

SPECIAL BIDS AND AWARDS COMMITTEE (SBAC) FOR NCC ACCESS ROADS

**BIDDING FOR THE CONSTRUCTION OF AIRPORT-NCC ACCESS ROAD (PHASE 1)
BID BULLETIN NO. 2**

This Bid Bulletin clarifies written queries received from prospective bidders until 5:00 PM of May 11, 2018, and other matters relative to the Bidding for the Construction of Airport-NCC Access Road (Phase 1).

1. Queries/Questions by Prospective Bidders

Issues Raised	Clarifications
1. There is no item for craneway both for Sacobia Bridge and the other two bridges, please clarify how this item will be treated?	Bidders' unit prices should already be inclusive of all items necessary to complete the bridges or any other structures.
2. May we request information on the river profile of Sacobia Bridge & the two other bridges showing the existing river bed profile including the elevation of the ordinary water level, to be used as basis in the craneway design and general construction methodology for the project.	See attached river bed elevation, ordinary water elevation for Sacobia, Bridge 5 and Bridge 6.
3. May we request a plan for Item A.1.1(3)-Construction of Field Office for the Engineer (Minimum of 180 sq.m. Floor Area).	The bidder can adopt any design for a field office as long as it is a single storey building with a minimum of 180 sq.m. floor area.
4. In the General Notes for Bridges 5 & 6 Drawing no. P2B5GN-01, the concrete for all substructure of the said bridge is 41Mpa however, the BOQ item for Structural Concrete of the bridge is only 27.58Mpa. Please clarify.	Structural concrete for bridge is 28 Mpa.
5. Is it possible that the Special PCAB License of the JV be submitted during the award of the Project?	No. PCAB Licenses must be submitted as part of the technical eligibility documents, together with the bid proposal, on or before 12:00 noon on June 14, 2018 (Revised schedule for deadline of submission. See Item 2.1)

<p>6. Under the "General Notes" for the structures Sheet No. P2SBGN-01 Bored Pile Concrete for both Abutment and Piers are Class "A", 28Mpa. However on the second page of the General Notes Sheet No. P2SBGN-02 the Bored Pile Concrete for Piers is 41Mpa. Which will prevail? Please clarify.</p>	<p>Structural concrete for bridge is 28 Mpa.</p>
<p>7. Whether the contract time can be extended to 30 months.</p>	<p>Contract duration is fixed at 540 calendar days.</p>
<p>8. In purchasing the bidding documents, whether the prospective bidders need to submit a "Letter of Introduction" or "Authorization Letter", and whether the bid documents to be submitted by the bidders need to be notarized.</p>	<p>The prospective bidders are not required to submit a Letter of Introduction or Authorization in purchasing the bidding documents. Bidders will only be required to fill out the bidders' Information Sheet, which will be provided by the SBAC Secretariat, prior to paying the bidding documents.</p> <p>The following documents are required to be notarized:</p> <p>a) Omnibus Sworn Statement; b) Bidder's Representative Authorization (as provided in Paragraph 2 of the Omnibus Sworn Statement); and c) Bid Securing Declaration</p>
<p>9. Whether a foreign company which is not registered in the Philippines can form a consortium with local companies to participate in the bidding for the project.</p>	<p>Yes. To bid for the project, foreign companies can join a consortium or enter into a Joint Venture (JV) with local companies but the Filipino participation/share/equity interest in a Consortium or JV must be at least 75%.</p>
<p>10. Whether the licenses of the required key personnel must be locally issued or whether foreign license is also acceptable.</p>	<p>Foreign professionals who will be assigned in the Project must obtain a Special Temporary Permit (STP) from the Professional Regulations Commission (PRC) pursuant to Republic Act (RA) 8981.</p> <p>Aside from the STP, the foreign key personnel must also secure an Alien Employment Certificate (AEC) duly issued</p>

	by the Department of Labor and Employment (DOLE).
11. Whether the payment terms indicated in the bidding documents are part of the completion regardless of the order listed in the bidding documents.	The contractor can be paid upon completion of the phases indicated in the bidding documents at no particular order.
12. What is the policy for a local and a foreign company which will form a Joint Venture?	<p>Entities who wish to form themselves into a Joint Venture (JV) or Consortium, which may be a combination of foreign and local firms, must comply with the ownership requirements provided for by RA 9184 and its Revised IRR, that is, Filipino ownership or interest in the JV or Consortium must be at least 75%, which is based on the contributions of each JV partner as specified in the JVA.</p> <p>A Consortium or Joint Venture is allowed to bid for the project but at least 75% of the participation/share/equity interest in the JV or Consortium belongs to Filipino Citizens. A foreign bidder is allowed to bid for the project but its interest in the JV or Consortium must be up to 25% only.</p>
13. Whether a foreign partner/company can supplement the lacking requirements of the NFCC of the local partner/company. What would be the requirements and procedure for this?	<p>The JV or Consortium can use the Net Financial Contracting Capacity (NFCC) of a foreign partner if it is sufficient and compliant with the requirements of RA 9184. Section 23.1(b) of the Revised IRR of RA 9184 provides that: <i>"Each partner of the Joint Venture shall submit their respective PhilGEPS Certificates of Registration in accordance with Section 8.5.2 of the IRR. The submission of technical and financial eligibility documents by any of the Joint Venture partners constitutes compliance: Provided, that the partner responsible to submit the NFCC shall likewise submit the Statement of all of its ongoing contracts and Audited Financial Statements"</i>.</p> <p>The eligible foreign partner in a JV or Consortium that is responsible to submit the NFCC shall likewise submit the</p>

	<p>following, which must be authenticated by the appropriate Philippine foreign service establishment/post or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines:</p> <p>(a) Statement of all of its ongoing and completed government and private contracts, including contracts awarded but not yet started; and</p> <p>(b) Audited Financial Statements (AFS) for the years 2016 and 2017.</p> <p>If in foreign language, the above listed documents shall be translated by the relevant foreign government agency, the foreign government agency authorized to translate documents, or a registered translator in the foreign bidder's country.</p>
<p>14. Considering that the progress of the construction of the interface between the Phase 1 and phase 2 has significant impact on the construction of phase 1, what is the commencement and completion time for the interface in phase 2?</p>	<p>Phase 2 of the Airport to NCC Access Road has no effect on the construction of Phase 1 since the projects have separate boundaries and/or stations.</p>
<p>15. Whether the VAT on the material and equipment bought from abroad and in the Philippines can be deducted from the VAT for engineering costs.</p>	<p>No. VAT is part of the purchase price of materials & equipment and cannot be deducted from any other expense item.</p>
<p>16. What is the approximate data of the depth and width of the river during dry season and flood season?</p>	<p>See attached river bed elevation, ordinary water elevation for Sacobia, Bridge 5 and Bridge 6.</p> <p>Flood level for the bridges are indicated on the design drawings.</p>
<p>17. Discrepancies on bored pile diameters.</p>	<p>See attached list of correct diameters of bored pile including affected drawings. It can also be downloaded at bcda.gov.ph as attachment to Bid Bulletin No. 2.</p>

18. Discrepancies on the bored pile reinforcements.	See attached list of correct diameters of bored pile including affected drawings. It can also be downloaded at bcda.gov.ph as attachment to Bid Bulletin No. 2.
19. Site office and accommodation.	Temporary site office and barracks for workers can be constructed anywhere within the 60 meter width road right-of-way of the project. Necessary requirements for a temporary site office and barracks for workers beyond the 60 meter width road right-of-way of the project is the responsibility of the contractor.
20. Proposed location of dumping site.	Finding a dumping area for unsuitable materials is the responsibility of the contractor.
21. Whether the Consortium can use the SLCC of its foreign partner who is a non-constructor and provides only fund and equipment for the project.	Yes, the consortium can use the Single Largest Completed Contract (SLCC) of a non-constructor partner. Provided, that the Statement of the bidder's SLCC is similar to the contract to be bid, except under conditions provided for in Section 23.4.2.4 of the IRR of RA 9184.
22. BOQ No. SPL-1200-2, Pedestrian Lamp Post for Bike Lane, has no electrical drawing, please clarify who will do the design drawing.	a. Lighting design for the bike lanes had been done by the landscape designer; b. Supply & installation of Lamp posts and fixtures shall be by others (landscape contractor), while supply & installation of wiring, conduiting, termination & power connection shall be done by the electrical roadway lighting contractor.
23. The project is a new roadway, yet there is no medium voltage power line and also not included in the proposed electrical drawing. Please clarify who will design, supply and install the necessary medium voltage power line and accessories including step down power transformers every power house.	Medium voltage power provisions and corresponding distribution transformer is <u>not included</u> on our design TOR. Main power normal source will be by the <u>generators</u> , coupled with other power sources through the installation of a <u>synchronizer</u> in each power house.
24. For the detailed design drawing (1) Dwg. No.: P2SBGN-03, whether the Contractor can propose an "arch	Yes

<p>erection methodology"/Sequence other than the ones provided.</p>	
<p>25. Whether the statement in ITB as stated below is intended for this project:</p> <p>“Provided, further, that Joint Ventures in which Filipino ownership or interest is less than seventy five percent (75%) may be eligible where the structures to be build require the application of techniques and/or technologies which are not adequately possessed by a person/entity meeting the 75% Filipino Ownership requirement: Provided, finally, that in the latter case, Filipino ownership or interest shall be based on the contributions of each of the members of the Joint Venture as specified in the JVA”.</p> <p>Does it mean that the project adapts to the applicable high-tech or complex technology provisions described in the bidding documents (i.e. whether foreign contractors account for 75% of the total?)</p>	<p>This clause of the ITB is not applicable to this bidding since local contractors are capable of completing the project.</p>
<p>26. On No. 1 of Checklist of Requirements, whether the bidders are still required to submit the eligibility documents, i.e. SEC or DTI, Mayor’s Permit, Tax Clearance, PCAB License & Audited Financial Statements if they already have secured and will submit their PhilGEPS Certificate <u>or</u> whether they are still required to submit PhilGEPS Certificate if they will submit their eligibility documents.</p>	<p>The bidders are required to submit their PhilGEPS Certificate of Registration under Platinum Membership. However, Per GPPB Resolution No. 26-2017, prospective bidders may opt to submit their PhilGEPS Certificate of Registration or their Class “A” Eligibility Documents, or a combination thereof, during bid submission.</p> <p>The PhilGEPS Certificate of Registration (Platinum Membership) remains as a post-qualification requirement to be submitted in accordance with Section 34.2 of the 2016 revised IRR of RA 9184. Provided, however, that the Class “A” Eligibility Documents, on</p>

	which the PhilGEPS Registration was issued, are valid/updated and existing until post-qualification.
27. On No. 2 of Checklist of Requirements, whether all partners of JVs and Consortia are required to submit supporting documents, i.e. Contracts or Notices of Award or Notices to Proceed.	<p>Submittal of the statement of all on-going government and private contracts including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid supported by contracts or notices of award or notices to proceed by just one (1) member of the JV/Consortium constitutes compliance.</p> <p>However, the same partner who submitted the statement of all on-going government and private contracts shall likewise submit the following:</p> <ol style="list-style-type: none"> 1. NFCC; and 2. Audited Financial Statements
28. On No. 9 of Checklist of Requirements, if the Bidders' owned equipment is not sufficient for the project, can they lease some of the required equipment to complete the requirement for the project?	Yes, the Bidders can lease the required equipment, provided that the lease agreement and certificate of equipment availability are submitted during bid submission. Further, it has to be shown/proven that the leased equipment are readily available and the lessor owns/holds the required equipment. (See Bid Bulletin No. 1)
29. On No. 11 of Checklist of Requirements, please clarify what page number in Section IX is Financial Bid Form for second envelope. What about the Contract Agreement Form, and other forms under Section IX that must be included in the First Envelope, i.e. SLCC and Bid Securing Declaration?	Section IX of the Bidding Documents refers only to all Bidding Forms, in which the Financial Bid Form is in pages 120-121. The Bidders must refer to the Checklist of Requirements and the subsequent Bid Bulletins in the preparation and submission of their Bid.
30. No items in the BOQ provided for QA/QC, Site Management, Permits and Licenses, Bonds and Insurances in the provided General Requirements. Please specify an item for the inclusion of the said provisions.	Bidders Overhead, Contingencies and Miscellaneous (OCM) should already be inclusive of these items.

2. Other Clarifications

2.1. The **REVISED SCHEDULES** of the following **BIDDING ACTIVITIES**, resulting from the revised deadline for submission of bids, are as follows:

- a) The SBAC, through its Secretariat, is still accepting **Requests for Clarifications** until **5:00pm on June 1, 2018**.
- b) **Last day of issuance of Bid Bulletin**, if any, is on **June 6, 2018**.
- c) The **deadline for the submission of Eligibility Documents and Financial Proposals is at 12:00 noon on June 14, 2018** at the BCDA Central Receiving and Releasing Area (CRRRA) located at the 2nd Floor Bonifacio Technology Center, 31st St. cor. 2nd Avenue Bonifacio Global City, Taguig City. **Late bids or those submitted after 12:00 noon of June 14, 2018 shall not be accepted.**
- d) The **Opening of Bids** for the Bidding for the Construction of Airport-NCC Access Road (Phase 1) shall be **at 1:00 PM on June 14, 2018** at the BCDA Corporate Center, 2nd Floor Bonifacio Technology Center, 31st St. cor. 2nd Avenue Bonifacio Global City, Taguig City.

2.2. All JV or Consortium members must submit a PhilGEPS Certificate of Registration Platinum Membership;

However, JV members without PhilGEPS Certificate must submit the following Class "A" Legal documents:

(a) *SEC, DTI or CDA Registration*

(b) *Mayor's/Business Permit*

(In case the permit has expired, it shall be accepted together with an official receipt as proof that bidder has applied for renewal: Provided the renewed permit shall be submitted during post-qualification.)

(c) *Tax Clearance (as finally reviewed and approved by the BIR)*

In the case of an eligible foreign bidder, the abovelisted Class "A" Legal Documents may be substituted with the appropriate equivalent documents, if any, issued by the country of the foreign bidder concerned.

This consequently amends Section 24.6 (c) of the Instructions to Bidders.

2.3. A bidder or partner in a JV or Consortium may submit its PhilGEPS registration just before the award, pursuant to Section 4.1.1 of GPPB Circular 07-2017 (*Deferment of the mandatory submission of the PhilGEPS Registration*), but it must be submitted during post-qualification.

In lieu of the PhilGEPS Registration, the foreign partner must submit Class "A" Legal Documents or its equivalent foreign counterpart (translated in English) as an eligibility document (*Sec. 24.6 of the ITB and Sec. 8.5.2 of the 2016 IRR of RA 9184*) and duly authenticated. However, a foreign bidder or partner in a JV or Consortium must likewise submit their PhilGEPS registration during post-qualification.

- 2.4. The required PCAB license must be a license category "AAA" and size range "Large B". A Special PCAB License is required for JV, and all JV partners must secure a PCAB License. In the case of a Consortium, PCAB requires PCAB License only for at least one company or partner in a Consortium and it is the Constructor which shall possess the PCAB License. Consortium means there is a constructor, a financier, or a supplier.¹
- 2.5. Submittal of the Bidders Single Largest Completed Contract (SLCC) similar to the contract to be bid, by just one (1) member of the JV or Consortium constitutes compliance.
- 2.6. Submittal of the NFCC by just one (1) member of the JV or Consortium constitutes compliance, provided that the same member shall likewise submit the following:
 - (a) Statement of all of its on-going and completed government and private contracts including contracts awarded but not yet started; and
 - (b) Audited Financial Statements
- 2.7. In its effort to have a competitive bidding for the project, the SBAC would like to extend assistance to the prospective bidders in securing their PCAB Licenses, by at least providing the PCAB with information on the project that could be of help

¹ Bid Bulletin No. 1, Item No. 3. Other Clarifications

The Special PCAB License of the Joint Venture (JV) is required for submittal in the bidding, in case the bidder is a JV. [Section 23.1 (a) (vi) of the IRR of RA 9184].

(Per coordination with PCAB) To secure the required Special PCAB License for JV, it is required that:

1. *Partnerships consisting of constructors must apply to PCAB as a Joint Venture, wherein all constructor partners are required to have or apply for a Regular PCAB License or in case of a foreign partner, a "Special PCAB License for Foreign Constructors".*
2. *Partnerships consisting of constructors and non-constructors (e.g. financier or equipment supplier) must apply as a Consortium, wherein a PCAB License of one (1) partner constitutes compliance.*

Under IRR of RA 4566, the following are defined as follows:

- *Consortium – means a cooperative arrangement between licensed constructor(s) and non-constructor(s) to jointly perform a single specific undertaking/project with the licensed constructor(s) as managing and operating partner(s) and the others as financier(s) or any such other construction supportive role;*
- *Joint Venture – means a cooperative arrangement of licensed constructors/contractors to jointly perform a single specific undertaking/project with each of the partners contributing to the performance;*
- *"Constructor" shall have the same meaning as "Contractor".*

for the prospective bidders to secure their PCAB Licenses. Hence, attached are copies of SBAC's letter to PCAB and PCAB's reply/response to the said letter.

