTOMATION & CUSTOMIZATION

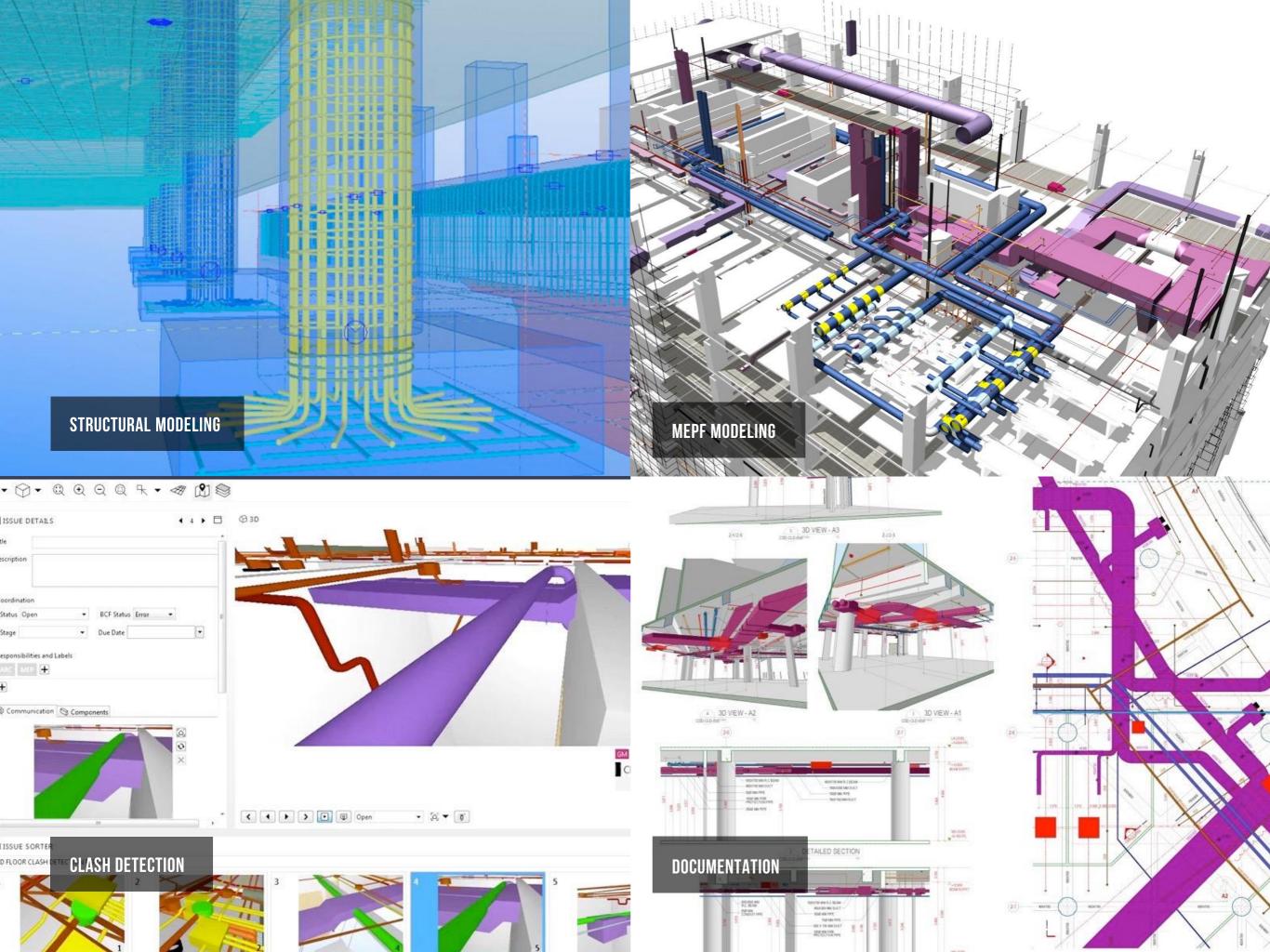


Aidea Technologies' in-house software development team specializes in developing add-ons automated processes for area calculation, scheduling, documentation, specifications generation, and quantity take-off.

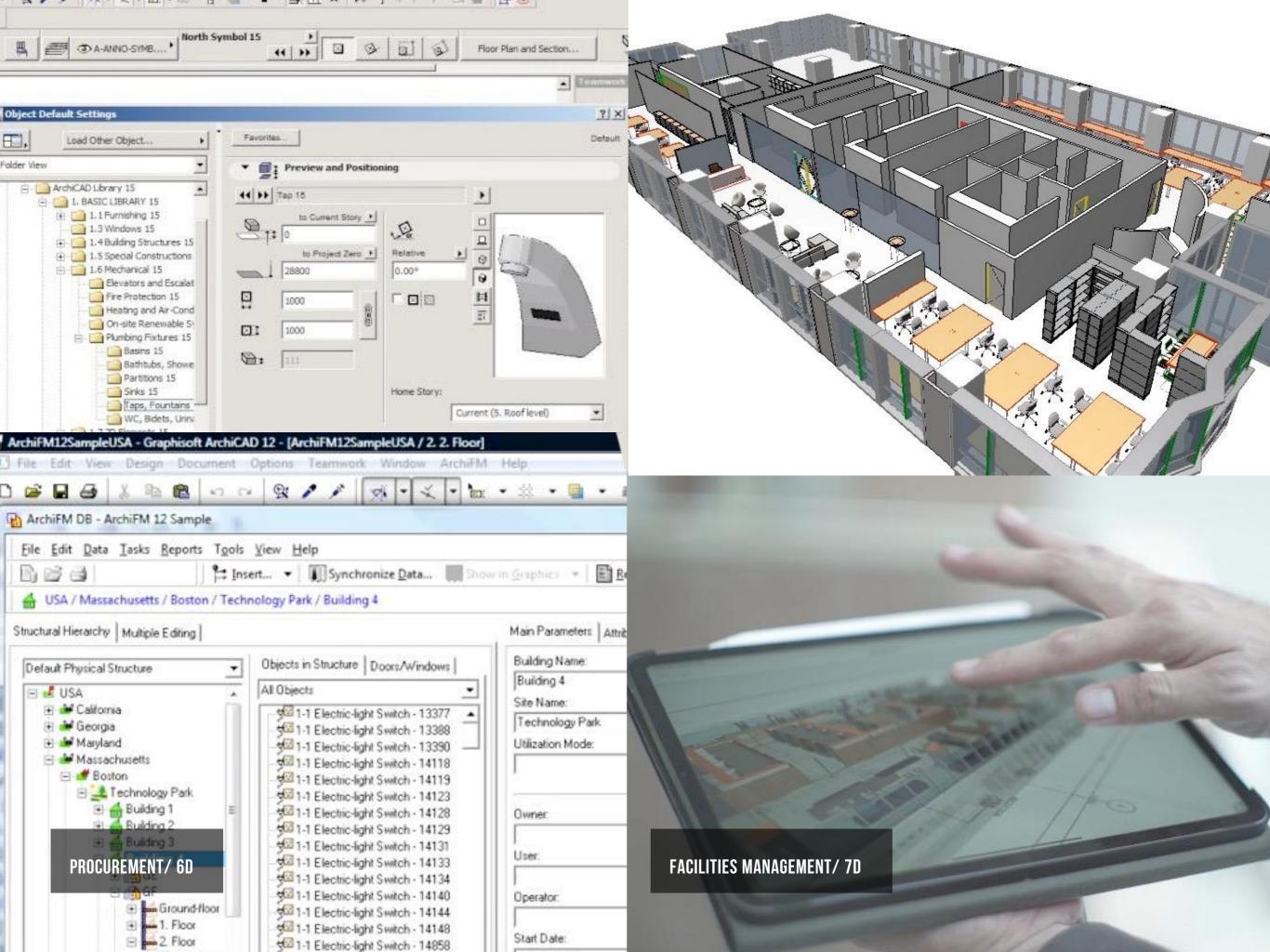
We provide Application Programming Interface (API) development and customization solutions to clients who aim to streamline processes throughout the building life cycle.













EVOLUTION

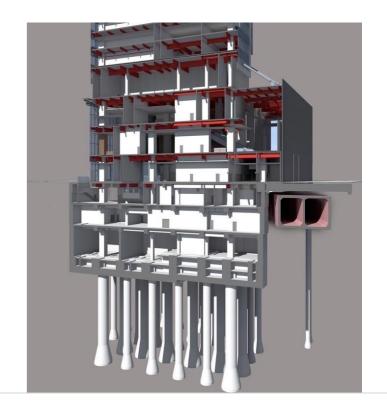
MIGRATION

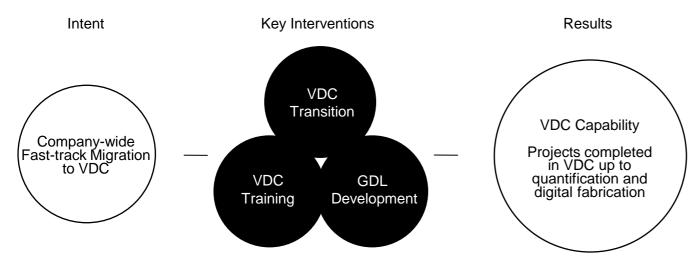
Transform from traditional to VDC - based practice











In 2011, Virtual Design and Construction (VDC) was still at its infancy in the construction industry, Aidea helped one of the largest construction companies in Japan achieve its vision of implementing companywide fast-track migration to a BIM-based workflow and practice.

JAPANESE CONTRACTOR VDC MIGRATION

Nagoya, Japan

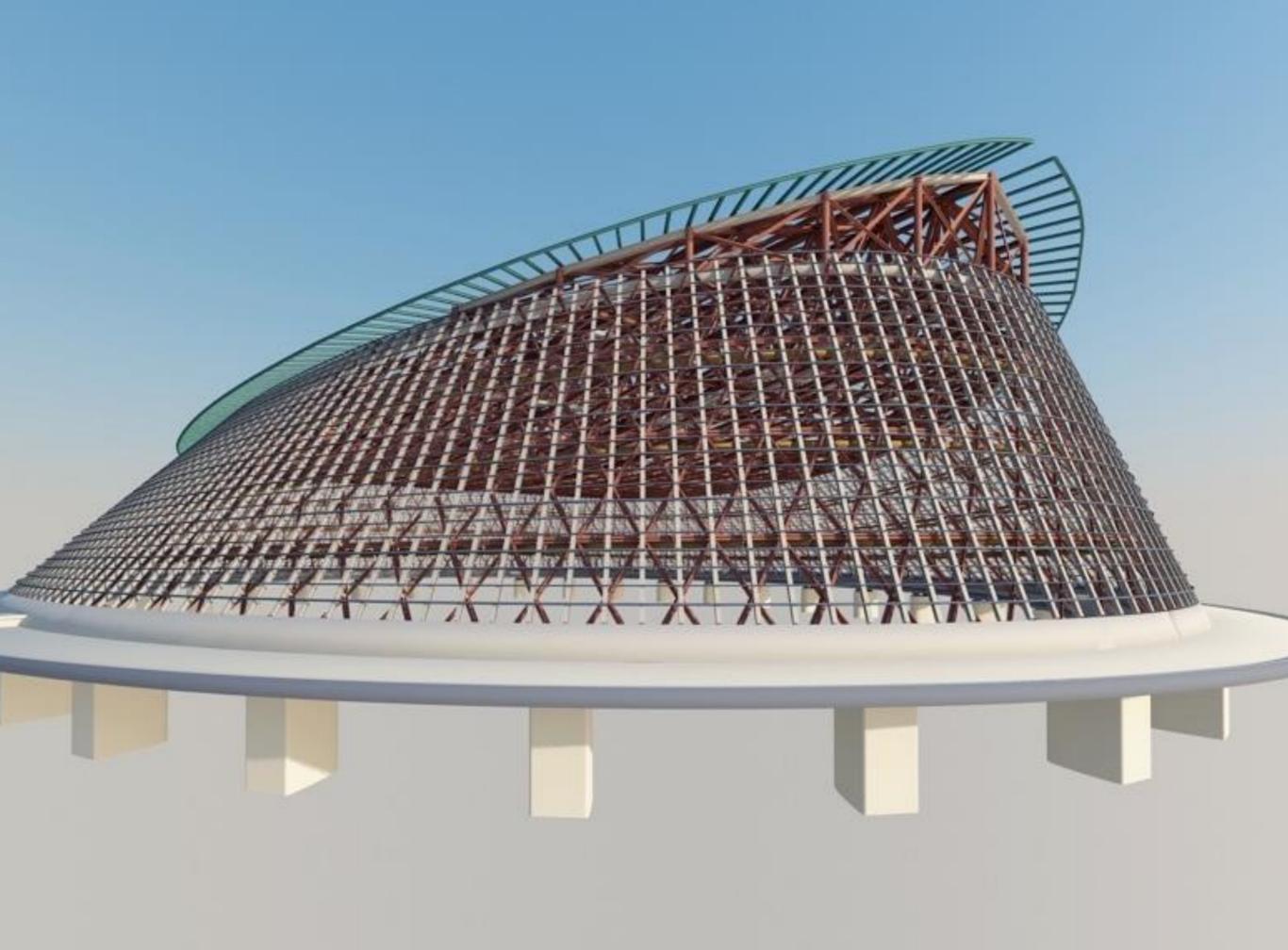
Client: Confidential Size: 150,000 sqm

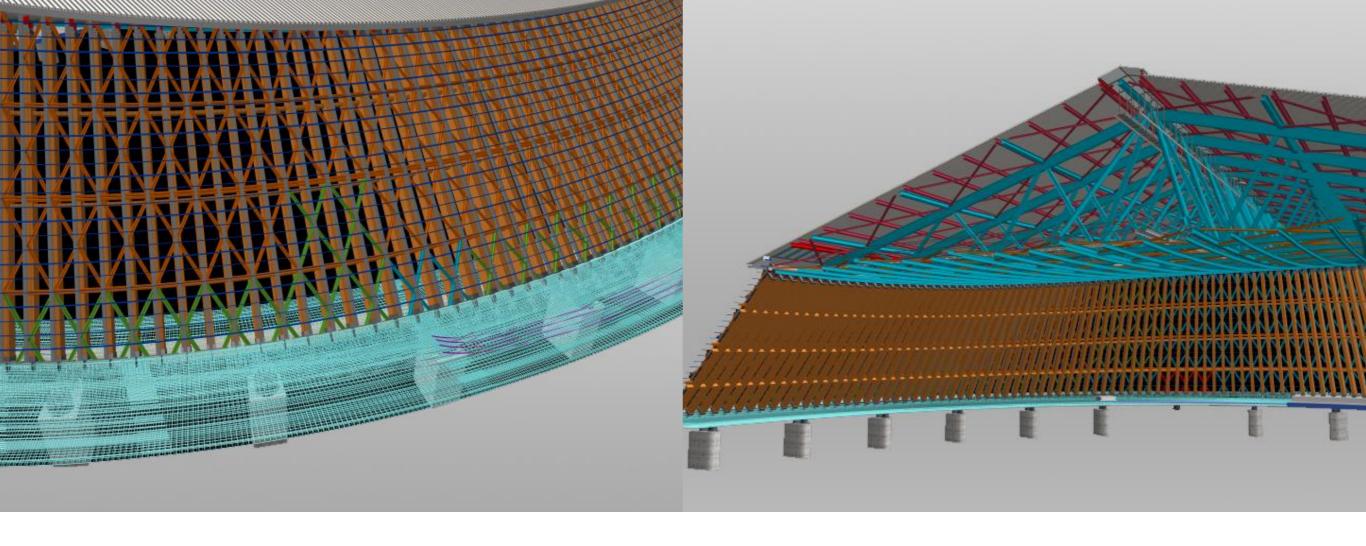
Typology: Office

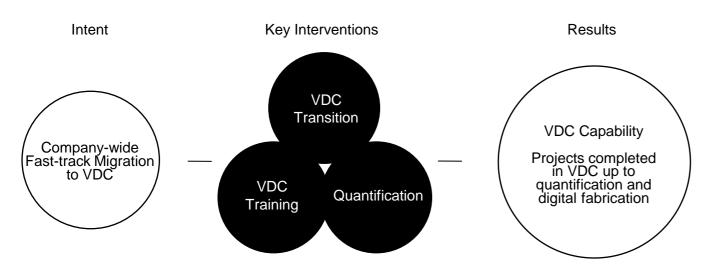
Services: VDC Consultancy, VDC Training,

VDC Modeling and Integration,

and Quantity Take-Off







In 2011, Virtual Design and Construction (VDC) was still at its infancy in the construction industry, Aidea helped one of the largest construction companies in Japan achieve its vision of implementing companywide fast-track migration to a BIM-based workflow and practice.

JAPANESE CONTRACTOR VDC MIGRATION

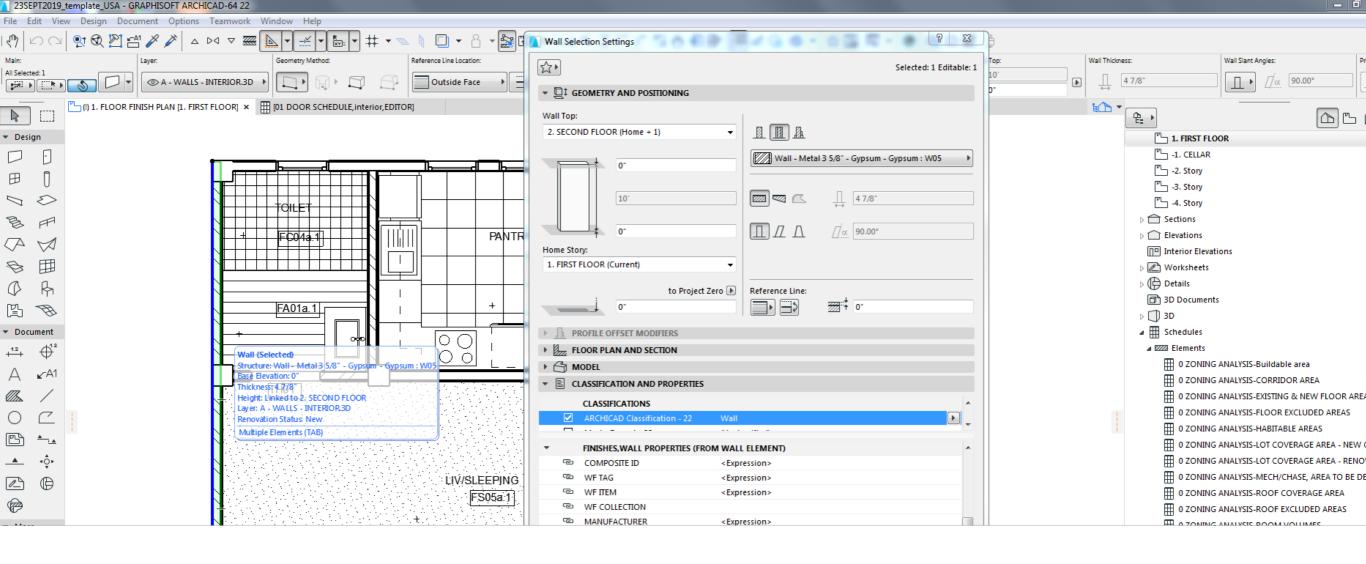
Kanagawa, Japan

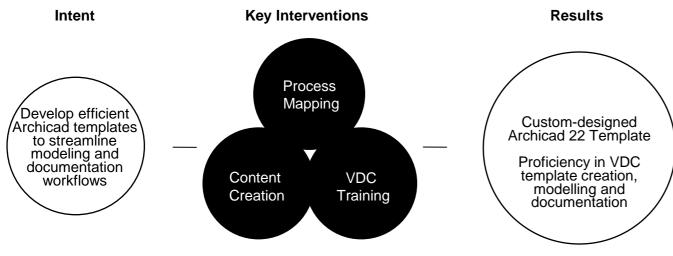
Client: Confidential
Size: 25,000 sqm
Typology: Sports Facility

Services: VDC Consultancy, VDC Training,

VDC Modeling and Integration,

and Quantity Take-Off





Aidea Technologies provided VDC Consultancy services for a New York-based architectural design firm. Aidea Technologies developed custom-designed Archicad templates to streamline the firm's standard modeling and documentation protocols and workflows. Templates developed were used for automated calculations, scheduling, model file setup, layering setup, IFC translators and other modeling functions.

TEMPLATE CREATIONFOR CONSULTANCY FIRMS

New York, U.S.A.

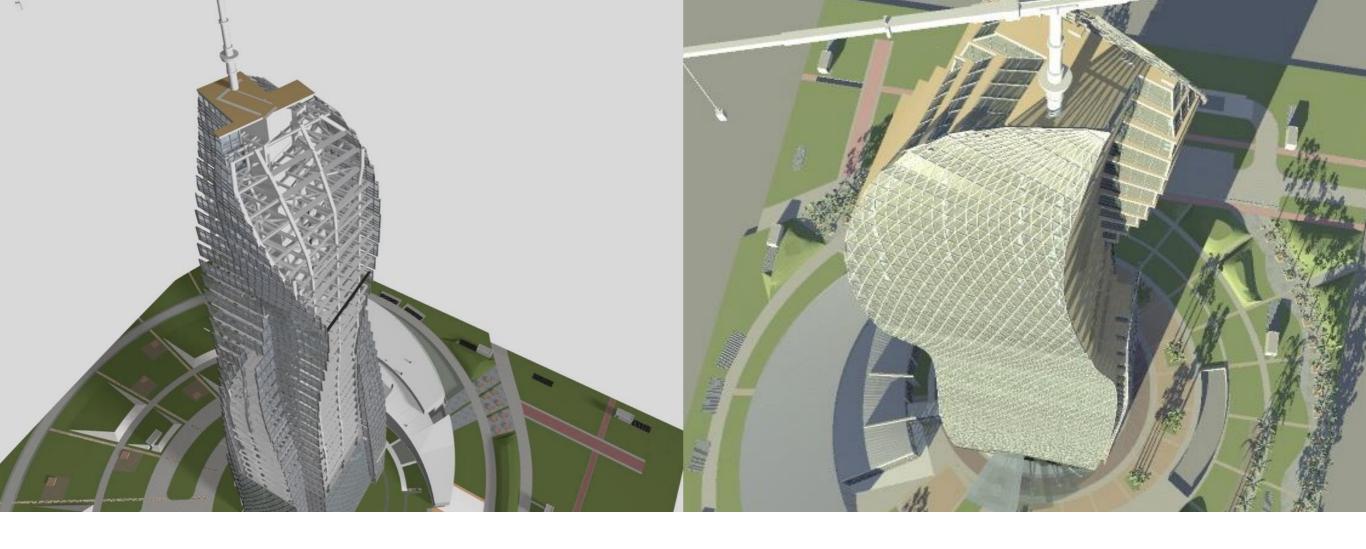
Client: Confidential

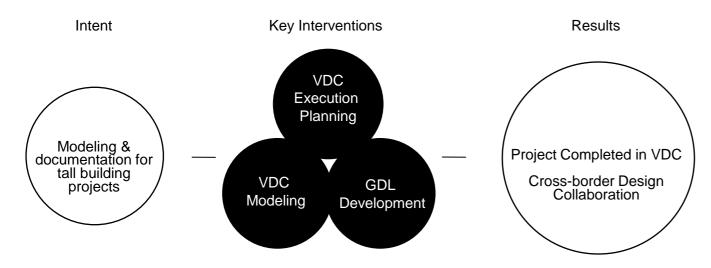
Services: VDC Consultancy

INTEGRATION

INTEGRATION & DOCUMENTATION

Advance transparency and efficiency





Aidea was actively involved in a project for the State Oil Company of the Azerbaijan Republic or SOCAR. The project, located in the capital city of Baku, involved a 35-storey mixed-use development on top of a commercial podium and basement parking. Aidea provided design development and contract documentation services (DD and CD) based on the client's schematic design. To realize the building's complex outer envelope, Aidea developed a customized GDL element to optimize the façade curtain wall design and fabrication.

SOCAR & CRESCENT TOWERS

Baku City, Azerbaijan

Client: SOCAR / Gilan / Heerim Architects

& Planners Co.

Typology: Office

Services: VDC Modeling and Integration

NEW MANAGEMENT OFFICE OF SOCAR

Baku City, Azerbaijan

Client: SOCAR / Heerim Architects & Planners Co.

Size: 103,000 sqm / 2 Towers / 35 Floors

Typology: Mixed-Use

Services: VDC Integration and Documentation

Year: 2008 In collaboration with:

Heerim Architects & Planners



CRESCENT CITY

Baku City, Azerbaijan

Client: Gilan / Heerim Architects & Planners Co.

Size: 80,000 sqm Typology: Mixed-Use

Services: VDC Integration and Documentation

Year: 2008 - 2009 In collaboration with:

Heerim Architects & Planners



PARK TERRACES

Makati City, Philippines

Ayala Land, Inc. Client:

Tower 1: 78,000 sqm Size:

Tower 2: 58,000 sqm Tower 3: 72,000 sqm

Typology: Residential

Services: Architecture, VDC Modeling,

Architectural & Engineering Integration, Documentation, and

Quantity Take-off

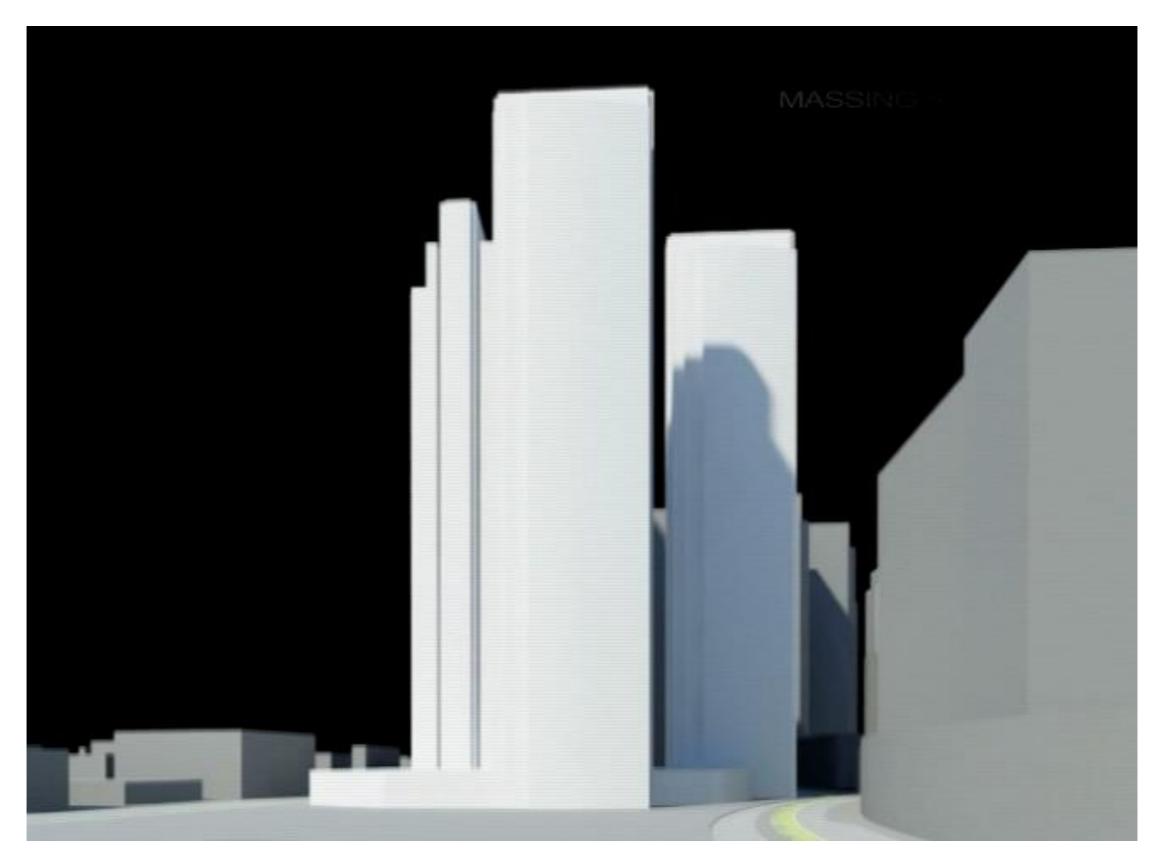
2017 Year:

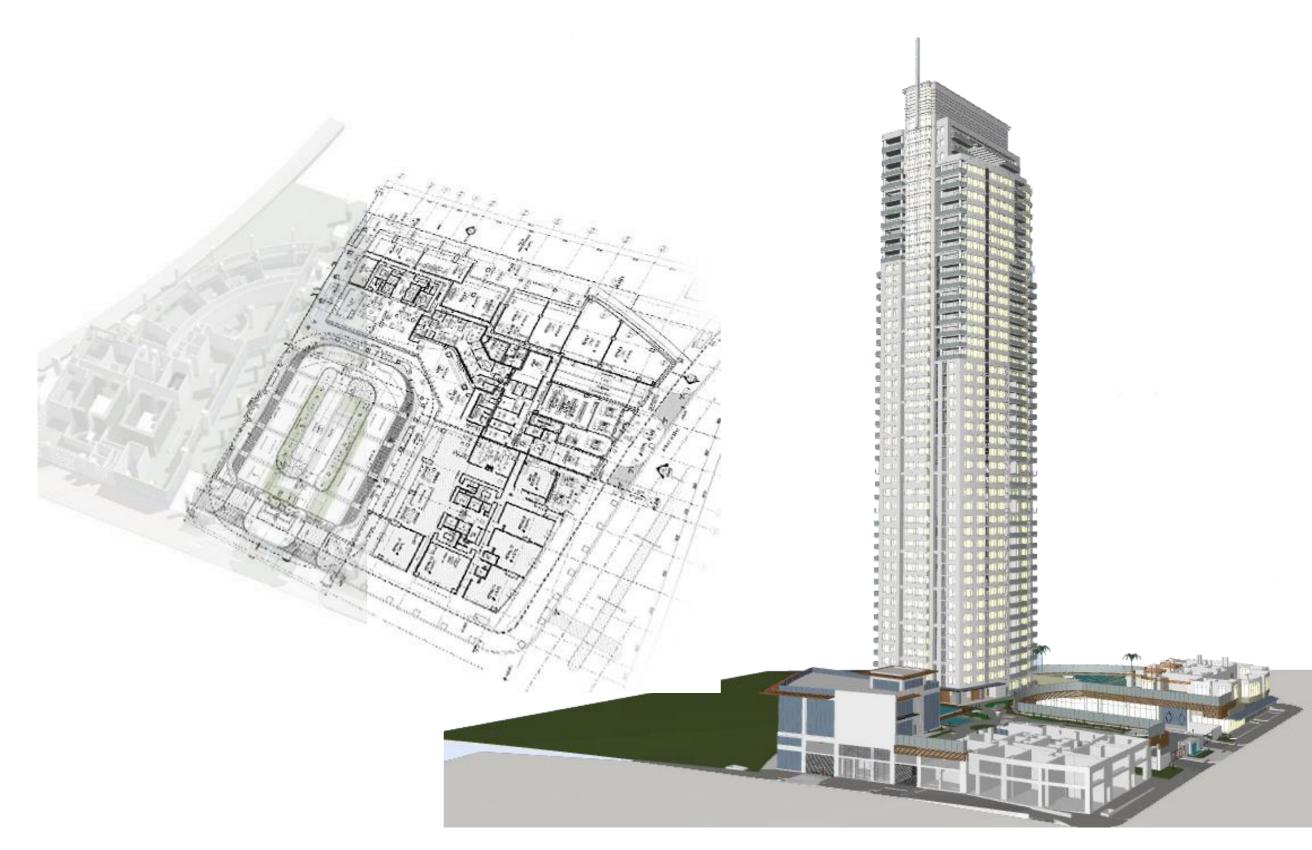
In collaboration with: Architecture International

