# **ENGINEERING TIMES**

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# THE FILIPINO TEACHER-ENGINEER-SOLDIER-STATESMAN

We also named our company after him



Alejandro Melchor

Alejandro Melchor (1900 – 1947) lived a short, but meaningful life serving his country as a teacher, engineer, soldier, and statesman. In recognition of his singular qualities as a person, and significant contributions to the nation, in his hometown of Ibajay, Aklan, the high school is named "Alejandro Melchor Memorial Academy". In the Philippine Military Academy at Loakan, Baguio City, the main academic building is named "Melchor Hall". In the University of the Philippines campus in Diliman, Quezon City, the College of Engineering building is named "Melchor Hall". We too at AMH derived our company name from his initials AM and that of Melchor Hall in Diliman (MH) to remind ourselves of the ideals of a person and of an institution that Filipinos are proud of.

(\*Following are excerpts from the Alejandro Melchor Centennial Book edited by the late Professor Dominador I. Ilio, UP Diliman, Quezon City, 2000.)

Alejandro Melchor was born in the town of Ibajay, in the province of Aklan, on August 9, 1900. He studied at the Ibajay Primary School, Kalibo Elementary School, Capiz High School in Capiz, Capiz, (now Roxas City) for 2 years, and then finished his secondary education at the

U.P. High School in Padre Faura in 1920. Immediately after, he entered the U.P. College of Engineering, and earned his BS Civil Engineering degree in 1924.

He received very high grades in mathematics. Dr. Vidal Tan, one time Dean of the College of Engineering, and President of the University, once wrote: "Major Melchor was a student of mine in 1920 and was the best in his class and easily one of the best I ever had during my twenty four years in teaching mathematics."

After college graduation, Alejandro was appointed instructor in mathematics at the college of Liberal Arts, and after a year, to the College of Engineering as instructor in civil engineering. Two years later he was promoted to assistant professor in civil engineering, and in 1930 he became the secretary of the college. He taught technical mechanics, strength of materials, surveying, theory of structures, design, and foundations.

His former students remember him as a dapper, energetic man, impeccable in speech, manners, and dress. He was a brilliant teacher; he always looked after the welfare of his students and was friendly to them. He sparked the organization of the Beta Epsilon Fraternity, and was adviser for many years. He loved Astronomy and organized the Astronomical Society of U.P. In May, 1929, he joined the German Expedition to Sugod, Cebu to observe the Total Eclipse that occurred that year.

When the Philippine Military Academy was established in 1936, Professor Melchor was appointed to the Corps of Professors to head the department of engineering. He was also acting head of the department of mathematics and natural philosophy, and on him devolved the organization of the two departments. He was given the rank of Major in the Philippine Army, and Major Melchor designed the four-year curriculum of the academy.

He was the Post Engineer of the Academy, which assignment placed him in charge of all construction, maintenance and repair work of the post. He also led the planning, design, and cost estimate of the proposed Philippine Military Academy campus in a different locality outside the central area but in the vicinity of Baguio City.

In June 1940, he was ordered to go to the United States to pursue graduate studies at the Massachusetts Institute of Technology (M.I.T.) in Cambridge. He was given permission to take his family with him. He graduated from M.I.T. with the degree of Master of Science in Civil Engineering in June 1941. His master's thesis was 'Analysis of Pontoon Bridges with Continuous Structures.' While the Melchors were in Cambridge, their home was "headquarters" of all Filipino students in New England. Many of the students had been students at the University of the Philippines and the Philippine Military Academy. The family enjoyed having the students drop in for discussions, cook Philippine dishes, or play bridge. The Melchors were accomplished bridge players.

Major Melchor and his family were preparing to return to the Philippines when the Pacific War broke out. As the Philippine Army had been called into United States Service in July 1941, Major Melchor was assigned to the Engineer Board at Fort Belvoir. At the Engineer Board, he was in charge of the Special Studies Branch working on the analysis that helped in the design of pontoon bridges. For his work at the Engineer Board, he was awarded the Legion of Merit by the Government of the United States on March 2, 1945.