Please be advised that Requests for Clarifications will still be accepted until 5pm on June 1, 2018. All queries/clarifications received by SBAC Secretariat on or before the said deadline will be addressed through a Bid Bulletin which will be issued not later than June 6, 2018.

All provisions, conditions and statements in the bidding documents inconsistent with this Bid Bulletin are either modified or rendered ineffective, as the case may be.

Issued on 18 May 2018.

SPECIAL BIDS AND AWARDS COMMITTEE (SBAC) FOR NCC ACCESS ROADS

By:


AILEEN ANUNCIACION R. ZOSA
Chairperson

BRIDGE NAME	STATION		LENGTH	WATER LEVEL
	1ST APP	2ND APP	(m)	(m)
Sacobia	0+220.00	1+114.00	894	+0.30
Bridge 5	17+013.35	17+078.95	65.6	+1.00
Bridge 6	19+131.00	19+176.50	45.5	+1.50

* OWL = RBE + WL

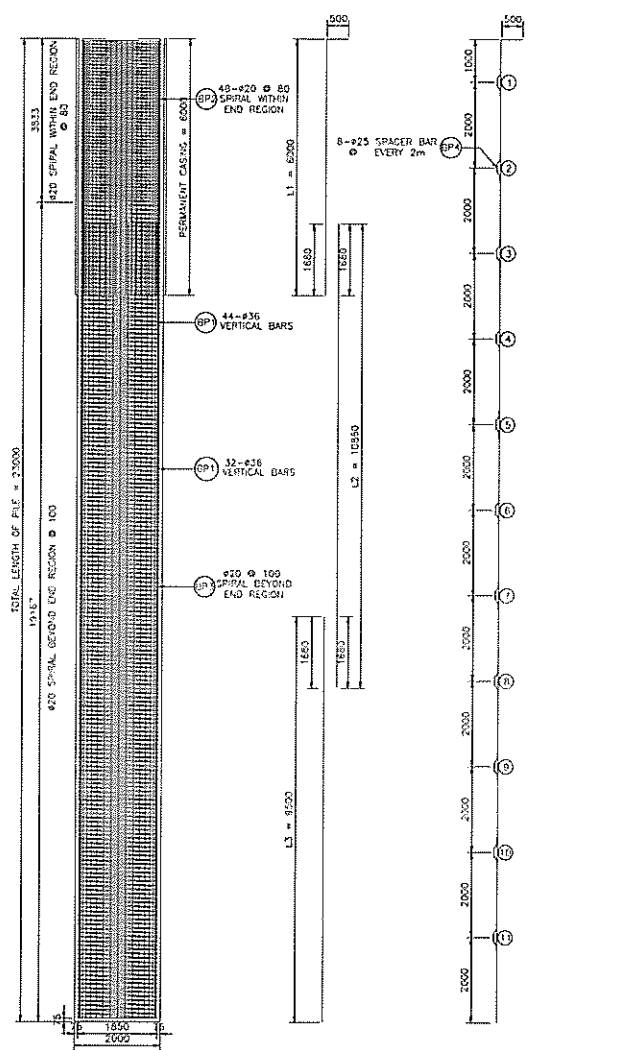
OWL - Ordinary Water Level

RBE - Riverbed Elevation

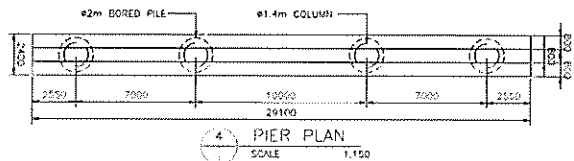
WL - Water Level

Location	REF: SHEET NO.	BORED PILE DIAMETER	CORRECTED BP DIAMETER
Pier 7	P2SB - 50	2200MMØ	2000MMØ
	P2SB - 51 & P2SB -52	2000MMØ	2000MMØ
Pier 9	P2SB - 56	2200MMØ	2000MMØ
	P2SB - 57 & P2SB -58	2000MMØ	2000MMØ
Pier 10	P2SB - 60	2200MMØ	2200MMØ
	P2SB - 59 & P2SB -61	2000MMØ	2200MMØ

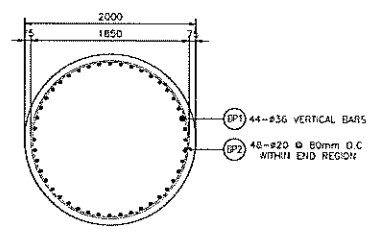
Bored Pile Location	Sheet No.	Reference	Qty. of Vertical Reinforcement (PCS)	Qty. of Vertical Reinforcement (PCS) Corrected
Pier 2	P2SB - 40	Detailed Dwg. Sched. Of Reinforcement	BP1 - 44 BP1 - 32	BP1 - 44 BP1 - 44
Pier 6	P2SB - 49	Detailed Dwg. Sched. Of Reinforcement	BP1 - 68; BP1' - 48; BP1" - 40 BP1 - 64; BP1' - 32; BP1" - 64	BP1 - 68; BP1' - 48; BP1" - 40 BP1 - 68; BP1' - 48; BP1" - 40
Pier 7	P2SB - 52	Detailed Dwg. Sched. Of Reinforcement	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 64; BP1' - 32; BP1" - 64	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 32; BP1' - 32; BP1" - 32
Pier 8	P2SB - 55	Detailed Dwg. Sched. Of Reinforcement	BP1 - 26; BP1' - 26; BP1" - 26 BP1 - 64; BP1' - 32; BP1" - 64	BP1 - 26; BP1' - 26; BP1" - 26 BP1 - 26; BP1' - 26; BP1" - 26
Pier 9	P2SB - 58	Detailed Dwg. Sched. Of Reinforcement	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 64; BP1' - 32; BP1" - 64	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 32; BP1' - 32; BP1" - 32
Pier 10	P2SB - 61	Detailed Dwg. Sched. Of Reinforcement	BP1 - 80; BP1' - 64; BP1" - 40 BP1 - 64; BP1' - 32; BP1" - 64	BP1 - 80; BP1' - 64; BP1" - 40 BP1 - 80; BP1' - 64; BP1" - 40
Pier 14	P2SB - 69	Detailed Dwg. Sched. Of Reinforcement	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 64; BP1' - 32; BP1" - 32	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 32; BP1' - 32; BP1" - 32
Pier 15	P2SB - 71	Detailed Dwg. Sched. Of Reinforcement	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 64; BP1' - 32; BP1" - 32	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 32; BP1' - 32; BP1" - 32
Pier 16	P2SB - 73	Detailed Dwg. Sched. Of Reinforcement	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 32; BP1' - 36; BP1" - 36	BP1 - 32; BP1' - 32; BP1" - 32 BP1 - 32; BP1' - 32; BP1" - 32
Abutment	P2SB - 78	Detailed Dwg. Sched. Of Reinforcement	BP1 - 60 BP1 - 45	BP1 - 60 BP1 - 60



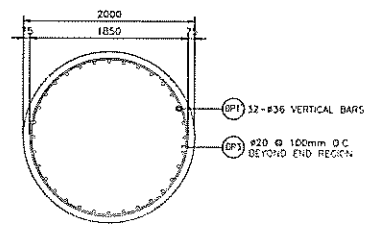
1 VERTICAL SECTION SCALE 1:60
 2 SCHEMATIC DETAIL SCALE 1:60
 3 STIFFENER LAYOUT SCALE 1:60



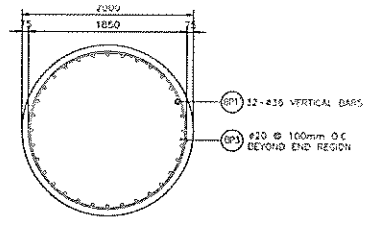
4 PIER PLAN SCALE 1:150



5 PILE SECTION THRU L1 SCALE 1:30

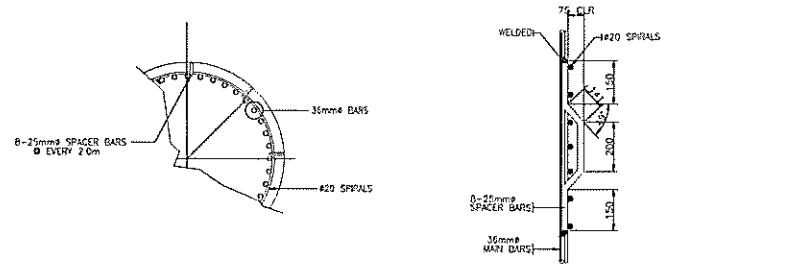


6 PILE SECTION THRU L2 SCALE 1:30

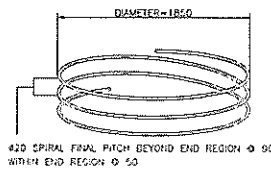


7 PILE SECTION THRU L3 SCALE 1:30

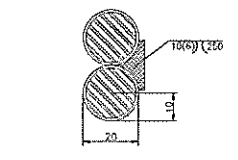
- NOTES**
1. THE REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. SPIRAL REINFORCEMENT ARE LAP WELD CONNECTED
 3. WELDING SHALL BE IN ACCORDANCE WITH ANSI/AWS D1.4-92, STRUCTURAL WELDING CODE REINFORCING STEEL. USE ELECTRODE E60XX-X
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MAIN BARS DURING WELDING
 5. SPIRAL REINFORCEMENT SHOULD BE BUTT WELDED WHERE SPIRAL PITCH IS 50mm OR LESS OTHERWISE USE LAP WELD SPICE
 6. ADDITIONAL STIFFENERS/CLUSE BARS MAY BE PROVIDED TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTION SUBJECT TO THE APPROVAL OF THE ENGINEER
 7. DIRTY CONCRETE (MINIMUM 600mm HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF BACKWALL AND CORING BEAM
 8. CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS AA CONCRETE WITH 28MPa CYLINDER STRENGTH AND 19mm MAXIMUM AGGREGATE SIZE
 9. REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED BAR CONFORMING TO ASTM A631 (ASTM A313) GRADE 60
 10. SPACES OF ADJACENT LONGITUDINAL STEEL SHALL BE STAGGERED 100 DIA. MINIMUM APART. LENGTH OF SPICES SHALL BE 2250mm
 11. THE STABILIZATION FOR BORED PILE EXCAVATION (SUCH AS USING BENTONITE SLURRY OR TEMPORARY STEEL CASING ETC.) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS SUBORDINATE TO THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEERS APPROVAL BEFORE CONSTRUCTION



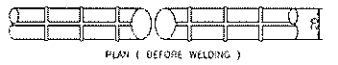
8 BORED PILE CONFINEMENT RING & SPACER DETAIL SCALE NTS



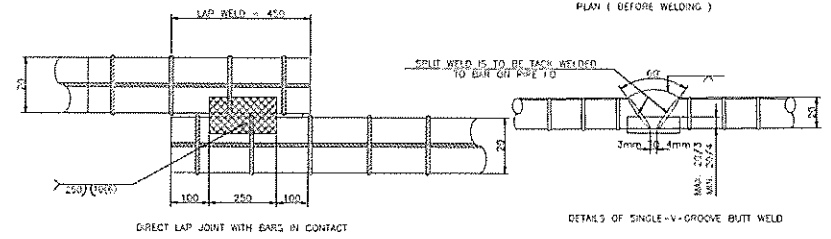
#20 SPIRAL FINAL PITCH BEYOND END REGION @ 90 WITHIN END REGION @ 50



DOUBLE FLARED V-V GROOVE WELD SECTION - A



PLAN (BEFORE WELDING)



DIRECT LAP JOINT WITH BARS IN CONTACT

DETAILS OF SINGLE V-V GROOVE BUTT WELD

9 DETAILS OF TIES REINFORCEMENT LAP-WELD CONNECTION SCALE NTS

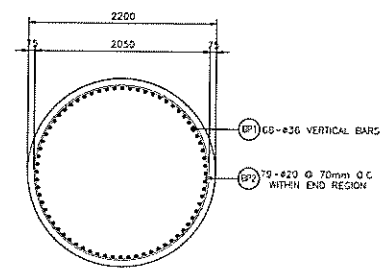
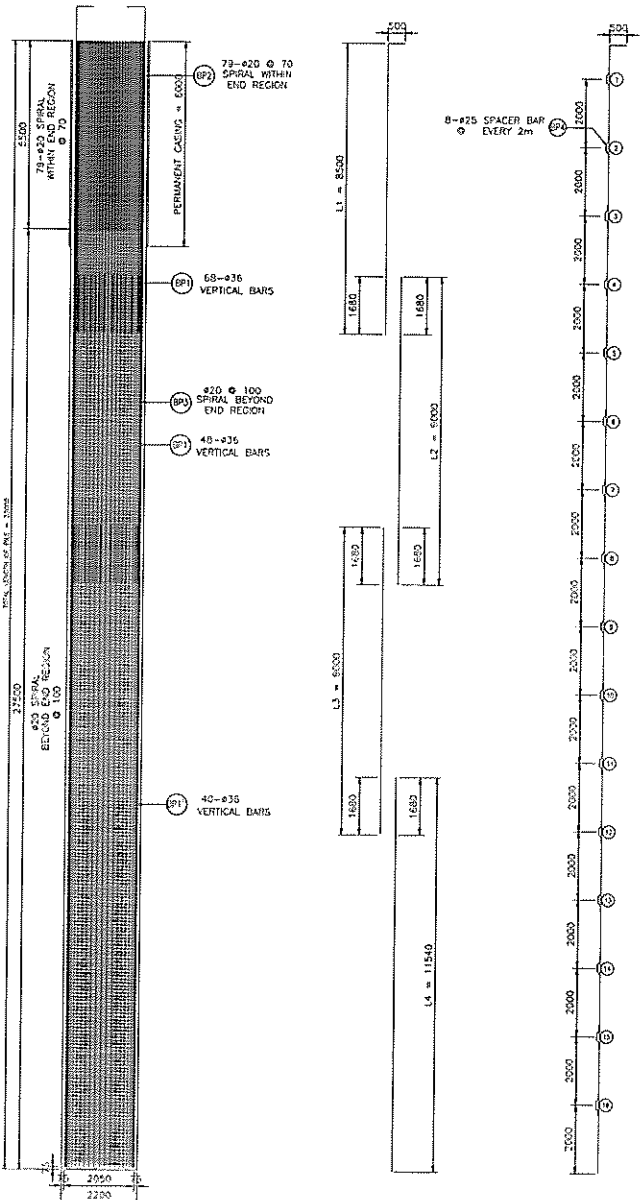
SCHEDULE OF REINFORCEMENT FOR PIER 2 BORED PILE

BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSION					LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cu.m)
					a	b	c	d	e						
FOR ONE (1) BORED PILE (L=23m @2000mm)															
BP1	26	AS SHOWN	44	A	0.50	6.0	-	-	-	BORED PILE	6.5	208.00	7.991	1663	72.26
BP1'	36	AS SHOWN	32	B	10.86	-	-	-	-		10.86	347.52	7.991	2779	
BP1''	36	AS SHOWN	32	B	9.5	-	-	-	-		9.5	304.00	7.991	2431	
BP2	20	60	48	D	0.20	6.3	-	-	-		6.5	312.00	2.468	770	
BP3	20	100	192	D	0.70	6.3	-	-	-	6.5	1248.00	2.468	3080		
BP4	25	AS SHOWN	80	C	0.15	0.141	0.20	0.141	0.15	0.782	62.56	3.854	241		
TOTAL											10060	kg	72.26	cu.m	

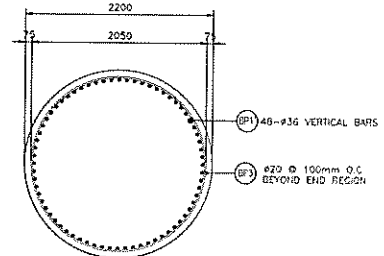
NOTE: REFER TO SECTION 4 OF ANNEX 'A' OF THE REVISION IMPLEMENTING RULES AND REGULATIONS OF PA 8/01, APPROVED BY THE ASSOCIATED SPIRAL OFFICE FOR REVEALED UNDERGROUND TUNNELS AND DESIGN REQUIREMENTS BY THE CONSULTANTS REFERRED HERETO AS BEING THE RESPONSIBILITY OF THE USER FOR THE TECHNICAL INTENT OF THE TUNNEL AND DESIGN NOT TAKE ANY PART OF THEM RESPONSIBILITY FOR THE APPROVAL OFFICIAL. THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITIES/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE QUANTITIES WORK WITHOUT THE AID OF THE CONSULTANT.