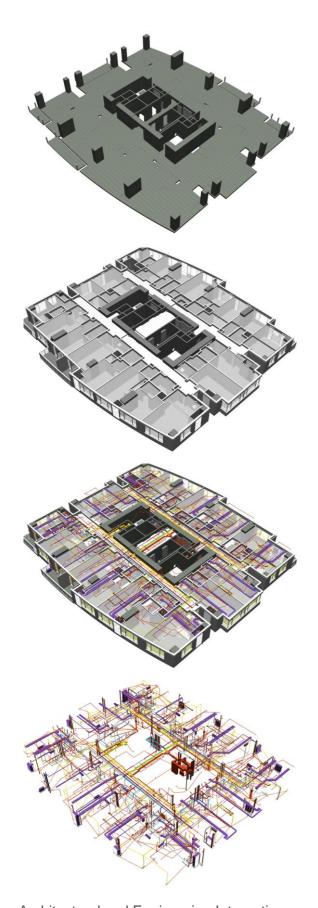


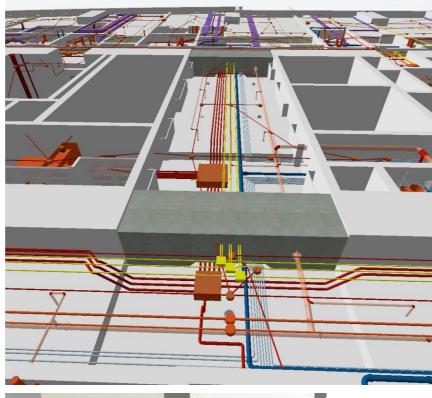
Best Residential Architectural Design

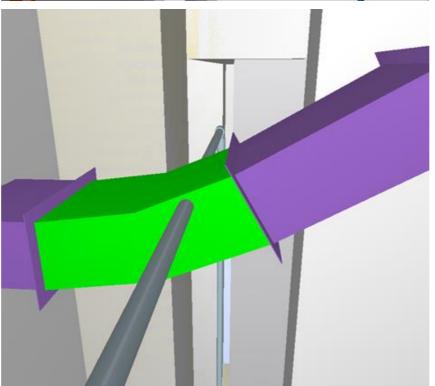


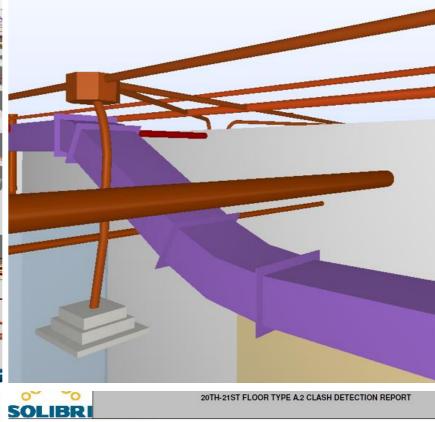






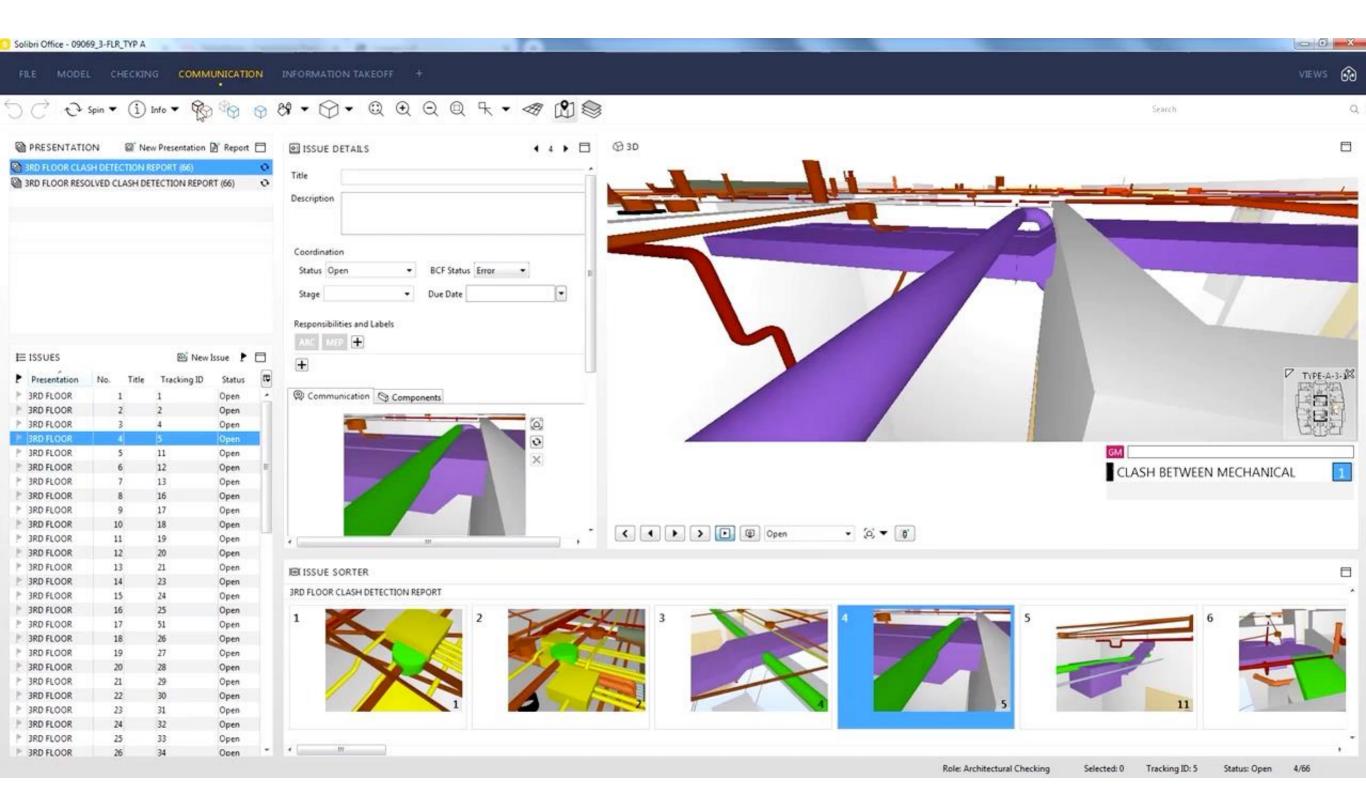




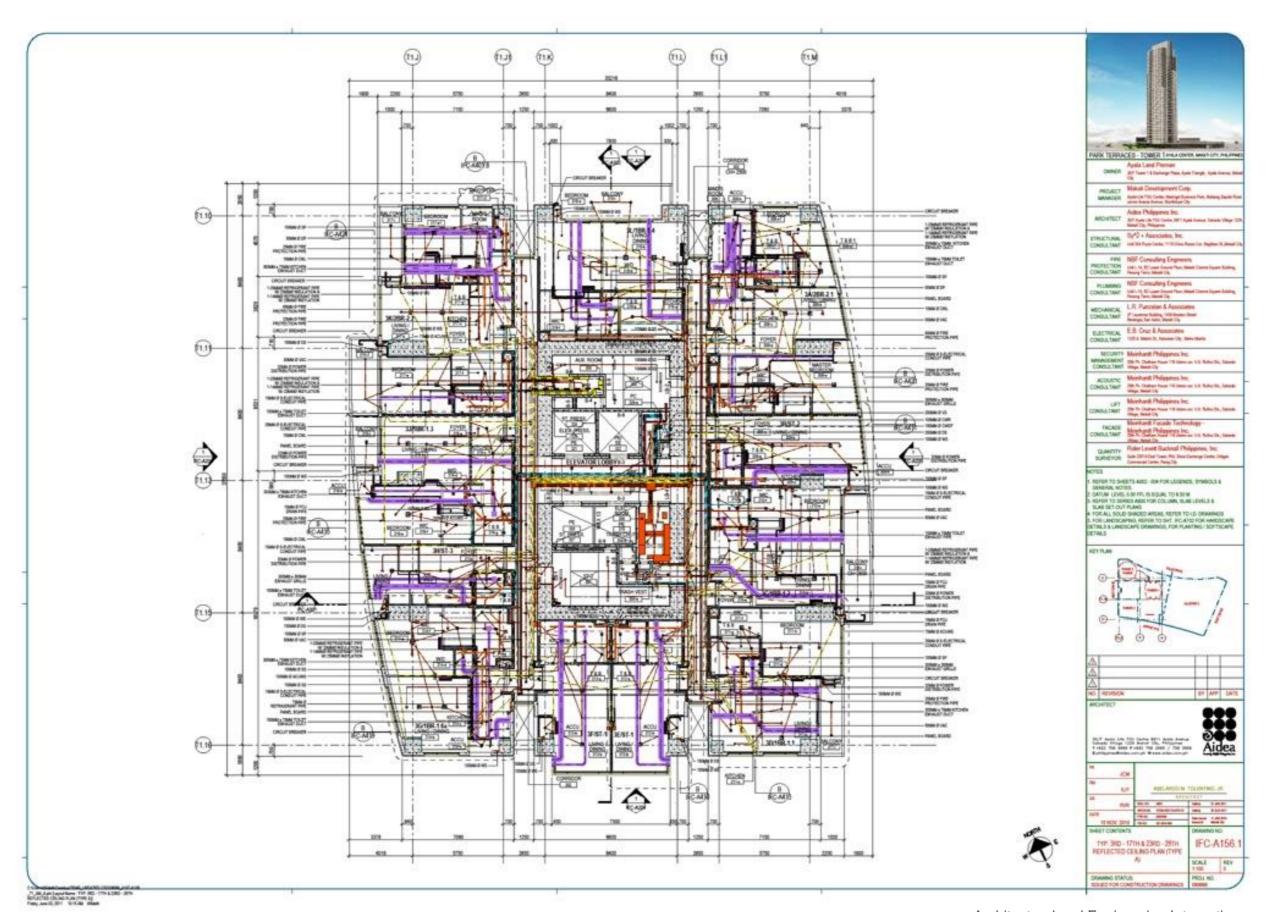


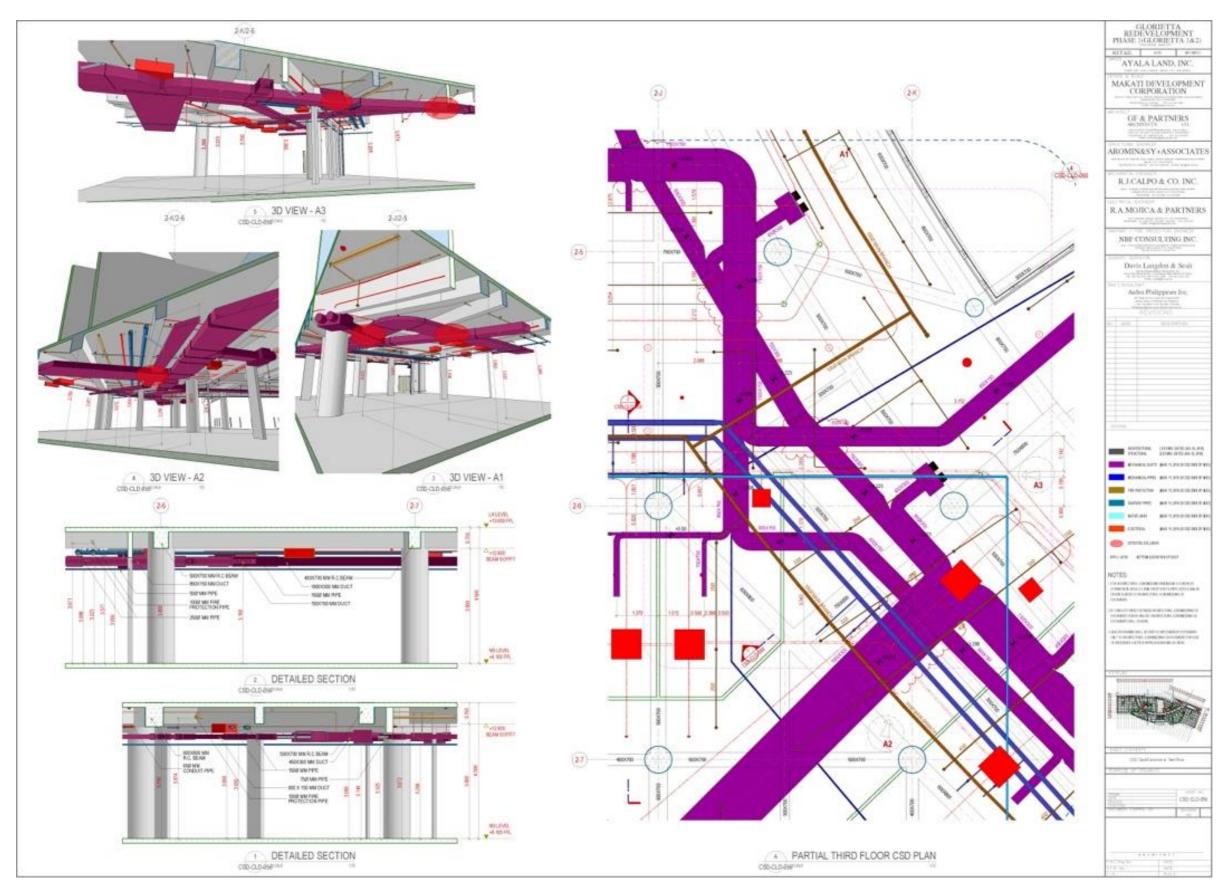
		OR TYPE A.2 CLASH D		20000000	100000000000000000000000000000000000000		No. of the second	
umber 1	2 ld	Location 20TH FLOOR	25-Feb-2011	Author	Picture	CLASH BETWEEN VENT PIPE.	Responsibilities	Action Required
		BETWEEN GRID LINES T1.J-T1.J1 & T1.10-T1.11 20F/SP 2BR-SP-2.3				ARCHITECTURAL & MECHANICAL EXHAUST DUCT		
2	3	20TH FLOOR BETWEEN GRID LINES T1.10-T1.11 & T1.J1 20F/SP 2BR-SP-2.3	25-Feb-2011		XII	CLASH BETWEEN SEWER PIPE, WATER LINE & WATER HEATER TANK		
3	4	20TH FLOOR GRID LINES T1.K & T1.11 20A/SP 2BR-SP-2.4	25-Feb-2011		1	CLASH BETWEEN FIRE PROTECTION PIPE, WATER LINES & SEWER PIPE		
4	5	BETWEEN GRID LINES T1.L-T1.L1 & T1.10-T1.11 20A/SP 2BR-SP-2.4	25-Feb-2011			CLASH BETWEEN VENT PIPE, SECURITY CONDUIT & AUXILIARY CONDUIT		
5	6	20TH FLOOR BETWEEN GRID LINES T1.L1-T1.M & T1.10-T1.11 20A/SP 2BR-SP-2.4	25-Feb-2011		15	CLASH BETWEEN FIRE PROTECTION PIPE & WATER LINES		
6	7	20TH FLOOR BETWEEN GRID LINES T1.10-T1.11 & T1.11 20A'SP 2BR-SP-2.4	25-Feb-2011			CLASH BETWEEN WATER LINES & FIRE PROTECTION PIPE		

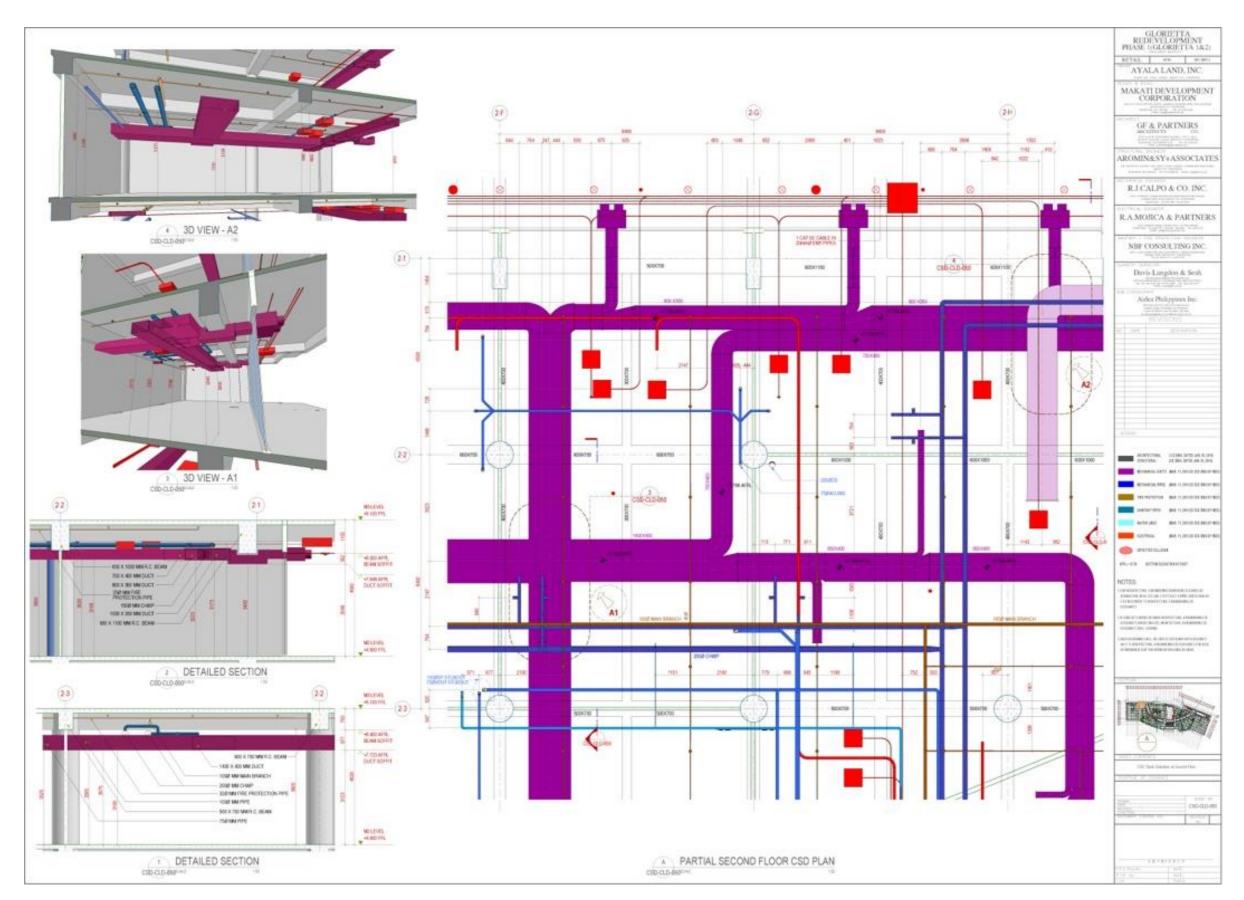
Architectural and Engineering Integration



Clash Detection







AL WADAH CITY 1

Abu Dhabi, United Arab Emirates

Client: Khatib & Alami (Design Consultant)

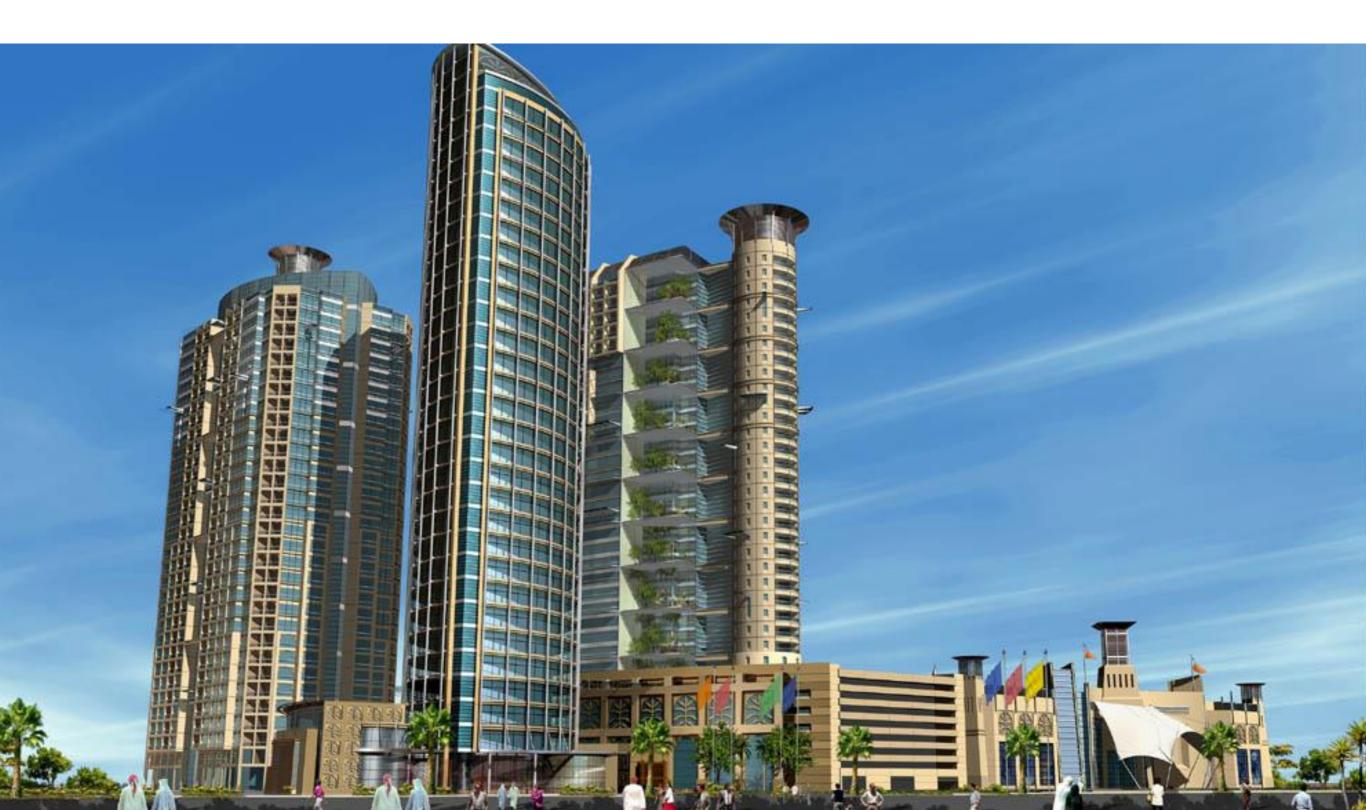
Size: 335,000 sqm | 3 Towers | 32 Storey Hotel,

31 Storey Residential,32 Storey Office Towers

Typology: Mixed-Use

Services: VDC Integration and

Documentation



AL WADAH CITY 2

Abu Dhabi, United Arab Emirates

Client: Khatib & Alami (Design Consultant) Size: 232,000 sqm / 4 Towers / 31 Floors

Typology: Mixed-Use

Services: VDC Integration and Documentation



SERVICE APARTMENT ANSAM PHASE 1

Abu Dubai, United Arab Emirates

Client: Khatib & Alami (Design Consultant)

Size: 107, 680 sqm Typology: Residential

Services: VDC Integration and

Documentation



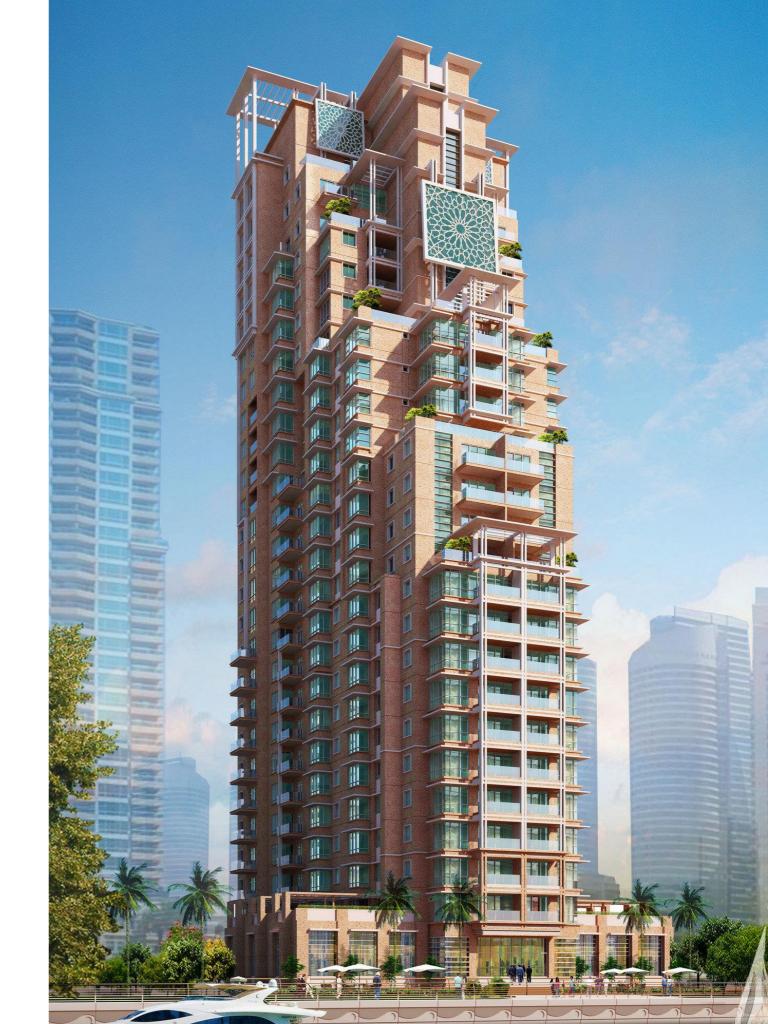
VAKSON TOWER

Dubai, United Arab Emirates

Client: Khatib & Alami (Design Consultant)

Size: 35,000 sqm Typology: Residential

Services: VDC Integration and Documentation



ADVENTZ TOWER

Burj Khalifa District, Dubai, U.A.E.

Client: LW Design Group

Typology: Residential

Services: VDC Consultancy, VDC Training,

VDC Modeling, Architectural & Engineering Integration,

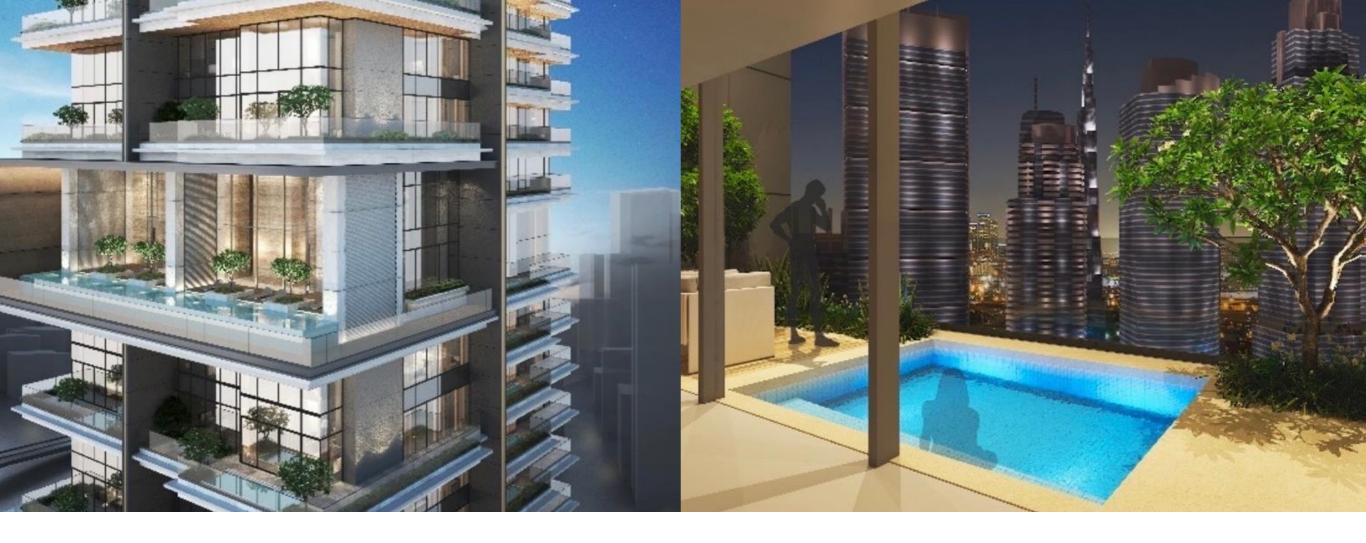
and Documentation

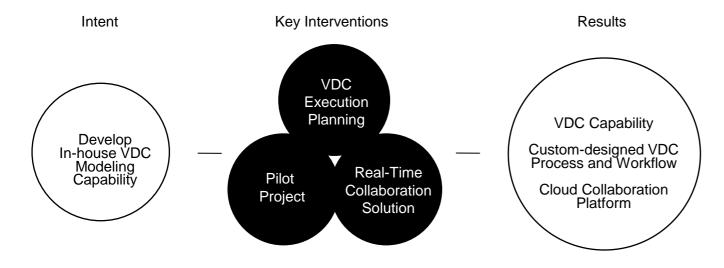
Year: 2015

In 2015, LW Design Group made a bold decision to design and document the Adventz Tower in Dubai in VDC and use it as a pilot project to learn VDC. Aidea Technologies, with the client's project team, applied model-based design refinements, conducted real-time coordination with the other trades, and extracted 2D documentation drawings from the model.









Project Solution

In 2015, LW Design Group made a bold decision to design and document the Adventz Tower in Dubai in VDC and use it as a pilot project to learn VDC. Aidea Technologies, with the client's project team, applied model-based design refinements, conducted real-time coordination with the other trades, and extracted 2D documentation drawings from the model.

ADVENTZ TOWER

Burj Khalifa District, Dubai, U.A.E.

Client: LW Design Group

Typology: Residential

Services: VDC Consultancy, VDC Training,

VDC Modeling, Architectural & Engineering Integration,

and Documentation

CRIMSON BORACAY HOTEL

Boracay Island, Philippines

Client: Filinvest Alabang Inc. Size: 30,000 sqm / 191 Keys

Typology: Hospitality

Services: Architecture, Interior Design,

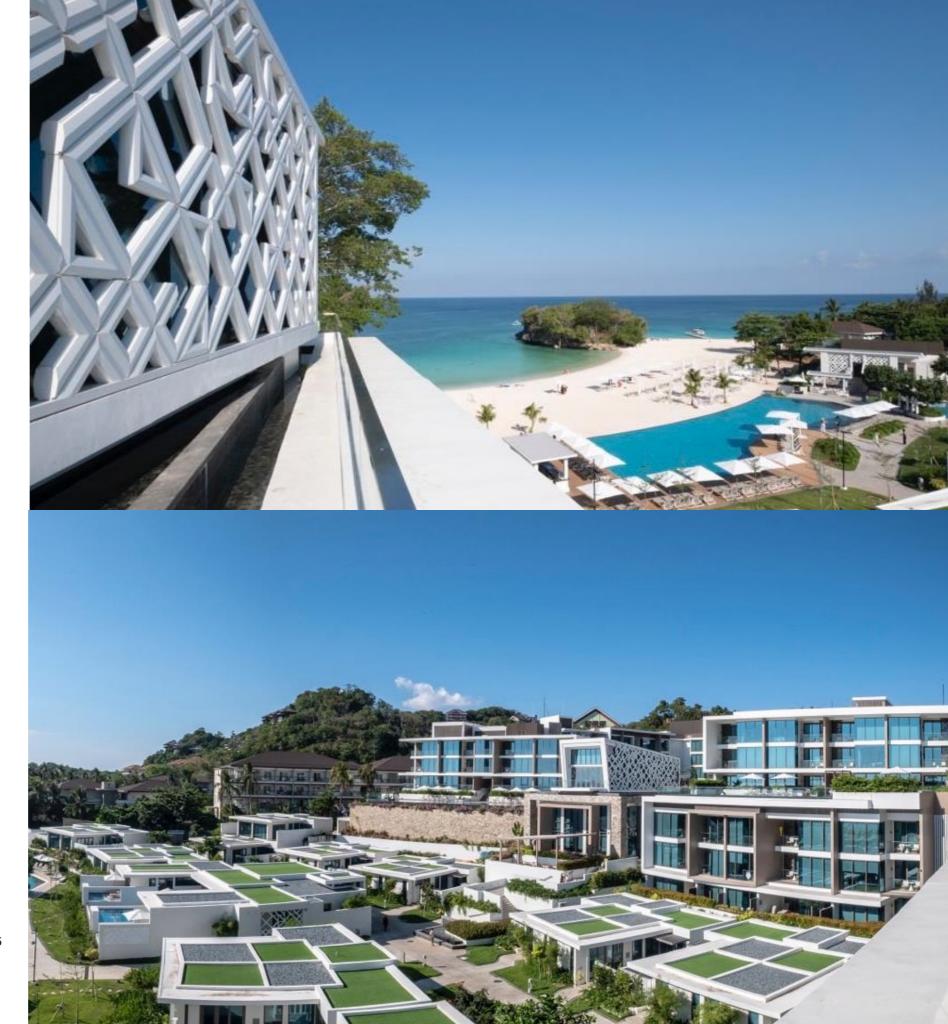
Architectural and Engineering Integration, and Quantity Take-Off

Year: 2014 - 2015 In collaboration with: WATG

Aidea's VDC expertise helped meet the challenges presented by the insular locale to which all construction materials, equipment, and crews are ferried by barge. Stringent VDC modeling created a solid platform as basis for early costing and accurate procurement. Design data from the different teams were integrated into one model and VDC kept redundancy, waste, expenses, and all other considerations to a negligible minimum.