Writing in the pages of the ASCE Journal, D. Allen Firmage former professor of civil engineering, Brigham Young University, said of Melchor: "Engr. Melchor was very well liked and grealty admired by all who knew him. He was truly a gentleman in all respects. His quiet, polite manner made everyone feel at ease with him and his honesty was beyond reproach. He always stressed exactness and accuracy in his work and preferred a mathematical approach to engineering rather than any approximate or empirical method. Always open minded, he sought out a person's good qualities and refrained from finding fault with associates or acquaintances."

In September 1944, President Osmeña appointed him Military and Technical Adviser to the President and was authorized to take charge of the Department of National Defense and Communications. With this appointment he became a member of the Philippine Cabinet "without portfolio." He was in the party of President Osmena during the landing in Leyte in October 1944; and helped organize the civilian government during the landing operations.

In March 1945, President Osmeña appointed Colonel Melchor as one of the delegates of the Commonwealth of the Philippines to the United Nations Conference at San Francisco, California. At the time of his death on September 5, 1947, he was a member of the Board of Regents of the University of the Philippines.

Alejandro Melchor married Catalina Barza of the Barza family of Capiz, Capiz. He was a devoted family man and had always the interest and welfare of his children: Alejandro Jr. (who graduated from the U.S. Naval Academy); Merceditas (Mrs. Soliman Santos); and Conchita (Mrs. Rufino Hechanova).



Alejandro Melchor with his wife Catalina Barza, Alejandro Jr., Merceditas, and Conchita

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## RECENT INFRASTRUCTURE PROJECTS

Defined as the basic physical and organizational structures and facilities needed for the operation of a society, infrastructure play a vital role to a country's economic development and prosperity. These include transportation, communication, drainage, sewerage, water supply, and electrical systems. In this issue we highlight the following recent infrastructure projects of AMH:

- Muntinlupa Cavite Expressway (MCX) (slope stability & geohazard assessment)
- Subic Clark Tarlac Expressway (SCTEx) (slope stability & geohazard assessment)
- Fresh Water Intake for CFB Power Plant (hydraulics and detailed structural design)
- Manila International Container Terminal (MICT) Berth 7 (pavement design evaluation)
- Bonifacio Global City Sewage Treatment Plant (detailed structural design)

#### **Muntinlupa – Cavite Expressway (MCX)**

The Muntinlupa – Cavite Expressway (MCX), which opened on July 24, 2015, was constructed to connect Bacoor, Cavite to South Luzon Expressway (SLEx) thru the existing Daang Hari Road. During the construction of the project, high slopes consisting of sands and rock formations were cut at a nearly vertical orientation posing various geohazards such as slope failures, rock falls, and landslides. AMH was engaged by Ayala Infrastructure for the design optimization and value engineering of the retaining wall systems. Soil nails were recommended as the slope stability measure as it is a cost-effective solution to stabilize cut slopes. This slope protection technique involves a passive steel reinforcement encased in grout and a shotcrete or concrete cover applied on the slope or excavation face to provide continuity. In the absence of local codes and specifications



Design of slope protection for the SLEX-Daang Hari Link Road

governing the design and construction of soil nails, the provisions of US Federal Highways Administration (FHWA) were adopted. The analysis and computations were carried out using the following computer softwares: Rocscience Slide 6.0 (slope stability software) and Caltrans SNAIL (soil nail design and analysis software).