ENR ALBERTO G. CASATE
 TEAM LEADER

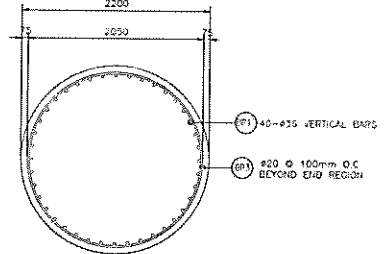
		BCDA		PROJECT TITLE: DETAILED ENGINEERING DESIGN OF THE PROPOSED ASPHALTIC ACCESS ROAD AND UTILITIES ALONG THE ROAD MARK-ARTISAN (TIE-AC) ON THE ROAD AND WAYS, VIA LAS ALFARERAS, SUB-DIVISION: ANTIPOLO (TANAY), STA. MARCO, CALABARZON		SCALE: AS SHOWN		DRAWING STATUS: DRAFT DRAWING	
CLIENT: ERRENEL DAVID PROJECT: UG		PROJECT MANAGER: ALBERTO G. CASATE P.P. FASEP PROJECT MANAGER ONLY		PROJECT MANAGER: RYAN PAUL S. CALERA PROJECT MANAGER		PROJECT MANAGER: JUSTO M. SUJICA PROJECT MANAGER		PROJECT CODE: P2SB-40	
DATE:		DATE:		DATE:		DATE:		DATE APPROVED:	
DATE:		DATE:		DATE:		DATE:		DATE APPROVED:	



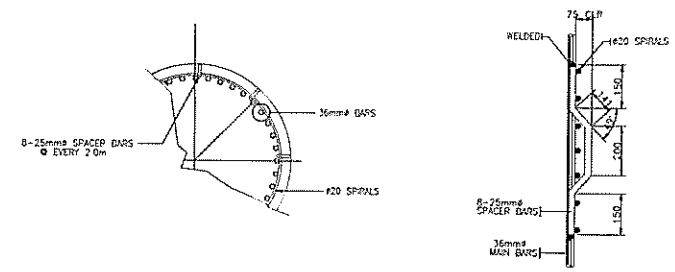
4 PILE SECTION THRU L1
SCALE 1:30



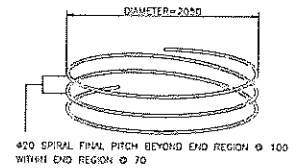
5 PILE SECTION THRU L2
SCALE 1:30



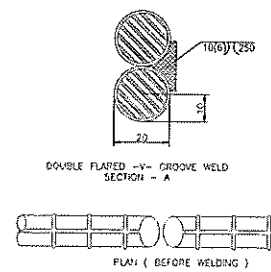
6 PILE SECTION THRU L3 AND L4
SCALE 1:30



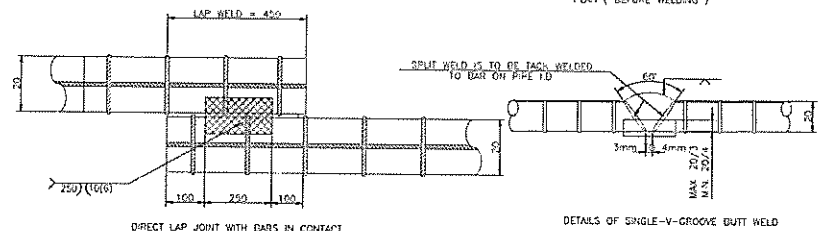
7 BORED PILE CONFINEMENT RING & SPACER DETAIL
SCALE N75



470 SPIRAL FINAL PITCH BEYOND END REGION ϕ 100 WITHIN END REGION ϕ 70



DOUBLE FLARED -V- GROOVE WELD SECTION - A



8 DETAILS OF TIES REINFORCEMENT LAP-WELD CONNECTION
SCALE N75

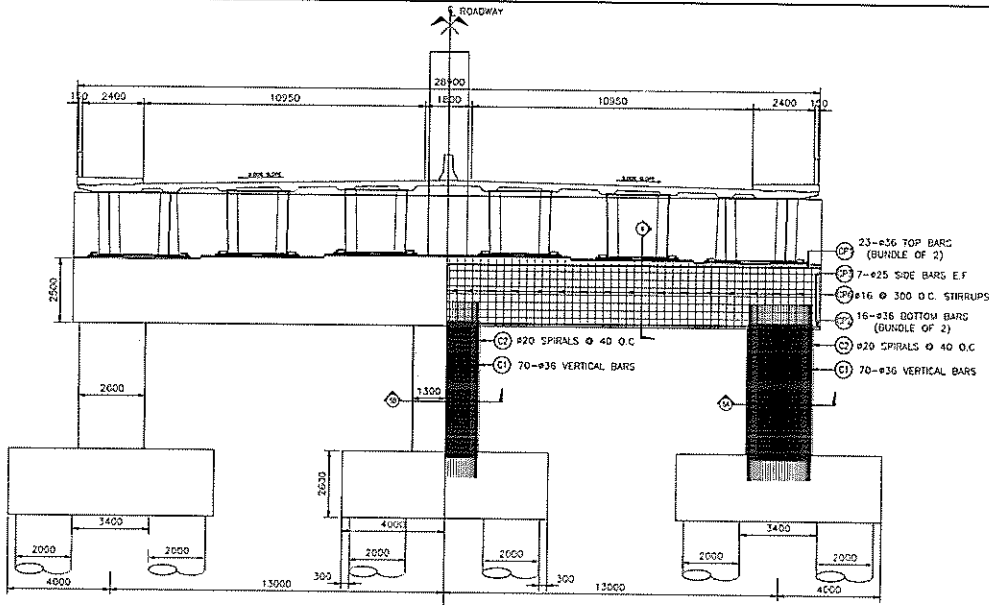
- NOTES:
1. THE REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. SPIRAL REINFORCEMENT ARE LAP WELD CONNECTED
 3. WELDING SHALL BE IN ACCORDANCE WITH ANS/AWS D14.92, STRUCTURAL WELDING CODE REINFORCEMENT STEEL, USE ELECTRODE E60XX-X
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MAIN BARS DURING WELDING.
 5. SPIRAL REINFORCEMENT SHOULD BE BUTT WELDED WHERE SPIRAL PITCH IS 50mm OR LESS, OTHERWISE USE LAP WELD SPICE
 6. TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTION SUBJECT TO THE APPROVAL OF THE ENGINEER
 7. DIRTY CONCRETE (MINIMUM 500mm HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF BACKFILL AND CORROD BEAM.
 8. CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS AN CONCRETE WITH 28MPa CYLINDER STRENGTH AND 15mm MAXIMUM AGGREGATE SIZE
 9. REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED BAR CONFORMING TO ASTM A618 (ASTM 315) GRADE 60
 10. SPICES OF ADJACENT LONGITUDINAL STEEL SHALL BE STAGGERED 150 DAP DIAMETER APART, LENGTH OF SPICES SHALL BE 2200mm
 11. THE STABILIZATION FOR BORED PILE EXCAVATION (SUCH AS USING BENTONITE GROUT OR TEMPORARY STEEL CAPPING ETC.) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEERS APPROVAL BEFORE CONSTRUCTION.

SCHEDULE OF REINFORCEMENT FOR PIER 6 BORED PILE

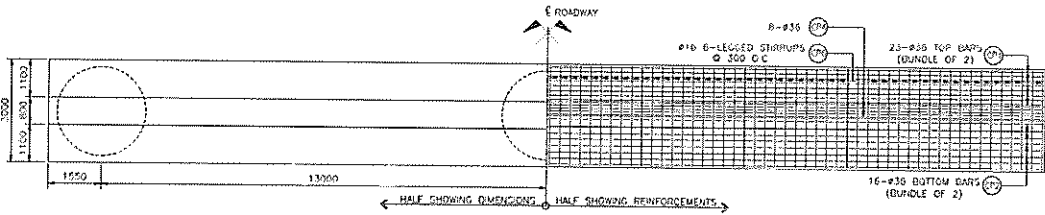
BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSION					LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cu.m)		
					a	b	c	d	e								
FOR ONE (1) BORED PILE (L=32000mm)																	
BP1	36	AS SHOWN	68	A	0.50	8.5	-	-	-	BORED PILE	9.00	612.00	7.956	4894	126		
BP1*	36	AS SHOWN	48	B	9.00	-	-	-	-		9.00	432.00	7.996	3455			
BP1*	36	AS SHOWN	40	B	9.00	-	-	-	-		9.00	360.00	7.996	2879			
BP1**	36	AS SHOWN	40	B	11.54	-	-	-	-		11.54	461.60	7.996	3681			
BP2	20	75	73	D	0.20	7.0	-	-	-		7.2	568.80	2.468	1404			
BP3	20	100	275	D	0.20	7.9	-	-	-		7.2	1880.00	2.468	4687			
BP4	25	AS SHOWN	95	C	0.15	0.141	0.20	0.141	0.15		0.782	75.07	3.856	290			
TOTAL											21428	126	126	126		126	

NOTE:
 PURSUANT TO SECTION 4 OF PART 'A' OF THE BORED REINFORCEMENT, WELD AND REPAIRING OF RE BAR APPROVED BY THE AUTHORIZED OFFICIALS OF CERTIFIED ENGINEERING SURVEYS AND DESIGN UNDERWRITERS BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE SPIRAL AND REPAIRING AND TRAVELER ANY PART OF THIS RESPONSIBILITY TO THE APPROVED OFFICIALS. THE DESIGN ENGINEER SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE REINFORCEMENT DUE TO FACTORY DESIGN EXCEPT FOR THE CHANGE MADE WITHOUT THE APPROVAL OF THE CONTRACTOR.

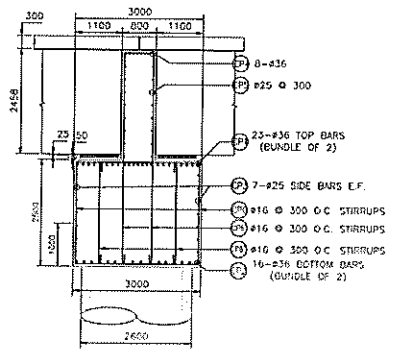
DR. AMRITH K. GANES
 TEAM LEADER



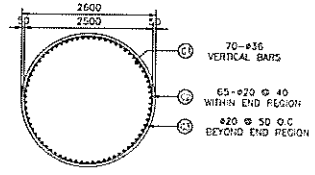
1 PIER 7 COPING ELEVATION
SCALE 1:100



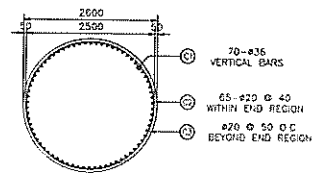
2 PIER 7 COPING PLAN
SCALE 1:75



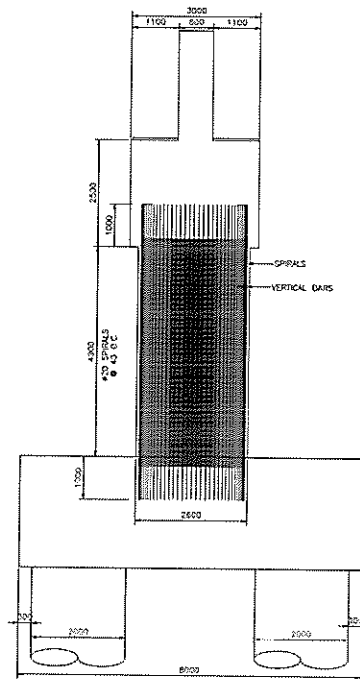
4 PIER 7 COPING SECTION
SCALE 1:50



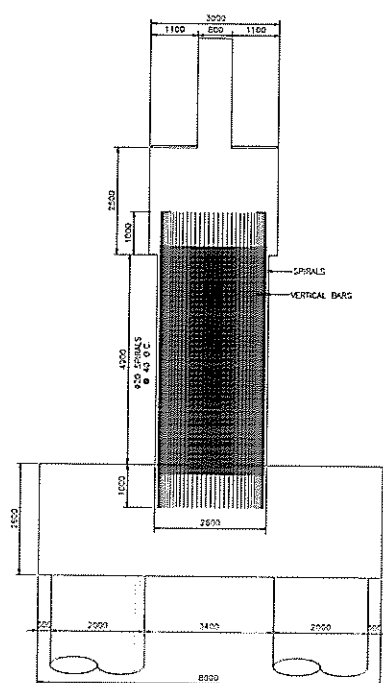
5A PIER 7 LEFT AND RIGHT
SCALE 1:50



5B PIER 7 CENTER
SCALE 1:50



3A PIER 7 LEFT AND RIGHT
SCALE 1:50



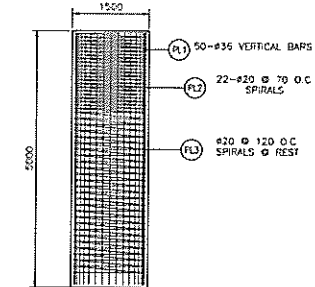
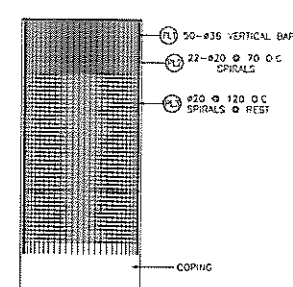
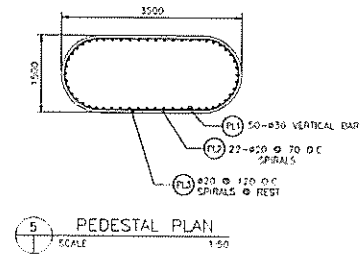
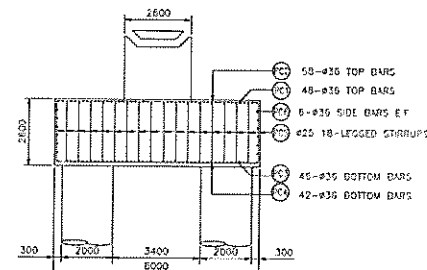
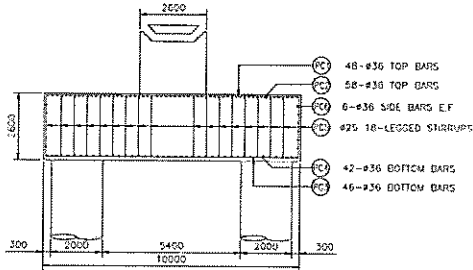
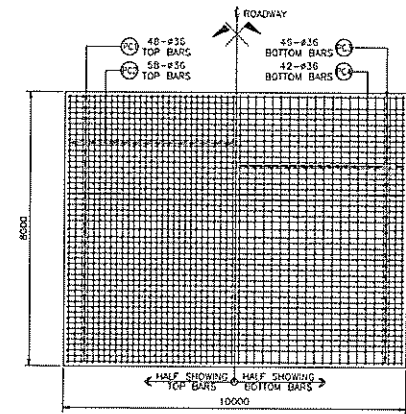
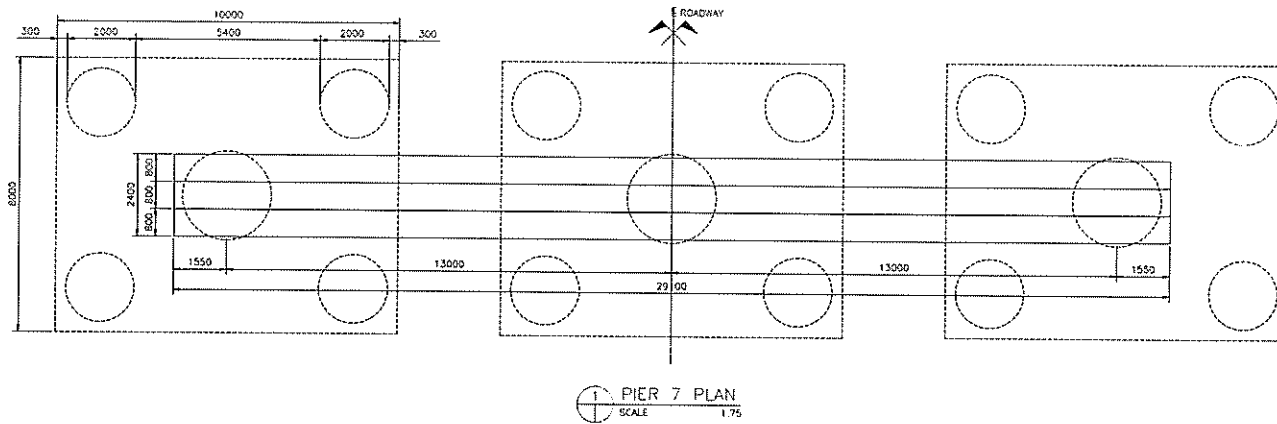
3B PIER 7 CENTER
SCALE 1:50