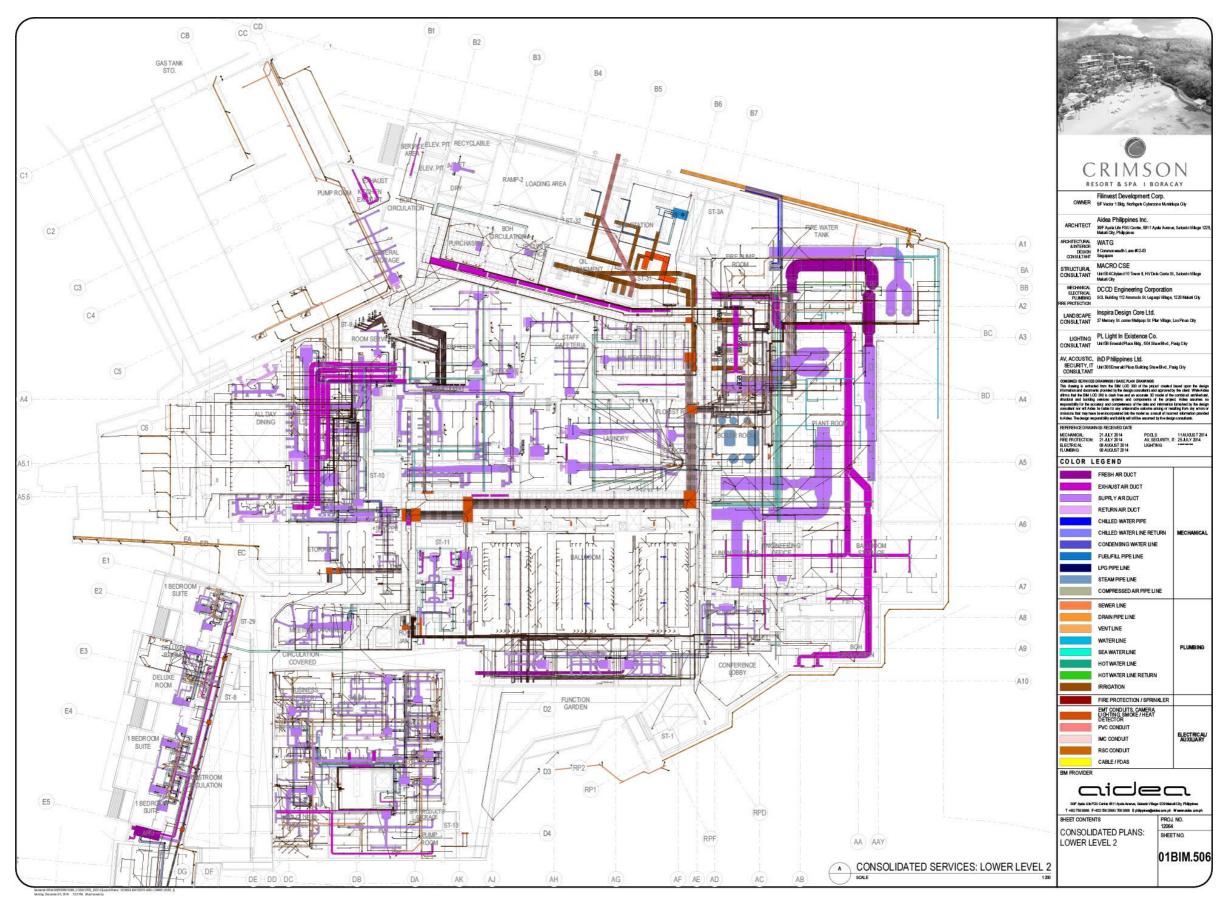


Continent Winner - Luxury Thallaso & Spa Resort 2013 & 2015 Country Winner - Luxury Beach Resort 2015 Global Winner Luxury Thallaso & Spa Resort 2014

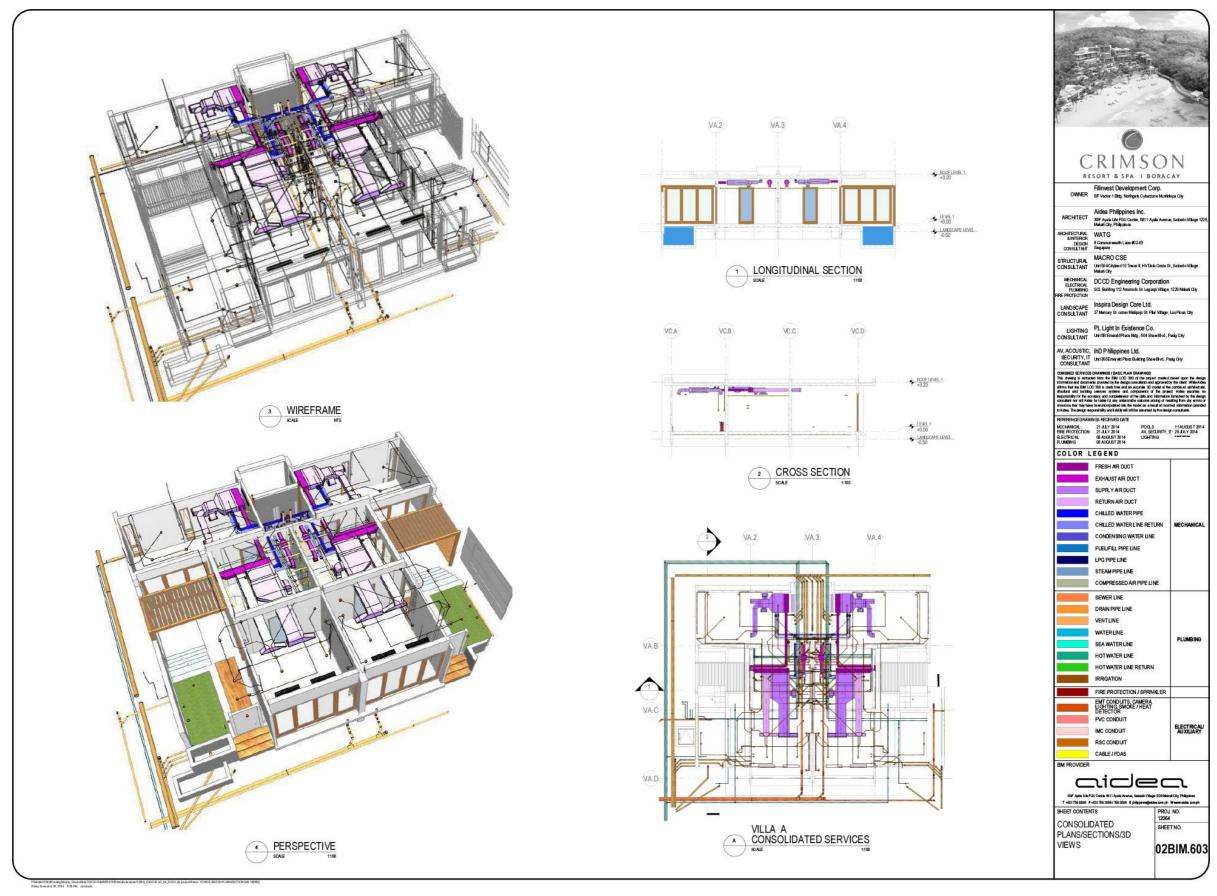


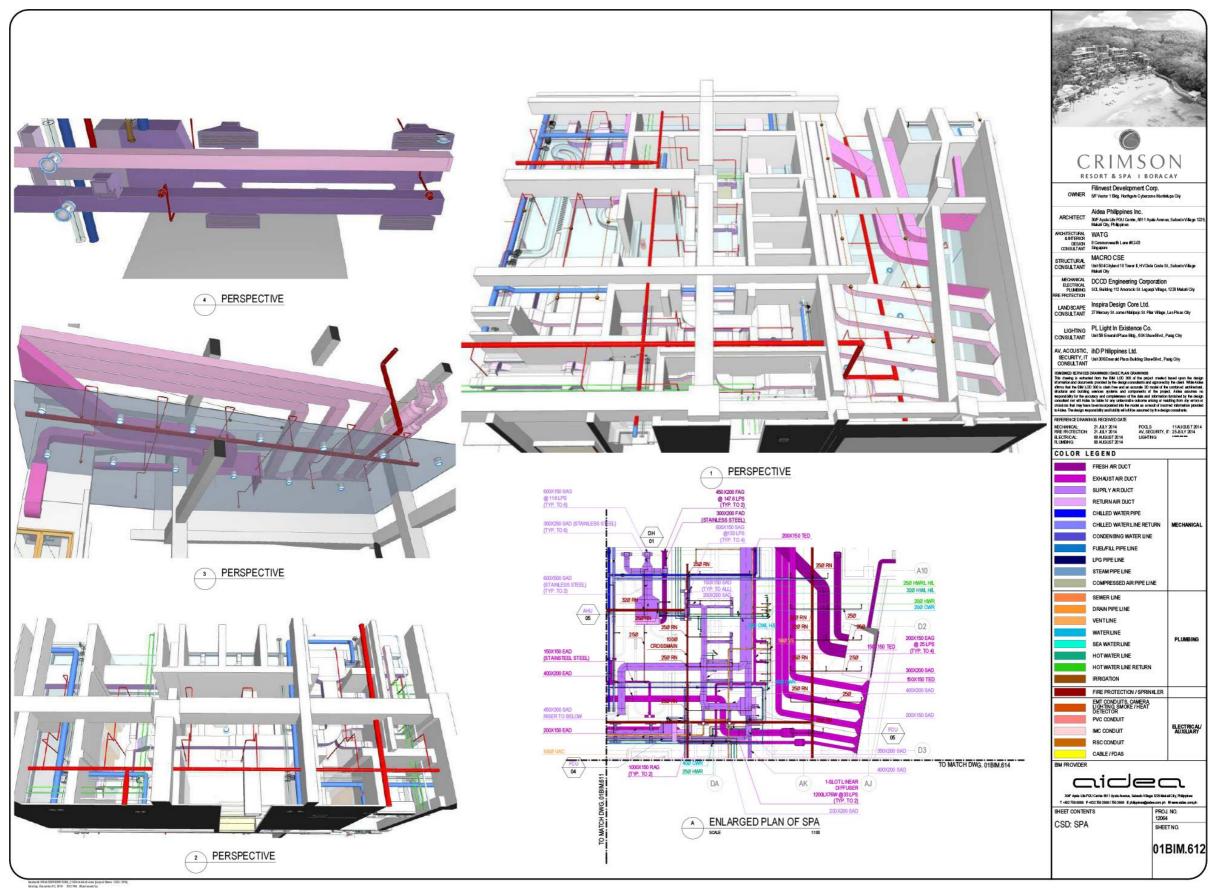












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	M	echanica			
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Duct Bend		300.000	200.000	90.00*	
Duct Bend		300:000	200,000		
			1000	Total Count	-
Chilled Water Pipeline	Diameter	Length	ins.Thk.	Material	Count
Pipe	50.000	500.000	50.000	146	
Pipe	150.000	11253.454	50.000	146	
	Total Length	11753.454		Total Count	
Chilled Water Return Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	150,000	6000.000	50,000	168	
r ipo		6000,000	32,000	Total Count	
	Total Length				
LPG Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	40.000	100.000	624	145	
000	Total Length	100.000		Total Count	
		lumbing			
				Carrier I	-
Hot Water Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	50.000	16005.413		150	
Pipe	75.000	22825.657		150	
	Total Length	38831.070		Total Count	
Hot Water Pipe Bend			Diameter	Bend Angle	Count
Pipe Bend			50.000	14.04"	ove/ii
Pine David				90.00*	
Pipe Bend			50.000		
Pipe Bend			75.000	90.00*	
17				Total Count	
Hot Water Pipe Tee		M.Diameter	B.Diameter	Length	Count
Pipe Tee		50.000	50.000	80.000	
W. 1970	-		22.740	Total Count	
Water Pipeline	Diameter	Length	Ins.Thk.	Material	Count
		Length	ins.ink.		Count
Pipe	100.000	22746.065	100	148	
-	Total Length	22746.065		Total Count	
Water Pipe Bend	200		Diameter	Bend Angle	Count
Pipe Bend			100.000	90.00*	
				Total Count	
	Elec	Duntact			
20.000.000.000		Protecti			
Sprinkler Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	200.000	54705.226	34	129	
7007	Total Length	54705.226		Total Count	
Sprinkler Pipe Bend	- Langer		Diameter	Bend Angle	Count
Pipe Bend			200.000	3.89*	
Pipe Bend			200,000	5.89*	
			200,000		
ripe benu			2000		
Pipe Bend			200.000	75.72°	
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Pipe Bend					
Pipe Bend Pipe Bend			200.000	89.55° 90.00°	
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Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher			200.000	89.55* 90.00* Total Count Height	Count
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Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher			200.000	89.55* 90.00* Total Count Height 200.000 Total Count	
Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher Smoke/Fire Detector			200.000	89.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht	Count
Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher			200.000	89.55* 90.00* Total Count Height 200.000 Total Count	
Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher Smokal Fire Detector Fire Smoka Detector			200.000	89.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht	
Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher Smokel Fire Detector Fire/Smoke Detector Fire/Smoke Detector			200.000	89.55* 90.00* Total Count Height 200.000 Total Count R. Base Ht 2400.000 3950.000	
Pipe Band Pipe Band Pipe Band Pipe Band Pressurized Fire Extinguisher Fire Extinguisher Smokal Fire Detector Fire/Smoke Detector Fire/Smoke Detector Fire/Smoke Detector			200.000	89.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000	
Pipe Bend Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher Smokel Fire Detector Fire/Smoke Detector Fire/Smoke Detector			200.000	89.55° 90.00° Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 3950.000 2100.000	Width
Pipe Band Pipe Band Pipe Band Pipe Band Pressurized Fire Extinguisher Fire Extinguisher Smokal Fire Detector Fire/Smoke Detector Fire/Smoke Detector Fire/Smoke Detector			200,000	89.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000	
Pipe Band Pipe Band Pipe Band Pipe Band Pressurized Fire Extinguisher Fire Extinguisher Smokal Fire Detector Fire/Smoke Detector Fire/Smoke Detector Fire/Smoke Detector	D	rain Pipe	200,000	89.55° 90.00° Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 3950.000 2100.000	Width
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Rpa Band Rpa Band Ppa Band Ppa Band Ppa Band Pressurized Fire Extinguisher Fire Extinguisher Fire Strate Detector FireSmoke Detector FireSmoke Detector FireSmoke Detector FireSmoke Detector FireSmoke Detector FireSmoke De	Diameter	Length	200,000 200,000	89.55° 90.90° Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 2100.900 Total Count	Width
Rpe Band Pipe Bend Pipe Bend Pressurized Fire Extinguisher Fire Extinguisher SmokelFire Detector FireSmoke Detector	Diameter 32,000	Length 3591.941	200,000	89.55* 90.90* Total Count. Height 200.000 Total Count R. Base Ht 2400.000 3950.000 2100.000 Total Count Material	Width
Rpe Band Rpe Bend Preservised Fire Extinguisher Free Extinguisher Free Extinguisher Free Extinguisher Free Smoke Detector Drain Pipeline Rpe	Diameter 32,000 100,000	Length 3591.941 47986.006	200,000 200,000	89.55" 90.90" Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 3950.000 2100.900 Total Count Material 162 162	Width
Rpe Band Pipe Bend Pipe Bend Pressorized Fire Extinguisher Fire Extinguisher Smokel Fire Detector FireSmoke Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	32,000 100,000 750,000	Length 3591.941 47988.006 18368.134	200,000 200,000	89.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 2400.000 Total Count Material 162 162 162	Width
Rpe Band Rpe Bend Preservised Fire Extinguisher Free Extinguisher Free Extinguisher Free Extinguisher Free Smoke Detector Drain Pipeline Rpe	Diameter 32,000 100,000	Length 3591.941 47986.006	200,000 200,000	89.55" 90.90" Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 3950.000 2100.900 Total Count Material 162 162	Width
Rpe Band Pipe Bend Pipe Bend Pressorized Fire Extinguisher Fire Extinguisher Smokel Fire Detector FireSmoke Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	32,000 100,000 750,000 1350,000	Length 3591.941 47988.006 18368.134	200,000 200,000	89.55* 90.00* Total Count Height 200.000 Total Count 2400.000 3950.000 3950.000 2100.000 Total Count Material 162 162 162 162	Width
Rpe Band Pipe Bend Pipe Bend Pressorized Fire Extinguisher Fire Extinguisher Smokel Fire Detector FireSmoke Detector Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	32,000 100,000 750,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lins.Thk.	89.55* 90.00* Total Count Meight 200.000 Total Count Total Count 3950.000 3950.000 2100.000 Total Count 162 162 162 Total Count 162 Total Coun	Width
Rpe Band Pipe Bend Pipe Bend Pressuriese Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smake Detector Orain Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Drain Pipe Beed	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lns.Thk. 19,000	89.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht 2400.000 3950.000 2100.000 Total Count Material 162 162 162 162 162 162 162 162 162 162	Width
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Rpe Band Pipe Bend Pipe Bend Pressuriese Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smale Detector Drain Pipe III Pipe Pipe Pipe Drain Pipe Bend Pipe Bend Pipe Bend Pipe Bend	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lns.Thk. 19,000 ——————————————————————————————————	99.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht 240.000 3950.000 3950.000 Total Count 162 162 162 162 162 Total Count Send Angle 45.00*	Width
Rpe Band Pipe Bend Pressuriated Fire Extinguisher Fire Extinguishe	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lns.Thk. 19,000 	99.55* 90.00* Total Count Height 200.000 Total Count R. Base Ht 2400.000 3950.000 3950.000 Total Count 162 1602 1602 Total Count 162 162 162 162 162 162 162 162 162 162	Width
Rpe Band Pipe Bend Pipe Bend Pressuriese Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smale Detector Drain Pipe III Pipe Pipe Pipe Drain Pipe Bend Pipe Bend Pipe Bend Pipe Bend	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lns.Thk. 19,000 ——————————————————————————————————	99.55* 90.00* Total Count Height 200.000 Total Count R.Base Ht 240.000 3950.000 3950.000 Total Count 162 162 162 162 162 Total Count Send Angle 45.00*	Width
Rpe Band Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Pressuries Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smoke Desector Drain Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Bend	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lns.Thk. 19,000 	99.55* 90.00* Total Count Height 200.000 Total Count R. Base Ht 2400.000 3950.000 3950.000 Total Count 162 1602 1602 Total Count 162 162 162 162 162 162 162 162 162 162	Width
Rpe Band Pipe Bend Pressuriand Fire Extinguisher Free Extinguisher	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 200,000 lns.Thk. 19,000 50,000 100,000 100,000	89.55" 99.05" Total Count Meight 200.000 Total Count Meight 200.000 Total Count 8.8aes Hit 2400.000 3950.000 3950.000 2100.900 Total Count Material 162 162 162 162 162 163 163 163 165 165 165 165 165 165 165 165 165 165	Width
Rpe Band Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Pressuries Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smoke Desector Drain Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Bend	32,000 100,000 750,000 1350,000	Length 3591.941 47988.008 18368.134 20920.428	200,000 200,000 lins.Thk. 19,000 ——————————————————————————————————	89.55* 99.00* 7 Total Count Height 200.000 Total Count Reight 2400.000 3950.000 3950.000 3950.000 4500.000 4500.000 4500.000 4500.000 4500 45	Width
Rpe Band Pipe Bend Pipe Bend Pressuriant Five Extinguisher Five Extinguisher Five Extinguisher Senokal Five Detector Five Simole Detect	32,000 100,000 750,000 1350,000	Length 3591.941 47986.006 18368.134 20920.426 90866.507	200,000 200,000 200,000 100,000 100,000 100,000	89.55" 99.05" Total Count Meight 200.000 Total Count Meight 200.000 Total Count 8.500 3950.000 3950.000 3950.000 2100.000 Total Count Material 162 162 162 162 162 152 152 152 152 152 152 152 152 152 15	Count
Rpe Band Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Pressuries Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smoke Bender Fire Smoke Detector Fire Smok	32,000 100,000 750,000 1350,000	Length 3591,941 4798,006 17988,0134 29920,426 90998,507	200,000 200,000 200,000 200,000 190,000 100,00	89.55* 99.00* Total Count Height 200.000 Total Count Reight 200.000 Total Count Reight 2400.000 Total Count Reight 2400.000 3950.000 Total Count Material 162 162 162 162 162 162 162 162 1701 Total Count Rend Angle 45.00* 45.00* 33.57* 34.70* 55.15* 55.15* 55.15* 52.78* Total Count Length	Width
Rpe Band Pipe Bend Pipe Bend Pressuriant Five Extinguisher Five Extinguisher Five Extinguisher Senokal Five Detector Five Simole Detect	32,000 100,000 750,000 1350,000	Length 3591.941 47986.006 18368.134 20920.426 90866.507	200,000 200,000 200,000 100,000 100,000 100,000	99.05" 90.00" Total Count Height 200.000 Total Count Page 100.000 Total Count 200.000 Total Count 2400.000 3950.000 Total Count Material 162 162 162 162 Total Count Send Angle 43.57" 34.70" 55.15" 75.51" Total Count Length	Count
Rpe Band Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Pressuries Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smoke Bender Fire Smoke Detector Fire Smok	32,000 100,000 750,000 1350,000	Length 3591,941 4798,006 17988,0134 29920,426 90998,507	200,000 200,000 200,000 200,000 190,000 100,00	89.55* 99.00* Total Count Height 200.000 Total Count Reight 200.000 Total Count Reight 2400.000 Total Count Reight 2400.000 3950.000 Total Count Material 162 162 162 162 162 162 162 162 1701 Total Count Rend Angle 45.00* 45.00* 33.57* 34.70* 55.15* 55.15* 55.15* 52.78* Total Count Length	Count
Rpe Band Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Pressuries Fire Extinguisher Fire Extinguisher Fire Extinguisher Fire Smoke Bender Fire Smoke Detector Fire Smok	32,000 100,000 750,000 1350,000	Length 3591,941 4798,006 17988,0134 29920,426 90998,507	200,000 200,000 200,000 200,000 190,000 100,00	99.05" 90.00" Total Count Height 200.000 Total Count Page 100.000 Total Count 200.000 Total Count 2400.000 3950.000 Total Count Material 162 162 162 162 Total Count Send Angle 43.57" 34.70" 55.15" 75.51" Total Count Length	Count

	MAIN	BUILDIN	IG A		
	M	echanica	ıl	VI	en sa
Exhaust Air Duct	Width	Height	Length	Ins.Thk.	Count
Duct	300,000	200,000	2559.501	-	7
Duct	450.000	200.000	2498.895	-	5
Duct	500.000	200.000	2246.898	-	1
Duct	800.000	300.000	2800,000	1-	. 1
		Total Length	10105.294	Total Count	14
Exhaust Air Duct Bend	- 9	Width	Height	Bend Angle	Count
Duct Bend		200.000	300.000	90.00*	2
Duct Bend	- 3	300,000	200,000	90,00*	1
Duct Bend		450.000	200,000	90.00*	1
Duct Bend	- 3	500.000	200.000	90.00*	
2000000	- 3	20020400	-	Total Count	
Exhaust Air Duct Transition		Length	Dimension 1	Dimension 2	Count
Duct Transition	- 9	334.445	500×200	300×200	
Duct Transition		316.512	800×300	450×200	
Duct Transition		300.000	1200×150	250×150	
Duct Transition		200.000	1400×200	450×200	2
Total Length		1150.957	manager .	Total Count	5 I
Exhaust Air Duct Terminal		Louver Size	Width	Height	Count
Ceiling Grille (Parallel to Side	A)	1200.000	150.000	0.015	
Sidewall Grille (Parallel to Sid	e A)	1400.000	200,000	0.020	2
				Total Count	4

Exhaust Air Duct Damper	Inlet Width	Inlet Height	Outlet Width	Outlet Height	Count
Rectangular Balancing Damper	300,000	200.000	300.000	200.000	
Rectangular Balancing Damper	450.000	200.000	450,000	200.000	
				Total Count	5
Chilled Water Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	50,000	1130,520	50,000	146	-
Pipe	200.000	1131.090	50,000	146	
N-0	Total Length		-	Total Count	
Chilled Water Pipe Bend			Diameter	Bend Angle	Count
Pipe Bend		9	50.000	45.00°	-
Pipe Bend			50.000	90.00*	
Pipe Bend			200.000	90.00*	
ripe belia			200.000	Total Count	_
Chilled Water Pipe Transformer		Diameter 1	Diameter 2		Count
Pipe Transformer		85.000	50.000	Length 100.000	Count
ripe i ransiormer		00.000	50.000	Total Count	
61 W. (1914 - B.)		1	D Th. 1		
Chilled Water Return Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	50.000	1352.873	50.000	168	-
Pipe	200.000	2820.084	50.000	168	
	Total Length	4172.957		Total Count	
Chilled Water Return Pipe Bend	1		Diameter	Bend Angle	Count
Pipe Bend		9	50,000	45.00*	0.3320
Pipe Bend			50.000	90.00*	
Pipe Bend		- 0	200.000	90.00*	
				Total Count	ē.
Chilled Water Return Pipe Tran	sformer	Diameter 1	Diameter 2	Length	Count
Pipe Transformer		65.000	50.000	100.000	
ripe transmitter		00.000	30.000	Total Count	
				roal Coult	
	P	lumbing			
Hot Water Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	25.000	1358.839	12.2	150	
70	Total Length	1368.839	- 8	Total Count	
Hot Water Pipe Bend	- Langer	.300.000	Diameter	Bend Angle	Count
Pipe Bend			25.000	90.00*	
ripe benu			23.900		
Maria National			L	Total Count	
Water Pipeline	Diameter	Length	Ins.Thk.	Material	Count
				0.0000000000000000000000000000000000000	
Pipe	40,000	1403.914	-	148	
Pipe	40,000 Total Length	1403.914 1403.914	-	Total Count	
Water Pipe Bend			Diameter	Total Count Bend Angle	Count
			Diameter 40.000	Total Count Bend Angle 90.00*	Count
Water Pipe Bend				Total Count Bend Angle	Count
Water Pipe Bend	Total Length	1403.914	40.000	Total Count Bend Angle 90.00*	Count
Water Pipe Bend Pipe Bend	Total Length	1403.914 Protecti	40.000 on	Total Count Bend Angle 90.00° Total Count	
Water Pipe Bend Pipe Bend Sprinkler Pipeline	Fire	Protecti	40.000	Total Count Bend Angle 90.00° Total Count Material	Count
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe	Fire Diameter 25.000	1403.914 Protecti Length 38001.017	40.000 on	Total Count Bend Angle 90.00° Total Count Material 129	
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe	Fire Diameter 25.000 32.000	1403.914 Protecti Length 38001.017 4611.858	40.000 on	Total Count Bend Angle 90.00° Total Count Material 129 129	
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe	Fire Diameter 25,000 40,000	1403.914 Protecti Length 38001.017 4611.856 4600.449	40.000 on	Total Count Bend Angle 90.00° Total Count Material 129 129 129	
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 25.000 32.000 40.000	1403.914 Protecti Length 38001.017 4611.858 4600.449 2167.005	40.000 on	Total Count Bend Angle 90.00° Total Count Material 129 129 129 129	
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.689	40.000 on	Total Count Bend Angle 90.00° Total Count Material 129 129 129 129	
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.689	40.000 On Ins.Thk.	Total Count Bend Angle 90.00' Total Count Material 129 129 129 129 129 Total Count	
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 25.000 32.000 40.000	1403.914 Protecti Length 38001.017 4611.858 4600.449 2167.005	40.000 On Ins.Thk.	Total Count Bend Angle 90.00' Total Count Material 129 129 129 129 129 Total Count	
Water Pipe Bend Pipe Bend Sprinkter Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.689	40.000 on	Total Count Bend Angle 90.00° Total Count Material 129 129 129 129	Count
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.689	40.006 Ins.Thk. Diameter 25.000	Total Count Bend Angle 90.00° Total Count Material 129 129 129 129 70al Count Bend Angle	Count
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Sprinkler Pipe Bend Pipe Bend Pipe Bend	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.689	40.006 Ins.Thk. Diameter 25.000 25.000	Total Count Bend Angle 90.00° Total Count Material 129 129 129 129 129 Total Count Bend Angle 85.97° 90.00°	Count
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.689	40.006 Ins.Thk. Diameter 25.000 25.000 32.000	Total Count Bend Angle 90.00° Total Count 129 129 129 129 129 129 129 90.00° Se.00°	Count
Water Pipe Bend Pipe Bend Sprinkler Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.669	40.000 Ins.Thk. Diameter 25.000 25.000 32.000 50.000	Total Count Bend Angle	Count
Water Pipe Bend Pipe Bend Sprinkter Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.669	40.000 Ins.Thk. Diameter 25.000 25.000 32.000 150.000	Total Count Bend Angle 90.00* Total Count Material 129 129 129 129 129 129 100 Total Count Send Angle 89.00* 90.00*	Count
Water Pipe Bend Pipe Bend Sprinkter Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.958 4600.449 2167.005 17146.669	40.000 Ins.Thk. Diameter 25.000 25.000 32.000 50.000	Total Count Bend Angle 90.00° Total Count 129 129 129 129 129 129 129 90.00° 90.00° 90.00° 90.00° 90.00°	Count
Water Pipe Bend Pipe Bend Sprinkter Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.017 4611.856 4600.449 2167.005 1714.6899 66527.018	40,000 Ins.Thk. Diameter 25,000 25,000 50,000 150,000	Total Count Bend Angle 90.00* Total Count Material 129 129 129 129 129 109 100 80.00* 90.00* 15.00*	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.917 4611.856 17146.699 68527.918	40,000 Ins.Thk. Diameter 25,000 25,000 150,000 150,000	Total Court Bend Angle 9.0.0° Total Court 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Sprinkter Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.858 4600.449 2167.005 17146.889 66527.018	40,000 Ins.Thk. Diameter 25,000 32,000 50,000 150,000 150,000 B.Diameter 25,000	Total Count Bend Angle 90.00° Total Count 129 129 129 129 129 129 100 Total Count 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.017 4611.858 17146.899 66527.018 M.Diameter 25.000 32.000	40,000 Ins.Thk.	Total Court Bend Angle 9.0.0° Total Court 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4611.858 4600.449 2167.005 17146.889 66527.018	40,000 Ins.Thk. Diameter 25,000 32,000 50,000 150,000 150,000 B.Diameter 25,000	Total Count Bend Angle 90.00° Total Count 129 129 129 129 129 129 100 Total Count 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.017 4611.858 17146.899 66527.018 M.Diameter 25.000 32.000	40,000 Ins.Thk.	Total Court Bend Angle 9.0.0° Total Court 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.917 4610.489 4610.489 4610.489 66527.918 M.Diameter 25.000 32.000	40,000 Ins.Thk.	Total Court Bend Angle 9.0.0° Total Court 129 129 129 129 129 129 129 139 1500 500 500 500 500 500 500 500 500 50	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.017 401.089 4600.449 2167.005 17146.689 66527.018 M.Diameter 25.000 32.000 32.000 40.000	40,000 Off Ins.Thk.	Total Court. Bend Angle 9.0.0" Total Court. Material 129 129 129 129 129 129 129 129 139 150 160 170 180 180 190 190 190 190 190 190 190 190 190 19	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.917 4611.858 4800.449 2167.005 17146.689 66527.018	### 40,000 Off Ins.Thk.	Total Count. Bend Angle 9.0.00' Total Count. Material 129 129 129 129 129 129 129 129 109 109 109 100 100 100 100 100 100 10	Count
Water Pipe Bend Pipe Bend Sprinkter Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Length 38001.017 4911.898 4900.449 2167.005 17146.699 66527.018 M.Diameter 25.000 32.000 40.000 50.000 55.000	40,000 OR Ins.Thk.	Total Court. Bend Angle. 90.00° Total Court. 129 129 129 129 129 129 129 129 129 59.10° 59.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 15.00° 90.00° 150.00° 1	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.017 401.898 4601.499 171446.898 66527.018 M.Diameter 25.000 32.000 32.000 40.000 40.000 50.000 150.000	40,000 Ins.Thk. Diameter 25,000 32,000 50,000 50,000 25,	Total Court. Bend Angle 90.00° Total Court. 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	1403.914 Protecti Legth 38001.017 38001.017 4011.886 400.469 297.018 M.Diameter 25.000 32.000 32.000 40.000 50.000 150.000	40,900 Ins.Thk. Diameter 25,900 25,900 50,800 50,800 25,900 25,	Total Court Bend Angle 90.00° Total Court 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.017 401.898 4601.499 171446.898 66527.018 M.Diameter 25.000 32.000 32.000 40.000 40.000 50.000 150.000	40,000 Ins.Thk. Diameter 25,000 32,000 50,000 50,000 25,	Total Court Send Angle 90.00* Total Court 100 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.9174 4911.858 4900.449 2167.005 17146.859 68527.918 M.Diameter 25.900 32.900 40.900 40.900 150.900 150.900 150.900 150.900	### 40,000 Institute	Total Court Bend Angle 96.00° Total Court, 96.00° Total Court, 129 129 129 129 129 129 139 Total Court Bend Angle 96.00° 96.00° 96.00° Total Court 150.00° 96.00° 150	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.917 4611.838 38001.917 4611.838 17146.686 66527.318 M.Diameter 225.000 32.000 32.000 32.000 40.000 150.000 150.000 150.000 Diameter 1	### 40,000 Ins. Thk.	Total Court Send Angle 90.00* Total Court 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.9174 4911.858 4900.449 2167.005 17146.859 68527.918 M.Diameter 25.900 32.900 40.900 40.900 150.900 150.900 150.900 150.900	### 40,000 Institute	Total Court Bend Angle 96.00° Total Court, 96.00° Total Court, 129 129 129 129 129 129 139 Total Court Bend Angle 96.00° 96.00° 96.00° Total Court 150.00° 96.00° 150	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	Protecti Length 38001.917 4611.838 38001.917 4611.838 17146.686 66527.318 M.Diameter 225.000 32.000 32.000 32.000 40.000 150.000 150.000 150.000 Diameter 1	### 40,000 Ins. Thk.	Total Court Send Angle 90.00* Total Court 129 129 129 129 129 129 129 129 129 129	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	M.Diameter 1 23.000 150.000 15	### 40,000 Ins.Thk.	Total Court Bend Angle 96.00° Total Court, 96.00° Total Court, 129 129 129 129 129 129 139 Total Court Bend Angle 96.00° 96.00° 96.00° 70tal Court Length 96.000 156.000	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	## Protecti Length 38001.017 4811.858 4800.4817 4811.858 66527.018 ## Diameter 25.000 32.000 40.000 150.000 150.000 150.000 150.000 Diameter 1 20.000 40.000 40.000	40,000 Ins. Thk. Diameter 25,000 25,000 50,000 150,000 25,000	Total Court Bend Angle 96.00* Total Court, 96.00* Total Court, 129 129 129 129 129 129 139 Total Court Bend Angle 96.00* Total Court 96.00* 96.00* Total Court 96.00* 150.00	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	## Protecti Length 38001.017 4811.858 4800.4817 4811.858 66527.018 ## Diameter 25.000 32.000 40.000 150.000 150.000 150.000 150.000 Diameter 1 20.000 40.000 40.000	40,000 Ins. Thk. Diameter 25,000 25,000 50,000 150,000 25,000	Total Court Send Angle 90.00* Total Court 129 129 129 129 129 129 129 129 129 129	Count Count Count Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	## Protecti Length 38001.017 4811.858 4800.4817 4811.858 66527.018 ## Diameter 25.000 32.000 40.000 150.000 150.000 150.000 150.000 Diameter 1 20.000 40.000 40.000	40,000 Ins. Thk. Diameter 25,000 25,000 50,000 150,000 25,000	Total Court Bend Angle 96.00* Total Court, 96.00* Total Court, 129 129 129 129 129 129 139 Total Court Bend Angle 96.00* Total Court 96.00* 96.00* Total Court 96.00* 150.00	Count
Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Fire Diameter 32,000 40,000 150,000	## Protecti Length 38001.017 4811.858 4800.4817 4811.858 66527.018 ## Diameter 25.000 32.000 40.000 150.000 150.000 Diameter 1 25.000 40.000 Diameter 1	40,000 Ins. Thk. Diameter 25,000 25,000 50,000 150,000 25,000	Total Court Bend Angle 96.00* Total Court, 96.00* Total Court, 129 129 129 129 129 129 139 Total Court Bend Angle 96.00* Total Court 96.00* 96.00* Total Court 96.00* 150.00	Count Count Count Count