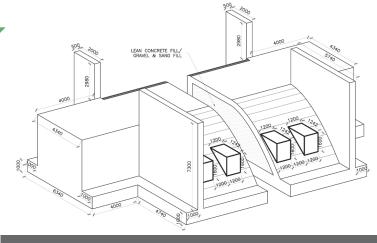
Subic-Clark-Tarlac Expressway (SCTEx) Project

In 2011-2012, AMH participated in the Landslide Hazard Assessment and Mitigation for the constructed Subic-Clark-Tarlac Expressway (SCTEx). Engineering assessment of slopes along the expressway were conducted and earth retaining structures were designed. AMH was once again called upon by the Manila North Tollways Corporation (MNTC) this 2015 to conduct a re-assessment and update of the slopes in terms of geology, geotechnical, and hydraulic engineering, providing appropriate mitigating measures to address critical and high risk areas. A total of twenty nine (29) sites including existing cut slopes, high embankments and bridge abutments

were inspected, giving each a risk rating with respect to the hazard assessment framework. Providing shotcrete, riprap, coconets, and scour protection on the sites were recommended to enhance erosion protection along the alignment of the expressway. Installation of silt traps, energy dissipators (baffles) to the side chutes, and gabion mattresses at the bottom of the spouts and outfalls of bridges were also advised in order to mitigate the effects of scouring. Procedures for hydraulic analysis and design of the drainage system were based on provisions of the Federal Highways Administration (FHWA) and Water Resources Engineering by Larry W. Mays (2005).

#### Fresh Water Intake for CFB Power Plant

Included in the DMCI expansion of its coal fired boiler power plant in Calaca, Batangas is the construction of an infiltration gallery and ancillary structures in order to draw fresh water from the Dacanlao River. AMH was engaged by DMCI to evaluate the feasible location of the intake structure, as well as prepare the detailed engineering design of the weir, bank protection, collector well, power requirements of water pump system, and conveyance system. The design was carried out using STAAD.Pro V8i by Bentley Systems.



Design drawing of the weir and chute blocks

# Proposed yard expansion (Berth 7) intended to address growing volume of container traffic at the port of Manila

# Manila International Container Terminal (MICT) Berth 7 Pavement Design Evaluation

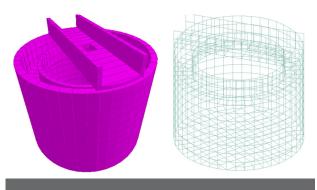
AMH conducted a review of the detailed engineering design of port pavements in the proposed expansion of Manila International Container Terminal (MICT) prepared by China Harbour Engineering Company, Ltd (CHEC). The yard expansion project included construction of new container terminal pavement, full rubber tyred gantry (RTG) facilities, drainage system and high mast lighting system. The 5-hectare development is expected to address the growing volume of container traffic at the Port of Manila. The review saw to it that the design drawings and specifications are in accordance with the Port and Industrial Pavement Design using

Concrete Pavers. The manual was prepared by the Interlocking Concrete Pavement Institute (ICPI) based on British Standard (BS) 7533 which was derived from the UK Transport and Road Research Laboratory (TRRL) Road Note 29 and original AASHTO research.

#### **Civil/Structural Design of Sewage Treatment Plants**

AmH was engaged by M.E. Sicat Construction (in consortium with OTV Veolia) for the preparation of detailed civil/structural design for the capacity upgrading to 20 million liter per day (MLD) Sewage Treatment Plant for Bonifacio Global City, considering configuration of various plant facilities and processes within the site. AMH also conducted geotechnical foundation assessment/analysis, site grading and drainage, and architectural/electrical designs for support facilities. The structural analysis utilized an elastic approach based on the stiffness method of analysis. The calculations were carried out with the aid of following computer programs: STAAD.Pro V8i by Bentley Systems, MathCAD by PTC, and Microsoft Office EXCEL. The structures were analyzed and proportioned using the "Ultimate Strength Design" method, using load factors and capacity reduction factors specified by the National Structural Code of the Philippines Volume I (6th Edition, 2010) and American Concrete Institute (ACI 350-06).





STAAD Model of the Sludge Gravity Thickener

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AMH breaks through standard geotechnical processes in the country.

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#### What is PLAXIS?