3 PIER 7 TYPICAL SECTION
SCALE 1:50

NOTE
PRESIDENT TO SECTION 4 OF ANNEX 'A' OF THE REVENUE IMPROVEMENT RULES AND REGULATIONS OF RA PIER
ATTEMPTED BY THE APPOINTED CIVIL ENGINEERING SUPERVISOR AND DESIGN UNDERSTOWN BY
THE CONSULTANT ENGINEER UNDER THE SUPERVISION OF THE LATTER FOR THE TECHNICAL ASPECTS OF THE
DRAWINGS AND DESIGN NOT BEING FOR PART OF THE RESPONSIBILITY OF THE APPROVING OFFICIAL.
THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE STRUCTURES DUE
TO FAULTY DESIGN EXCEPT FOR THE OWNERS MAKE WITHOUT THE CONSENT OF THE CONSULTANT
ENR ALBERTO E. GAYTE
NEW LEADER

SCHEDULE OF REINFORCEMENTS FOR PIER 7 COLUMN AND COPING																	
MARK	SIZE (mm)	SPACING (mm)	QUANTITY	ALL DIMENSIONS ARE OUT TO OUT OF REBARS							TYPE	LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	WEIGHT (kg)	TOTAL WEIGHT (kg)	CONCRETE VOLUME (cu m)
				a	b	c	d	e	f	g							
C1	36	AS SHOWN	16	0.5	0.5	0.5					A	9.5	152.00	7.920	1216	27	
C2	20	40	70	0.1	0.2					F	8.4	568.00	2.468	1452			
C3	20	50	42	0.2	0.2					F	6.4	352.00	7.468	871			
CP1	36	AS SHOWN	46	0.5	2.9	0.5				A	3.9	1850.00	7.0363	11075	221		
CP2	36	AS SHOWN	32	0.5	2.9	0.5				A	3.0	980.00	7.0363	7677			
CP3	25	AS SHOWN	8	0.2	2.9	0.2				A	2.4	235.2	3.8508	907			
CP4	36	AS SHOWN	8	0.5	2.9	0.5				A	3.0	240.00	7.0363	1920			
CP5	25	300	12	0.2	2.9	0.2				A	2.4	352.00	3.8508	1350			
CP6	16	300	97	2.9	2.1	2.9	0.15	0.15	0.15	B	11.1	1076.70	1.5795	1701			
CP7	16	300	97	0.7	4.4	0.7	4.4	0.15	0.15	B	10.5	1018.50	1.5795	1600			
CP8	16	300	194	0.2	2.5	0.2				A	2.9	562.00	1.5795	807			
GRAND TOTAL												Grada 60 bar	37716	Kgs		248	cu m

	SUBMITTED BY FRISAL DAVID PRESIDENT/CEO	DESIGNED BY ALBERTO E. GAYTE P.P. F. ASEP PROJECT MANAGER/USEP	CHECKED BY RICHARD S. CALUSA PROJECT MANAGER	APPROVED BY EDUARD M. PURZA CIVIL ENGINEER	REVISIONS A B C D E F	DATE 	PROJECT TITLE DETAILED ENGINEERING DESIGN OF THE PROPOSED AIRPORT ACCESS ROAD, MACARTHUR AVENUE ACCESS ROAD, WACATHUR AVENUE ACCESS ROAD AND RAMP VILLAGE ACCESS ROAD, SHELTER FACILITY, AIRPORT TOWER FOR THE NEW PASAYEN AIRPORT	SCALE P2SB-50	DRAWING NUMBER A1
	DATE 	DATE 	DATE 	DATE 	DATE 	PROJECT LOCATION PIER 7 COLUMN PLAN AND ELEVATION	DATE APPROVED 	DATE REVISION 	NO. OF SHEETS



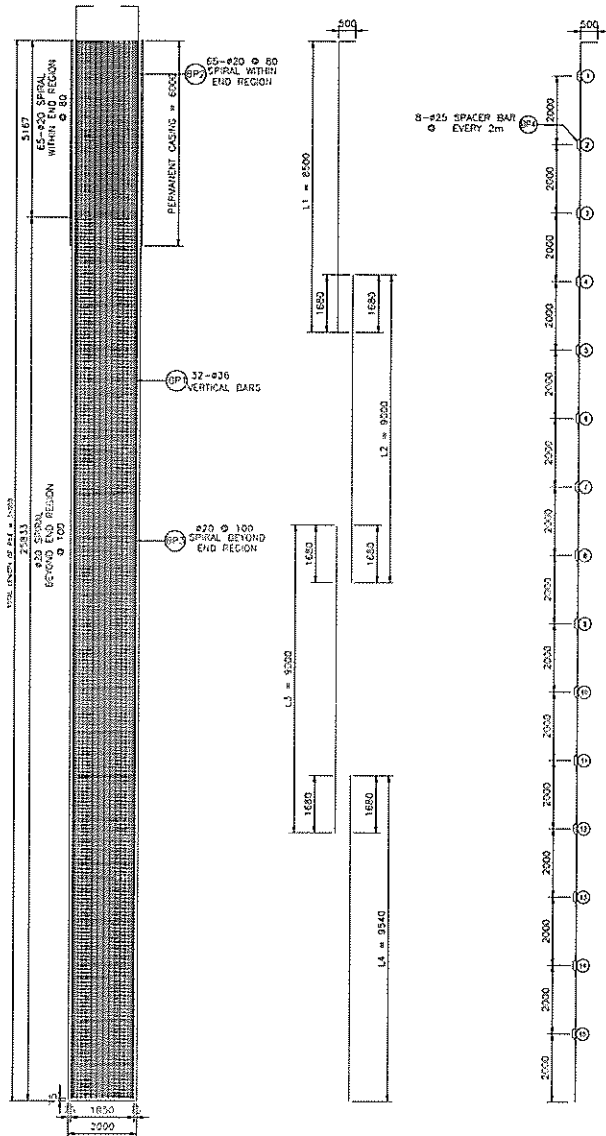
SCHEDULE OF REINFORCEMENTS FOR PILE CAP - PIER 7

BAR MARK	SIZE (mm)	QTY	SPACING (mm)	BAR SHAPE	R E I N F O R C I N G B A R S										BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)
					BAR DIMENSIONS													
					a	b	c	d	e	f								
PC1	36	48	AS SHOWN	A	1.5	8	1.5						11	528.00	7.99632	4222.05696		
PC2	36	58	AS SHOWN	A	1.5	10	1.5						13	754.00	7.99632	6023.22528		
PC3	36	46	AS SHOWN	A	1.5	8	1.9						11	506.00	7.99632	4046.13792		
PC4	36	42	AS SHOWN	A	1.5	10	1.5						13	546.00	7.99632	4365.99072		
PC5	25	896	AS SHOWN	A	0.3	2.5	0.3						3.1	2777.60	3.85625	10671.1012		
PC6	25	736	AS SHOWN	A	0.3	2.5	0.3						3.1	2281.60	3.05625	8758.42		
												TOTAL GRADE 60	10173	kg				
												GRADE TOTAL	114519	kg				

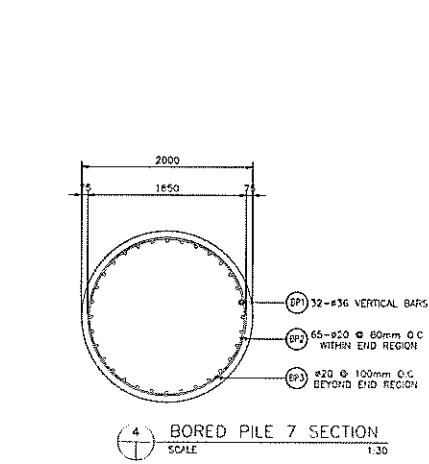
NOTE:
DESIGN TO SECTION 4 OF ANNEX 'A' OF THE BRIDGE BUILDING CODES AND REGULATIONS OF MALAYSIA.
APPROVED BY THE AUTHORIZED ENGINEER OF CIVIL ENGINEERING BOARD AND DESIGN UNDER THE
OF CIVIL ENGINEERING BOARD FOR THE RESPONSIBILITY OF THE LATTER FOR THE GENERAL SAFETY OF THE
STRUCTURE AND DESIGN FOR PROPERITY BY PART OF THE RESPONSIBILITY TO THE APPROVED OFFICIALS.
THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITIES/STRUCTURES DUE
TO FAULT DESIGN EXCEPT FOR THE CONCRETE WORK WITHOUT THE COMPANION OF THE CONSULTANT.

DR. ALBERTO C. CASATELLI
SEAL

<p>Urban Integrated Consultants, Inc. 105, CONTEMPORARY BLDG., 1, LAKE STREET, SUITE 1000, MANILA, PHILIPPINES</p>	SUBMITTER: ERNEST DAVID PROJECT MANAGER	DESIGNER: ALBERTO C. CASATELLI P. E. PROJECT MANAGER	BCDA BAYAN LEPUS CANAL DEVELOPMENT AUTHORITY		REVIEWER: ADRIAN S. SUTERA S.E.	DATE: _____	PROJECT TITLE: LAKE PARADISE DEVELOPMENT PHASE 1B MACARTHUR AVENUE AS-PIED WALKWAY AND ACCESS ROAD PROJECT LOCATION: AIRPORT ROAD, LAKE PARADISE, BAYAN LEPUS, PENANG	SCALE: AS SHOWN DRAWING NO.: P25D-01	DRAWING STATUS: DRAFT DRAWING SHEET NO.: 01 OF 01
	DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE APPROVED: _____	DATE RECEIVED: _____	BY: _____	BY: _____	



1 VERTICAL SECTION SCALE 1:75
 2 SCHEMATIC DETAIL SCALE 1:75
 3 STIFFENER LAYOUT SCALE 1:75

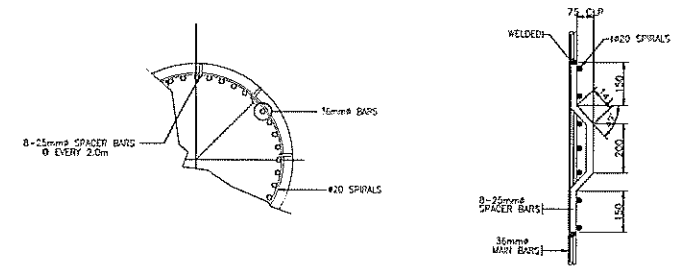


4 BORED PILE 7 SECTION SCALE 1:30

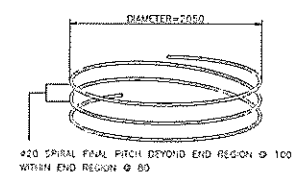
- NOTES:
1. THE REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. SPIRAL REINFORCEMENT ARE LAP WELD CONNECTED
 3. WELDING SHALL BE IN ACCORDANCE WITH AWS/AWS D14.1-72, STRUCTURAL WELDING CODE REINFORCEMENT STEEL USE ELECTRODE E60XX-2
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MARK BARS DURING WELDING
 5. SPIRAL REINFORCEMENT SHOULD BE BUTT WELDED WHERE SPIRAL PITCH IS 50mm OR LESS OTHERWISE USE LAP WELD SPLICE
 6. ADDITIONAL STIFFENERS/GUIDE BARS MAY BE PROVIDED TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTION SUBJECT TO THE APPROVAL OF THE ENGINEER
 7. DIRTY CONCRETE (MAXIMUM 400mm HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF INCAUSAL AND CORING BEAM
 8. CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS AA CONCRETE WITH 28MPa CYLINDER STRENGTH AND 19mm MAXIMUM AGGREGATE SIZE
 9. REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED BAR CONFORMING TO ACHTO MS1 (ASTM 315) GRADE 60
 10. SPLICES OF ADJACENT LONGITUDINAL STEEL SHALL BE STAGGERED 100 BAR DIAMETER APART, LENGTH OF SPLICES SHALL BE 2200mm
 11. THE STABILIZATION FOR BORED PILE EXCAVATION (SUCH AS USING BENTONITE SLURRY OR TEMPORARY STEEL CASING ETC.) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS QUOTED IN BOM ITEM 400(1). THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEERS APPROVAL BEFORE CONSTRUCTION

NOTE: PURSUANT TO SECTION 4 OF ANNEX 'A' OF THE REVENUE IMPLEMENTING RULES AND REGULATIONS OF AN 1981 APPROVED BY THE MINISTER OF FINANCE, GOVERNMENT OF INDIA AND DEEMED INDEMNITY BY THE GOVERNMENT MEMBER CHARGED WITH THE RESPONSIBILITY OF THE MATTER FOR THE TECHNICAL ADEQUACY OF THE DRAWINGS AND DESIGN FOR THE WORKER AND HIS CONTRACTOR TO BE RESPONSIBLE FOR THE ADOPTION OF THE DESIGN. CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITIES/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONSENT OF THE CONSULTANT.

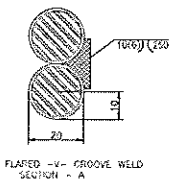
ENGINE: ALBERTO C. CASATE
 SEAL: _____
 DATE: _____



5 BORED PILE CONFINEMENT RING & SPACER DETAIL SCALE NTS



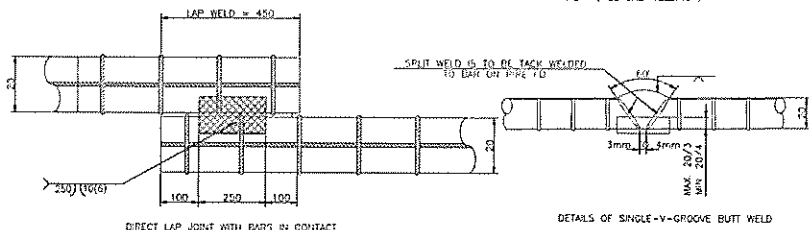
#20 SPIRAL PITCH BEYOND END REGION 100 WITHIN END REGION 80



DOUBLE FLARED - V - GROOVE WELD SECTION - A



PLAN (BEFORE WELDING)



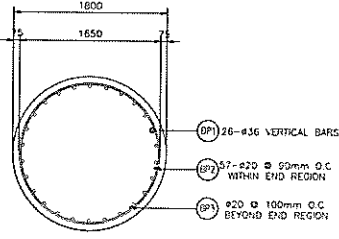
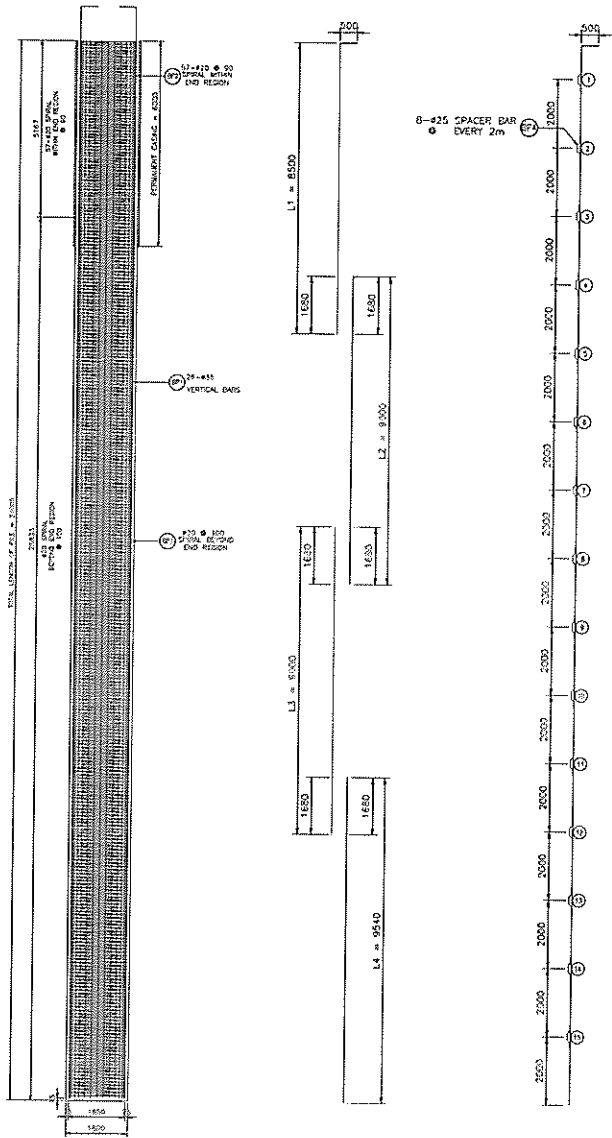
DIRECT LAP JOINT WITH BARS IN CONTACT