	MAIN	BUILDIN	IG C		
	M	echanica	ı		10
Fresh Air Duct Transition		Length Dimension 1		Dimension 2	Count
Duct Transition		210.000	200×100	150×150	- 4
	Total Length	210.000		Total Count	- 4
Fresh Air Duct Terminal		Louver Size	Width	Height	Count
Sidewall Grille (Parallel to Side A)		200.000	100.000 0.015		1
				Total Count	
Supply Air Duct	Width	Height	Length	Ins.Thk.	Count
Duct	150,000	150,000	11702.453	25.000	24
Duct	200.000	200.000	1760.872	25.000	1
Duct	250.000	200.900	2292.575	25,000	
Duct	300.000	150.000	2420,000	25.000	
Duct	300.000	200.000	1051.237	25.000	3
		Total Length	19227.137	Total Count	2
Supply Air Duct Transition	1	Length	Dimension 1	Dimension 2	Count
Duct Transition		184.422	200×200	200×150	
Duct Transition		480.000	250×100	150×150	
Duct Transition		184.422	250×200	200×200	9
Duct Transition		174.319	300×200	250×200	
Duct Transition		202.453	800×300	300×200	
Duct Transition		470.596	1000×300	300×150	
	Total Length	1696.212	Total Count		12
Supply Air Duct Terminal		Louver Size	Width	Height	Count
Ceiling Grille (Parallel to Sic	ie A)	200.000	200,000	0.015	
Ceiling Grille (Parallel to Side A)		250.000	100.000	0.015	- 9
in contractor and			Total Count	12	
Direct Drive Fan (Supply Air)		Width	Height	Length	Count
Direct Drive Fan		600.000	300.000	800.000	
Direct Drive Fan		600.000	300.000	1000.000	3
				Total Count	
Supply Air Duct Splitter		Main Width	B1 Width	B2 Width	Count
Radius Splitter		150.000	150.000	200.000	
10.75 W 17.77 N				Total Count	
Exhaust Air Duct	Width	Height	Length	ins.Thk.	Count
Duct	150.000	150,000	10054,069	-	17

Duct	200.000	150.000	4654.143	-	
Duct	200,000	200.000	9062.791	_	. :1
Duct	250.000	150.000	4953.549	-	3
Duct	300,000	150.000	872.000	-	
Duct Duct	300.000	200.000	8592 B48 6508 454	-	3
Duct	400.000	200.000	18451.461	-	3
Duct	400,000	300.000	7342.550	-	
Duct	450.000	200.000	11696.670		
Duct Duct	450.000 450.000	300.000 450.000	3670.688 1811.474	-	3
Duct	600,000	300,000	3791.302	-	
Duct	700.000	300.000	13952,409	-	1
Duct	800,000	300.000	425.000	2	
Duct	1100,000	800.000	125.000	Total Count	7
Exhaust Air Duct Bend	_	Total Length Width	Height	Bend Angle	Count
Duct Bend		150,000	150,000	90.00°	1
Duct Bend	- 8	150.000	200.000	90.00*	9
Duct Bend		200,000	150,000	90.00*	
Duct Bend Duct Bend	_	200.000 300.000	200.000	90.00*	2
Duct Bend		400,000	200.000	90.00*	
Duct Bend		400.000	200,000	90.01*	3
Duct Bend		400.000	300.000	64.50*	
Duct Bend Duct Bend	_	400.000 450.000	300.000 200.000	89.67° 90.01°	
Duct Bend		450,000	450.000	90.00*	
Duct Bend		450.000		90.01"	8
				Total Count	3
Exhaust Air Duct Transition		Length	Dimension 1	Dimension 2	Count
Duct Transition		380.575 96.999	200×200 250×150	150×150 200×150	
Duct Transition Duct Transition		96,999	250×150 300×100	200×150 150×150	3
Duct Transition		445.298	300×100	150×150	
Duct Transition		100.000	300×150	250×150	9
Duct Transition		89.000	300×200	200×150	
Duct Transition		112.000	300×200	300×150	2
Duct Transition Duct Transition		200,000 60,000	350×200 400×100	200×200 200×150	
Duct Transition Duct Transition		89.000	400×100 400×200	200×150 300×200	
Duct Transition		228.006	400×200	350×200	
Duct Transition		184.000	450×200	300×200	
Duct Transition		189.416	450×300	350×200	
Duct Transition Duct Transition	- 3	316.000 256.946	500×300 550×300	400×200	3
Duct Transition	_	178.946	550×300	400×200 450×200	3
Duct Transition		288,449	600×300	450×300	2
Duct Transition		150.000	600×400	150×150	
Duct Transition		169.958	700×300	400×200	
Duct Transition		288.449	700×300	600×300	
Duct Transition Duct Transition		169.958 679.982	800×300 1100×300	450×200 700×300	8
Duct Transition	-	447,597	1100×600	700×300	
DOM THE COMM	Total Length	5300.579		Total Count	- 4
Exhaust Air Duct Terminal		Louver Size	Width	Height	Count
Ceiling Grille (Parallel to Side A)		300.000	100.000	0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A)		300.000 350.000	150.000 200.000		-
		400,000	100,000	0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A)		400.000	100.000 150.000	0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A)		400.000 600.000	150.000 300.000	0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A)		400.000 600.000 800.000	150.000 300.000 400.000	0.015 0.015 0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Sidewall Grille (Parallel to Side A)		400.000 600.000 800.000 700.000	150.900 300.000 400.000 300.000	0.015 0.015 0.015 0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Sidewall Grille (Parallel to Side A Sidewall Grille (Parallel to Side A	0	400.000 600.000 800.000	150.000 300.000 400.000 300.000 300.000	0.015 0.015 0.015 0.015 0.015	
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Sidewall Grille (Parallel to Side A Sidewall Grille (Parallel to Side A Sidewall Grille (Parallel to Side A	0	400.000 600.000 800.000 700.000 800.000	150.000 300.000 400.000 300.000 600.000	0.015 0.015 0.015 0.015 0.015 0.015 Total Count	2
Ceiling Grife (Parallel to Side A) Ceiling Grife (Parallel to Side A) Ceiling Grife (Parallel to Side A) Sidewall Grife (Parallel to Side A) Sidewall Grife (Parallel to Side A Sidewall Grife (Parallel to Side A Tubular Infine Fan (Exhaust Air	0	400.000 600.000 800.000 700.000 800.000	150.000 300.000 400.000 300.000 300.000 600.000	0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height	2 Count
Ceiling Grille (Parallel to Side A). Ceiling Grille (Parallel to Side A). Ceiling Grille (Parallel to Side A). Sidewall Grille (Parallel to Side A. Tubular inline Fan (Exhaust Air Tubular inline Fan	0	400.000 600.000 800.000 700.000 800.000	150,000 300,000 400,000 300,000 600,000 Width	0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000	2 Count
Ceiling Grife (Parallel to Side A) Ceiling Grife (Parallel to Side A) Ceiling Grife (Parallel to Side A) Sidewall Grife (Parallel to Side A) Sidewall Grife (Parallel to Side A Sidewall Grife (Parallel to Side A Tubular Infine Fan (Exhaust Air	0	400.000 600.000 800.000 700.000 800.000	150.000 300.000 400.000 300.000 300.000 600.000	0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height	2 Count
Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Ceiling Grille (Parallel to Side A) Sidewall Grille (Parallel to Side A) Tubular Inline Fan (Exhaust Air Tubular Inline Fan Tubular Inline Fan Tubular Inline Fan Tubular Inline Fan	9	400.000 600.000 600.000 700.000 800.000 1100.000	150,000 300,000 400,000 300,000 600,000 Width 500,000 1100,000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 550.000 1100.000 Total Count	Count
Ceing Grile (Parallel & Side A) Sidewal Grile (Parallel & Side A) Sidewal Grile (Parallel & Side A) Sidewal Grile (Parallel & Side A Tubular Iniline Fan	r) Width	400.000 600.000 600.000 700.000 800.000 1100.000	150,000 300,000 400,000 300,000 600,000 Width 500,000 550,000 1100,000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000 550.000 Total Count	Count
Ceing Gelle (Paratie Is Side A) Ceining Gelle (Paratie Is Side A) Ceiling Gelle (Paratie Is Side A) Sidewal Gelle (Paratie Is Side A) Tubular Initiae Fan Tubular Initiae Fan Tubular Initiae Fan Tubular Initiae Fan Ethauset Air Duct Obstruction Ethauset Air Duct Obstruction Marward Obstudeton (risu)	(V) (W) (W) (W) (W) (W) (W) (W) (W) (W) (W	400.000 600.000 600.000 700.000 800.000 1100.000 Height 150.000	150,000 300,000 400,000 300,000 600,000 Width 500,000 550,000 1100,000 Obstr.Ht. 250,000	0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000 550.000 Total Count Length	Count
Ceing Ceile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Tubular Intier Fan Tubular Intier Fan Tubular Intier Fan Enhaust Air Duct Obstruction Morard Cotaction (rise) Morard Cotaction (rise)	Width 250,000 250,000	400.000 600.000 600.000 700.000 800.000 1100.000 Height 150.000	150,000 300,000 400,000 300,000 300,000 600,000 Width 500,000 1100,000 Obstr.Ht. 250,000	0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000 550.000 1100.000 Total Count Length 400.000	Count
Ceing Ceile (Parelle Is Side A) Ceiling Ceile (Parelle Is Side A) Ceiling Ceile (Parelle Is Side A) Ceiling Ceile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Tubular initine Fan (Exhaust Air Tubular initine Fan Tubular initine Fan Tubular initine Fan Evihaust Air Duct Obstruction Misraed Cotuction (sias) Misraed Cotuction (sias) Misraed Cotuction (sias)	(V) (W) (W) (W) (W) (W) (W) (W) (W) (W) (W	400.000 600.000 600.000 700.000 800.000 1100.000 Height 150.000	150,000 300,000 400,000 300,000 600,000 Width 500,000 550,000 1100,000 Obstr.Ht. 250,000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000 550.000 1100.000 1200.000 1400.000 1400.000 1500.000 1500.000 1500.000 1500.000 1500.000	Count
Ceing Cite (Parelle Us Side A). Sidewal Gite (Parelle Us Side A). Sidewal Gite (Parelle Us Side A). Sidewal Gite (Parelle Us Side A). Tubular inine Fan (Tubular inine Fan Tubular inine Fan Tubular inine Fan Tubular inine Fan Tubular inine Fan Maren Cite (Parelle Cite). Micror (Debuction (inin).	Width 250.000 400.000	400,000 600,000 700,000 800,000 1100,000 1100,000 Height 150,000 150,000 200,000	150,000 300,000 400,000 300,000 500,000 600,000 Width 500,000 1100,000 000 000 000 000 000 000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000 1100.000 170al Count Length 334.452 400.000 964.241 600.000 Total Count	Count Count
Ceiling Ceile (Parelle Is Side A) Ceiling Gelle (Parelle Is Side A) Sidewal Gelle (Parelle Is Side A Sidewal Gelle (Parelle Is Side A Tubular Hiller (Parelle Is Side A Tubular Hiller Fan (Ethauet Ail Tubular Hiller Fan Tubular Hiller Fan Tubular Hiller Fan Exhauet Air Duct Obstruction Misrard Cobuduction (rise) Misrard Cobuduction (rise) Misrard Cobuduction (rise) Exhauet Air Duct Splitter Exhauet Air Duct Splitter	Width 250.000 400.000	400,000 600,000 700,000 800,000 1100,000 1100,000 150,000 200,000 200,000 Main Width	150,000 300,000 400,000 300,000 300,000 600,000 Width 500,000 1100,000 Obstr Nt. 250,000 250,000 250,000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count. Height 500.000 Total Count. Length 400.000 964.241 500.000 Total Count. Length 500.000	Count Count
Ceing Ceile (Parelle Is Side A) Ceiling Ceile (Parelle Is Side A) Ceiling Ceile (Parelle Is Side A) Ceiling Ceile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Tubular initine Fan (Exhaust Air Tubular initine Fan Tubular initine Fan Tubular initine Fan Evihaust Air Duct Obstruction Misraed Cotuction (sias) Misraed Cotuction (sias) Misraed Cotuction (sias)	Width 250.000 400.000	400,000 600,000 700,000 800,000 1100,000 1100,000 Height 150,000 150,000 200,000	150,000 300,000 400,000 300,000 300,000 600,000 Width 500,000 1100,000 Obstr Nt. 250,000 250,000 250,000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height 500.000 1100.000 1100.000 Total Count Length 964.241 600.000 Total Count	Count Count
Ceing Cite (Parelle Us Side A) Sidewal Grille (Parelle Us Side A) Sidewal Grille (Parelle Us Side A) Tubbular Inine Fan Marend Cobutuction (rise) Micreal Colstuction (rise) Micreal Cobutuction (rise) Micreal Cobutuction (rise) Micreal Cobutuction (rise) Enhaust Air Duct Splitter Radiul Splitter Enhaust Air Duct End-cap	Width 250.000 400.000	400,000 600,000 700,000 800,000 1100,000 1100,000 150,000 200,000 200,000 Main Width	150,000 300,000 300,000 300,000 300,000 600,000 Width 500,000 1100,000 1550,000 100,00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count. Height 500.000 1100.000 1500.000 1400.000 1500.0000 1500.00000 1500.00000 1500.00000 1500.00000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.00000 1500.00000 1500.00000 1500.00000 1500.00000000 1500.0000000000	Count Count
Ceiting Ceite (Pareal et Side A) Sidewal Grille (Pareal et Side A) Sidewal Grille (Pareal et Side A) Tabular reline (Pareal et Side A) Tabular rel	Width 250.000 400.000	400,000 600,000 700,000 800,000 1100,000 1100,000 150,000 200,000 200,000 Main Width	150,000 300,000 300,000 300,000 300,000 600,000 Whidth 500,000 550,000 1100,000 675,000 675,000 250,000 B1 Whidth	0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count. Height 500,000 550,000 1100,000 150,000 100,000	Count Count
Ceing Cite (Parelle Us Side A) Sidewal Grille (Parelle Us Side A) Sidewal Grille (Parelle Us Side A) Tubbular Inine Fan Marend Cobutuction (rise) Micreal Colstuction (rise) Micreal Cobutuction (rise) Micreal Cobutuction (rise) Micreal Cobutuction (rise) Enhaust Air Duct Splitter Radiul Splitter Enhaust Air Duct End-cap	Width 250.000 400.000	400,000 600,000 700,000 800,000 1100,000 1100,000 150,000 200,000 200,000 Main Width	150,000 300,000 300,000 300,000 300,000 600,000 Width 500,000 1100,000 1550,000 100,00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count. Height 500.000 Total Count. Length 334.452 400.000 964.241 600.000 300.000 Total Count. B2 Wideh 300.000 Total Count. Height 150.000	Count Count Count Count
Ceing Ceile (Parelle U Side A) Ceing Gelle (Parelle U Side A) Sidewal Gelle (Parelle U Side A Sidewal Gelle (Parelle U Side A Tabular Hiller (Parelle U Side A Tabular Hiller Fan (Echaust Ai Tabular Hiller Fan Tabular Hiller Fan Tabular Hiller Fan Tabular Hiller Fan Exhaust Air Duct Obstruction Moread Cobuctorio (rise) Moread Cobuctorio (rise) Moread Cobuctorio (rise) Moread Cobuctorio (rise) Exhaust Air Duct Spitter Exhaust Air Duct End-cap Duct End-cap Duct End-cap Duct End-cap	(Wideh 250,000 250,000 450,000	400,800 800 000 80	150,000,000 300,000 300,000 300,000 600,000 600,000 1100,000 1250,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000 675,000	0.015 0.015 0.015 0.015 0.015 0.015 1.015 Total Count. Height 500.000 1500.0000 1500.000 1500.000 1500.000 1500.000 1500.000 1500.000 1500.00000 1500.00000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.0000 1500.000000 1500.0000 1500.00000 1500.00000 1500.0000000000	Count Count Count Count 1
Ceing Ceile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Tubular risine (Parelle U Side A) Tubular risine Fan Tubul	Width 250,000 Width 250,000 450,000 Inlet Width 150,000	460,800 500,000 500,000 700,000 800,000 1100,000 1150,000 200,000 200,000 Main Width 200,000	150,000 300,000 300,000 300,000 300,000 600,000 600,000 1100,000 1200,000 800,000 1200,000 800,000 800,000 1200,000 80	0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count. Height 50.000 1100.000 1300.000 1300.000 1300.000 Total Count. Length 334.452 400.000 Total Count. B2 Width 500.000 Total Count. 150.000 Total Count. 020.000 Total Count. 030.000 Total Count. 040.000 Total Count. 050.000	Count Count Count Count Count Count Count Count
Ceing Cite (Parelle Us Side A) Ceing Ceile (Parelle Us Side A) Sidewal Geile (Parelle Us Side A) Sidewal Geile (Parelle Us Side A) Sidewal Geile (Parelle Us Side A) Tubbular Inline Fan (Enhaust A) Tubbular Inline Fan Sidewal Geile (Parelle Ceile (Inline Fan Tubbular Inline Fan Tubbular Inline Fan Tubbular Inline Fan Sidewal Gebruchten (Inline Microsoft Obstuction (Inline Enhaust Air Duct Spitter Echaust Air Duct End-cap Duct End-cap Echaust Air Duct Damper Recinquise Ballericing (Inspire	0 0 19 Width 250,000 250,000 400,000 450,000	460,000 500,000 700,000 700,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000 1100,000	150,000 160,000 160,000 160,000 160,000 170,00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.010 0.015 0.000	Count Count Count Count Count Count 1
Ceing Ceile (Parelle U Side A) Ceiling Ceile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Tubbular risine (Parelle U Side A) Tubbular risine Fan Tu	0 0 0 0 19 250,000 250,000 450,000 450,000 150,000 150,000	460,800 500,000 700,000 700,000 800,000 1100,000 1100,000 150,000 200,000 Main Width 200,000 Inlet Height 50,000 150,000 150,000	150,000 300,000 300,000 300,000 600,000 600,000 1100,000 1250,000 675,	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 10.015 10.015 10.015 10.015 10.015 10.010 10.000 1100.000 1100.000 1100.000 100.0000 100.000 100.000 100.000 100.000 100.000 100.000	Count Count Count 1 2 Count 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Ceing Cite (Parelle Us Side A) Sidewal Grille (Parelle Us Side A) Sidewal Grille (Parelle Us Side A) Tubbular Inine Fan Sidewal Grille (Parelle Us Side A) Microst Obstuction (Inin) Microst Obstuct	0 0 19 19 250,000 250,000 450,000 450,000 150,000 200,000 200,000 200,000	400,000 500,000 700,000 700,000 1100,000 1100,000 1100,000 1100,000 150,000 150,000 150,000 150,000 150,000 150,000 150,000 150,000	150,000 150,000 160,000 160,000 160,000 170,00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.010 0.010 0.000	Count Count Count Count 1 Count 1
Ceing Ceile (Parelle U Side A) Ceiling Ceile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Sidewal Geile (Parelle U Side A) Tubbular risine (Parelle U Side A) Tubbular risine Fan Tu	0 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	460,800 500,000 700,000 700,000 800,000 1100,000 1100,000 150,000 200,000 Main Width 200,000 Inlet Height 50,000 150,000 150,000	150,000 300,000 300,000 300,000 600,000 600,000 1100,000 1250,000 675,	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.016	Count Count Count Count 1 2 Count 1
Ceiting Ceite (Parente le Side A) Sidewal Geite (Parente le Side A) Sidewal Geite (Parente le Side A) Sidewal Geite (Parente le Side A) Tubular Inine Fan Sidewal Geite (Parente Inine Fan Sidewal Geite (Sidewal Geite) Mittered Chalutton (Inine) Mittered C	0 0 19 19 250,000 250,000 450,000 450,000 150,000 200,000 200,000 200,000	400.000 650.000 650.000 650.000 100.000 1100.000	150,000 100,00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.010 0.010 0.000	Count Count Count Count 1 2 Count 1
Ceing Cite (Paralle Is Side A) Sidewal Gite (Paralle Is Side A) Sidewal Gite (Paralle Is Side A) Tubbular Inine Fan Tubbular	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	400.000 600.000 600.000 600.000 600.000 100.000 1100.000	150.000 100.0000 100.00000 100.0000 100.0000 100.0000 100.0000 100.0000 100.0000 100.00000 100.00000 100.0000 100.00000 100.00000 100.00000000	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.005 0.000 50.000 100.0000 100.000 100.0000 100.000 100.0000 100.0000 100.0000 100.0000 100.0000 100.	Count
Ceiling Ceile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Tubbular Inition (Side A) Tubbular Inition Fam Tubbular Inition F	Width 250,000 450,000 200,000 200,000 300,000 Width Width 150,000 200,000 200,000 300,000 300,000 Width Width 150,000 200,	#80,000 (000 100	150,000 150,00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Total Count Height S00.000 1100.000 1100.000 100.0000	Count
Ceing Cite (Paralle Is Side A) Sidewal Gite (Paralle Is Side A) Sidewal Gite (Paralle Is Side A) Tubbut rinine Fan Sidewal Gite (Paralle Is Side A) Micros (Datustion (rine) Micros (Rine) Micro (Rine) Micros (Rine) Micro (Ri	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	#80,000 100,00	150.000 150.00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Tossi Count 0.015 550.000 1100.000 1500.000 1500.000 1500.000 1500.000 1500.000 Tossi Count 0.000 Tossi Count 0.0000 Tossi Count	Count Count Count Count 2 Count 1 2 Count 1 Count Count
Ceing Ceile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Tubbular inion Ean	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	400,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000 (600,000 (600,000 (600,000) (600,000 (600,000 (600,000 (600,000) (600,000 (600,000) (600,000 (600,000) (600,000 (600,000) (600,000 (600,000) (600,000) (600,000 (600,000) (153,000 20 20 20 20 20 20 20 20 20 20 20 20	0.015 0.015	Count
Ceiting Cirle (Parelle Us Side A) Sidewal Girle (Parelle Us Side A) Sidewal Girle (Parelle Us Side A) Sidewal Girle (Parelle Us Side A) Tubular inlen Fan Sidewal Girle (Parelle Us Side A) Mittered Chattaction (rise) Mittered Chattacti	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	#80,000 100,00	150.000 150.00	0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 0.015 Tossi Count 0.015 550.000 1100.000 1500.000 1500.000 1500.000 1500.000 1500.000 Tossi Count 0.000 Tossi Count 0.0000 Tossi Count	Count Count Count Count 2 Count 1 2 Count 1 Count Count
Ceing Ceile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Tubbular inion Ean	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	600,000,000,000,000,000,000,000,000,000	150,0000 150	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	Count Count Count Count 2 Count 1 2 Count 1 Count Count
Ceiting Ceite (Pareal et Side A) Sidewal Grille (Pareal et Side A) Sidewal Grille (Pareal et Side A) Tubular inition (Pareal et Side A) Microsoft Obstruction (P	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	400,000 500,	150,000 pp. 150,00	0.015 0.015	Count Co
Ceiting Ceite (Parelle Us Side A) Sidewal Geite (Parelle Us Side A) Sidewal Geite (Parelle Us Side A) Sidewal Geite (Parelle Us Side A) Tubular Inine Fan Sidewal Geite (Parelle Us Side A) Mittered Chattaction (rise) Mittered Chattacti	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	600,000,000,000,000,000,000,000,000,000	152,000,000 60	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	2 2 Count Count Count 1 1 2 Count
Ceiting Ceite (Pareal et Side A) Sidewal Geite (Pareal et Side A) Sidewal Geite (Pareal et Side A) Tubular initine (Pareal et Side A) Tubular initine Fan (Esthaust A) Tubular initine Fan Mittered Chestraction (initine Mittered Chest	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	400,000 600,	153,000 20 20 20 20 20 20 20 20 20 20 20 20	0.015 0.015	Count
Ceiting Ceite (Persette U. Sole A) Sidewal Geite (Persette U. Sole A) Sidewal Geite (Persette U. Sole A) Tubular Inition Fain Mittered Cobultation (rise) Mittered Cobulta	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Height H	150,0000 150	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	Count
Ceing Ceile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Sidewal Geile (Parelle Is Side A) Tubular Iriline Fan (Esthaust A) Tubular Iriline Fan (Esthaust A) Tubular Iriline Fan	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	400,000 600,	153,000 20 20 20 20 20 20 20 20 20 20 20 20	0.015 0.015	Count
Ceing Cirle (Paralle Is Side A) Sidewal Girle (Paralle Is Side A) Sidewal Girle (Paralle Is Side A) Tubbular Inine Fan Tubbular Side (Paralle Is Side A) Micros (Debuction (Inine) Micros (Inine) Micro (Inine) Micros (Inine) Micro (Inine)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Height H	150,0000 150	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	Count
Ceiting Ceite (Parelle Us Side A) Sidewal Geite (Parelle Us Side A) Sidewal Geite (Parelle Us Side A) Tubular Initine Fan Sidewal Geite (Sidewal Geite) Mittered Cobultution (Initine Mittered Cobultution M	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Height H	152,000 000 000 000 000 000 000 000 000 00	0.015 0.015	2 2 Count Count Count 1 1 Count
Ceing Ceile (Parel et Side A) Sidewal Geile (Parel et Side A) Sidewal Geile (Parel et Side A) Tubular inlen Fan Tu	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Height H	153,000 200 200 200 200 200 200 200 200 200	0.015 0.015	Count
Ceing Cirle (Paralle Is Side A) Sidewal Grile (Paralle Is Side A) Sidewal Grile (Paralle Is Side A) Tubbular Inine Fan Tubbular Sidewal Microsoft (Statution (Inine) Microsoft Obstauction (Inine) Micros	Wideh Width 150,000	Height H	150,000 000 000 000 000 000 000 000 000 0	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	Count
Ceing Ceile (Parel et Side A) Sidewal Geile (Parel et Side A) Sidewal Geile (Parel et Side A) Tubular inlen Fan Tubular	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Height H	152,000 000 000 000 000 000 000 000 000 00	0.015 0.015	Count Count Count 1 2 Count Coun
Ceing Ceile (Parel et Side A) Sidewal Geile (Parel et Side A) Sidewal Geile (Parel et Side A) Tubular inlen Fan Tubular		400,000 600,	153,000 200 200 200 200 200 200 200 200 200	0.015 0.015	Count
Ceing Cite (Paralle Is Side A) Sidewal Grille (Paralle Is Side A) Sidewal Grille (Paralle Is Side A) Tubbular Inine Fan Enhaust Ala Duct Splitter Radial Splitter Enhaust Air Duct End-cap Duct End-cap Duct End-cap Tubbular Balancing Damper Rectangular Balancing Damper		Height 000000000000000000000000000000000000	153,000 000 000 000 000 000 000 000 000 00	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	Count Count Count 1 2 Count Cou
Ceing Ceile (Parel et Side A) Sidewal Geile (Parel et Side A) Sidewal Geile (Parel et Side A) Tubular inlen Fan Tubular		400,000 600,	153,000 200 200 200 200 200 200 200 200 200	0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010 0.015 0.010	Count
Ceing Cite (Parelle Us Side A) Sidewal Gite (Parelle Us Side A) Sidewal Gite (Parelle Us Side A) Tubbular Inline Fan Marend Cobatustion (Inline) Marend		400,000 600,	150,000 100,00	0.015 0.010 0.015 0.010 0.015	Count
Ceing Ceile (Parel et Side A) Sidewal Geile (Parel et Side A) Sidewal Geile (Parel et Side A) Tubular inlen Fan (Ethaust A) Tubular inlen Fan (Ethaust A) Tubular inlen Fan Tu		400,000 600,	153,000 200 200 200 200 200 200 200 200 200	0.015 0.015	Count Co
Ceing Cite (Parelle Us Side A) Sidewal Gite (Parelle Us Side A) Sidewal Gite (Parelle Us Side A) Tubbular Inline Fan Marend Cobatustion (Inline) Marend		400,000 600,	150,000 100,00	0.015 0.010 0.015 0.010 0.015	Count