Plaxis is a finite element modeling software capable of two and three-dimensional analysis of deformation and stability for various problems in geotechnical engineering. Plaxis is also capable of creating complex soil and structure interactive models and can constitute nonlinear strength, time dependent and anisotropic behaviors of soils and rocks. It provides more thorough analysis and investigation of the problem using 2D and 3D Finite Element Method analysis with more refined soil model.

#### AMH and PLAXIS

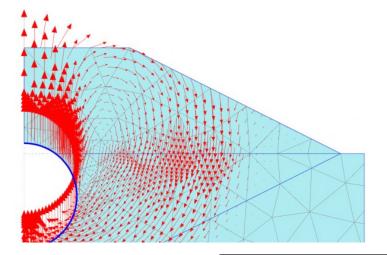
Since 2013, AMH Philippines Inc. has been using Plaxis as tool for several Geotechnical Engineering analysis. Plaxis has been used in a number of different projects involving slope stability analysis and excavation protection design. And last July 1, 2015, AMH in cooperation with Plaxis Asia-Pacific decided to take it a step further by providing a free seminar to introduce Plaxis and its capabilities to the representatives of the top engineering companies in the country. Dr. Wiliam Cheang, from Plaxis Asia Pacific, discussed a wide range of topics from the capabilities of Plaxis to its application on the field of geotechnical engineering. Dr. Cheang also presented several projects where Plaxis was utilized to solve several geotechnical problems including excavation protection, tunneling and slope protection.

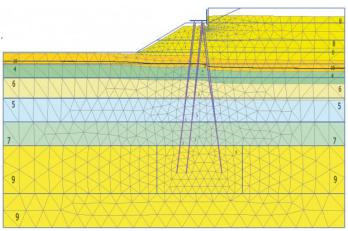
## An opportunity to learn

Plaxis is at the forefront of the numerical methods in solving geotechnical engineering problems. It was fortunate that the staff of the geotechnical engineering team of AMH were able to consult with Dr. Cheang on how to further optimize the use of the Finite Element Software. The discussion involved the application of Plaxis on several projects undertaken by AMH. Dr. Cheang discussed several methods to further improve the accuracy of the resulting models and he also made recommendations on how to approach the modelling of future projects. The discussion was definitely a grand opportunity to learn, not just about Plaxis, but also about the fundamentals of Geotechnical Engineering.

### Experience always counts

Plaxis is perhaps one of the most essential tools for a geotechnical engineer given its wide variety of uses and applications. However, Plaxis can not be a substitute for the experience a geotechnical engineer can acquire from practice. It must always be remembered that no matter how sophisticated the model is, it will always be dependent on the parameters that the user will input in the program. Proper field and laboratory testing procedures should be observed, and parameters acquired from the test results and correlations must have sound basis





Geotechnical modelling and analysis in Plaxis 2D

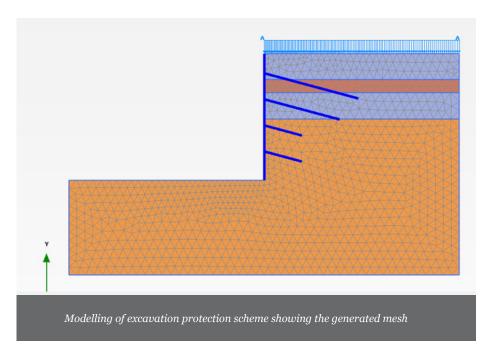
# PROJECT USING PLAXIS FEM Avida Cityflex Tower (Excavation Protection Design Review)

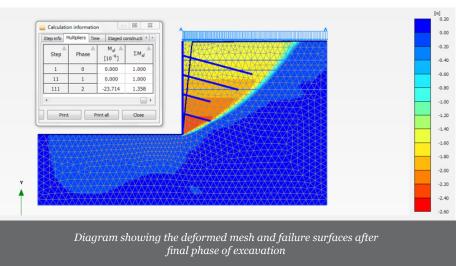
Construction of High-rise structures with multi-level basements is not something new in the country. Since the 1990's, buildings as tall as 150m were already being constructed. These massive buildings transfer high magnitudes of loads into the underlying soil and in order to achieve structural stability, deeper excavations are required to attain high soil bearing capacities.