DETAILS OF SINGLE-V-GROOVE BUTT WELD

6 DETAILS OF TIES REINFORCEMENT LAP-WELD CONNECTION SCALE NTS

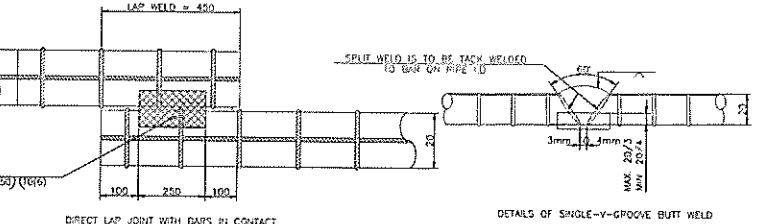
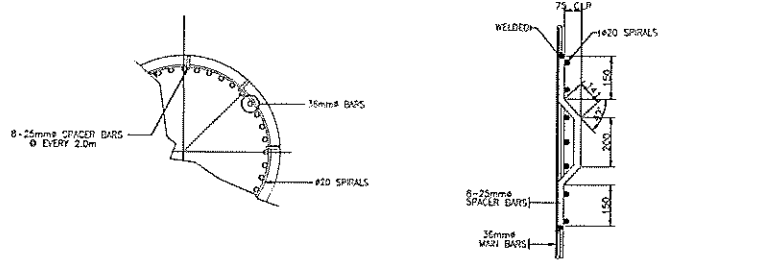
SCHEDULE OF REINFORCEMENT FOR PIER 7 BORED PILE

BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSION				LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cu.m)	
					a	b	c	d							
FOR ONE (1) BORED PILE (Ø=2000mm)															
BPT	36	AS SHOWN	32	A	Ø 50	85	-	-	-	9	288.00	7.996	2303	BORED PILE	
BPT1	36	AS SHOWN	32	B	9	-	-	-	-	9	288.00	7.996	2303		
BPT2	35	AS SHOWN	32	B	9	-	-	-	-	9	288.00	7.996	2303		
BPT3	36	AS SHOWN	32	B	9.54	-	-	-	-	9.54	305.28	7.996	2441		
BPT4	20	Ø 50	65	D	Ø 20	6.3	-	-	-	6.5	422.50	2.468	1043		
BPT5	20	100	259	D	Ø 20	6.3	-	-	-	6.5	1635.50	2.468	4125		
BPT6	25	AS SHOWN	98	C	Ø 15	Ø 141	Ø 70	Ø 141	Ø 15	Ø 70	75.67	3.956	295		
											TOTAL	14837	Kg	98	cu.m



- NOTES:**
1. THE REINFORCEMENT ARE LAP-WELDED CONNECTED (FLARED-Y-GROOVE TYPE)
 2. SPIRAL REINFORCEMENT ARE LAP WELD CONNECTED
 3. WELDED SPIRAL BE IN ACCORDANCE WITH ANSI/AWS D1.4-D2 STRUCTURAL WELDING CODE REINFORCEMENT STEEL USE ELECTRODE E60XX-XX
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MARK DURING WELDING
 5. SPIRAL REINFORCEMENT SHOULD BE BUTT WELDED WHERE SPIRAL PITCH IS 50mm OR LESS OTHERWISE USE LAP WELD SPlice
 6. ADDITIONAL STIFFENERS/SPICE BARS MAY BE PROVIDED TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTOR SUBJECT TO THE APPROVAL OF THE ENGINEER
 7. DIRTY CONCRETE (MINIMUM 50mm HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF BACKWALL AND ROOFING DECK
 8. CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS AA CONCRETE WITH 28MPa CYLINDER STRENGTH AND 15mm MAXIMUM AGGREGATE SIZE
 9. REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED BAR CONFORMING TO ASTM A618 (ASTM 310) GRADE 60
 10. SPLICING OF ADJACENT CONDITIONAL STEEL SHALL BE STAGGERED 100 BAR DIAMETER APART, LENGTH OF SPLICES SHALL BE 2200mm
 11. THE STABILIZATION FOR BORED PILE EXCAVATION (SUCH AS USING BENTONITE SLURRY OR TEMPORARY STEEL CASING ETC.) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS SUBSIDIARY IN PAY ITEM 400(11). THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEERS APPROVAL BEFORE CONSTRUCTION

NOTE: IN ADDITION TO SECTION 4 OF THESE SPECIFICATIONS AND REQUIREMENTS OF AA 310A, ALL CONTRACTORS MUST OBTAIN APPROVAL OF THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS. CONTRACTORS MUST OBTAIN APPROVAL OF THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS. CONTRACTORS MUST OBTAIN APPROVAL OF THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS. CONTRACTORS MUST OBTAIN APPROVAL OF THE ENGINEER BEFORE ANY CONSTRUCTION BEGINS.



SCHEDULE OF REINFORCEMENT FOR PIER 8 BORED PILE

BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSIONS					LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cu m)
					a	b	c	d	e						
FOR ONE (1) BORED PILE (1800mm Ø)															
BP1	36	AS SHOWN	26	A	0.50	8.5	-	-	-	-	9	234.00	7.936	1872	79
BP1*	36	AS SHOWN	26	B	9	-	-	-	-	-	9	234.00	7.936	1872	
BP1*	36	AS SHOWN	26	C	9	-	-	-	-	-	9	234.00	7.936	1872	
BP1*	36	AS SHOWN	26	D	9.54	-	-	-	-	-	9.54	248.04	7.936	1884	
BP2	20	90	58	D	0.20	0.7	-	-	-	-	5.9	142.20	2.458	845	
BP3	20	100	253	D	0.20	0.7	-	-	-	-	5.9	1528.10	2.458	3772	
BP4	25	AS SHOWN	65	F	0.15	0.143	0.20	0.143	0.15	-	0.782	75.07	3.852	290	
											TOTAL	12503	79	cu m	

1 VERTICAL SECTION SCALE NTS
 2 SCHEMATIC DETAIL SCALE NTS
 3 STIFFENER LAYOUT SCALE NTS

Urban Integrated Consultants, Inc.
 100 COMMERCE BLVD., 1400 STREET, WALK, BEAVER CREEK, CO, 80504

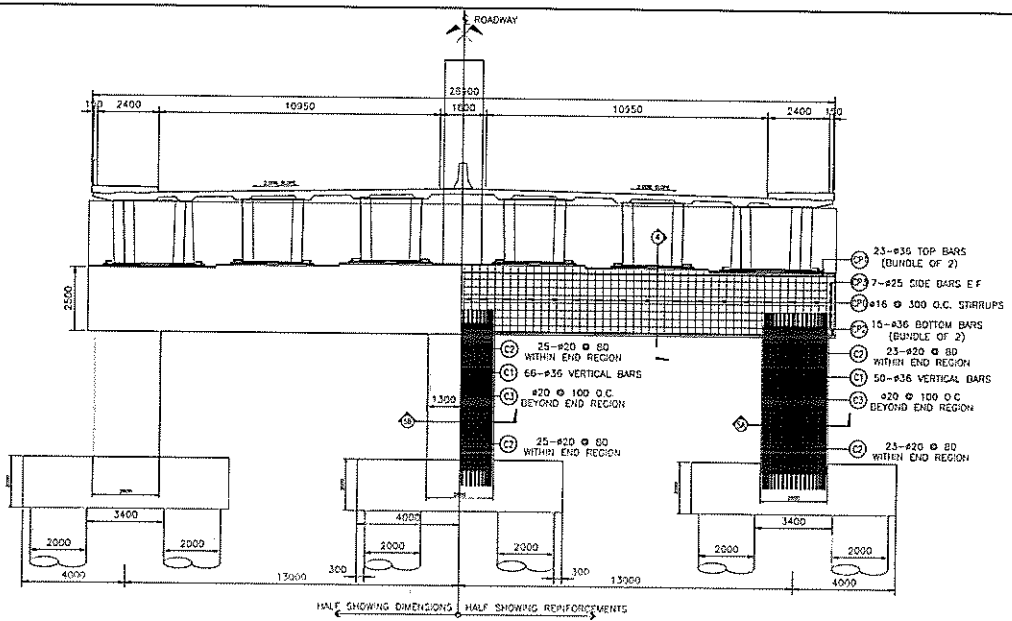
BCDA
 BENTONITE CASING DESIGN AND REINFORCEMENT

CLIENT: ALBERTO C. CANTE P.P. F.A.S.P.
PROJECT MANAGER: RYAN PAUL GALLURA

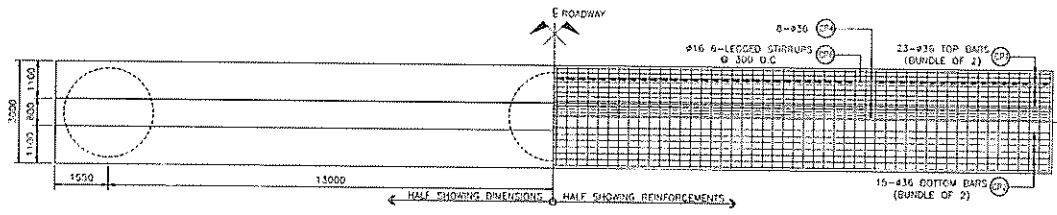
DATE: _____

PROJECT NO.: P2SB-55
DATE REVISION: _____

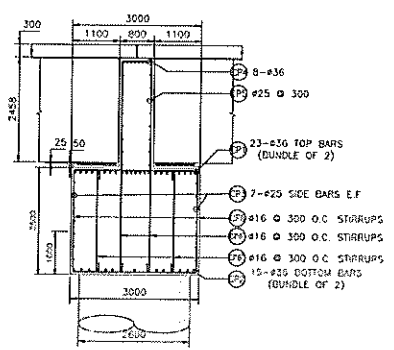
PIER 8 BORED PILE DETAILS



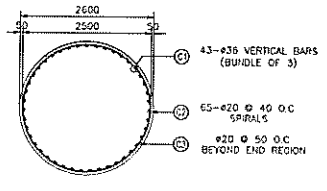
1 PIER 9 COPING ELEVATION
SCALE 1:100



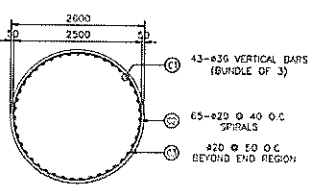
2 PIER 9 COPING PLAN
SCALE 1:75



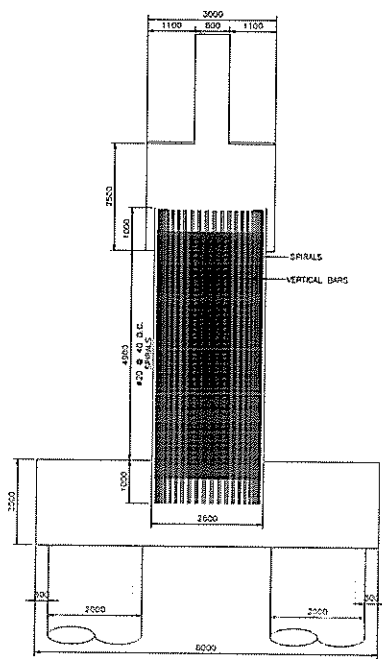
4 PIER 9 COPING SECTION
SCALE 1:100



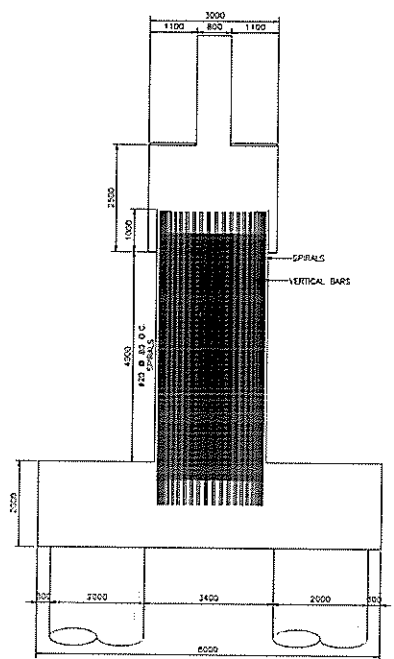
5A PIER 9 LEFT AND RIGHT
SCALE 1:50



5B PIER 9 CENTER
SCALE 1:50



3A PIER 9 LEFT AND RIGHT
SCALE 1:100



3B PIER 9 CENTER
SCALE 1:100

3 PIER 9 TYPICAL SECTION
SCALE 1:100

NOTE:
PURSUANT TO SECTION 4 OF ANNEX 'A' OF THE REPRODUCING RULES AND REGULATIONS OF RA 9174,
APPROVED BY THE ALBERTO CAGIATE ARCHITECTS AND ENGINEERS, REGISTERED PROFESSIONAL ARCHITECTS AND ENGINEERS UNDER NO. 101
OF THE COLEGIO DE INGENIEROS Y ARQUITECTOS DE LA CIUDAD DE MANILA, THE RESPONSIBILITY OF THE TECHNICAL INTEGRITY OF THE
DRAWINGS AND DESIGN HEREIN TRANSFERRED ANY PART OF THAT RESPONSIBILITY TO THE APPLICABLE OFFICIALS.
THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITIES/STRUCTURES DUE
TO FAULT DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONSENT OF THE CONSULTANT.
ENGR ALBERTO C. CAGIATE
TEAM LEADER

SCHEDULE OF REINFORCEMENTS FOR PIER 9 COLUMN AND COPING

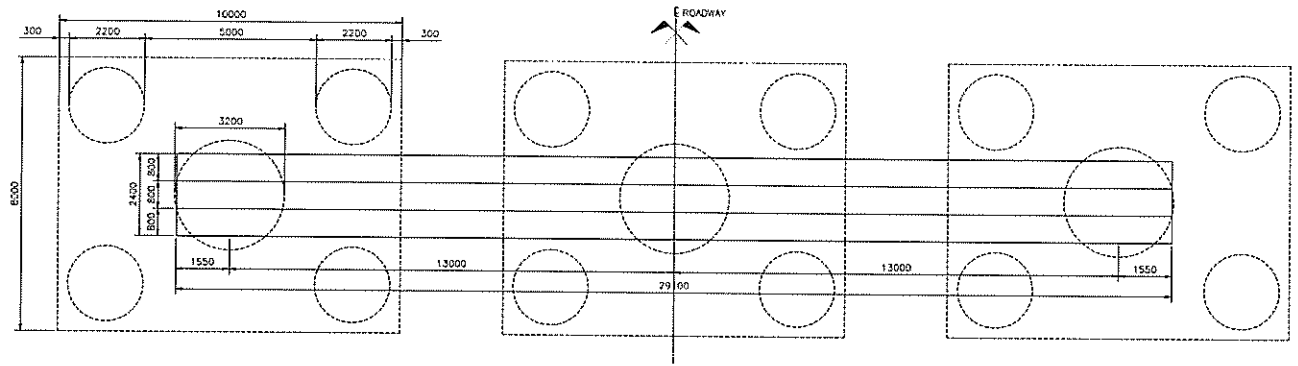
BAR MARK	REINFORCING STEEL BARS				ALL DIMENSIONS ARE OUT TO OUT OF REBARS							TYPE	LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	CONCRETE VOLUME (cu m)
	SIZE (mm)	SPACING (mm)	QUANTITY		a	b	c	d	e	f								
C1	36	AS SHOWN	16		0.5	8.5	0.5					A	8.5	152.00	7.930	1216	27	
C2	25	40	79		8.2	0.2						A	8.4	508.60	2.468	1462		
C3	25	58	42		8.2	0.2						A	8.4	352.80	2.468	871		
C21	36	AS SHOWN	46		0.5	2.9	0.5					A	30	1392.00	7.930	11025		
C22	25	AS SHOWN	30		0.5	2.9	0.5					A	30	900.00	2.982	2167		
C23	25	AS SHOWN	8		0.2	2.9	0.2					A	29.4	235.20	3.058	907		
C24	30	AS SHOWN	8		0.5	2.9	0.5					A	30	240.00	7.959	1920		
C25	25	300	17		0.2	2.9	0.2					A	29.4	352.80	3.058	1361		
C26	16	300	97		2.5	2.9		2.5	0.15	0.15	B	11.1	1076.70	1.5795	1791			
C27	16	300	97		0.7	4.4	0.7	4.4	0.15	0.15	B	10.5	1018.50	1.5795	1609			
C28	16	300	194		0.2	2.4	0.2					A	2.9	552.60	1.5795	888		
GRAND TOTAL															Grade 60 bar	27226 kg		248 cu m

SUBMITTED BY ERREN DAVILA PRESIDENT/CEO		DESIGNED BY ALBERTO C. CAGIATE P.E. AEP PRINCIPAL ENGINEER/CEO		CHECKED BY RYAN PAUL S. CALUSA PROJECT MANAGER		APPROVED BY ADRIAN M. GUMAGA GC/PM		DATE	
SUBMITTED BY ERREN DAVILA PRESIDENT/CEO		DESIGNED BY ALBERTO C. CAGIATE P.E. AEP PRINCIPAL ENGINEER/CEO		CHECKED BY RYAN PAUL S. CALUSA PROJECT MANAGER		APPROVED BY ADRIAN M. GUMAGA GC/PM		DATE	
SUBMITTED BY ERREN DAVILA PRESIDENT/CEO		DESIGNED BY ALBERTO C. CAGIATE P.E. AEP PRINCIPAL ENGINEER/CEO		CHECKED BY RYAN PAUL S. CALUSA PROJECT MANAGER		APPROVED BY ADRIAN M. GUMAGA GC/PM		DATE	