Chilled Water Pipe Tee Pipe Tee		M.Diameter 40.000	B.Diameter 25.000	Length 500.000	Count
2000		Diameter 1	Diameter 2	Total Count	Count
Chilled Water Pipe Transforme Pipe Transformer	32.000	50.000	Length 250.000	Count	
Pipe Transformer	40.000	32.000	250.000 Total Count	-	
Chilled Water Valve		Dismeter	Length	Count	
Gate Valve Gate Valve			25.000 32.000	100.000	
Chilled Water Return Pipeline	Diameter	Length	ins.Thk.	Total Count Material	Count
Pipe	25.000	3240.049	50.000	168	Court
Ppe Ppe	32.000 40.000	16394.148 11762.174	50.000 50.000	168 168	- 1
Pipe	50.000 Total Locato	9885.792 41282.163	50.000	168 Total Count	-
Chilled Water Return Pipe Ben	Total Length	41282.103	Diameter	Bend Angle	Count
Pipe Bend Pipe Bend			25.000 32.000	60.00°	
Pipe Bend			40.000	90.00*	
Pipe Bend			50.000	90.00° Total Count	- 3
Chilled Water Return Pipe Tee Pipe Tee		M.Diameter 40.000	B.Diameter 25.000	Length 500.000 Total Count	Count
Chilled Water Return Pipe Tran	sformer	Diameter 1	Diameter 2	Length	Count
Pipe Transformer Pipe Transformer		32.000 40.000	50.000 32.000	250.000 250.000	
Chilled Water Return Valve			Diameter	Total Count	Count
Gate Valve			25.000	Length 100,000	count
Gate Valve			32.000	100.000 Total Count	
LPG Pipeline	Diameter	Length	ins.Thk.	Material	Count
Pipe Pipe	80.000 100.000	41527.638 41302.638	-	145 145	
in the second	Total Length	82830.276	Di	Total Count	- 2
LPG Pipe Bend Pipe Bend			Diameter 80.000	Bend Angle 90.00*	Count
Pipe Bend			100.000	90,00° Total Count	
Fuel Pipeline	Diameter	Length	Ins.Thk.	Material	Count
Pipe	80.000 Total Length	78078.779 78078.779		149 Total Count	
Fuel Pipe Bend			Diameter	Bend Angle	Count
Pipe Bend			80.000	90.00" Total Count	- 1
Fuel Pipe Tee Pipe Tee		M.Diameter 80.000	B.Diameter 80,000	Length 200,000	Count
		30,000		Total Count	
Fuel Valve Ball Valve			Dismeter 80.000	Length 150,000	Count
Check Valve			80.000	120.000	
Gate Valve			80.000	150.000	
				Total Count	
Fuel Tank (1400x3000)	P	Plumbing		Total Count	Count
Mechanical Equipment Fuel Tank (1400x3000) Fuel Tank (2300x5500) Hot Water Pipeline Pipe	Diameter 25.000	Plumbing Length 8532.723	lins.Thk.	Total Count Material 150	Count
Fuel Tank (1400x3000) Fuel Tank (2300x5500) Hot Water Pipeline Pipe Pipe	Diameter	Length	ins.Thk.	Total Count	Count
Fuel Tank (1400x3000) Fuel Tank (2300x5500) Hot Water Pipeline Pipe Pipe Pipe	Diameter 25.000 40.000	Length 8532.723 8090.205	-	Total Count Material 150 150 150 Total Count	Count
Fuel Tank (1400x3000) Fuel Tank (2300x5500) Hot Water Pipeline Pipe Pipe Pipe Hot Water Pipe Bend Pipe Bend	25.000 40.000 75.000	Length 8532.723 8090,205 20350.175	Diameter 25.000	Total Count Material 150 150 150 Total Count Bend Angle 90.00*	Count
Fuel Tark (±400:d000) Fuel Tark (2000:5000) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	25.000 40.000 75.000	Length 8532.723 8090,205 20350.175	Diameter	Total Count Material 150 150 150 Total Count Bend Angle 90.00°	Count
Fuel Tark (1400:d000) Fuel Tark (2000:5000) Hot Water Pipeline Pipe Pipe Pipe Hot Water Pipe Bend Pipe Bend Hot Water Pipe Bend Hot Water Pipe Tee	25.000 40.000 75.000	Length 8532.723 8090.205 20350.175 36973.103 M.Diameter	Diameter 25.000 40.000	Material 150 150 150 150 150 Total Count Bend Angle 90.00° 90.00° Total Count Length	Count
Fuel Tark (1400:d000) Fuel Tark (2000:5000) Not Water Pipeline Pipe Pipe Pipe Pipe Hot Water Pipe Bend Pipe Bend Not Water Pipe Tee Pipe Tee Pipe Tee	25.000 40.000 75.000	Length 8532.723 8090.205 20350.175 36973.103 M.Diameter 25.000 25.000	Diameter 25.000 40.000 B.Diameter 20.000 25.000	Total Count 150 150 150 108 Count Bend Angle 90.0° Total Count Length 75.000 75.000	Count
Fuel Tark (1400:d000) Fuel Tark (2000:5000) Not Water Pipeline Pipe Pipe Pipe Pipe Hot Water Pipe Bend Pipe Bend Not Water Pipe Tee Pipe Tee Pipe Tee	25.000 40.000 75.000	Length 8532.723 8090.205 20350.175 36973.103 M.Diameter 25.000	Diameter 25.000 40.000 B.Diameter 20.000	Total Court Material 150 150 150 150 150 150 150 150 150 15	Count
Fuel Tark (1400:000) Fuel Tark (2300:5500) Hot Water Pipeline Ppe Ppe Ppe Hot Water Pipe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Bend Ppe Tee Ppe Tee Ppe Tee Hot Water Pipe Tee Ppe Tee Ppe Tee Hot Water Pipe Transformer	25.000 40.000 75.000	Length 8532 723 8090.205 20350.175 36973.103 M.Diameter 25.000 40.000 Diameter 1	Diameter 25,000 40,000 B.Diameter 20,000 40,000 Diameter 2	Total Count Material 150 150 150 Total Count Bend Angle 90.00° 70.000 Total Count Length 75.000 75.000 75.000 Length Length Length	Count
Fuel Tark (1400:d000) Fuel Tark (2000:5000) Not Water Pipeline Pipe Pipe Pipe Pipe Pipe Not Water Pipe Bend Pipe Bend Not Water Pipe Tee Pipe Tee Pipe Tee Pipe Tee Pipe Tee Not Water Pipe Transformer Pipe Taransformer	25.000 40.000 75.000	Length 8532.723 8090.205 20350.175 36973.103 M.Diameter 25.000 25.000 40.000	Diameter 25.000 40.000 B.Diameter 20.000 25.000 40.000	Total Count Material 159 150 150 150 150 701 701 701 701 701 701 701 701 701 70	Count Count Count Count Count
Fuel Tark (1400:d000) Fuel Tark (2000:5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Band Pipe Band Pipe Band Pipe Band Pipe Band Hot Water Pipe Tee Pipe Tee Pipe Tee Pipe Tee Pipe Tee Pipe Tee Pipe Tansformer Pipe Transformer Pipe Transformer Pipe Transformer	Dismeter 25.000 40.000 75.000 Total Length	Length 8532.723 8599.205 2050.175 36973.103 M.Diameter 25.000 25.000 40.000 Diameter 1 40.000 40.000	Diameter 25,000 40,000 8.Diameter 20,000 40,000 Diameter 2 25,000 40,000 Diameter 2 25,000 25,000 25,000	Total Count Material 150 150 150 150 Total Count Bend Angle 90.00° 7.010 7.010 7.5.000 7.5.000 7.5.000 7.5.000 1010 1010 1010 1010 1010 1010 101	Count Count Count Count Count Count
Fuel Tark (1400:d000) Fuel Tark (2000:5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Band Pipe Band Pipe Band Pipe Band Pipe Band Hot Water Pipe Tee Hot Water Pipe Transformer Pipe Transformer Pipe Transformer Pipe Transformer Pipe Transformer Pipe Transformer Pipe Teansformer Hot Water Return Pipeline Pipe	Diameter 25.000	Length 8532.723 8599.205 20050.175 36973.103 40.000 25.000 40.000 Diameter 1 40.000 40.000 Length 4994.851	Diameter 25.000 40.000 8.Diameter 20.000 40.000 Diameter 2 25.000 Diameter	Total Court Material 150 150 150 Total Court Bend Angle 90.00° 7010 75.000 75.000 75.000 75.000 Total Court Length 90.856 57.421 Total Court Material	Count Count Count Count Count
Fuel Tark (1400:d000) Fuel Tark (2000:5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Band Pipe Band Pipe Band Pipe Band Pipe Band Hot Water Pipe Tee Hot Water Pipe Transformer Pipe Transformer Pipe Transformer Pipe Transformer Pipe Transformer Pipe Transformer Pipe Teansformer Hot Water Return Pipeline Pipe	Diameter 25.000 40.000 75.000 75.000 Total Length Total Length Diameter 20.000 25.	Length 853.723 809.205 20350.175 36973.103 40.0000 40.0000 40.0000 40.0000 40.000 40.000 40.000 40.0	Diameter 25,000 40,000 8.Diameter 20,000 40,000 Diameter 2 25,000 40,000 Diameter 2 25,000 25,000 25,000	Total Court 150 150 150 150 150 Total Court Bend Angle 90.00° 17010 Court Length 75.000 75.000 75.000 Total Court Material 151 151	Count Count Count Count Count Count
Fuel Tark (1400x000) Fuel Tark (2300x5500) Hot Water Pipeline Ppe Ppe Ppe Hot Water Pipe Bend Ppe Bend Ppe Bend Hot Water Pipe Tee Ppe Tee Ppe Tee Hot Water Pipe Tee Ppe Tee Ppe Tee Hot Water Pipe Transformer Ppe Transformer Ppe Transformer Hot Water Return Pipeline Ppe Ppe Ppe Hot Water Return Pipeline Ppe	Diameter 25.000	Length 8532.723 8599.205 20050.175 36973.103 40.000 25.000 40.000 Diameter 1 40.000 40.000 Length 4994.851	Diameter 2 5 000 40 000 25 000 40 000 10 10 10 10 10 10 10 10 10 10 10 1	Total Court 150 150 150 150 150 150 150 150 150 15	Count Count Count Count Count Count
Fuel Tark (1400x000) Fuel Tark (2300x5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25.000 40.000 75.000 75.000 Total Length Total Length Diameter 20.000 25.	Length 853.723 809.205 20350.175 36973.103 40.0000 40.0000 40.0000 40.0000 40.000 40.000 40.000 40.0	Diameter 25,000 40,000 8. Diameter 20,000 40,000 Diameter 20,000 25,000 25,000 lins. This.	Total Court Material 150 150 150 150 150 Total Court Bend Angle 90.00° Total Court Length 75.000 75.000 75.000 Total Court Length Material 151 Total Court Bend Angle Bend Angle	Count Count Count Count Count
Fuel Tark (1400x000) Fuel Tark (2300x5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25.000 40.000 75.000 75.000 Total Length Total Length Diameter 20.000 25.	Length 852.723 8597.3103 8090.205 20090.176 35973.103 8090.205 20090.176 35973.103 8090.25.000 25.000 40.000 80.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000	Diameter 2 5 000 40 000 25 000	Total Count Material 150 150 Total Count Bend Angle 90.00* Total Count Length 75.000 75.000 75.000 75.000 Material 151 Total Count Metarial 151 Total Count Bend Angle 90.00* Total Count Metarial 75.000 Total Count Metarial	Count Count Count Count Count Count Count Count
Frue Tark (1400x000) Fruel Tark (2300x5500) Hot Water Pipeline Ppe Ppe Ppe Ppe Hot Water Pipe Bend Ppe Bend Ppe Bend Hot Water Pipe Tee Ppu Tee Ppu Tee Ppu Tee Hot Water Pipe Transformer Ppe Transformer Ppe Transformer Hot Water Return Pipeline Ppe Ppe Hot Water Return Pipeline Ppe Hot Water Return Pipe Bend Ppe Bend	Diameter 25.000 40.000 75.000 75.000 Total Length Total Length Diameter 20.000 25.	Length 853.723 809.205 20350.175 36973.103 40.0000 40.0000 40.0000 40.0000 40.000 40.000 40.000 40.0	Diameter 2 25 000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 40.000 25 000 25 000 25 000 25 000 25 000 25 000 25 000 25 000 40.0000 40.000 40.000 40.000 40.000 40.0000 40.000 40.000 40.000 40.	Total Count 150 150 150 150 150 150 160 160 160 160 160 160 160 160 160 16	Count Count Count Count Count Count
Fruit Tark (1400x000) Fruit Tark (2300x5500) Hot Water Pipelline Pipe Pipe Pipe Pipe Hot Water Pipe Bend Pipe Bend Pipe Bend Pipe Bend Hot Water Pipe Tee Pipe Tee Pipe Toe Hot Water Pipe Tee Pipe Toe Hot Water Pipe Transformer Hot Water Return Pipeline Pipe Pipe Hot Water Return Pipeline Pipe Hot Water Return Pipe Bend Pipe Bend Hot Water Return Pipe Bend Hot Water Return Pipe Tee Pipe Tee	Diameter 20,000 40,000 40,000 75,000 Total Length Diameter 20,000 25,000 Total Length	Length 8532.723 8690.205 20350.175 35673.103 M.Diameter 25.000 40.000 Diameter 1 40.000 40.000 Length 4094.851 7236.213 12131.064 M.Diameter M.Diameter 1	Diameter 2 5.000 40.000	Total Court 190 190 190 190 190 190 190 190 190 190	Count Count Count Count Count Count Count Count
Fuel Tark (1400x000) Fuel Tark (2300x5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 20,000 40,000 40,000 75,000 Total Length Diameter 20,000 25,000 Total Length	Length 5832.723. 5992.255 5992.255 5992.255 5992.255 5992.255 5992.255 100 50 50 50 50 50 50 50 50 50 50 50 50 5	Diameter 2 20 000 25 00	Total Court 190 190 190 190 190 190 190 190 190 190	Count Count Count Count Count Count Count Count Count
Fuel Tark (1400x000) Fuel Tark (2300x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 20,000 40,000 40,000 75,000 Total Length Diameter 20,000 25,000 Total Length	Length 5832.72.8 590.295 590.205 590.295 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.205 590.2	Diameter 2 20 000 25 00	Total Count 150 150 150 150 150 150 150 150 150 150	Count
Fuel Tark (1400x000) Fuel Tark (2300x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25.000 40.0000 40.0000 75.0000 Total Length Diameter 20.000 Total Length	Length 494.851 M.Diameter 1 25.000 Diameter 1 25.000	Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 25.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 Diameter 2 20.000	Total Count 150 150 150 150 150 150 150 160 160 160 160 160 160 160 160 160 16	Count Count Count Count Count Count Count Count Count
Fuel Tark (1400x000) Fuel Tark (2300x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25.000 40.000 40.000 40.000 75.000	Length 8332.723 8090.295 8090.295 8090.295 8090.295 8090.295 80973.103 80973	Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 25.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 Diameter 2 20.000	Total Count 150 150 150 150 150 150 150 150 150 150	Count
Fuel Tark (1400x000) Fuel Tark (200x500) Hot Water Pipeline Ppe Ppe Ppe Ppe Ppe Hot Water Pipe Bend Ppe Bend Ppe Bend Hot Water Pipe Tee Ppe Toe Ppe Toe Ppe Toe Ppe Toe Hot Water Pipe Transformer Ppe Tarnsformer Ppe Tarnsformer Ppe Tee Ppe Toe Hot Water Return Pipe Bend Ppe Bend Hot Water Return Pipe Tee Ppe Toe Water Return Pipe Teansformer Water Pipeline Ppe Ppe Tornsformer Water Pipeline Ppe Ppe Ppe Ppe	Diameter 25,000 40,000 75,000	Length 8832.72.8 890.295 890.295 890.295 890.295 890.295 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.205 190.2	Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 25.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 Diameter 2 20.000	Total Court 190 190 190 190 190 190 190 190 190 190	Count
Fuel Tark (1400x000) Fuel Tark (2300x5500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.82 8590.235 8590.235 8590.235 8590.235 8590.235 8597.3 103 959	Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 25.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 B. Diameter 2 20.000 Diameter 2 20.000	Total Court. Material 150 150 150 150 150 150 150 150 150 15	Count
Five Tark (1400x000) Five Tark (2000x500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25.000 40.000 175.000	Length 8532.72.82 8590.235 8590.235 8590.235 8590.235 8590.235 8597.3 103 959	Diameter 2 200000 Diameter 2 20000 Diameter 2 2000 Diameter 2 2000 Diameter 2 2000 Diameter 2	Total Count 150 150 150 150 150 150 150 150 160 160 160 160 160 160 160 160 160 16	Count
Five Tark (1400x000) Five Tark (2000x500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.82 8590.235 8590.235 8590.235 8590.235 8590.235 8597.3 103 959	Diameter 2 200000 Diameter 2 2000000 Diameter 2 200000 Diameter 2 20000 Diameter 2 2000 Diameter 2 20000 Diameter 2 20000 Diameter	Total Count 150 150 150 150 150 150 150 150 150 150	Count Co
Five Tark (1400x000) Five Tark (2000x500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.82 8590.235 8590.235 8590.235 8590.235 8590.235 8597.3 103 959	Diameter 2 25000 Lines This	Total Court 190 190 190 190 190 190 190 190 190 190	Count Co
Five Tark (1400x000) Freel Tark (2000x500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.8 2509.295 2509.2009.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.295 2509.2009.2009.2009.2009.2009.2009.2009.	Diameter 2 25000 16s. Thi. Diameter 1 25000 16s.	Total Court Material 150 150 150 150 150 150 150 150 150 15	Count Co
Fuel Tank (1400x000) Fuel Tank (2000x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8832.72.8 8892.72.8 8990.295 8990.295 89973.103 M.Diameter 1 40.000 40.000 40.000 40.000 Length 4994.8213 72131.094 M.Diameter 2 25.000 Diameter 1 25.000 Length 4994.8313 50123.714 7344.288 15043.735 15043.333 15043.335	Diameter 2 25000 Lines This Diameter 5 25000 Lines This Diameter 6 25000 Lines This Diameter 7 25000 Lines This Diameter 6 25000 Lines This Diameter 7 25000 Lines This Diameter 6 25000 Lines This Diameter 7 25000 Lines This Diameter 8 25000 Lines This Diameter 9 25000 Lines This	Total Court. Material 150 150 150 150 150 150 150 150 150 15	Count
Fuel Tark (1400x000) Fuel Tark (2300x5500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.8 8509.295 8509.295 8509.295 8509.2050.175 95073.103 M.Diameter 1 25.000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000 40.00	Diameter 2 25,000 25,000 25,000 25,000 25,000 25,000 26,000	Total Count 150 150 150 150 150 150 150 150 160 160 160 160 160 160 160 160 160 16	Count Co
Fire Tark (1400x000) Firel Tark (2000x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72 8500.205 8502.72 8500.205 8507.3 8507.3 8507.3 8507.3 8507.3 8507.3 8507.	Diameter 2 2 50000 Diameter 2 2 20000 Diameter 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Total Count 150 150 150 150 150 150 150 150 160 160 160 160 160 160 160 160 160 16	Count
Fire Tark (1400x000) Firel Tark (2000x500) Firel Tark (2000x500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Mot Water Pipe Bend Pipe Bend Pipe Bend Mot Water Pipe Tee Pipe Toe Hot Water Pipe Transformer Pipe Toe Pipe Toe Pipe Toe Hot Water Return Pipe Bend Pipe Bend Hot Water Return Pipe Transformer Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Diameter 25,000 40,000 75,000	Length 8932.72.8 8932.72.8 8909.295 8909.295 89973.103 M.Diameter 1 40.000 40.	Diameter 2 25000 lines This .	Total Court. Material 150 150 150 150 150 150 150 150 150 15	Count
Fire Tark (1400x000) Firel Tark (2000x500) Mot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8832.72.8 8832.72.8 8809.295. 8809.295. 8809.295. 89973.103 M.Diameter 1 25.000 Length 4994.851 7236.213 12131.084 M.Diameter 1 25.000 Length 4994.851 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213 7236.213	Diameter 2 25000 16s.Thi. Diameter 2 25000 25000 16s.Thi. Diameter 2 25000 25000 16s.Thi. Diameter 2 25000 16s.Thi. Diamet	Total Court. Material 150 150 150 150 150 150 150 150 150 15	Count
Five Tank (1400x000) Fivel Tank (2000x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8832.72.82 8690.295 8690.295 8690.295 8690.295 8690.295 8697 8697 8697 8697 8697 8697 8697 8697	Diameter 2 250000 Diameter 2 250000 Diameter 2 250000 Diameter 2 25000 Diameter 2 2500 Diameter	Total Count 150 150 150 150 150 150 150 150 150 150	Count
Fire Tark (1400x000) Firel Tark (200x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.82 8090.295 8090.295 8090.295 8090.295 80973.103 M.Diameter 1 25.000 40.000 40.000 40.000 80.0000 80.000 80.000 80.000 80.000 80.000 80.000 80.0000 80.000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.00000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000 80.0000	Diameter 2 25 0000 2	Total Count 150 150 150 150 150 150 150 150 160 160 160 160 160 160 160 160 160 16	Count
Finel Tark (1400x000) Finel Tark (2000x500) Hot Water Pipeline Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pip	Diameter 25,000 40,000 75,000	Length 8532.72.52 800.205 800.20	Diameter 2 25 0000 2	Total Count 190 190 190 190 190 190 190 190 190 190	Count
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4.			
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RE	SORT & SPA I E	BORAC	AY
OWNER	Filinvest Development (5F Voctor 1 Bidg. Northgate Cybe		upa City
ARCHITECT	Aidea Philippines Inc. 30F Ayala Life RGU Cente, 6811 Makaii City, Philippines	Ayala Avenu	a, Sakodo Village 1229,
ARCHITECTURAL &INTERIOR	WATG		
DESIGN	8 Common wealth Lane #02-03 Singapore MACRO CSE		
STRUCTURAL CONSULTANT	Unit 504C hyland 10 Tower II, HV I Makari Chy	Dela Costa S	, Sakedo Village
MECHANICAL ELECTRICAL PLUMBING FIRE PROTECTION	DCCD Engineering Cor SCI. Building 112 Amarsolo St. Lag		1229 Makati City
LANDSCAPE CONSULTANT	Inspira Design Core Ltd 27 Maroury St. comer Malipajo St.		Las Pinas City
LIGHTING	PL Light In Existence C	o.	10150
AV. ACQUSTIC.	ihD Philippines Ltd.		
CONSULTANT COMBINED SERVICES	Unit 306Emerald Place Building St	hawBlvd,Pi 8	elig City
This drawing is extract information and docume of items that the BM LO structural and building separability for the acconsultant nor will Aidea chiesions that may have to Aidea. The design as	DRAWMOD / BASE PLAN DRAWMOD and from the Bill LOD 300 of the period of provided by the design consultants of 500 to clash thee and on accurate 31 periods systems and components current and the control of the clash as to lately for any unincorate outcome to be inches for any unincorate outcome been incorporated into the model as a ponsibility and if all by will all the assume	oject created and approved to D model of the of the proje and information arising or re- aresult of incored by the design	based upon the design y the client While Audies combined architectural, ct. Aldes assumes no furnished by the design ulting from any errors or ned information provided ynconsultants.
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	LPG PIPE LINE		
	STEAM PIPE LINE		
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	DETECTOR PVC CONDUIT	20	
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BIM PROVIDER			
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NEW CLARK CITY STADIUM

