パプアニューギニア国 環境保護・保全公社

パプアニューギニア国 生物多様性保全のための PNG 保護区 政策強化プロジェクト

事業完了報告書 (別冊 1 Vol. 2)

2021年8月

独立行政法人 国際協力機構(JICA)

日本工営株式会社 国際航業株式会社

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日本工営株式会社 国際航業株式会社 B. 成果 1



活動コンポーネントの概要及び主要な成果品 国家保全審議会 (NCC)/国家保護区円卓会議 (NPART)の設立

1. 背景及び概要

PNGには、国内の多様なステークホルダーの意見を反映させながら、生物多様性保全及び保護区管理に関連する方針について国家レベルの意思決定をする機関が存在しなかった。本プロジェクトでは、成果2において保護区の管理モデルを VNPにて実践し、成果3において保護区の設立モデルをブーツレス湾エリアにて設立する計画であった。そのため、国家レベルの生物多様性保全及び保護区管理の活動を推進するとともに、プロジェクトのモデルを正式に承認し、関係機関へその推進を助言する国家保全審議会(NCC)を設立する必要があった。これは本プロジェクトの上位目標である、各モデルが PNG の他地域へ普及されるためにも、重要な前提条件と位置付けられた。

2. 目的

生物多様性保全及び保護区管理に関連する方針について、国家レベルの意思決定をする機関を設立する。

3. 活動内容

- (1) 関連法制度のレビュー
- (2) 設立の根拠法の検討とアプローチの決定
- (3) 設立根拠となる法制度の整備支援
- (4) NPART の設立支援
- (5) NPART の運営支援

4. 活動経緯と実績

(1) 関連法制度のレビュー

| 2015年7月 | > | 自然保全に関連する法律を見直し、関係者と NCC 設立の根拠となる |
|---------|---|-----------------------------------|
| ~10月 | | 法律を検討した。 |
| | > | 自然保全区法(CAA)を使ったアプローチを定め、必要な手続きを提案 |
| | | するとともに、CAA の改定案を起案した。 |
| | > | 代替案として、既存の環境審議会(EC)の枠組を使ったアプローチを |
| | | 定め、必要な手続きを提案した。 |
| 2015年10 | > | 関係者ワークショップを複数回行い、また多くの個別会議を行い、 |
| 月~2016年 | | アプローチに関する意思決定を支援した。 |

(2) 設立の根拠法の検討とアプローチの決定

| 2015年2月 | > | 作業中であった統合保護区法案(Protected Area Bill)の関連部分 |
|---------|---|---|
| ~12月 | | (NCC 及び NPART)の起案を支援した。 |
| | > | NCC 設立までの手続きとスケジュールを明確にした。 |
| | > | 統合保護区法案(Protected Area Bill)の関連部分(NCC 及び NPART) |
| | | の起案作業の支援を続けるとともに、その作業の遅れに影響されな |
| | | がら、本プロジェクトの作業計画の見直しを数多く行った。 |
| 2016年1月 | > | GEF-UNDP の統合保護区法案(Protected Area Bill)の起案作業の見 |
| ~2017年2 | | 通しが経たない中、これ以上の不必要な作業を避けるため、見通し |
| 月 | | が立つまで正式に作業を一時中断することを、CEPA は決定した。 |

(3) 設立根拠となる法制度の整備支援

| 2017年3月 | > | 統合保護区法案(Protected Area Bill)の実施細則を定めた制度 |
|----------|---|---|
| ~2019年2 | | (Protected Area Regulations)の関連部分の作成を支援した。 |
| 月 | > | 統合保護区法案(Protected Area Bill)の成立を見据えた、暫定 NCC |
| 添付資料 | | の設立までの手続きを検討した。 |
| 1. 1. 1, | > | NCC を設立する根拠は、閣議決定(NEC Resolution)によるものと定 |
| 1. 1. 2, | | め、関係者へのブリーフィング、資料作成などの閣議開催の支援を |
| 1. 1. 3 | | 行った。 |

(4) NPART の設立支援

| 2019年3月 | > | NEC Resolution に入れるため、NPART 及び RPART の Terms of |
|----------|---|---|
| ~2019年11 | | Reference を起案した。 |
| 月 | > | NPART のメンバー選出の手続きを検討し、またメンバー候補達と参 |
| 添付資料 | | 加の可能性などを協議し、メンバー構成の提案書を作成した。 |
| 1. 1. 4, | > | 暫定 NPART 設立提案書を作成し提出した。 |
| 1. 1. 5 | > | 暫定 NPART のメンバー選定のため、関心表明の募集要項を起案し |
| | | た。 |
| | > | 暫定 NPART のメンバーの任命レターを起案した。 |
| | > | 暫定 NPART のメンバーを選考し決定した。各候補から承諾書を取得 |
| | | した。 |