The continuous improvement geotechnical and structural engineering in the country has spurred the design of taller and more efficient buildings. The boom in the construction of high-rise structures resulted in the congestion of space, where sites for new developments are typically surrounded by other high-rise structures. One of the main problems arising during excavation for basements/ foundation systems is the exposure of surrounding structures to ground movement. The same situation was encountered in the construction of the Avida Cityflex Tower.

Avida Land engaged AMH Philippines, Inc. for the Design Review of the excavation protection design for the Proposed Cityflex Tower located along 7th Avenue Corner Lane T within Bonifacio Global City in Taguig City. The project includes a 10m deep excavation. The primary concern for the excavation protection design of the Cityflex Tower was the sensitivity of the adjacent ground and surrounding structures to the deformation caused by the unloading of soil from the excavation pit. Due to the complex behavior of soil-structure interactions. this deformation is difficult, if not impossible, to estimate with acceptable accuracy using classical methods.

Finite Element Method or FEM is the process of discretizing the soil (or any object of interest) into smaller elements and simultaneously solving the relevant equations (equations of motion, deformation, etc.) for each element while minimizing the errors from the calculations.





Plaxis utilizes this method wherein the user inputted soil mass is meshed and divided into a number of finite elements. The advantage of the finite element method from classical methods is that FEM is not only capable of identifying the stability of the slope/excavation but is also capable of determining the deformation/movement of the soil mass.

Since the design of the excavation protection for the Cityflex Tower was governed by serviceability requirements, Plaxis 2D was utilized to address this issue. Several schemes composed of shotcrete walls and grouted soil nails were modelled in

Plaxis 2D and simulated until the deformation falls within acceptable values. Additionally, Plaxis 2D is also capable of solving the Shear Forces and Bending Moments experienced by the shotcrete wall and the axial forces in the soil pails.

Considering the trend of increasing high-rise structures in the country and the continuous space congestion, designs considering soil deformation/movement is becoming more appropriate. As geotechnical engineers, it is our responsibility to not just adequately design the stability of the excavation protection but to also verify the effect of the excavation to adjacent structures.



AMH invited and accepted 10 new CE Interns this January 2015 from those who passed the Civil Engineering Licensure Examination held in December 2014. Seven of the new interns are UP alumni:

- 1. Rodgie Cabungcal
- **2. Luigi Cruz**, magna cum laude, 9th place in the CE Board Exams
- 3. Amery Fabi
- 4. Julius Giron
- 5. Mark Ibañez
- **6. Gabriel Miro**, magna cum laude
- 7. PJ Robles

Three of the new interns are from UST:

- 1. Joshua De Ocampo
- 2. Fritze Ong
- 3. Suzy Rivera

The CE Internship program of AMH was patterned after the medical program Internship of PGH. During the year, the interns are rotated for mentoring by different Senior Engineers and through four different practice-based groups, namely: the Structural Engineering Group, the Civil Works Group, the Water Resources & Environmental Engineering Group, and the Geotechnical Engineering and Geohazard Group.

This year, a new feature called "**Boot Camp**" was added to the program. For the first week, the Interns were immersed full-time in technical sessions that described what the different practice-based groups did. The interns liked the boot camp because there were also group dynamic games that provided the opportunity to know each other.

Another feature of the internship program called "Brown Bag" sessions was also modified. It is now held on Mondays, from 4 PM to 5 PM, and where before the topics were technical, now the topics are nontechnical. Partner Roy Luna talked on work-life balance, and on another occasion, partner Alexis Acacio talked about the first ten years of his life after graduation. Partner Eric Santos spoke on the principles that guided him make decisions the first ten years after graduation, and partner Jon Kasilag talked on Excellence.