New Clark City, Tarlac, Philippines

Client: Hilmarc's Construction Corporation

Size: Athletic Stadium: 61,570 sqm

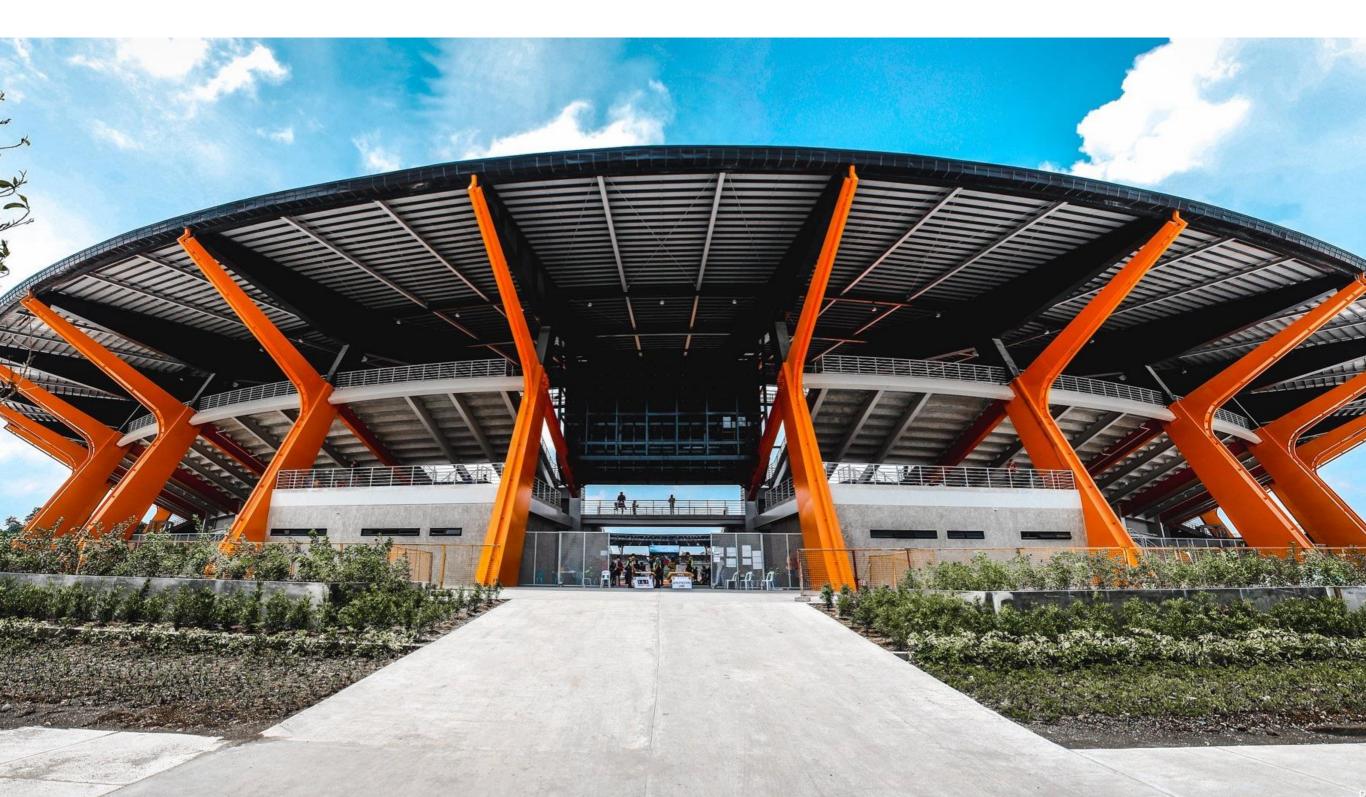
Warm Up Track: 12,510 sqm

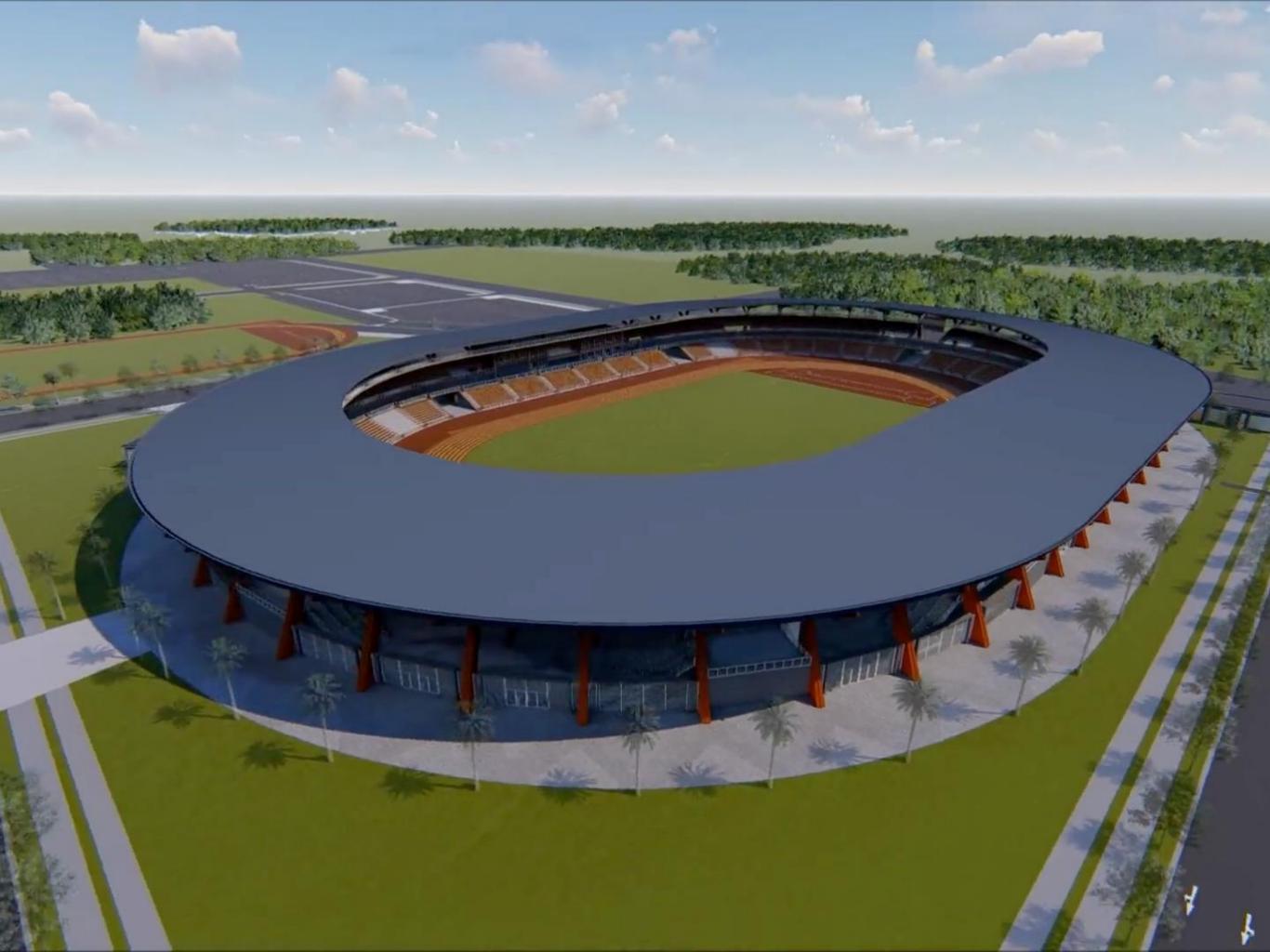
Typology: Sports Facility

Services: VDC Modeling, Architectural and

Engineering Integration, and

Documentation







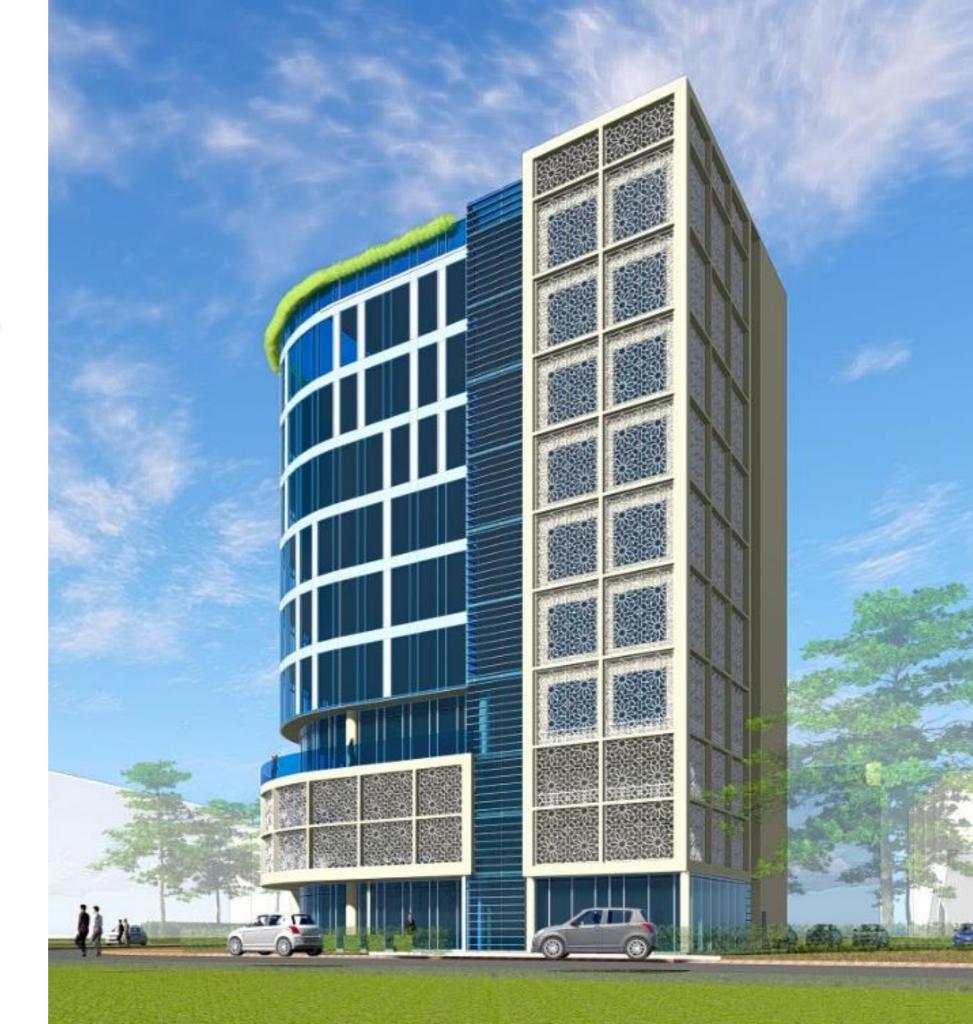
MALDIVES OFFICE PROJECT

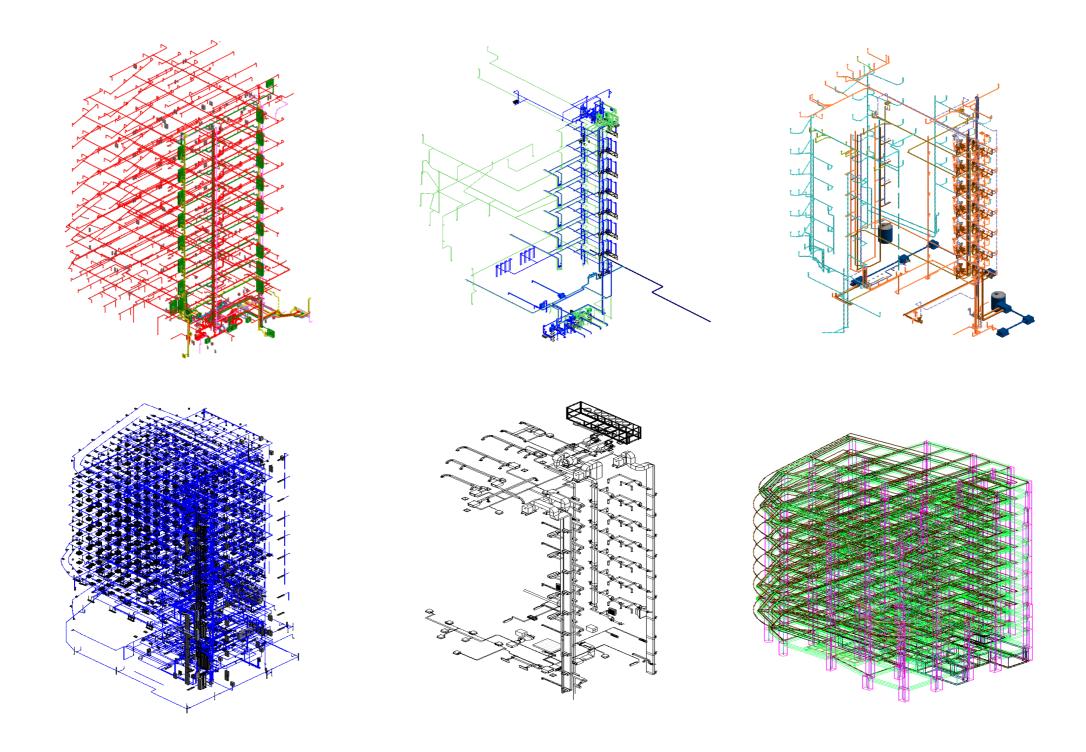
Hulhumali, Maldives

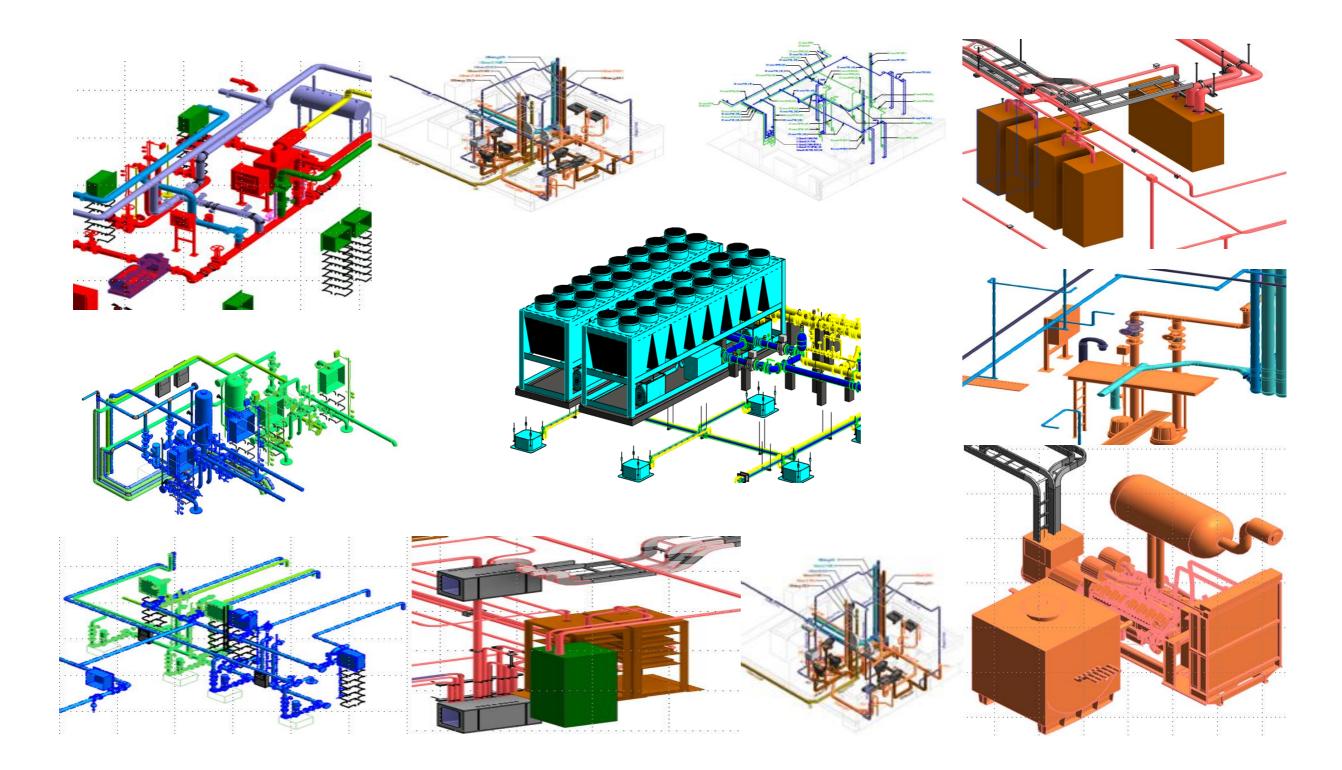
Client: Housing Development Corporation

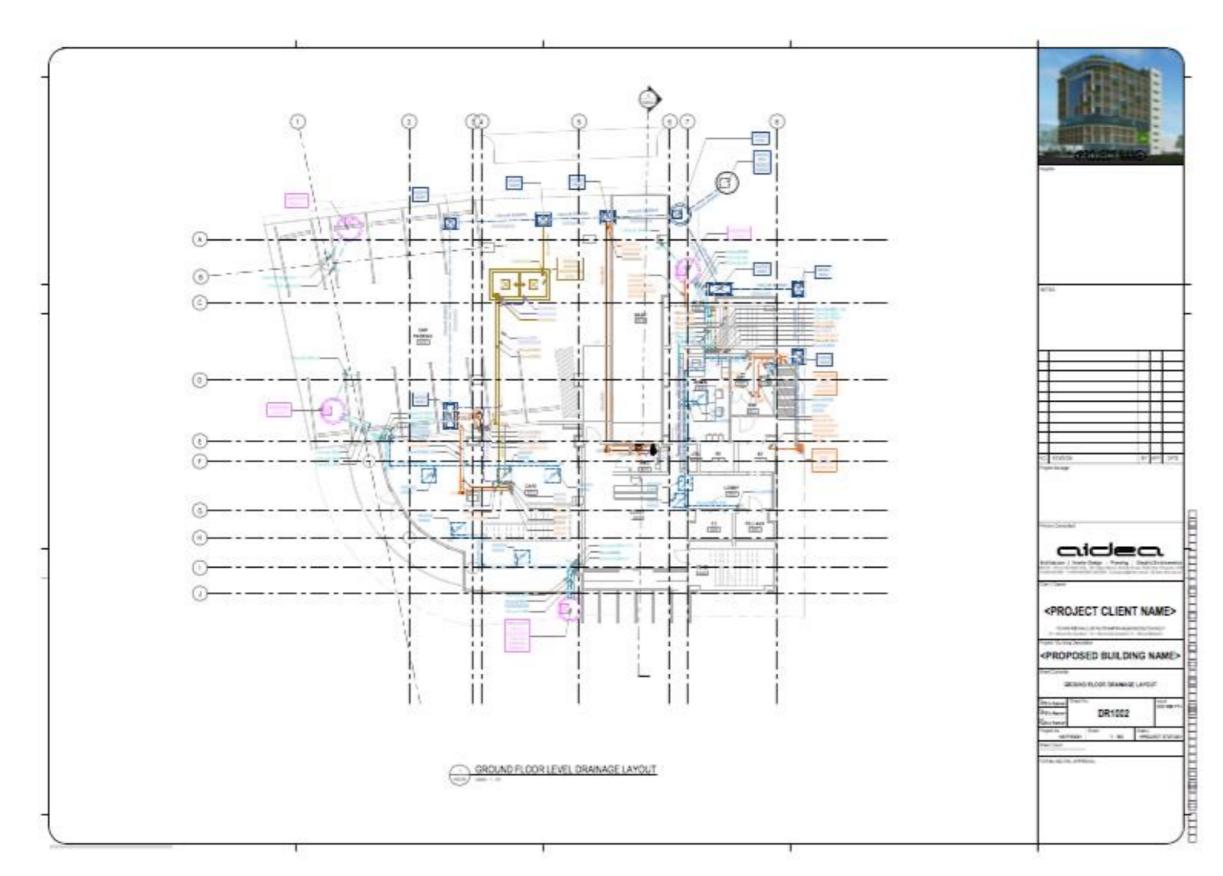
Size: 8,700 sqm Typology: Office

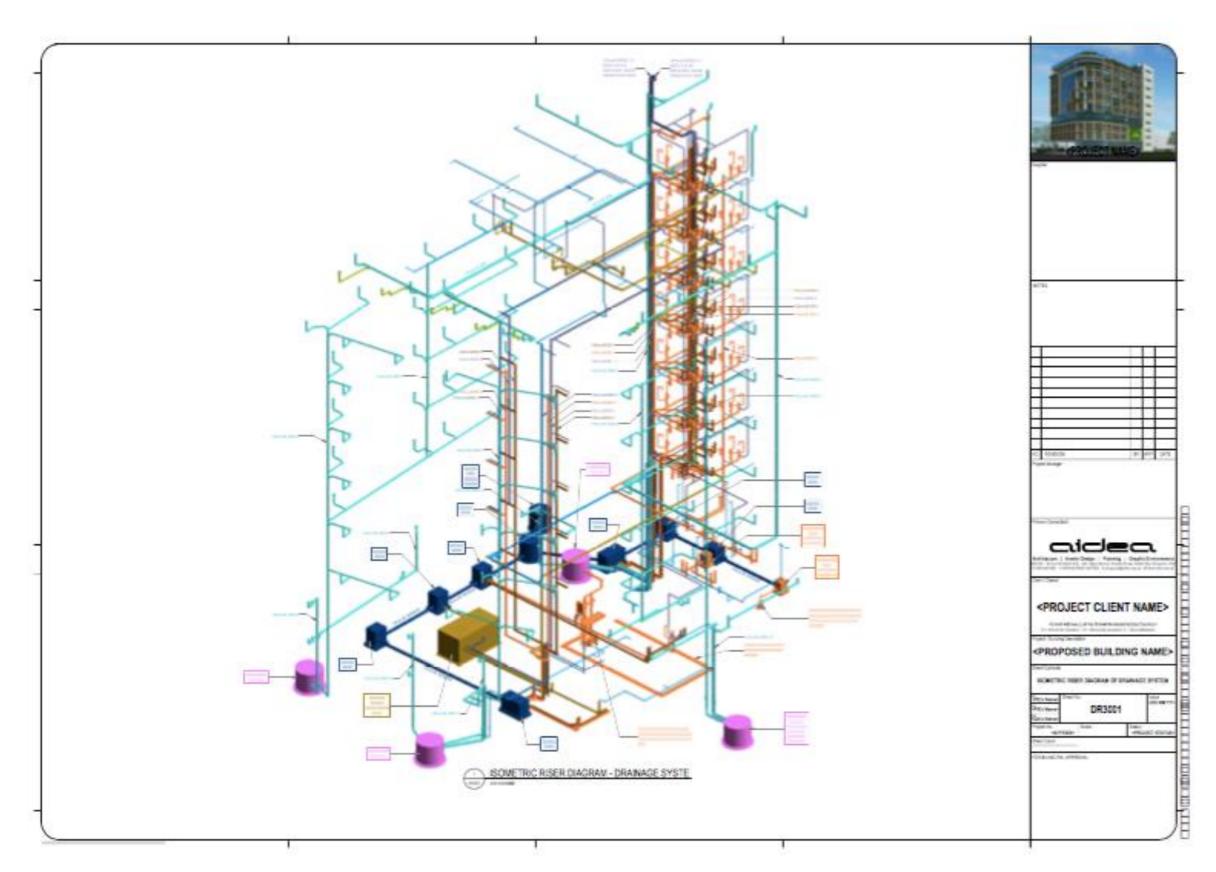
Services: VDC Modeling and Documentation

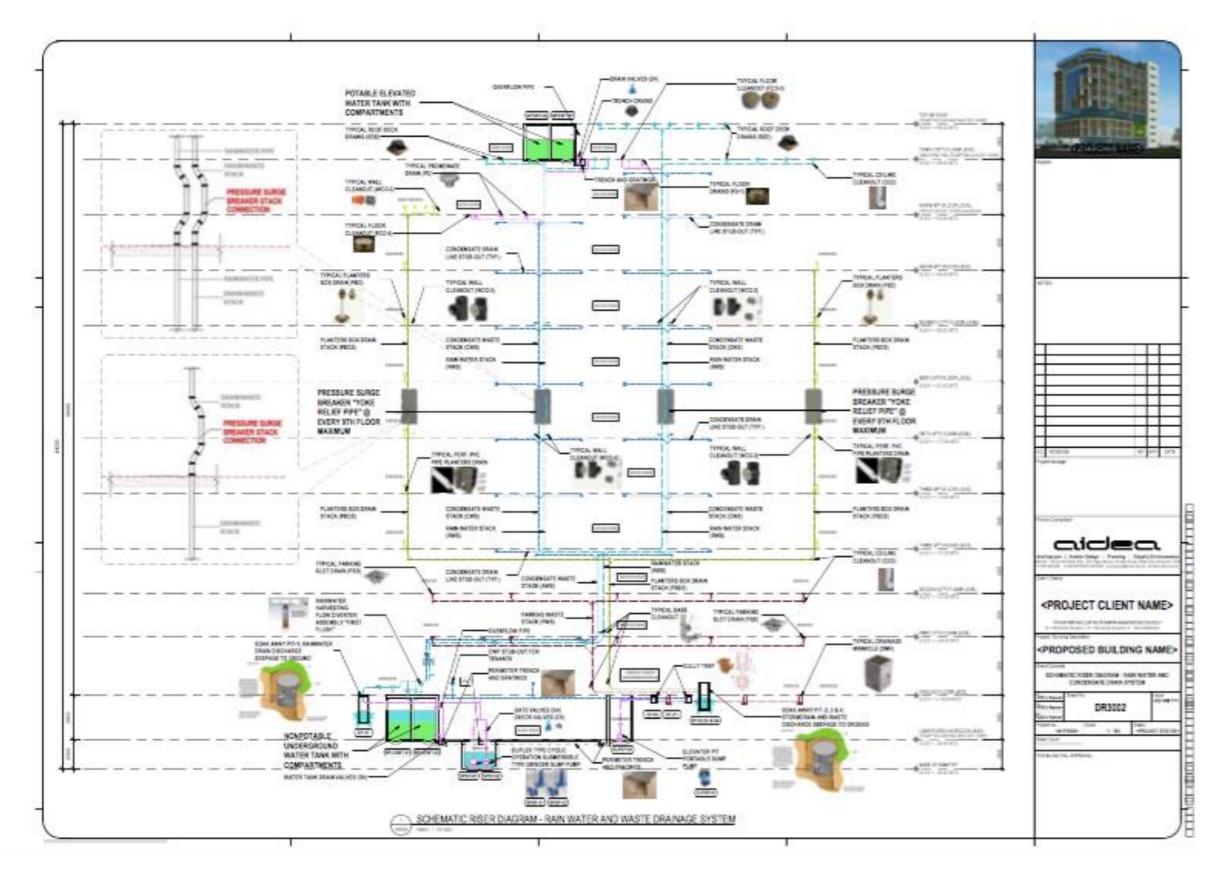


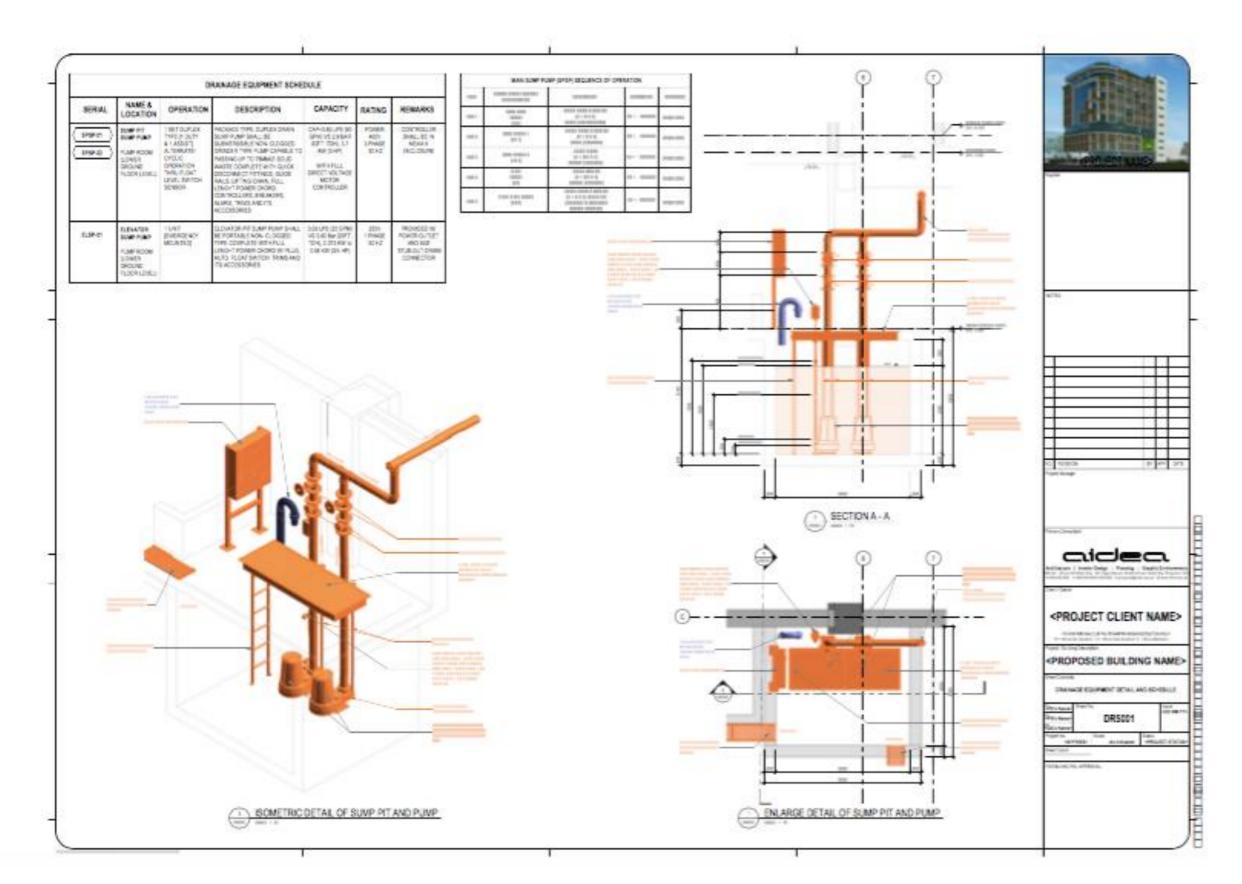


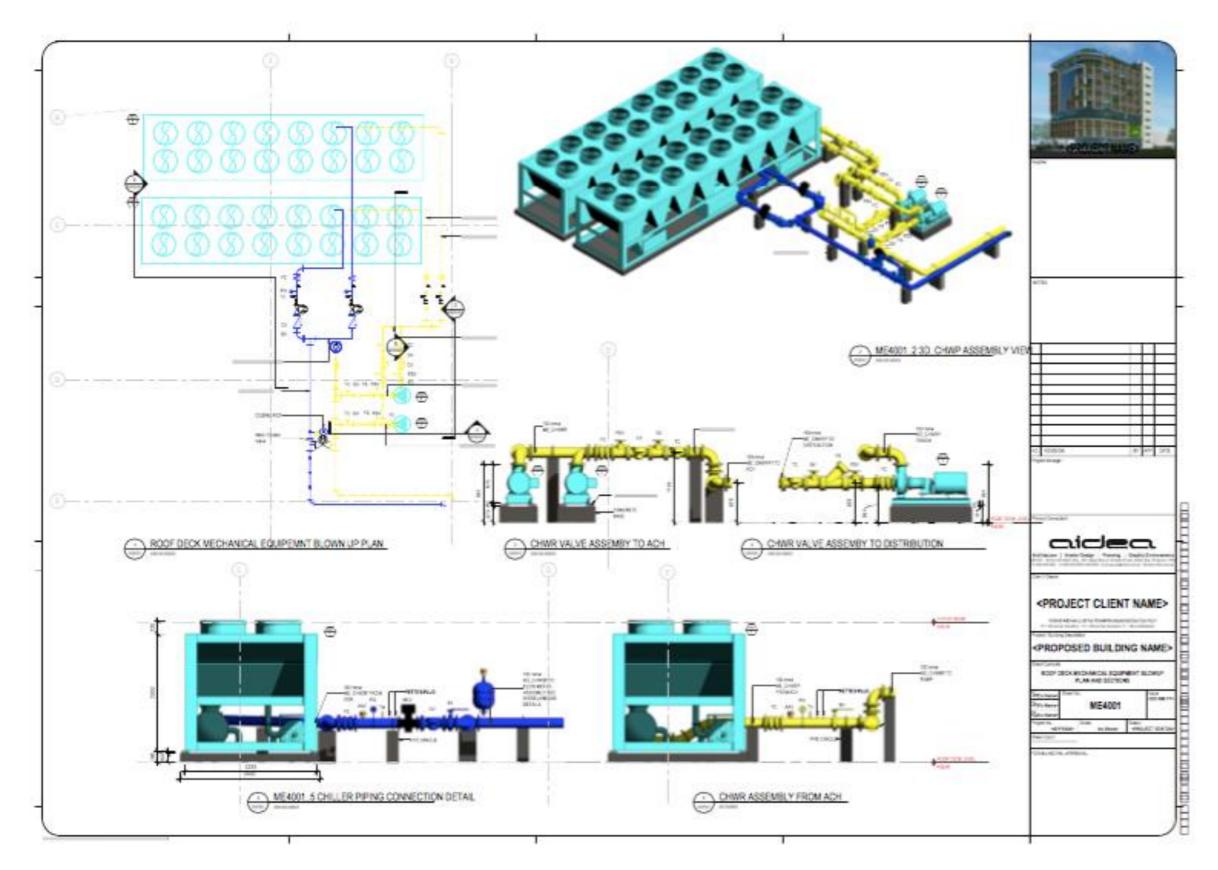




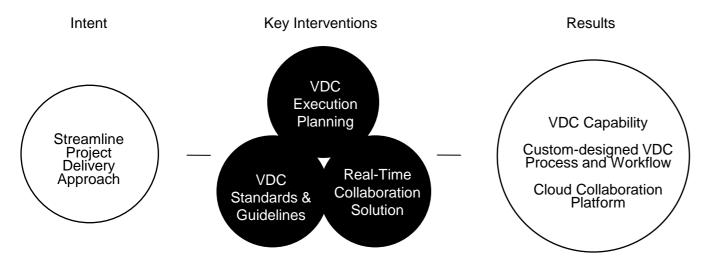












Project Solution

Aidea Technologies supported WHA in its target to meet a tight timeline with a lean team of VDC architects to produce the design development and construction documentation packages. The VDC team not only produced a well-coordinated model but also ensured its technical integrity and constructability, particularly resolving the façade and the roof structure.

VAIL MARRIOTT RESIDENCE INN

Vail, Colorado, U.S.A.

Client: Wright Heerema Architects

Typology: Hospitality

Services: VDC Consultancy, VDC Modeling,

Architectural & Engineering Integration, and Documentation



3D Model Elevation

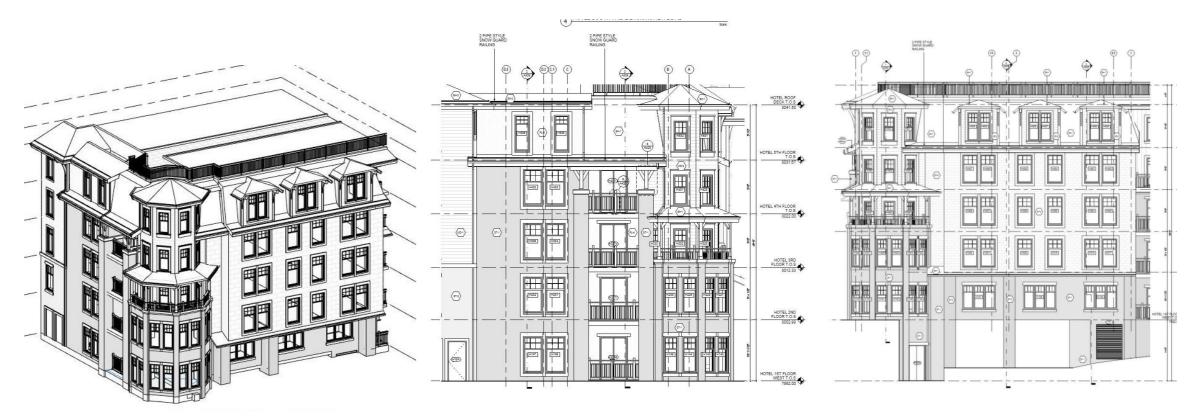


Generated 2D Section

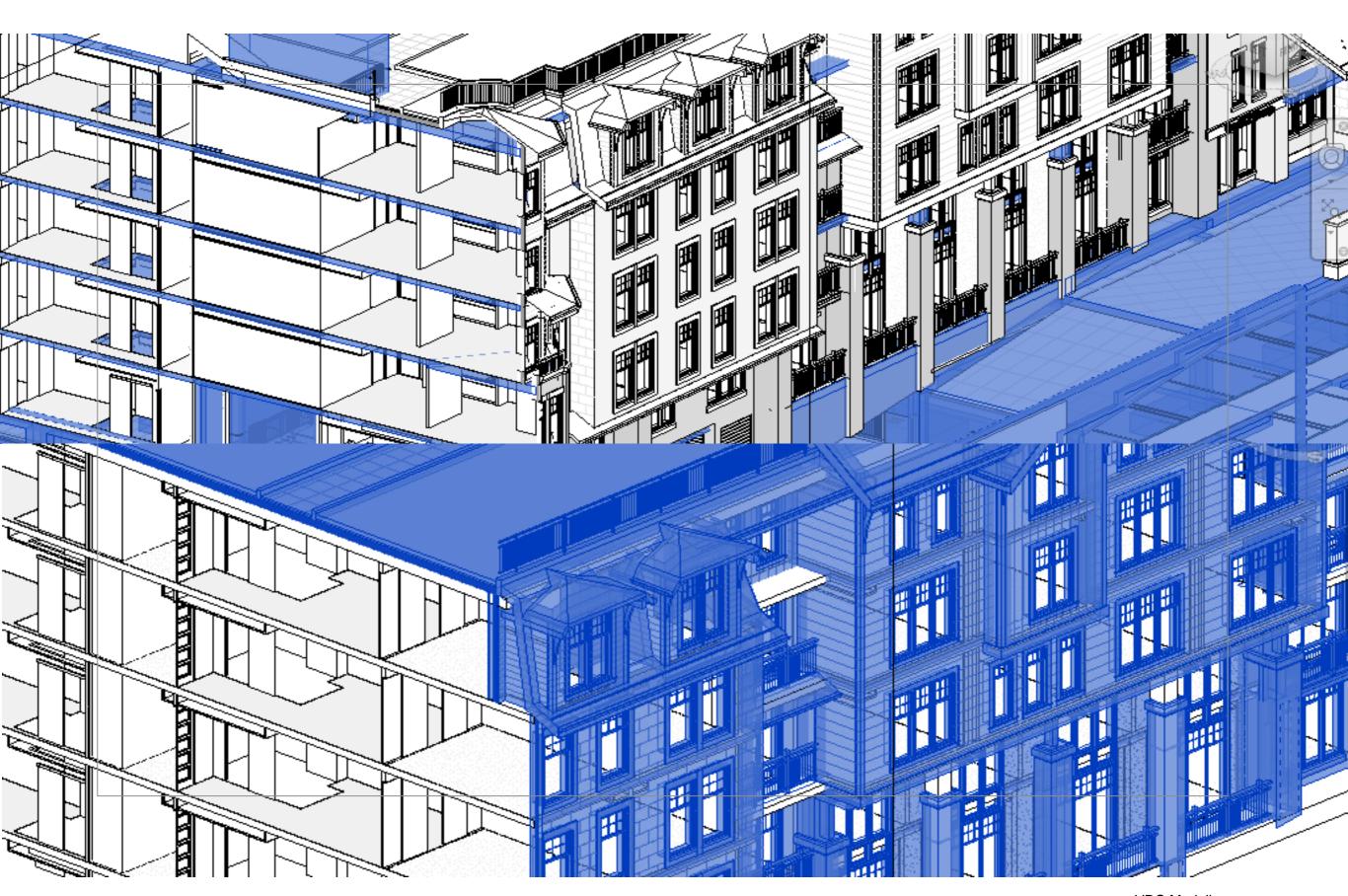




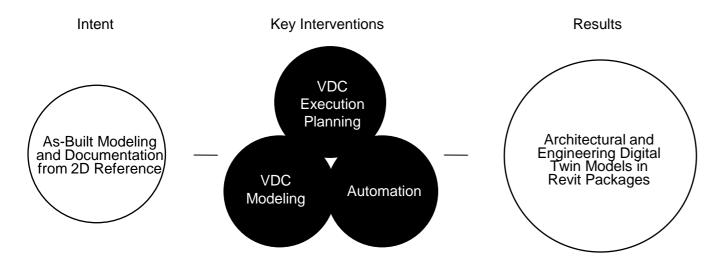




Facade Axonometric Enlarge Elevation







Project Solution

Aidea Technologies created digital twins of buildings from 2D PDF drawings and laser scans of the as-built conditions, in half the time it would have taken to complete it internally. Our team utilized various VDC-based automation such as auto VDC model audit and auto 2D sheet generation, allowing the project team to design on an accurate and complete base plan at the earliest instance.