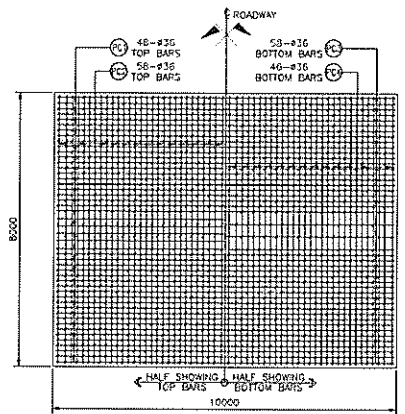


BCDA

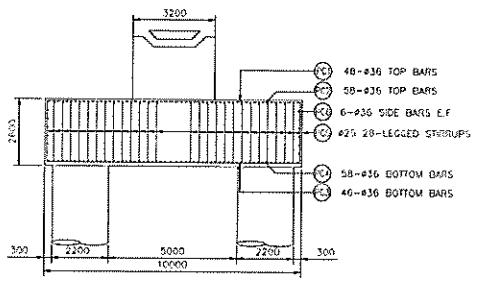
REVISION	DATE	PROJECT TITLE	SCALE	DRAWING STATUS
A		DETAILED ENGINEERING DESIGN OF THE	AS SHOWN	DRAFT DRAWING
B		PROPOSED IMPROVED ACCESS ROAD, MANAYAN SURFACE ACCESS ROAD		
C		MANAYAN ACCESS ROAD & CULVERT, VALPARAISO ROAD		
D		PIER 9 COLUMN PLAN AND ELEVATION		
E		PIER 9 COLUMN PLAN AND ELEVATION		
F		SCHEDULE OF REINFORCEMENTS AND SUMMARY OF QUANTITIES		



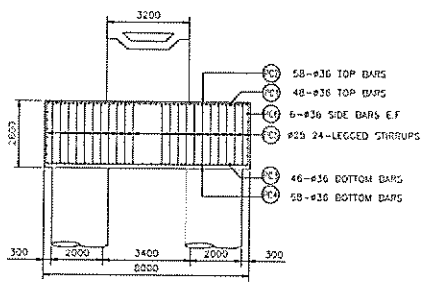
1 PIER 6 PLAN
SCALE 1:75



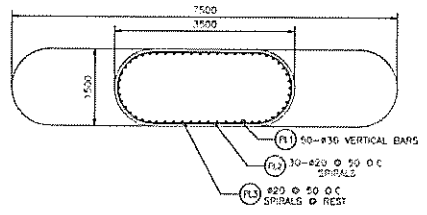
2 PILE CAP PLAN
SCALE 1:75



3 PILE CAP TRANSVERSE SECTION
SCALE 1:100



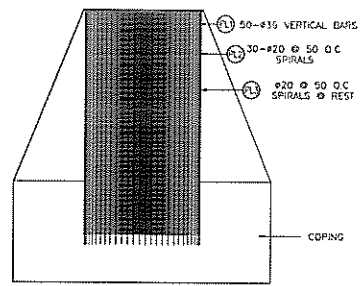
4 PILE CAP TRANSVERSE SECTION
SCALE 1:100



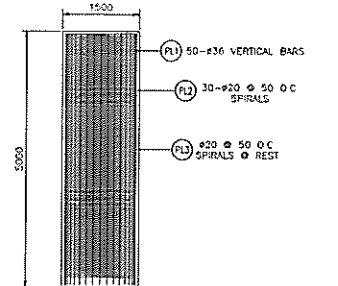
5 PEDESTAL PLAN
SCALE 1:50

SCHEDULE OF REINFORCEMENTS FOR PILE CAP - PIER 10

BAR MARK	SIZE (mm)	QTY	SPACING (mm)	BAR SHAPE	REINFORCING BARS							BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)
					BAR DIMENSIONS										
					a	b	c	d	e	f					
PC1	36	48	AS SHOWN	A	1.5	8	1.5					11	528.00	7.99632	4222.05606
PC2	36	58	AS SHOWN	A	1.5	10	1.5					13	754.00	7.99632	6020.22528
PC3	36	50	AS SHOWN	A	1.5	8	1.5					11	506.00	7.99632	4046.13792
PC4	36	62	AS SHOWN	A	1.5	10	1.5					13	754.00	7.99632	6020.22528
PC5	29	1232	AS SHOWN	A	0.3	2.5	0.3					3.1	3819.20	3.85625	14727.70
PC6	25	1196	AS SHOWN	A	0.3	2.5	0.3					3.1	3546.40	3.85625	14297.4325
											TOTAL GRADE @ 0			50120	KGS
											GRAND TOTAL			150350	KGS



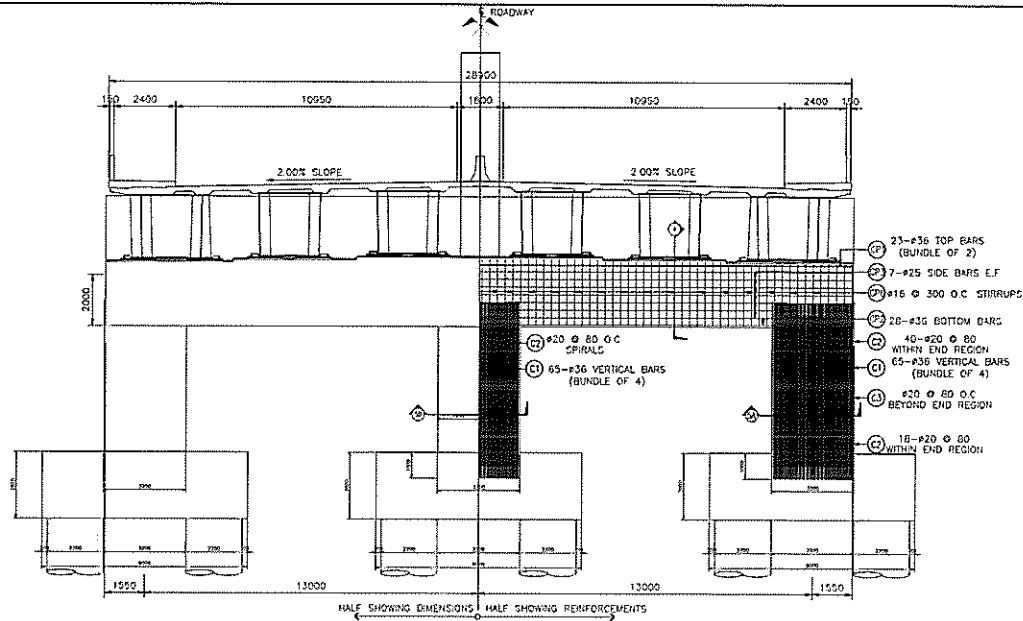
6 PEDESTAL TRANSVERSE SECTION
SCALE 1:75



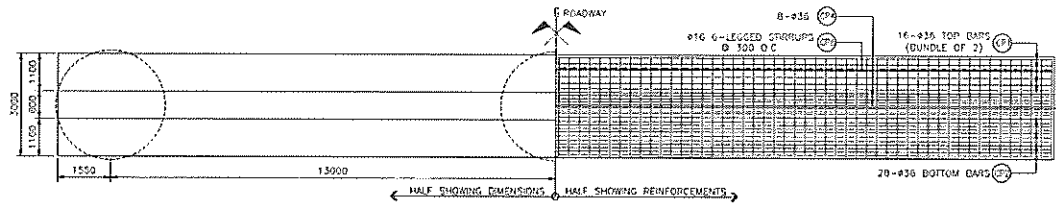
7 PEDESTAL TRANSVERSE SECTION
SCALE 1:75

NOTE
FORWARD TO SECTION 4 OF ANNEX 'A' OF THE REGION IMPLEMENTING RULES AND REGULATIONS OF R.A. 9174.
APPROVED BY THE AUTHORIZED DESIGN OFFICIALS OF SPECIAL ENGINEERING DIVISION AND DESIGN DIVISION OF THE
CONSTRUCTION DIVISION OF THE BUREAU OF FIRE PROTECTION AND SAFETY OF THE REGIONAL OFFICE OF THE
SUPREMACY AND REGIONAL OFFICE OF THE BUREAU OF FIRE PROTECTION AND SAFETY OF THE REGIONAL OFFICE.
THE REGIONAL OFFICE SHALL BE HELD LIABLE RESPONSIBLE FOR THE FAILURE OF THE FACILITY/STRUCTURES DUE
TO FAULT DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONSENT OF THE CONSULTANT.
ENGR. ALBERTO C. CAETE
TEAM LEADER

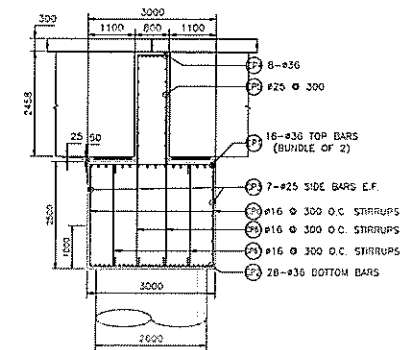
<p>Urban Integrated Consultants, Inc. 408 BARRIO SAN JOSE, SUITE 201, BANGALOR, CEBU CITY, PHILIPPINES</p>	PROJECT TITLE PIER 10 PILE CAP AND PEDESTAL DETAIL	CLIENT PORTO M. SUGA	DATE 04/17/2024	PROJECT TITLE DETAILED ENGINEERING DESIGN OF THE PROPOSED AIRPORT ACCESS ROAD, MACARTHUR HIGHWAY ACCESS ROAD, MACARTHUR CENTER ACCESS ROAD & DELA ROSA ACCESS ROAD (RAMP 1) CANTONMENT AIRPORT TO USDAO, IRR TRANSIT, SUGA, CEBU CITY	SCALE AS SHOWN	DRAWN BY ERREN DAVID	CHECKED BY ERREN DAVID	DATE 04/17/2024	PROJECT NO. P25B-00	SHEET NO. A1
	PROJECT NO. P25B-00	SHEET NO. A1	DATE APPROVED 04/17/2024	DATE REVISION 04/17/2024	REV. 1	REV. 1				



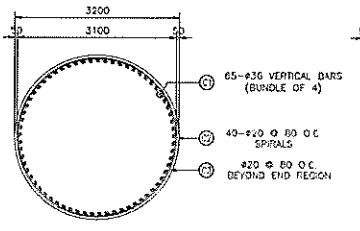
PIER 10 COPING ELEVATION
SCALE 1:100



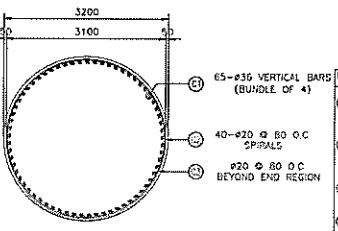
PIER 10 COPING PLAN
SCALE 1:75



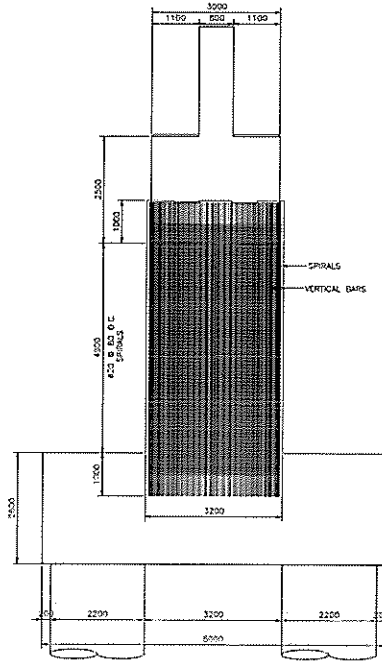
PIER 10 COPING SECTION
SCALE 1:50



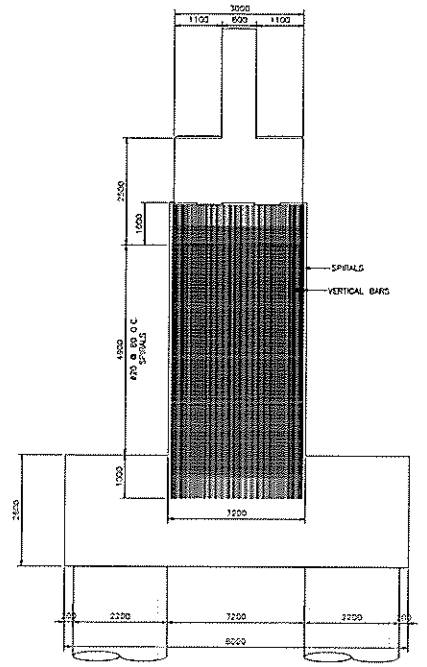
PIER 10 LEFT AND RIGHT
SCALE 1:50



PIER 10 CENTER
SCALE 1:50



PIER 10 LEFT AND RIGHT
SCALE 1:60



PIER 10 CENTER
SCALE 1:60

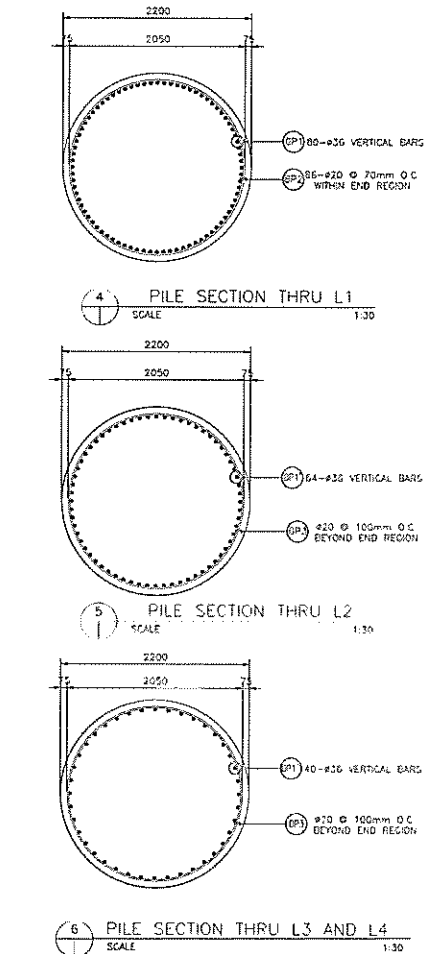
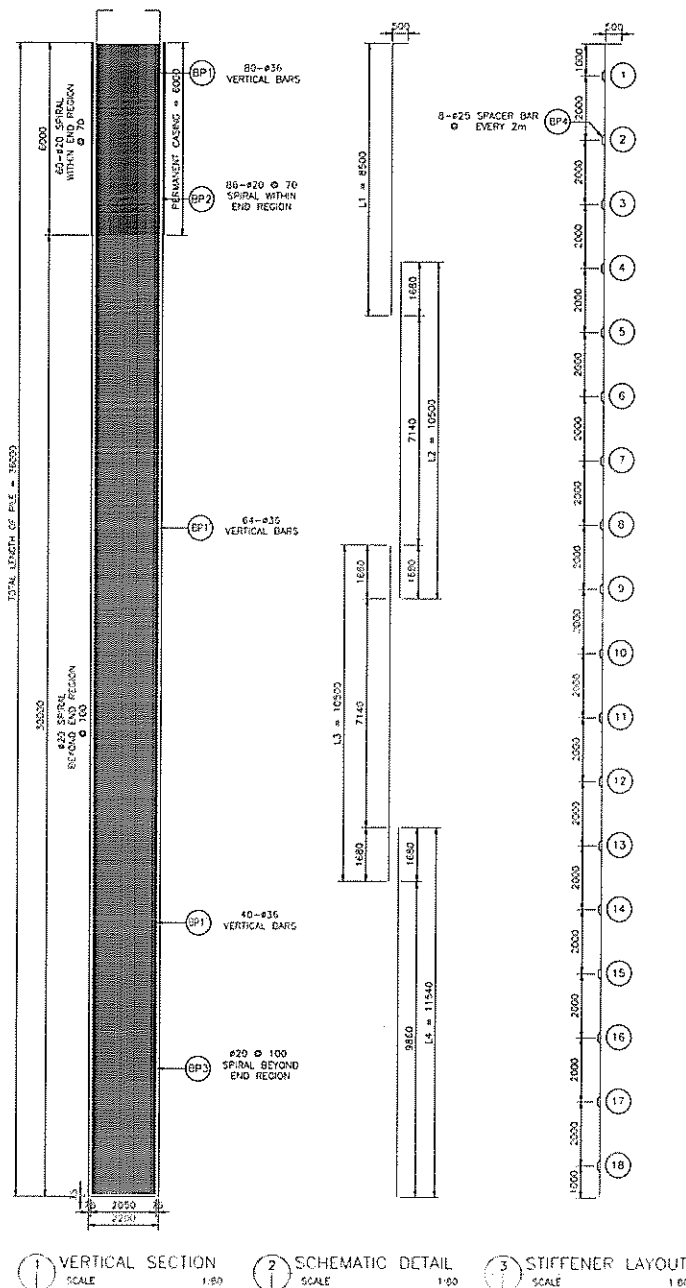
PIER 10 TYPICAL SECTION
SCALE 1:60