In August, the movie "Sound of Music" starring Julie Andrews took three brown bag sessions to finish. What a long but delightful movie! The brown bag sessions also provided the opportunity for "older engineers" but new to AMH like **Angel Prelligera** and **Maureen Tamayo** to be integrated into AMH by attending brown bag sessions.



# What do the Interns like most about the Internship program?

- Chance to travel to different places in the Philippines. Mark said: "Being able to travel to different parts of the country of which I had no chance of visiting when I was still studying. I was able to go to Bicol and Agusan del Norte, to name a few." Amery said: "I had my first plane ride going to a fieldwork in Leyte." Suzy said: "Site visits with Sir Aragorn, Ma'am Jocy and Ate Marj, and site visit to Naga."
- Family-like office atmosphere. Josh said: "I'm proud of our company's family-like relationship with fellow employees." Fritze said: "It is basically the fact that I don't see AMH as a company, but more as a family that helps and supports each other to further improve each other." Maureen said: "I enjoy the brown bag because it serves as an avenue for me to know more about my officemates and AMH family." PJ said: "Being mentored in such a way that not only knowledge is passed, but personal relationships get established, as well."
- Learning new skills. Angel said: "I remember the first time I was assigned to do a full geotechnical report. I felt a deeper understanding of what I was doing and had a sense of fulfillment (although I still have a lot to learn)." Luigi said: "I like learning how to operate different software."

The program coordinators of this year's CE Interns are **Marj Turiano**, CE Intern 2013, and **Mary Grace Casuncad**, CE Intern 2014.

# **TRAININGS & SEMINARS**

Being a consultancy company, the best and most important asset of AMH are the people. That being said, AMH upholds its efforts in the continuous improvement of its people as part of its quality policy. That is why huge amounts of effort, time and resources are invested in trainings. Various AMH staff is given the privilege to participate in seminars and workshops to enhance their knowledge and expertise in different fields of engineering.

Plaxis Training (Singapore, March 11 - 12, 2015) Plaxis is one of the pioneer tools in geotechnical engineering as it uses Finite Element Modeling (FEM) in the computation of various geotechnical assessments. Engrs. Eric Santos, Erickson Delos Santos, Michael Gargullo, and Gian Reyes attended this 3-day seminar in Singapore.

#### Plaxis Training (UP-NEC, July 1, 2015)

Plaxis Singapore expressed its interest in conducting a seminar in the Philippines, and they tapped AMH to assist in the preparations. The training had a one-day event open to all engineers, and another one day hands-on training exclusive to AMH staff.

17th ASEP International Convention: Advancing Structural Engineering for Cross-Border Practice (Marco Polo, Ortigas, May 28-30, 2015)

The ASEP convention is a yearly event aimed to educate structural engineers in the new technologies in construction and structural design.

Aside from improving the knowledge and skills of AMH engineers through these seminars, the company also shared its knowledge by providing workshops to other companies:

# Geotechnical Engineering 101 (UP-NEC, July 30, 2015)

Mega Philippines, a contractor specializing in geotechnical improvement, requested AMH through UP-NEC to conduct a whole day workshop on the basics of geotechnical engineering.

# **EEI Skyway Araneta Training** (EEI Site Office, Araneta, August 8, 2015)

AMH Structural PBG conducted this event for EEI Corp. for the Skyway Stage 3 project. The main topic is Pre-stressed construction, its theory, risk management, design and materials testing.









7ith an aim to expose its staff to global Clients, and to the state of engineering practice abroad, AMH constantly immerses its engineers in projects, seminars, and workshops requiring travel outside the country.

Last May 11 to 15, 2015, AMH engineers attended a client meeting in Zhengzhou, China. The aim of the meeting with its client Shanghai Electric Power Construction (SEPC) was to establish a common approach in the design of the GNPower Kauswagan 3x135 MW Coal-Fired Power Plant in Kauswagan, Lanao del Norte using the latest Philippine design codes.