DIGITAL TWIN PROJECT

Chicago, Illinois, U.S.A.

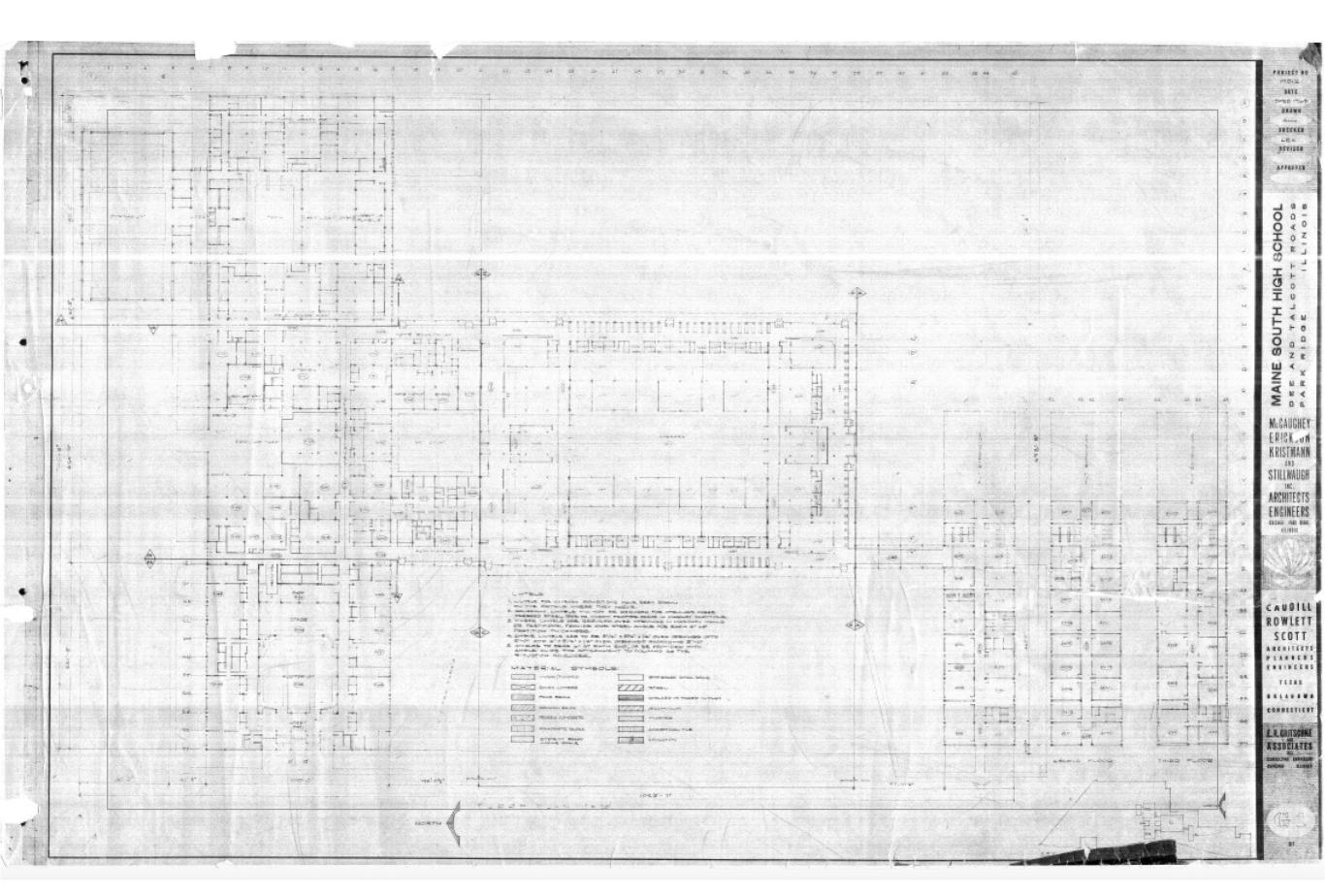
Client: Confidential Typology: Institutional

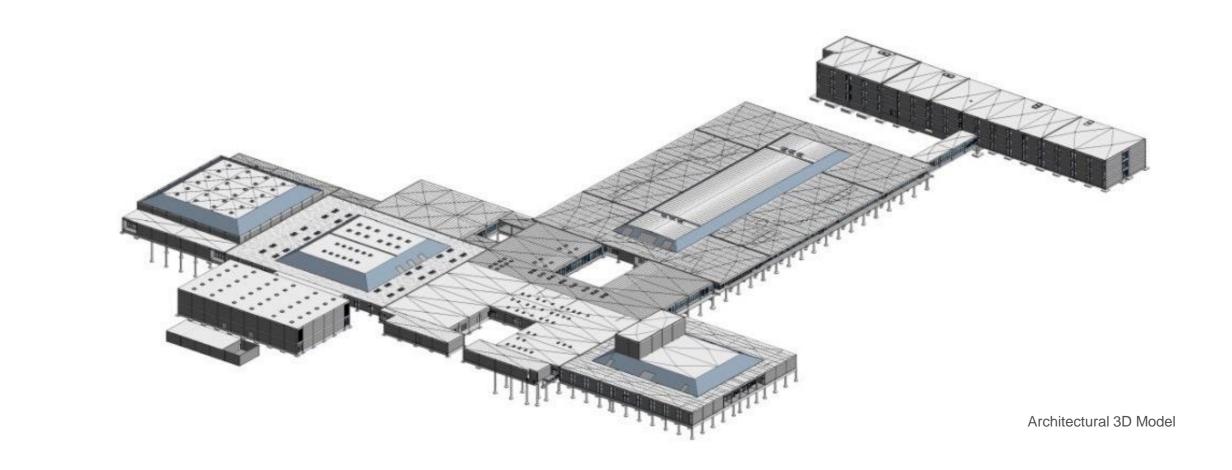
Services: VDC Consultancy, VDC As-Built

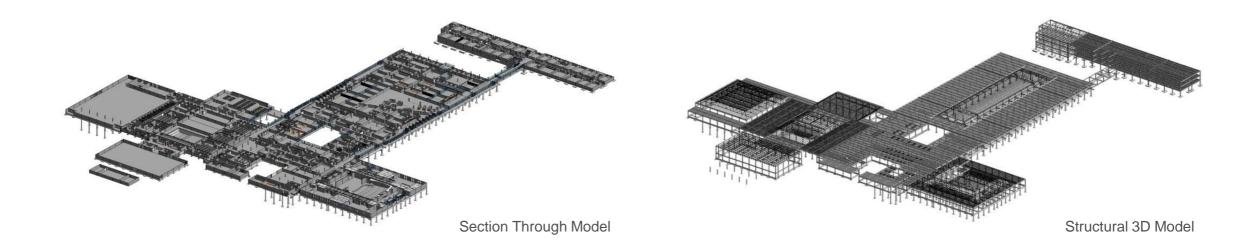
Modeling, Documentation, and

Automation

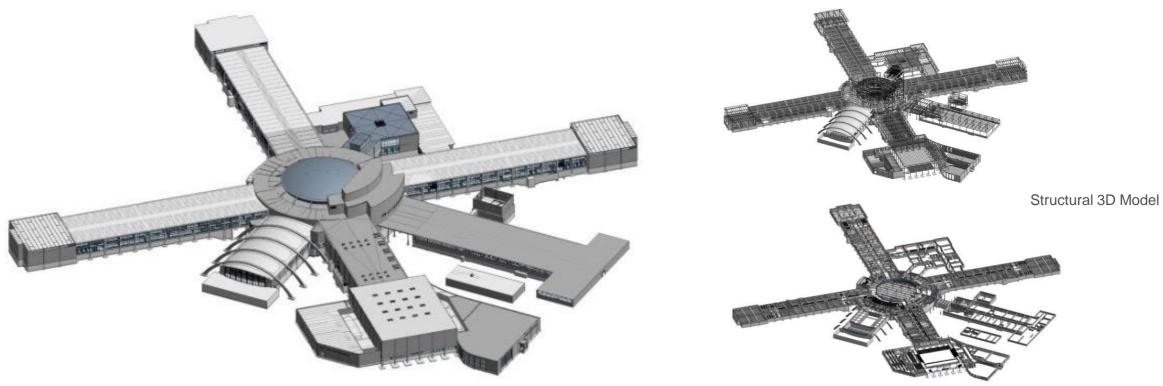
Year: 2013





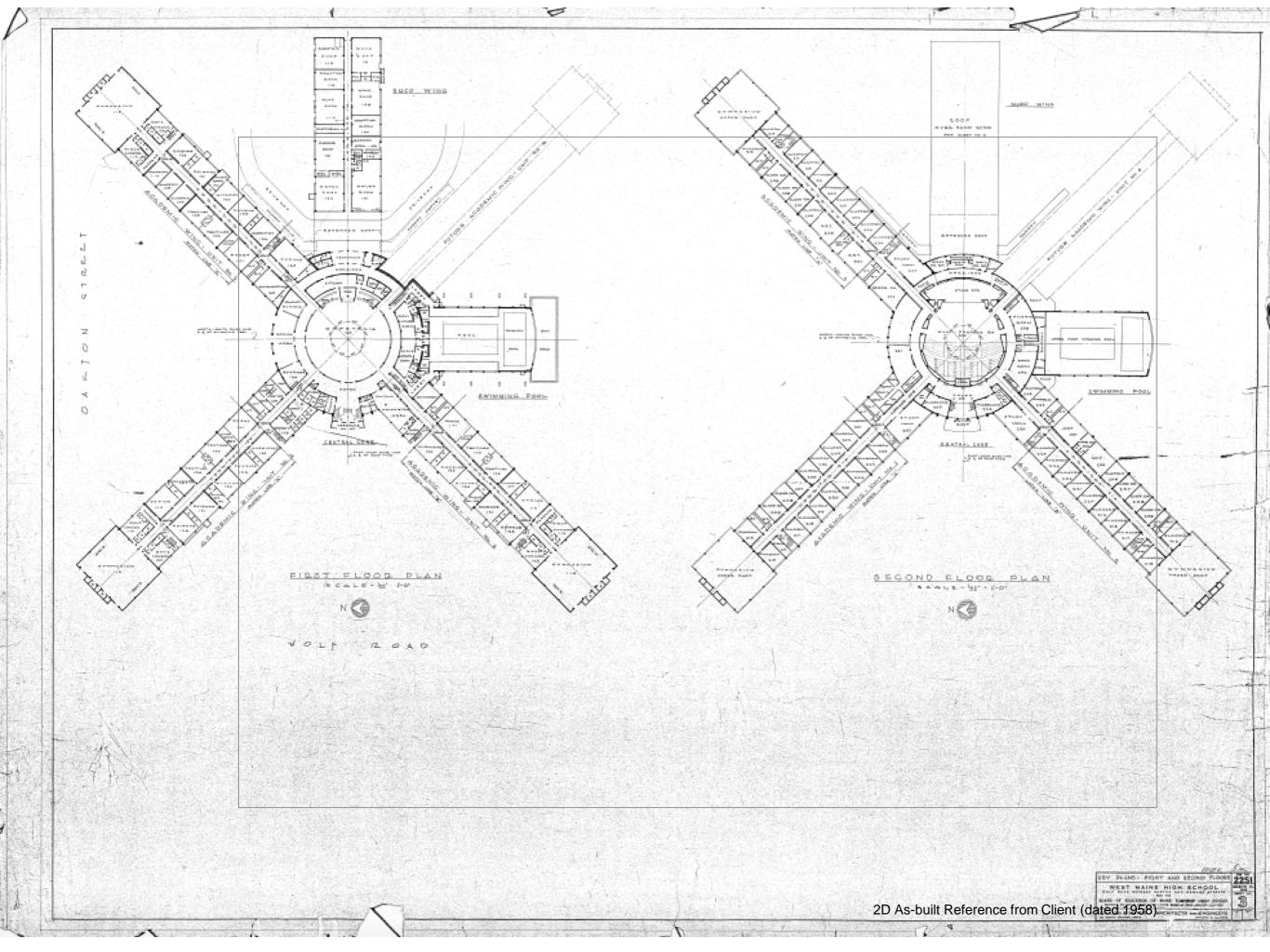


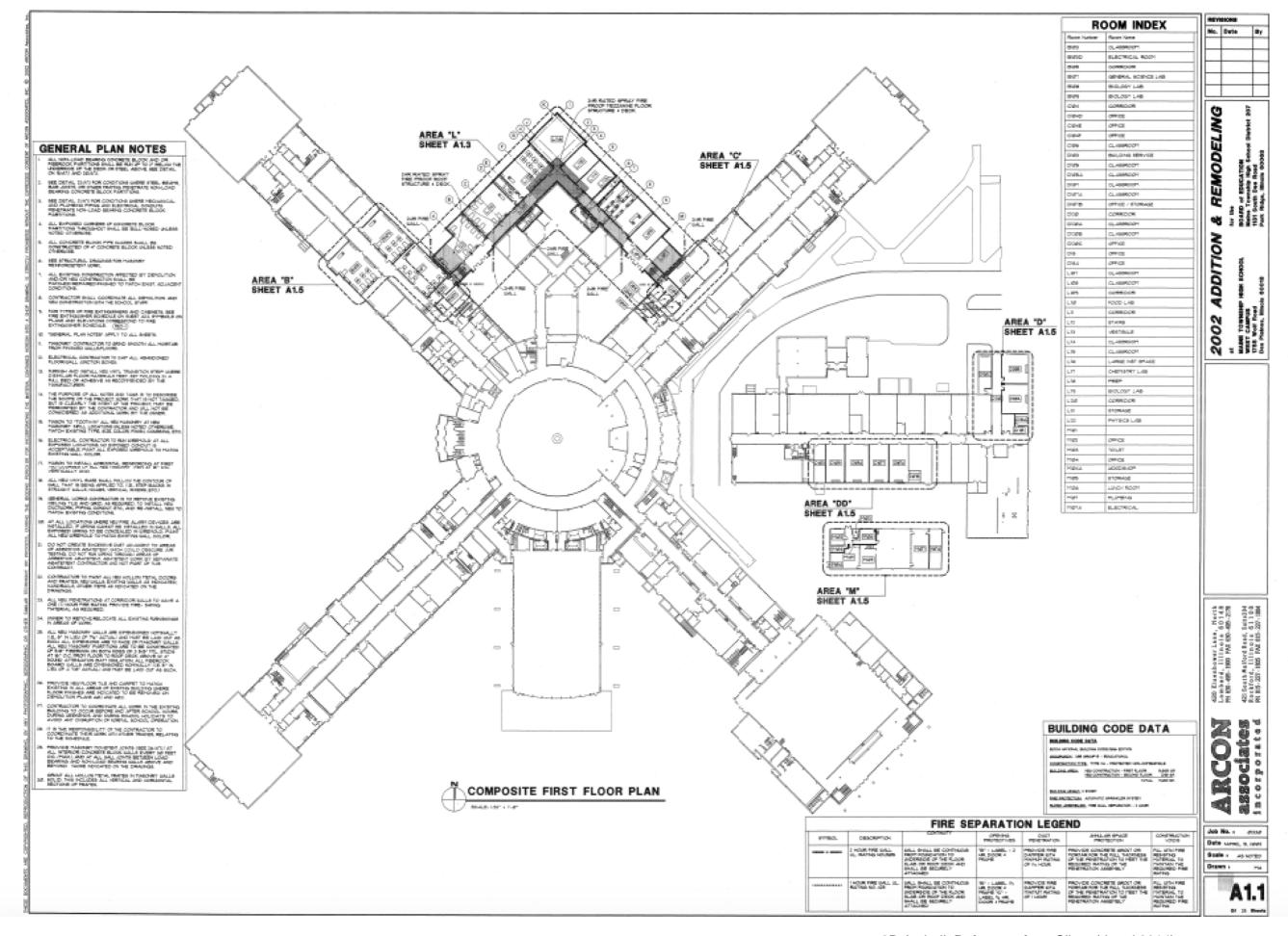




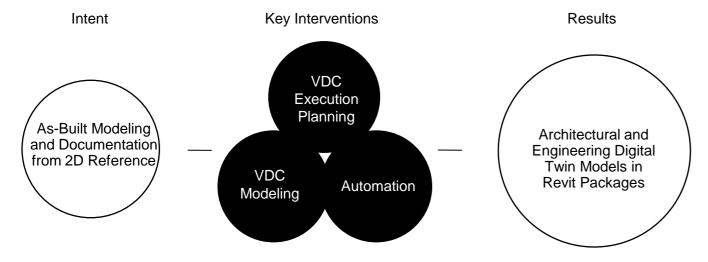
Architectural 3D Model

Section Through Model









Project Solution

Aidea Technologies created digital twins of buildings from 2D PDF drawings and laser scans of the asbuilt conditions, in half the time it would have taken to complete it internally. Our team utilized various VDC-based automation such as auto VDC model audit and auto 2D sheet generation, allowing the project team to design on an accurate and complete base plan at the earliest instance.

DIGITAL TWIN PROJECT

Chicago, Illinois, U.S.A.

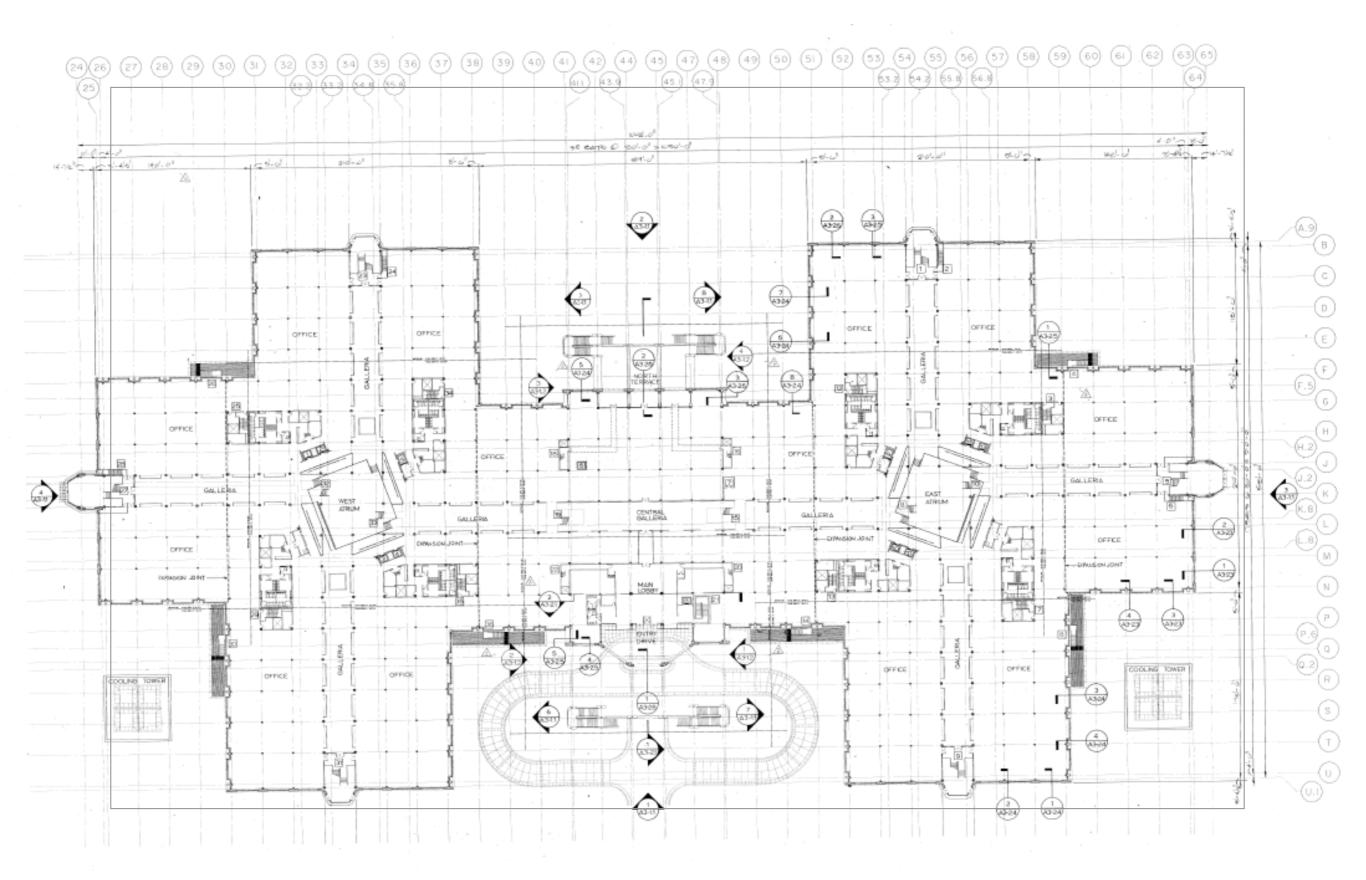
Client: Confidential Typology: Institutional

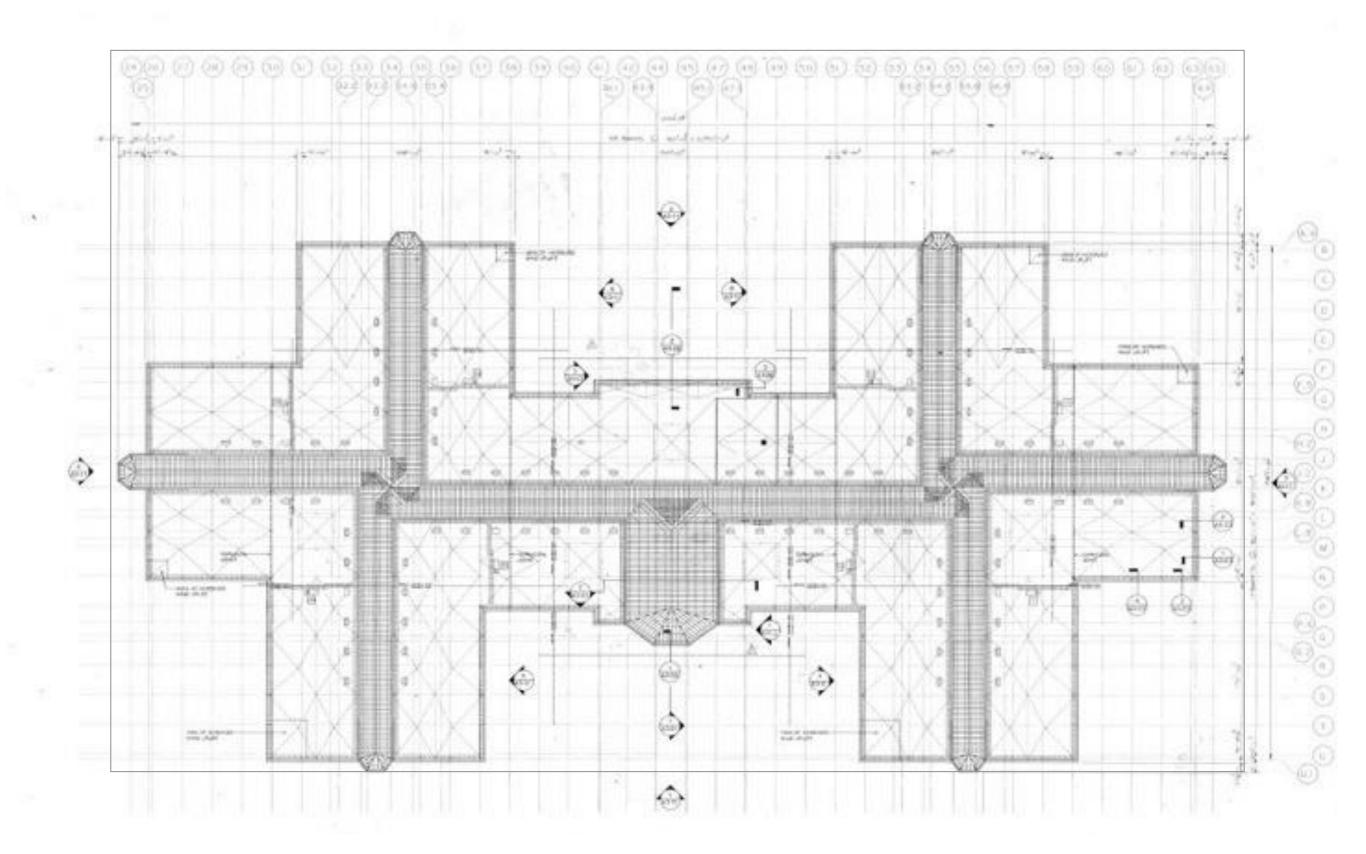
Services: VDC Consultancy, VDC As-Built

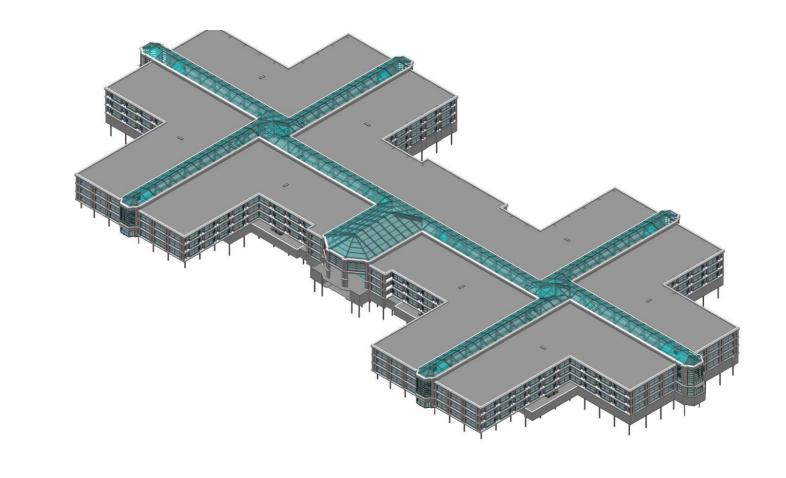
Modeling, Documentation, and

Automation

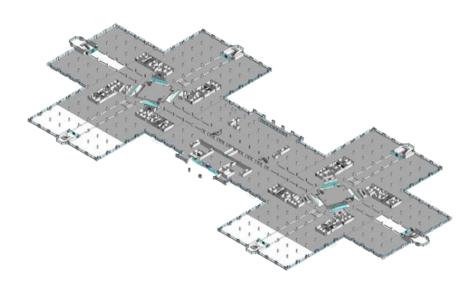
Year: 2013

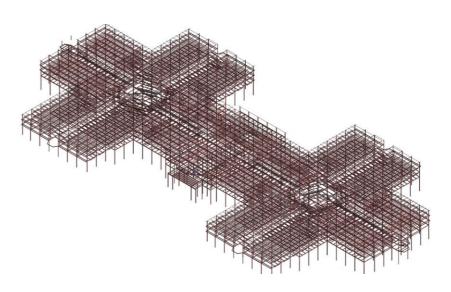






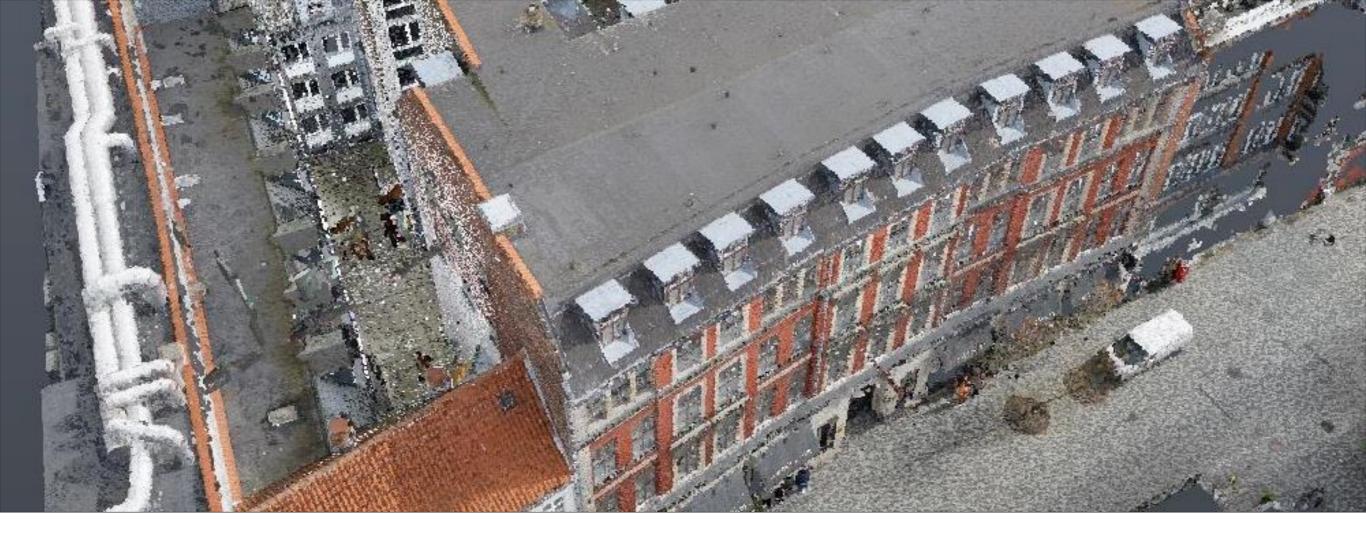
Architectural 3D Model

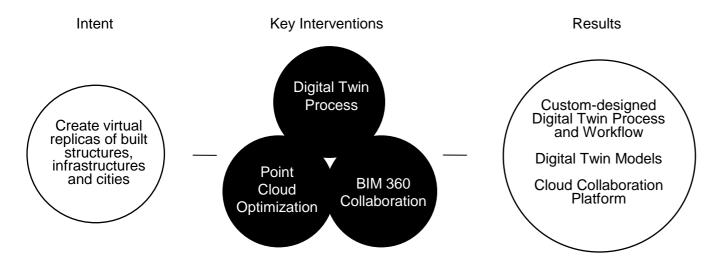




Section Through Model

Structural 3D Model





Project Solution

Historical buildings and old existing structures are re-purposed or renovated into new uses that breathe fresh life to these buildings. Aidea Technologies, through our subsidiary in Copenhagen, BIM Equity and Epiito, provides the digitalization of built and unbuilt structures.