NOTE
 PURSUANT TO SECTION 4 OF APPENDIX 'A' OF THE PERMISSIVE REGULATIONS AND REGULATIONS OF AN 9154
 APPROVED BY THE APPOINTED CHIEF OFFICER OF THE PERMISSIVE REGULATIONS AND REGULATIONS OF AN 9154
 THE CONSULTANT ACCEPTS RESPONSIBILITY FOR THE DESIGN OF THE STRUCTURE AND THE TECHNICAL ASPECTS OF THE
 DESIGN AND DESIGN NOT WITHIN THE SCOPE OF THE CONSULTANT'S RESPONSIBILITY TO THE APPOINTING OFFICER.
 THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE STRUCTURE/STRUCTURES DUE
 TO FAULTY DESIGN EXCEPT FOR THE DAMAGES WHICH IMPACT THE CONDUCTIVITY OF THE CONSULTANT.
 ENGR. ALBERTO C. GARATE
 CHIEF ENGINEER

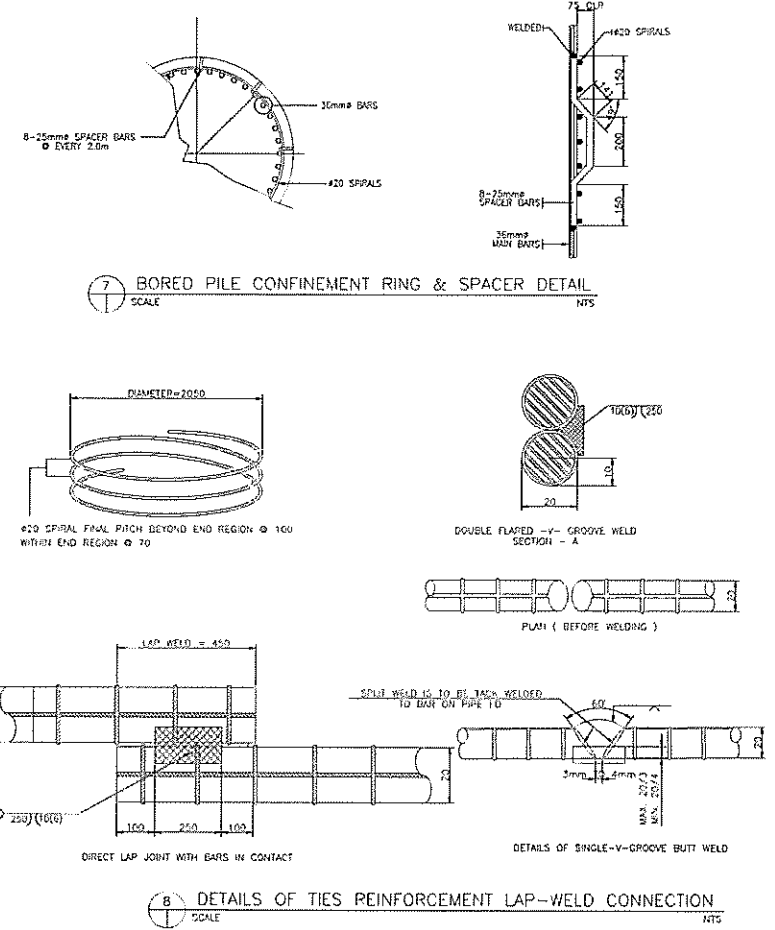
SCHEDULE OF REINFORCEMENTS FOR PIER 10 COLUMN AND COPING

MARK	SIZE (mm)	SPACING (mm)	QUANTITY	ALL DIMENSIONS ARE OUT TO OUT OF REBAR								TYPE	LOCATION	BAR LENGTH (mm)	TOTAL LENGTH (mm)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	CONCRETE VOLUME (cu.m)
				a	b	c	d	e	f	g	h							
C1	36	AS SHOWN	16	0.5	8.5	0.5						A	COLUMN	9.5	152.00	7.986	1216	40
C2	20	80	35	10.1	0.2						F		10.3	360.50	2.468	890		
C3	20	80	26	10.1	0.2						F		10.3	270.38	2.468	668		
CP1	16	AS SHOWN	20	0.5	29	0.5					A	COPING	30	600.00	7.9933	4778		
CP2	16	AS SHOWN	111	0.5	29	0.5					A		30	3330.00	7.9933	26628		
CP3	20	AS SHOWN	8	0.2	29	0.2					A		29.4	235.20	3.6568	937		
CP4	16	AS SHOWN	8	0.5	29	0.5					A		30	240.00	7.9933	1920		
CP5	25	300	12	0.2	29	0.2					A		29.4	352.80	3.8558	1351		
CP6	16	300	97	2.9	2.3	2.9	2.5	0.18	0.18	0.18	B		11.1	1074.70	1.9795	1791		
CP7	16	300	97	0.7	4.4	0.7	4.4	0.18	0.18	0.18	B		10.5	126.00	1.9795	1620		
CP8	16	300	194	0.2	2.5	0.2					A		2.9	561.60	1.9795	607		
GRAND TOTAL												6869.60 bar	50969 KGS	261 cu.m				

 URBAN INTEGRATED CONSULTANTS, INC. 140 CONSUMERS ROAD, 14000 STEELES AVE. EAST, SCARBOROUGH, ONTARIO M1V 4T7	SUBMITTED BY EFFREN DAVID PRESIDENT/CEO	DESIGNER/DR ALBERTO C. GARATE P. E. ASEP PROJECT MANAGER/DR	CLIENT RIVAN PALL S. GARATA PROJECT MANAGER	APPROVED BY ADATO M. PUNSA PROJECT MANAGER	PROJECT TITLE PIER 10 COLUMN PLAN AND ELEVATION	SCALE P25B-50	QUANTITY STATUS A1
	DATE: _____	DATE: _____	DATE: _____	DATE: _____	DATE: _____	SCHEDULE OF REINFORCEMENTS AND SUMMARY OF QUANTITIES	DATE APPROVED: _____



- NOTES**
1. THE REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. SPIRAL REINFORCEMENT ARE LAP-WELD CONNECTED
 3. WELDING SHALL BE IN ACCORDANCE WITH AWS/AAS D14-92, STRUCTURAL WELDING CODE REINFORCEMENT STEEL USE ELECTRODE E90XX-X
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MAIN BARS DURING WELDING
 5. SPIRAL REINFORCEMENT SHOULD BE BUTT WELDED WHERE SPIRAL PITCH IS 50MM OR LESS OTHERWISE USE LAP WELD SPlice
 6. ADDITIONAL STIFFENERS/GUIGE BARS MAY BE PROVIDED TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTION SUBJECT TO THE APPROVAL OF THE ENGINEER
 7. EXIST CONCRETE (MINIMUM 600MM HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF BACKWALL AND COPING BEAM
 8. CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS M30 CONCRETE WITH 20MPa CYLINDER STRENGTH AND 19mm MAXIMUM AGGREGATE SIZE
 9. REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED BAR CONFORMING TO ASTM A631 (ASTM A618) GRADE 60. SPLICES OF ADJACENT LONGITUDINAL STEEL SHALL BE STAGGERED 100 BAR DIAMETER APART. LENGTH OF SPICER SHALL BE 2700MM
 10. THE STABILIZATION FOR BORED PILE EVALUATION (SUCH AS USING BENCHMARE SLURRY OR TEMPORARY STEEL CAPING ETC.) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS SUBSIDIARY IN PAY ITEM 400133. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEER'S APPROVAL BEFORE CONSTRUCTION.



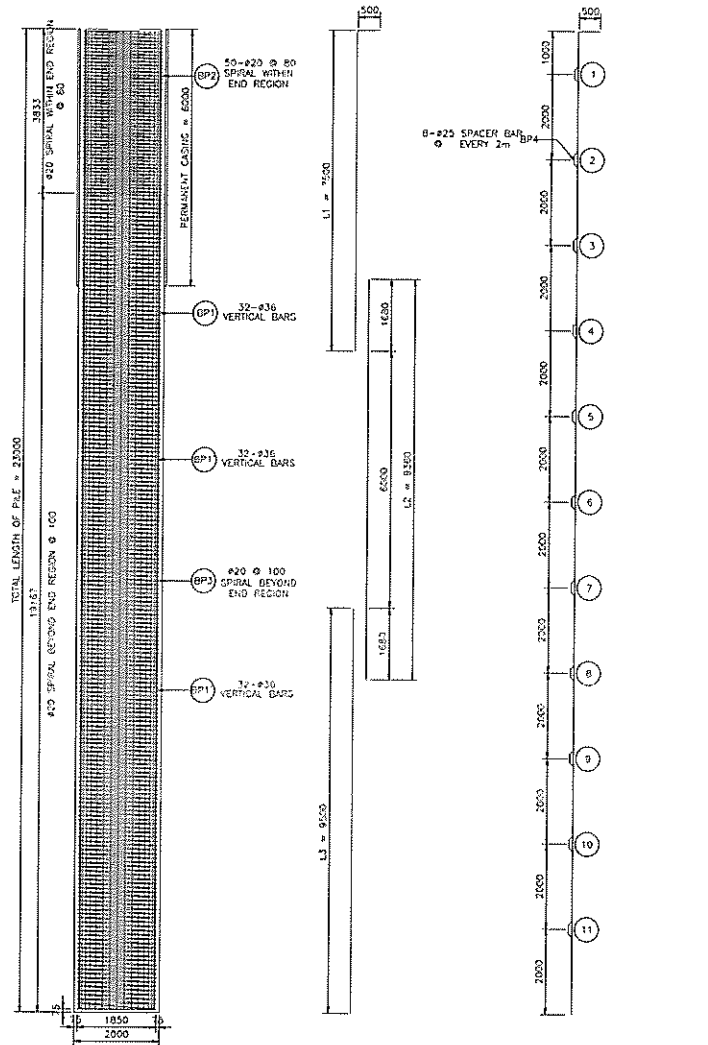
SCHEDULE OF REINFORCEMENT FOR PIER 10 BORED PILE

BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSION					LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cu.m)
					a	b	c	d	e						
FOR ONE (1) BORED PILE (L=16523mm)															
BP1	36	AS SHOWN	64	A	0.50	8.5	-	-	-	BORED PILE	9.00	720.00	7.996	5758	137
BP1*	36	AS SHOWN	32	B	10.5	-	-	-	-		10.5	672.00	7.996	5374	
BP1*	36	AS SHOWN	64	B	10.5	-	-	-	-		10.5	420.00	7.996	3359	
BP1*	36	AS SHOWN	64	B	11.54	-	-	-	-		11.54	305.28	7.996	2953	
BP2	20	AS SHOWN	86	D	0.20	7.0	-	-	-	7.2	619.20	2.468	1629		
BP3	20	AS SHOWN	300	D	0.20	7.0	-	-	-	7.2	2160.00	2.468	5331		
BP4	25	AS SHOWN	96	C	0.15	0.141	0.20	0.141	0.15	0.792	75.07	3.056	299		
											TOTAL		24591 Kg	137 cu.m	

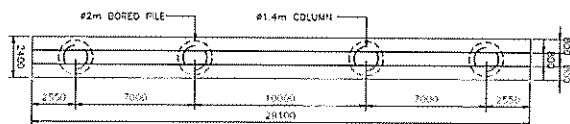
NOTE: APPROVED TO SECTION 4 OF ANNEX 'A' OF THE REVISED IMPLEMENTING RULES AND REGULATIONS OF RA 9164 APPROVED BY THE ASSISTANT DEPUTY COMMISSIONER OF SPECIAL INSPECTION, CIVIL AND GEOTECH SERVICES BY THE CONSULTANTS' MEMBER DENIED THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE DRAWING AND ASSUMES NO RESPONSIBILITY FOR THE CONSTRUCTION OF THE STRUCTURE. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE STRUCTURE/STRUCTURES DUE TO FAILURE DESIGN EXCEPT FOR THE DEFECTS MADE WITHOUT THE CONSENT OF THE CONSULTANT.

ENGR. ALBERTO G. CAETE
TEAM LEADER

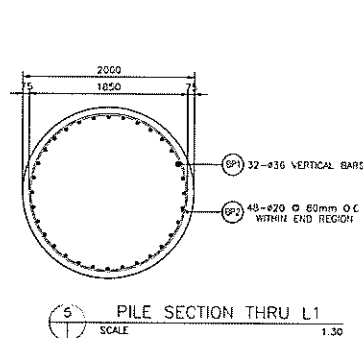
		BCDA BAYAN LEPAGE COMPOUND ROAD, MANAYATIPAN, PASIG CITY, METRO MANILA		PROJECT TITLE: PIER 10 BORED PILE DETAILS		SCALE: AS SHOWN DRAWING STATUS: CHECK DRAWING	
SUBMITTER: ERNEST DAVID PROJECT MANAGER		DESIGNER: ALBERTO G. CAETE P.P. F.A.S.P. PROJECT MANAGER		APPROVED BY: JOYTO M. MANA DATE:		DATE APPROVAL: DATE REVISION:	
DATE:		DATE:		DATE:		DATE:	



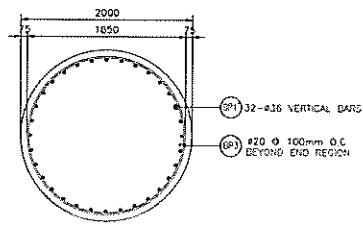
1 VERTICAL SECTION SCALE 1:50
 2 SCHEMATIC DETAIL SCALE 1:50
 3 STIFFENER LAYOUT SCALE 1:50



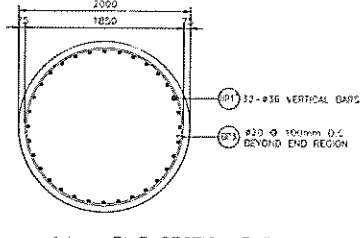
4 PIER PLAN SCALE 1:150



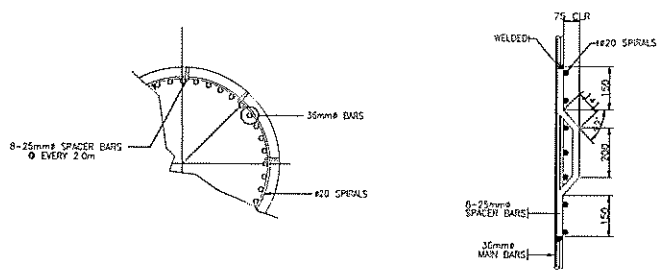
5 PILE SECTION THRU L1 SCALE 1:30



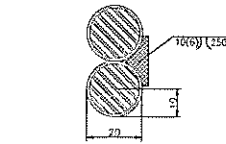
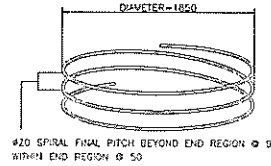
6 PILE SECTION THRU L2 SCALE 1:30



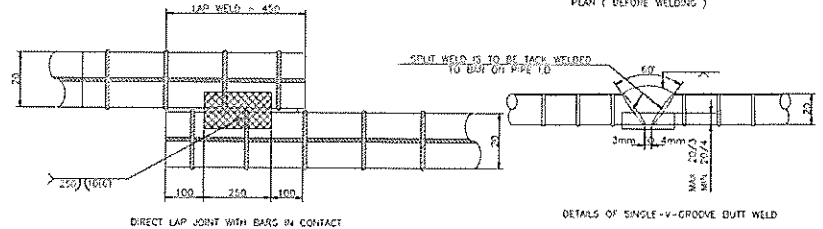
7 PILE SECTION THRU L3 SCALE 1:30



8 BORED PILE CONFINEMENT RING & SPACER DETAIL NTS SCALE



DOUBLE FLARED V-GROOVE WELD SECTION A
 PLAN (BEFORE WELDING)