The team that attended the meeting was composed of: AMH President and Project Manager Roy Anthony Luna, Deputy Project Manager Jess Matias, Engineers Arlene Buenaventura, Rodora Cadiz, Jonah Marie Malolos, and Kevin John Judit, and Architect Christopher Valdez. The three-day meeting enabled the team to better understand what the client requires and expects. Establishing a good relationship with the foreign client was a supplemental objective.

Another international event ioined by AMH was the Second International Course Geotechnical and Structural Monitoring seminar held in Tuscany, Italy from June 4 to 6, 2015. Senior Geologist Ramon

Quebral, and Geotechnical Engineers Roy Luna and Michael Paolo Follosco attended the training course.

The short course updated the participants in the latest geotechnical and structural monitoring instruments and their use. The team also had the opportunity to visit popular engineering structures such as the Leaning Tower of Pisa in Italy, the Rome's Colosseum, St. Peter's Basilica in Vatican, and other iconic structures.

Engineering wonders and sites in Amsterdam and Netherlands were also visited by the team. Seminars like these provide opportunities for AMH engineers to be exposed to engineering innovations worldwide and to appreciate engineering marvels abroad.

### s part of AMH's continuous development As part of Thirties contained as of its employees, involvement in engineering conventions has been part of the company's important commitments. For the past several years, AMH has presented technical papers in events held by the Philippine Institute of Civil Engineers (PICE), the country's most established civil engineering professional organization. In this year's PICE National Midyear Convention, two papers about the recent practices in geotechnical engineering in the Philippines were presented by AMH in response to the theme: Filipino Civil Engineers: Ready for Global Practice. Engr. Erickson Delos Santos made a presentation about the study: "Design Considerations for Soil-Nailed Walls and Slopes" while Engr. Ramil Diaz presented the paper entitled: "Design Approaches for New Airport Pavement and Overlay." The convention was held at the SMX Davao Convention Center SM Premier Lanang last May 28-30, 2015.



# Lenten Outreach at Philippine Children's Medical Center (PCMC)

This year, AMH conducted, a Lenten outreach program for the cancer patients of the Philippine Children's Medical Center in Quezon City. Everyone was invited to participate and interact with the patients and their families. After the event, everyone was given time to reflect and share their thoughts and realizations. The outreach captured the essence of Lent and provided the opportunity to reflect on one's spiritual condition and to appreciate the simple blessings of God.



# AMH COMPANY EVENTS

#### **Fun Run Opening of Sports fest**

The Annual AMH Sports fest opened last April at the U.P. Academic Oval. Almost all joined the fun run. Rodgie Cabungcal got the first place, followed by John Michael Guelos, and then by John Robert Saguinsin. Other sport events were basketball, volleyball, badminton, table tennis and bowling.

#### **AMH Company Outing**

The two-day company outing was held last August 17 and 18 at Doc Acacio's beach house resort in Lobo, Batangas. The theme for this year's outing was "Pautakan, Patatagan at Pagalingan tungo sa Kaunlaran". Four groups namely, Kamagong, Yakal, Ipil, and Narra, were formed. The team building activity gave everyone the chance to interact and collaborate with each other. At the same time, the teams had fun and appreciated the beauty of the place.



Thank you, dear Clients (a few of whose logos appear here), for your continued support!































Some companies aspire for ISO certification for a commercial reason, usually because a prospective ISO certified customer company requires potential suppliers to be ISO certified. But oftentimes, due to lack of dedication and practice of ISO guidelines, these companies lose interest and lose their ISO-certification also.

At AMH, the idea of ISO certification was seriously pushed during the term of Eric Santos as AMH President (2010 - 2013). He engaged Quality Plus, Inc. as ISO consultant, and himself acted as Quality Management Representative (QMR). Eric formed the team composed of: Grace Quipse and Chris Valdez, (Internal Quality Auditors), Liza Bares (Document Controller), and Arlene Buenaventura (head, ISO documentation committee), to lead the rest of the staff in the preparation for ISO certification.