POINT CLOUD OPTIMIZATION

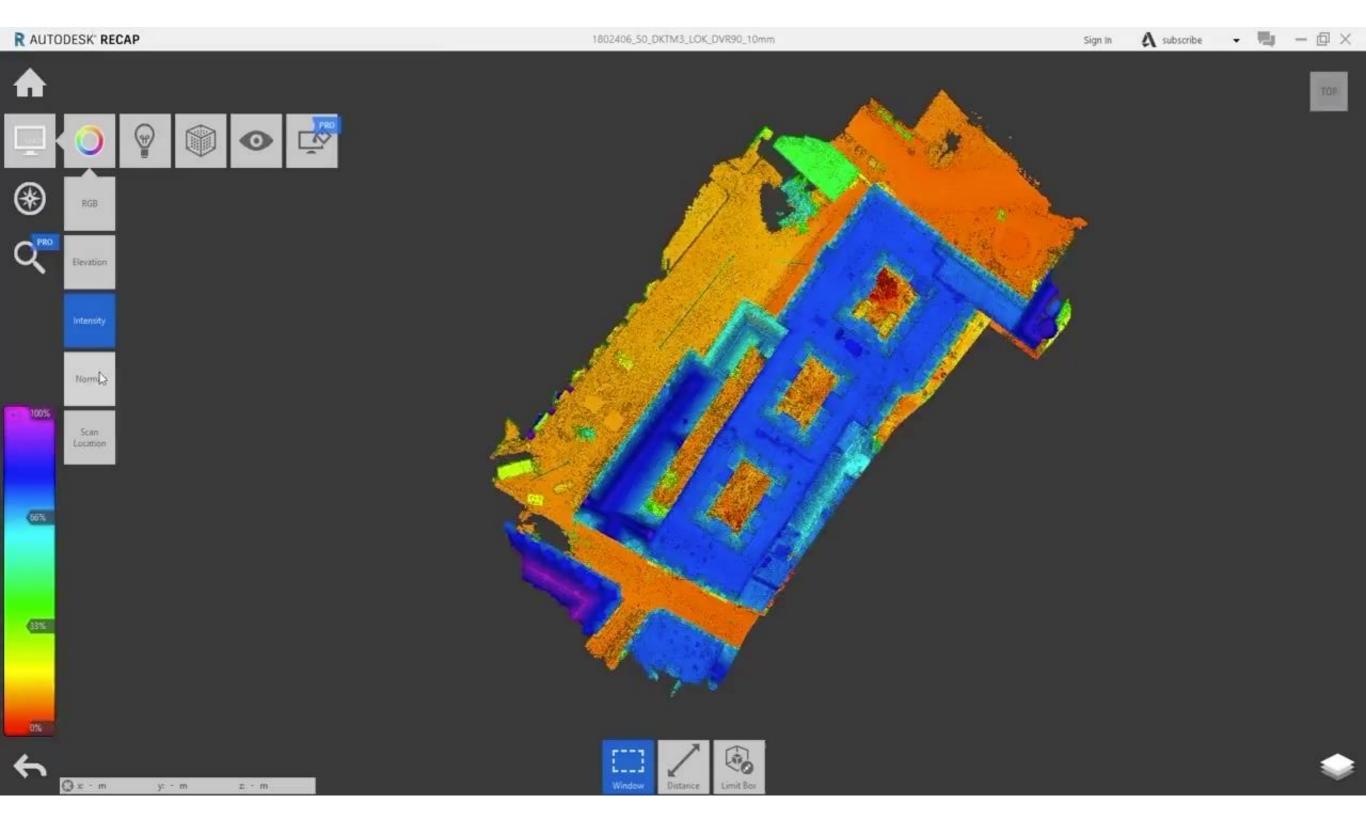
Nordic Region

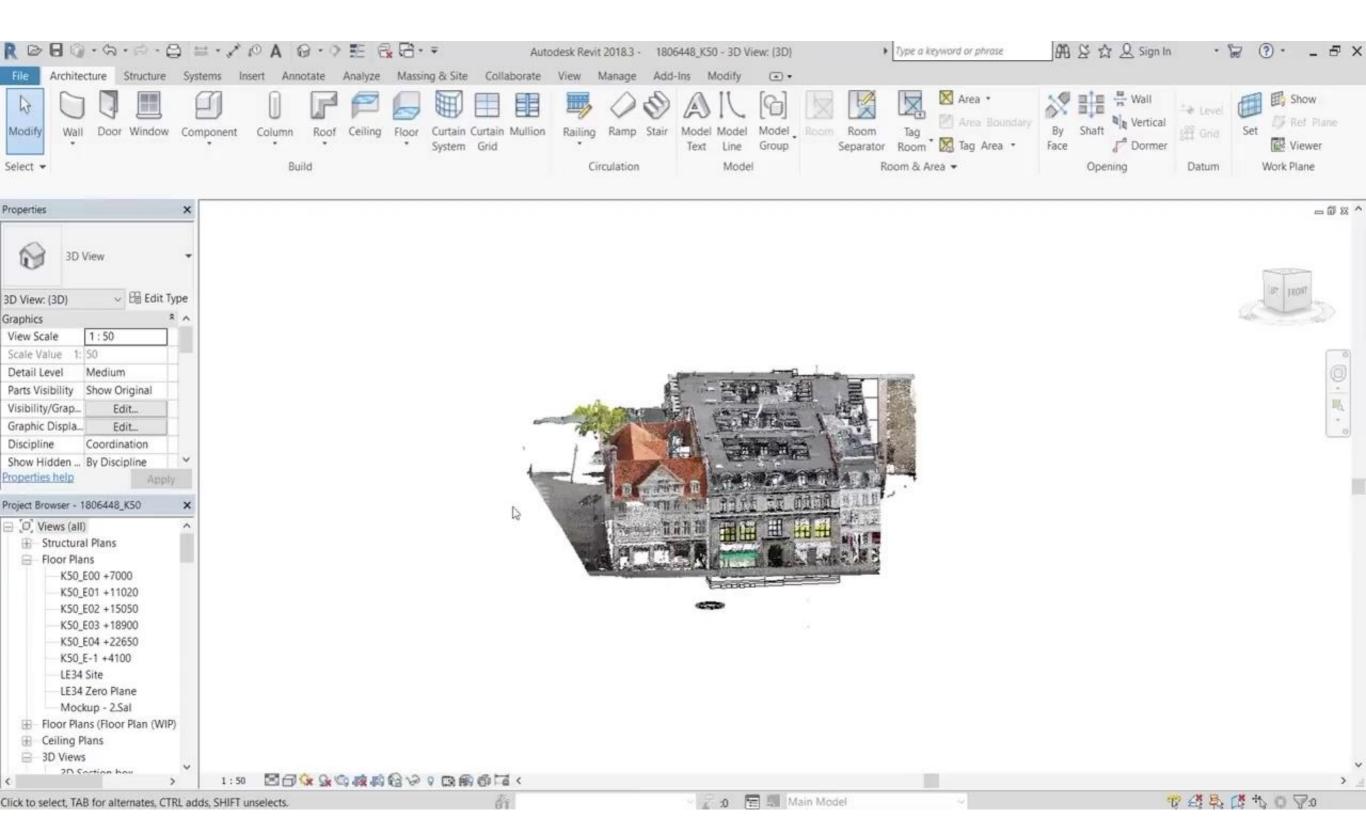
Client: Confidential Typology: Institutional

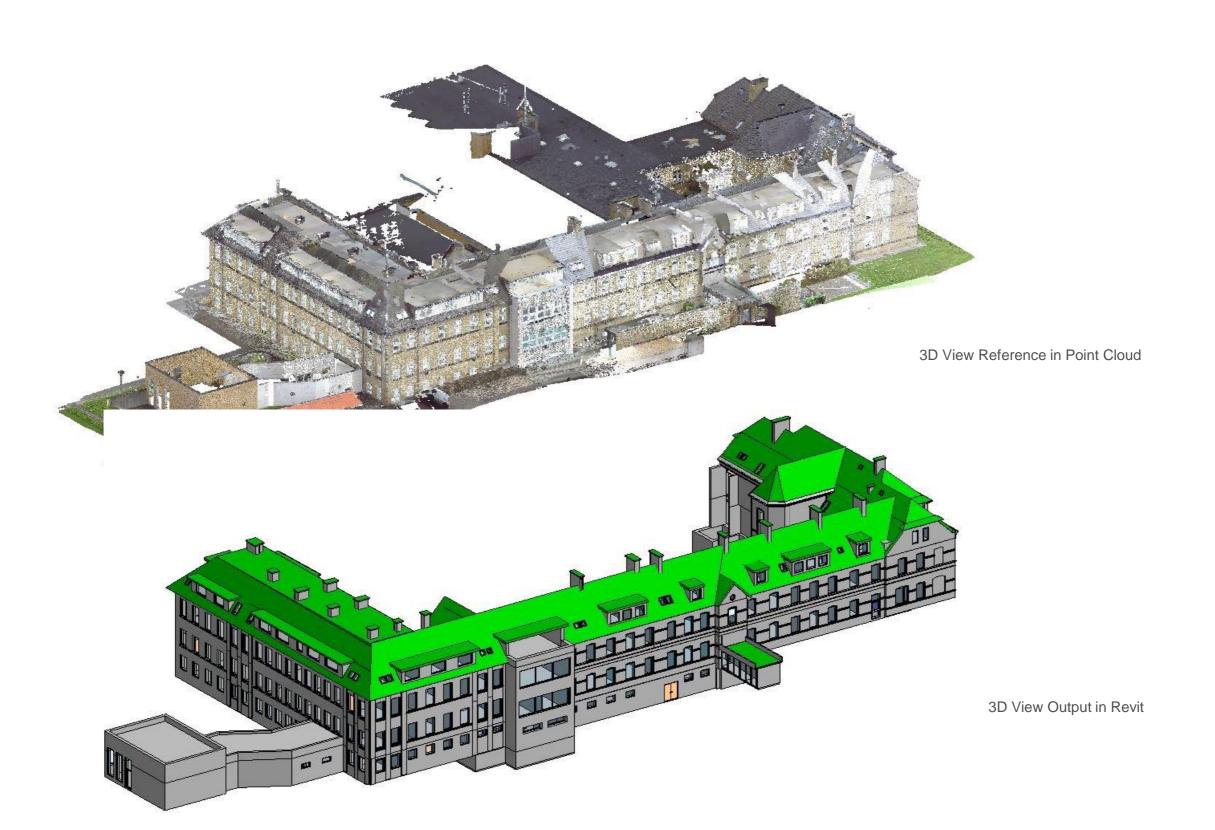
Services: VDC Consultancy, Point Cloud

Optimization, VDC As-Built Modeling, and Documentation

Year: 2015 - Present

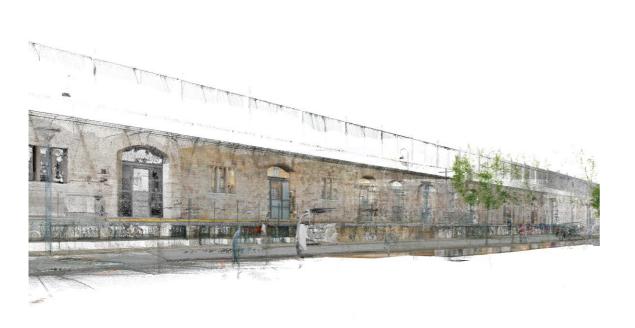








3D View Reference in Point Cloud



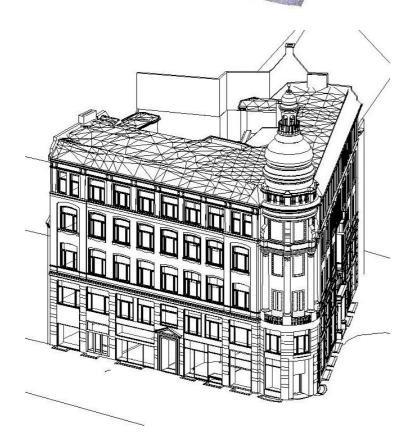
3D View Reference in Point Cloud

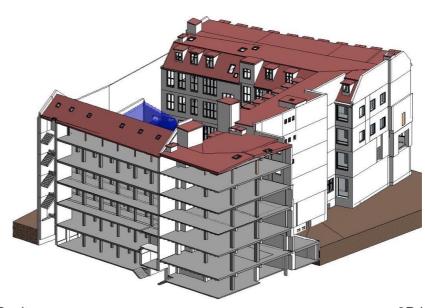
3D View Output in Revit





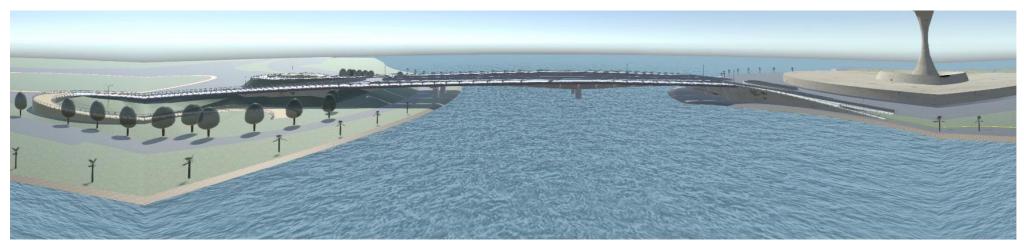






3D View Output in Revit

3D View Output in Revit













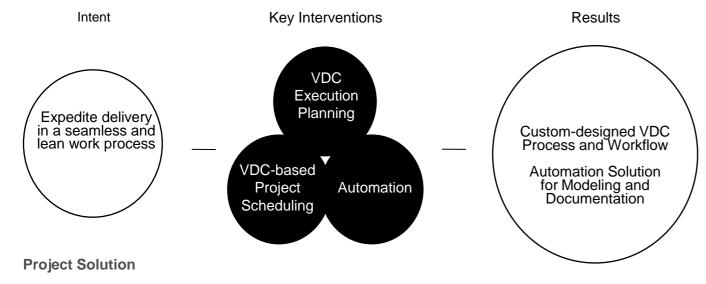
INNOVATION

AUTOMATION & CUSTOMIZATION

Customize and mine data intelligence







Aidea provided solutions for an Australian homebuilders company to deliver hundreds of products in a seamless, lean and efficient work process from product development through construction and final delivery. Aidea Technologies created customized automation programs that process visualization, changes, quantity take-off, construction and procurement scheduling, and as-built generation.

Client: Confidential

Location: Sydney, NSW, Australia

Typology: Residential

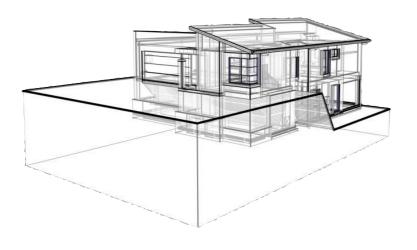
Services: VDC Consultancy, VDC Modeling,

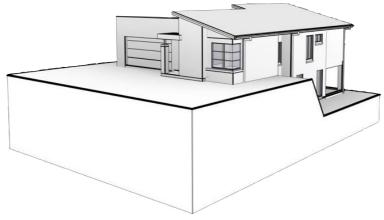
Documentation, Quantity Take-off, and

Automation

Year: 2017 - Present









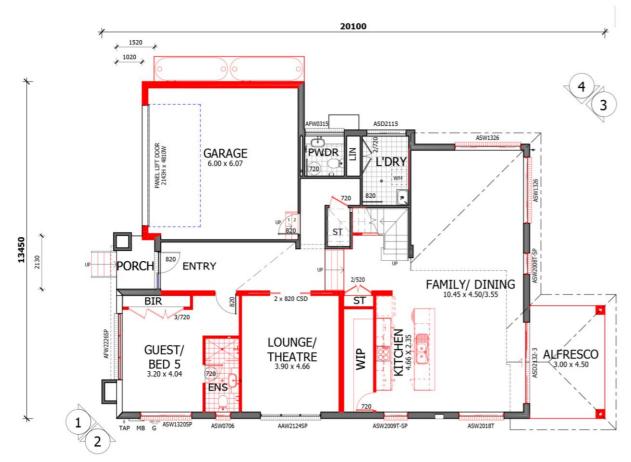
Split Level House Model



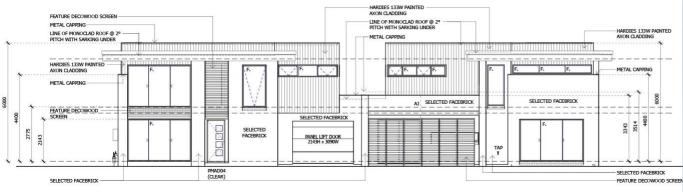




Two-Storey House Model



GROUND FLOOR



ELEVATION 1





ELEVATION 2

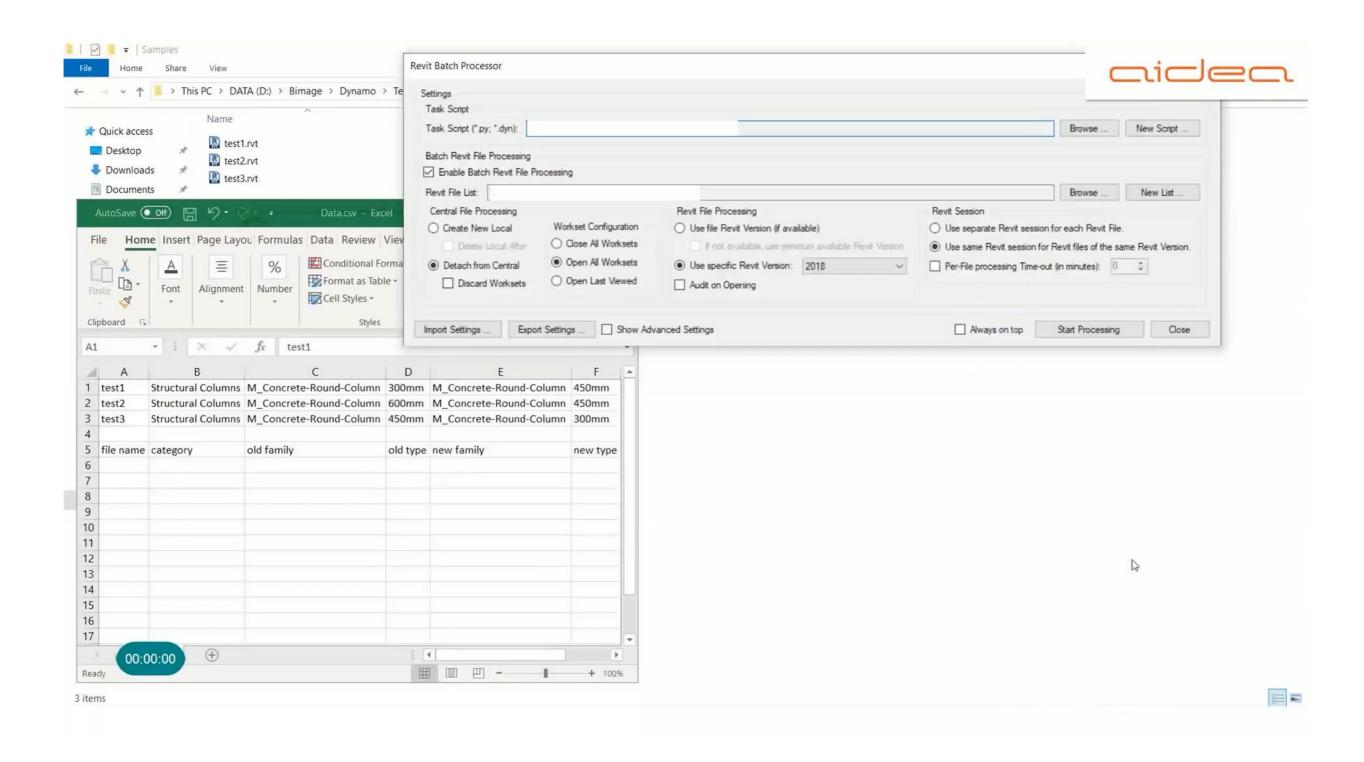


Duplex House Model





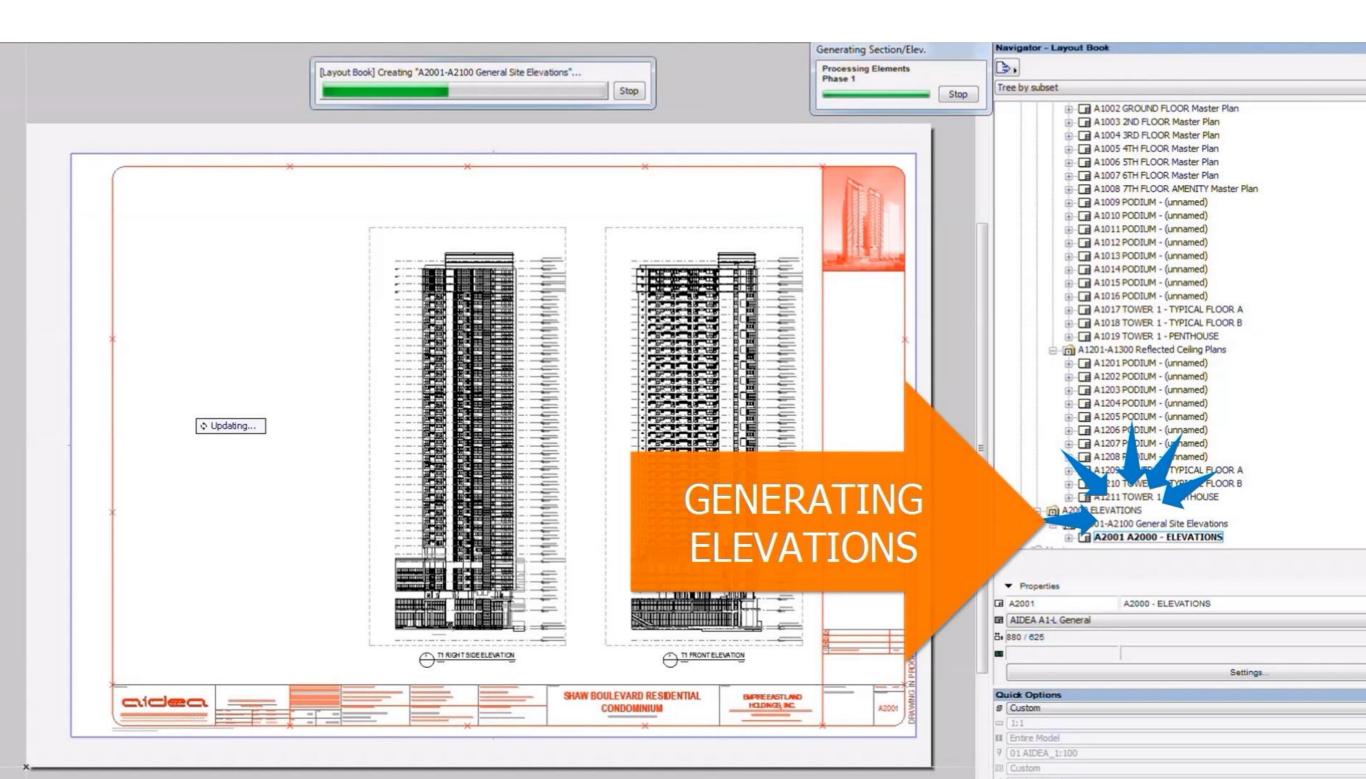
HOUSING AUTOMATION SOLUTION





AUTO CONTRACT DOCUMENTATION

STANDARDIZED OUTPUT
8 HOURS MANUAL GENERATION OF DRAWING SHEETS (DEPENDING ON THE SIZE OF THE PROJECT) VS.
30 MINS AUTOMATED GENERATION OF DRAWING SHEETS



AUTO SPECIFICATIONS

ACCURACY AND EFFICIENCY IN GENERATING SPECIFICATIONS
3 DAYS MANUAL CREATION OF SPECIFICATIONS (1ST DRAFT) + (X) NUMBER OF DAYS IN UPDATING
MANUALLY VS. 5 MINS AUTOMATED GENERATION AND UPDATING OF SPECIFICATIONS

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						Download for	Viewing Download for Printing
ateri	al's Section						Search:
	Section number	ŢŦ	Section name		- 11	Material	
~	081433a		INTERIOR NON-RATED STILE AND RAIL WOOD DOORS			Stile and Rail Wood Doors	
~	081433b		INTERIOR FIRE-RATED, STILE AND RAIL WOOD DOORS; 20 MINUTES			Stile and Rail Wood Doors	
~	081433c		INTERIOR FIRE-RATED, STILE AND RAIL WOOD DOORS; 45 MINUTES			Stile and Rail Wood Doors	
~	096519a		SOLID VINYL FLOOR TILE			Solid Vinyl Floor Tile 305mm x 305mm	
~	096519b		RUBBER FLOOR TILE			Rubber Floor Tile 305mm x 305mm	
~	098436a		SOUND-ABSORBING PANELS			Sound Absorbing Ceiling Panel	
~	098436c		SOUND ABSORBING BAFFLE PANELS			Sound Absorbing Baffle	
~	321313a		DRIVEWAYS			Concrete Paving	
~	321313b		ROADWAYS			Concrete Paving	
~	321313d		CURBS, GUTTERS AND SIDEWALKS			Concrete Paving	
on-M	laterial's Sect	tion					Search:
		Section number		↓ <u>≞</u> Section na	ame		
data a	vailable in table						
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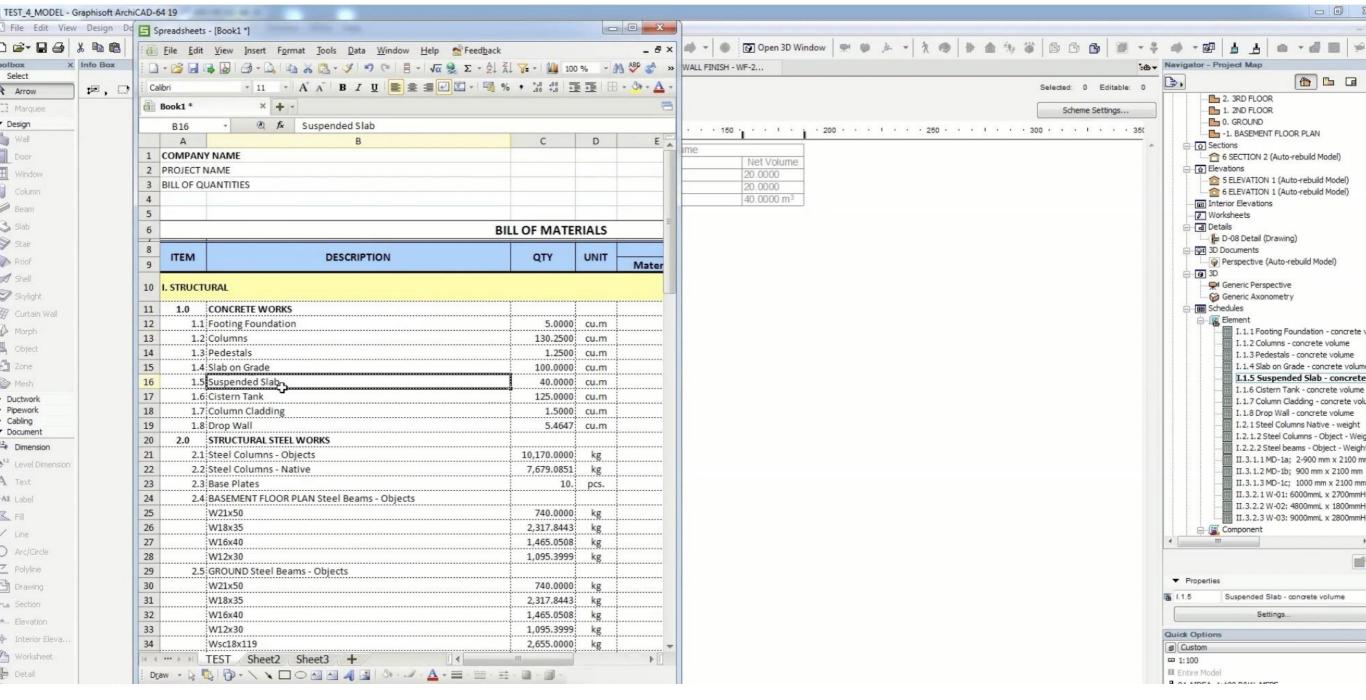


AUTO BILL OF QUANTITIES

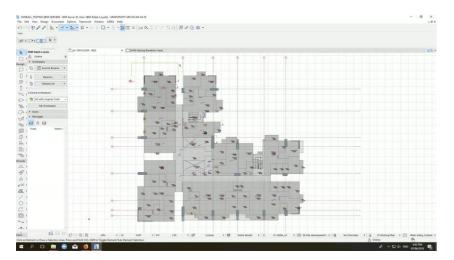
ACCURACY AND EFFICIENCY IN GENERATING BILL OF QUANTITIES

1 WEEK OF MANUAL ESTIMATION OF BILL OF QUANTITIES VS. 1-2 HOURS AUTOMATED GENERATION
BILL OF QUANTITIES

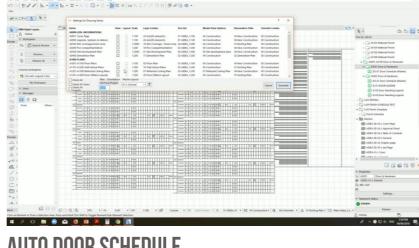
9-10% MARKET ACCEPTABLE VARIANCE VS. 100% ACCURACY (SCORE WILL DEPEND ON MODELING ACCURACY, 2% VARIANCE FOR DEVELOPING MODELS)



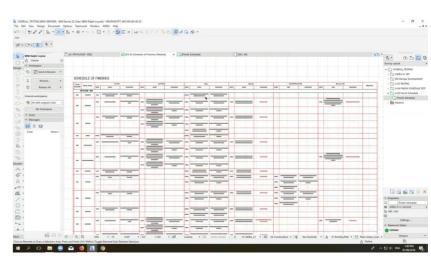




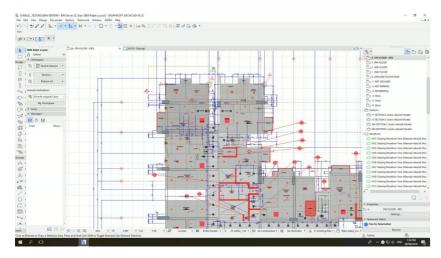
AUTO TAGS & DIMENSIONING



AUTO DOOR SCHEDULE



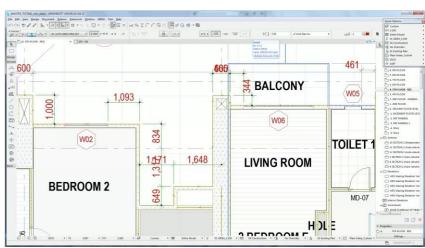
AUTO FINISH SCHEDULE



AUTO GLAZING SCHEDULE



AUTO PARKING NUMBERING



AUTO QUALITY DIMENSIONING

Aidea Manila

30/F BPI-Philam Life Makati, 6811 Ayala Avenue, Salcedo Village, Makati City 1227, Philippines Tel: (+63) 2 7758 8888 Fax: (+63) 2 7758 2888

www.aidea.com.ph

Aidea Clark

7/F Unit 1W - 702 One West Aeropark Bldg. Clark Global City, Clark Aviation, Philippines Complex, CFZ Pampanga 2023 Tel: (045) 2808847

Aidea Abu Dhabi

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A+ Design Group

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