9 DETAILS OF TIES REINFORCEMENT LAP-WELD CONNECTION NTS SCALE

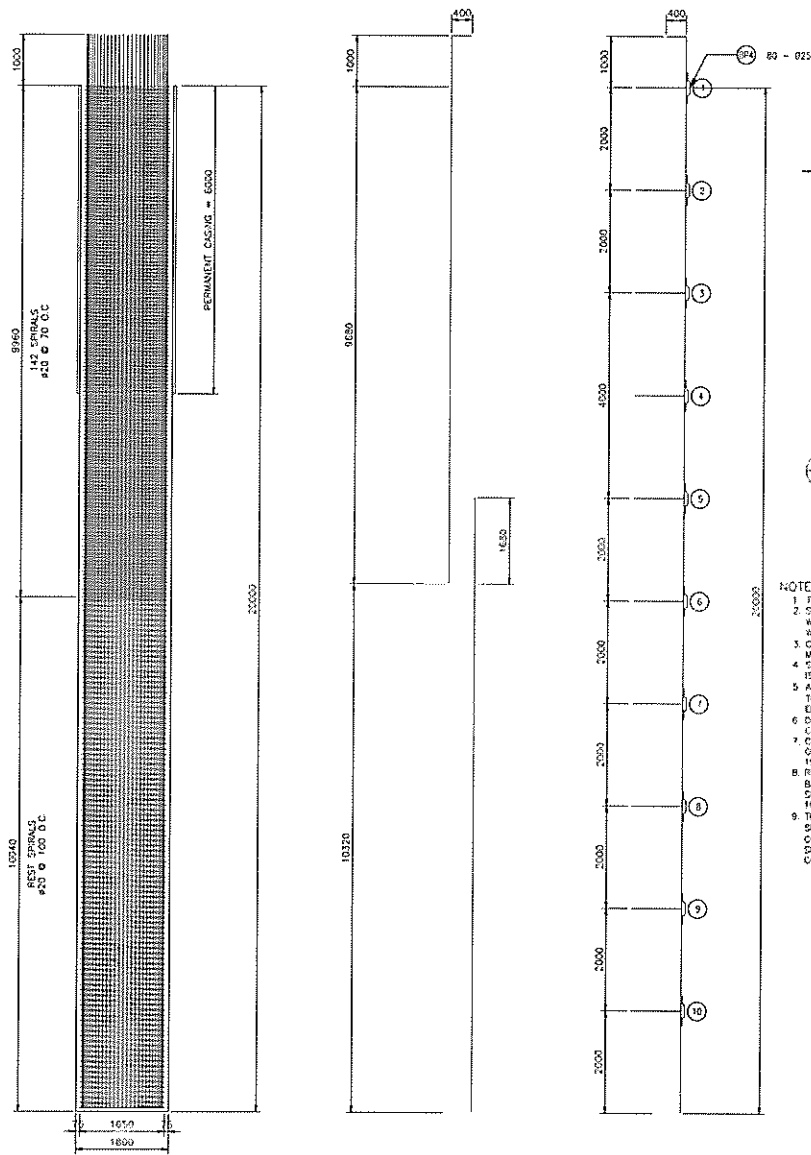
- NOTES:
1. THE REINFORCEMENT ARE LAP-WELD CONNECTED (FLARED-V-GROOVE TYPE)
 2. SPIRAL REINFORCEMENT ARE LAP WELD CONNECTED
 3. WELDING SHALL BE IN ACCORDANCE WITH AWS/AAS, D1.4-92, STRUCTURAL WELDING CODE REINFORCEMENT STEEL, USE ELECTRODE E60XX-X
 4. CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MAIN BARS DURING WELDING
 5. ADDITIONAL STIFFENERS/COURSE BARS MAY BE PROVIDED TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTION SUBJECT TO THE APPROVAL OF THE ENGINEER
 6. DIRTY CONCRETE (MINIMUM 600mm HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF BACKFILL AND CAPPING BEAM
 7. CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS AA CONCRETE WITH 28MPa CYLINDER STRENGTH AND 10mm MAXIMUM AGGREGATE SIZE
 8. REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED BAR CONFORMING TO ASTM/A53 (ASTM A53) GRADE 60
 9. SPACES OF ADJACENT LONGITUDINAL STEEL SHALL BE STAGGERED 1500 BAR DIAMETER APART. LENGTH OF SPACES SHALL BE 2000mm
 10. THE STABILIZATION FOR BORED PILE EXCAVATION (SUCH AS USING BENTONITE SLURRY OR TEMPORARY STEEL CAGING ETC.) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS SUBSIDIARY IN PAR 4001(7). THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEER'S APPROVAL BEFORE CONSTRUCTION

SCHEDULE OF REINFORCEMENT FOR PIER 16 BORED PILE

BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSION					LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cu m)	
					a	b	c	d	e							
FOR ONE (1) BORED PILE (L=22m, Ø2000mm)																
BP1	26	AS SHOWN	32	A	0.50	7.5	-	-	-	BORED PILE	8.0	256.00	7.996	2047	73	
BP1*	36	AS SHOWN	32	B	9.36	-	-	-	-		9.36	299.52	7.096	2305		
BP1*	36	AS SHOWN	32	B	9.5	-	-	-	-		9.5	304.00	7.096	2430		
BP2	20	ØØ	48	D	0.20	6.3	-	-	-		6.5	312.00	2.460	771		
BP3	20	100	192	B	0.20	6.3	-	-	-		6.5	1248.00	2.460	3081		
BP4	25	AS SHOWN	80	C	0.15	0.143	0.20	0.141	0.15	0.782	62.56	3.856	242			
											TOTAL		10965	kg	73	cu m

NOTES:
 1. REFER TO SECTION 4 OF PART 'A' OF THE PERMISSIVE LOADS AND REGULATIONS OF PA 5141, APPROVED BY THE RESIDENT ENGINEER, LOCAL AUTHORITY, FOR THE DESIGN AND CONSTRUCTION OF THE CONCRETE RETAINING STRUCTURE. THE RESPONSIBILITY OF THE DESIGNER FOR THE DESIGN AND CONSTRUCTION OF THE STRUCTURE AND RELATED WORK SPECIFIED AND PART OF THE RESPONSIBILITY OF THE APPROVING OFFICER. THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITIES/STRUCTURES DUE TO FACTOR OTHER THAN THAT WHICH WOULD BE THE RESPONSIBILITY OF THE CONSULTANT.

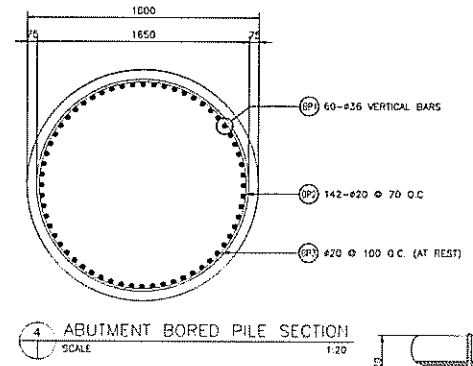
CONSULTANT	CLIENT/EMPLOYER	DESIGNED BY	BCDA	REVISIONS	DATE	PROJECT TITLE	SCALE	DRAWING STATUS	
Urban Integrated Consultants, Inc.	ERRENAL DAVID	ALBERTO G. CASATE P.P. FASEP	RYAN PALA S. CALUNA	A		DETAILED ENGINEERING DESIGN OF THE PROJECT APPROVAL, ACCESS ROAD, ACCESS ROAD, MAIN ACCESS ROAD & BY-PASS ACCESS ROAD.	AS SHOWN	DRAFT DRAWING	
			JOVANNI SINGA	B		PROPERTY EVIDENCE, APPROVAL TO CONSTRUCTION, WITH TRUSS, SADDLE.	THIS DRAWING	DRAWING NO. P258-73	
				C				A1	
				D					
				E					
				F					
PIER 16 BORED PILE DETAILS							SCALE APPROVED	DATE REVISION	REV.



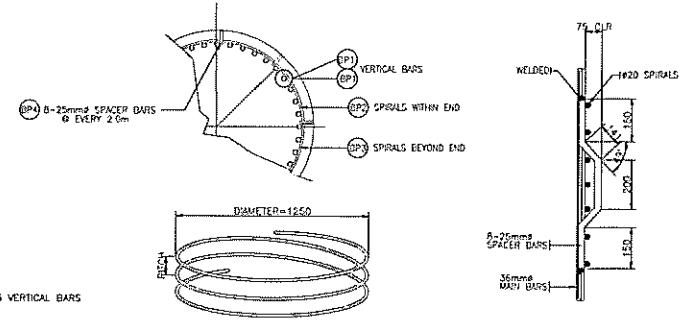
1 VERTICAL SECTION
SCALE 1:50

2 SCHEMATIC DETAIL
SCALE 1:50

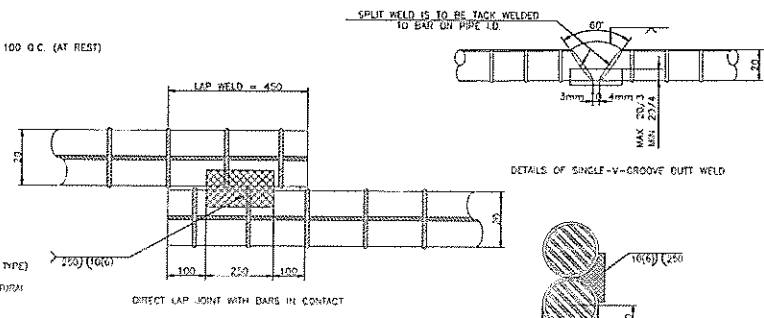
3 STIFFENER LAYOUT
SCALE 1:50



4 ABUTMENT BORED PILE SECTION
SCALE 1:20



5 BORED PILE CONFINEMENT RING & SPACER DETAIL
SCALE NTS



6 DETAILS OF TIES REINFORCEMENT LAP-WELD CONNECTION
SCALE NTS

- NOTES
- 1 THE REINFORCEMENT ARE LAP-WELD CONNECTED (FLAT-V-GROOVE TYPE)
 - 2 SPIRAL REINFORCEMENT ARE LAP WELD CONNECTED
 - 3 WELDING SHALL BE IN ACCORDANCE WITH AWS/AWS D1.4-D2 STRUCTURAL WELDING CODE REINFORCEMENT STEEL USE ELECTRODE E6011-X
 - 4 CARE SHOULD BE TAKEN NOT TO DAMAGE BORED PILE/COLUMN MAIN BARS DURING WELDING
 - 5 SPIRAL REINFORCEMENT SHOULD BE BUTT WELDED WHERE SPIRAL PITCH IS 50mm OR LESS OTHERWISE USE LAP WELD SPICE
 - 6 ADDITIONAL STIFFENERS/CURVE BARS MAY BE PROVIDED TO STABILIZE THE PILE REINFORCEMENT DURING FABRICATION/ERECTION SUBJECT TO THE APPROVAL OF THE ENGINEER
 - 7 DIRTY CONCRETE (MINIMUM 600mm HEIGHT) SHOULD BE REMOVED PRIOR TO CONSTRUCTION OF BACKWALL AND CORING BEAM
 - 8 CONCRETE - CONCRETE SHALL CONFORM TO THE REQUIREMENT OF CLASS AA CONCRETE WITH 25MPa CYLINDER STRENGTH AND 19mm MAXIMUM AGGREGATE SIZE
 - 9 REINFORCEMENT - ALL REINFORCEMENT STEEL SHALL BE DEFORMED
 - 10 SPICES OF ADJACENT LONGITUDINAL STEEL SHALL BE STAGGERED
 - 11 100 BAR DIAMETER APART LENGTH OF SPICES SHALL BE 2200mm
 - 12 THE STABILIZATION FOR BORED PILE EXCAVATION (SUCH AS USING GENTOITE SLURRY OR TEMPORARY STEEL CASING ETC) SHALL BE CONSIDERED BY THE CONTRACTOR AND THE COST IS SUBSIDIARY IN PAY ITEM 400(17) THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION METHOD FOR ENGINEER'S APPROVAL BEFORE CONSTRUCTION

NOTE
PURSUANT TO SECTION 4 OF ANNEX "C" OF THE REVISED BIDDING RULES AND REGULATIONS OF RA 8184, APPROVED BY THE AUTHORIZED DPMO OFFICIALS OF THE OFFICIAL ENGINEERING SUPERS AND RECORDS UNDERWRITEN BY THE CONSULTING ENGINEER, THE RESPONSIBILITY OF THE LATER FOR THE TECHNICAL HISTORY OF THE DRAWINGS AND DESIGN NOT TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.
THE DESIGN CONSULTANT SHALL BE FULLY RESPONSIBLE FOR THE FAILURE OF THE FABRICATED/STRUCTURES DUE TO FAILURE DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONSENT OF THE CONSULTANT.
ENGR. ALBERTO C. CAETE
TEAM LEADER

SCHEDULE OF REINFORCEMENT FOR BORED PILE AT ABUTMENT ONLY

BAR BENDING DIAGRAM	BAR MARK	SIZE (mm)	SPACING (mm)	QTY	BAR SHAPE	BAR DIMENSIONS					LOCATION	BAR LENGTH (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	VOLUME CONCRETE (cum)	
						a	b	c	d	e							
FOR ONE (1) BORED PILE AT PIER (L=20m, D=1650mm)																	
	SP1	36	#3 SHOWN	60	A	0.75	2.3										
	SP2	20	70	142	A	0.15	5.7										
	SP3	20	100	104	A	0.15	5.7										
	SP4	25	#3 SHOWN	80	C	0.15	0.141	0.20	0.141	0.15							
NOTE: ABOVE SPICES ARE NOT INCLUDED																	
• 12 mm dia and below are Grade 40																	
• 16 mm dia and above are Grade 60																	
												TOTAL	44347	Kg	51		

		BCDA		REVISIONS		PROJECT TITLE		SCALE		DRAWING STATUS	
C O N T R A C T O R S		SUBMITTALS		APPROVALS		AS SHOWN		DRAFT DRAWING		DATE	
ERFENIL DAVID PRESIDENT/CEO		ALBERTO C. CAETE P.P.F. ASEP PROJECT MANAGER/CEP		RYAN DALA B. CALIBA PROJECT MANAGER		JUDITH M. OLIVERA P.E.		ESTABLISHED KANAKAPORAN REGION UP THE PROPOSED AMPOROPE ACCESS ROAD MANANTWANG ACCESS ROAD MANANTWANG ACCESS ROAD AND ACCESS ROAD SUBLET CONTRACT - ABUTMENT TO NEW CANAL DAM + TUNNEL, MANANTWANG		P280-78 A1	
DATE		DATE		DATE		DATE		SCHEDULE OF REINFORCEMENTS AND SUMMARY OF QUANTITIES		DATE APPROVALS	

11 May 2018

ATTY. HERBERT DG. MATIENZO

Executive Director III

Philippine Contractors Accreditation Board (PCAB)

5/F Executive Building Center

369 Sen. Gil J. Puyat Ave., Makati City

Dear **Executive Director Matienzo:**


Greetings!

The BCDA is in the process of procuring the Construction of Airport to New Clark City (NCC) Access Road through public bidding in accordance with RA 9184 and its Implementing Rules and Regulations. The bidding for the said project is open for Joint Ventures and Consortia with at least seventy-five percent (75%) interest or outstanding capital stock belonging to citizens of the Philippines.

In our effort to have a competitive bidding for the project, we would like to extend assistance to the prospective bidders in securing their required licenses, i.e. at least coordinating with the agencies concerned for the issuance of their licenses. Thus, we wish to furnish the PCAB with SBAC Bid Bulletin No. 1 (attached)-which could be of help for the prospective bidders to secure their PCAB Licenses, specifically Item No. 2 (b).

Thank you.

Very truly yours,


AILEEN ANUNCIACION R. ZOSA
Chairperson
SBAC for NCC Access Roads



RECEIVED
DATE: 5-15-18
BY: [Signature]



SBAC – NCC Roads



SBAC – NCC2018 – 0044





16 May 2018

AILEEN ANUNCIACION R. ZOSA

Chairperson

SBAC for NCC Access Roads

BCDA Corporate Center

2/F Bonifacio Technology Center

31st St., cor. 2nd Ave., Bonifacio Global City

Taguig 1634 Philippines

Dear **Chairperson Zosa:**

Greetings!

This is in response to your letter with reference number SBAC-NCC2018-0044. We would like to extend our gratitude to your honorable office for providing PCAB with a copy of the SBAC Bid Bulletin No.1.

Our office assures that we will continue to provide our best effort and assistance to each and every applicant for the said project, just like in the previous public bidding that you spearheaded.

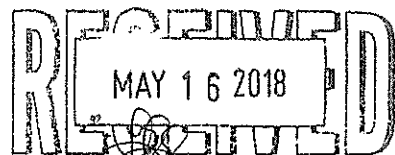
Thank you.

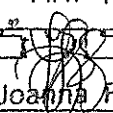
Very truly yours,


ATTY. HERBERT D.G. MATIENZO

Executive Director-PCAB

BASES CONVERSION & DEVELOPMENT AUTHORITY



BY:  Joanna Fernandez *JCF/PCAB*



Enabling Business, Empowering Consumers

PHILIPPINE CONTRACTORS ACCREDITATION BOARD

5F, Executive Building Center, 369 Sen. Gil J. Puyat Ave., Makati City 1209, Philippines

Telephone: (632)895-4258 Telefax: (632)895-4220 E-mail: pcab@dti.gov.ph

ciap.dti.gov.ph