The preparation for certification took longer than expected, and it was already during the term of Roy Luna as AMH President when the dream became reality in 2014. But the long gestation period produced the following positive effects:

- The time and effort spent together in preparing for ISO certification strengthened the bonds of unity among the employees. Perhaps the fact that AMH is a small company, around 40 employees three years ago and more than 70 at present, helped.
- It strengthened the identification of individual employees with AMH as an organization. After all, there is

a close correlation between the ISO policy of continuous improvement, and the AMH vision of becoming an engineering company that Filipinos can be proud of.

• The constant repetition of the quality policy which emphasized "continuous improvement of people, systems, and structure" resulted in the internalization of the policy in each employee.

AMH engineers and staff have been following ISO guidelines for about nine months now, and the following effects have been noted:

- 1. Because of clear guidelines, key performance indices (KPI's), and monitoring by Internal Quality Auditors (IQA's), Project Managers have to report on the status of projects and accounts receivables monthly, and more projects are formally closed now than before.
- 2. We get customer feedback more frequently now because it is part of

the project closure process. Perhaps customers are also aware that customer feedback is important and welcome to ISO-certified companies.

- 3. The ISO practice of CPAR (Corrective-Preventive-Action-Report) really provided an opportunity for correction and improvement whenever there is a customer complaint or a situation that needs improvement arises.
- 4. Work processes are always reviewed. For example, billing and collection has improved since attention was called to the fact that submission of deliverables were not always accompanied by billings as stipulated in the terms of payment of the contract.
- 5. Documentation is appreciated by customers. All meetings are now duly recorded, and clients notice. They sometimes remind the project manager about copies of the minutes when transmission by email is delayed, and minutes are useful when some item needs to be clarified in later discussions.



I recommend this fellow as ISO consultant. Henry, our ISO consultant, guided us in the preparation for ISO certification audit. He was passionate about quality measures. He, together with QMR Eric Santos and AMH partner Alexis Acacio, made us commit to a policy of continuous improvement of ourselves, our systems, and our structure.

I would recommend Henry as ISO consultant to any organization serious about improving the organization, and not just in ISO certification.

- EB Abiad, AMH partner

## Message from AMH President

# **EXPANDING OUR HORIZONS**

AMH enters its 16th year with the ASEAN integration and a growing Philippine economy at the backdrop. With massive transport infrastructure, energy and property development, comes the challenge of mitigating hazards, and managing and reducing risks, in the light of various natural hazards the Philippines are constantly exposed to.

ASEAN Integration presents an opportunity and a challenge. It envisions a competitive economic region that is integrated in the global economy, aimed at equitable economic development.

Looking inward, the challenge for us at AMH is to achieve consistent and sustainable growth — by continuously improving and strengthening existing business in one hand, and by strategically pursuing new opportunities in the other.

Expanding our horizons is therefore the call of the times - expanding our capacity, expanding our capability, expanding our market, expanding our planning horizon, expanding our perspective. An expansion in breadth and depth.



AMH joins Council of Engineering Consultants of the Philippines (CECOPHIL)

This issue of Engineering Times captures our ongoing response to this call. Our successful ISO Quality Management System (QMS) certification, institutionalized Internship Program, continuing active participation in PICE (Philippine Institute of Civil Engineers) and the CECOPHIL (Council of Engineering Consultants of the Philippines), learning new technologies and tools, trainings and short courses here and abroad, our contribution in public-private infrastructure projects, and our view of ASEAN Integration --- while constantly reminding ourselves of who we are and what we are about; looking up to our model and inspiration - Alejandro Melchor – world-class engineer, educator and patriot.

Let's sail on, Team AMH. The seas may sometimes be rough. But with God's guidance and protection, let's have the courage and confidence to take new and uncharted waters. To paraphrase John Shedd, 'A ship is safe in the harbor, but that is not what ships are built for.'

Engr. Roy Anthony C. Luna

## **CALL US**



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