(5) NPART の運営支援

| 2019年12 | > | 第一回 NPART 会合の議事次第など、必要な文書を起案した。 |
|---------|---|--|
| 月~2020年 | > | 第一回 NPART 会合のメンバー招集と実施の手続きを支援した。 |
| 3 月 | > | 第一回 NPART 会合を(Interim NPART Meeting)を 2020年2月7日に |
| 添付資料 | | 開催する支援を実施した。 |
| 1. 1. 6 | > | 第一回 NPART 会合の議事録、また議論を踏まえた NPART の TOR 案の |
| | | 改定案の作成などの事後作業を行った。 |
| | > | 第二回 NPART 会合の議事次第など、必要な文書を起案するととも |
| | | に、開催と今後の運営のために CEPA に対して引継作業を行った。 |

5. 評価

(1) 成果到達度の評価

| 評価指標 | 指標の到達度の自己 | 評価結果 |
|-----------|-------------------|--------------------------------------|
| | 評価 | |
| NCC 設立までア | Achieved | アプローチ、手続きについては、極めて多くの |
| プローチ、手 | | 協議と関連資料の作成を行った。CEPA 側の判 |
| 続きなどが決 | | 断が二転三転して不必要な作業が多く発生した |
| 定される。 | | ものの、最終的には決定された。 |
| NCC 設立手続き | Achieved | CEPA-JICA プロジェクトチームは、2019年3月 |
| が支援され | | に NCC、NPART および RPART に関して、 |
| る。 | | National Executive Council(NEC)へ承認を得 |
| | | るための文書一式を起草した。また NCC、 |
| | | NPART、RPART の委託条件などを起草し、2019 |
| | | 年5月までに検討を終えた。 |
| NCC 会合が実施 | Achieved(delayed) | 関連文書の起草、メンバーの指名などの制度的 |
| される。 | | な手続きを正式に終えて、2020年2月に6人 |
| | | のメンバーで第一回会合が開催された。 |

(2) 目標到達度の評価

| 評価指標 | 指標の到達度 | 評価結果 |
|--------------|-------------------|----------------------------|
| NCC が 2017 年 | Achieved(delayed) | 本活動の前提であった他ドナーによる法令整備 |
| 12月までに正 | | の遅延や、それに対する支援作業が新たに発生 |
| 式に設立さ | | するなどしたため、作業は計画より遅れたもの |
| れ、運営計画 | | の、最終的には達成された。新たに設置された |
| に従って会議 | | NPART は、2020年2月に第一回会合が開催され |
| が定期的に開 | | <i>†</i> =. |

| 評価指標 | 指標の到達度 | 評価結果 |
|-------|--------|------|
| 催される。 | | |

6. 教訓

(1) 前提条件が満たされないプロジェクト活動は、速やかに代替案を探る必要がある。本活動コンポーネントは、NCC 設立の根拠法や方法論が定まっていることを前提に計画されたが、プロジェクト開始後に定まっていないことが判明し、また関連する CEPA 側の組織的な意思決定も二転三転した。プロジェクトとしては、前提条件を整備するための活動を新たに追加し、そのために長い時間と多大な労力が費やされ、他のプロジェクト活動に対するモチベーションを低下させるなど悪影響を与えた。

NCC のように、国家レベルの新たな組織を立ち上げるためには、法令を整備する政治的なイニシアチブと、関係者の専門性、また熱意が必要である。このような困難な作業の前提条件が満たされない場合は、速やかに代替案を協議し、正式に設定することが必要である。

7. 提言

(1) NCC の設立と運営の継続

プロジェクトが設立を支援した暫定 NPART は、統合保護区法案 (Protected Area Bill)の成立を含めた前提条件が整った段階で、NCC として格上げされた形で発足させる計画を、関係者間で合意した。また NCC 設立に必要な定款などの文書はプロジェクトにより起案され、その手続きは明確にされた。プロジェクト終了後は、CEPA のイニシアチブで、NPART を運営するとともに、NPART を NCC へ格上げする作業を進めることが期待される。

8. 主要な成果品リスト:

- 1) NCC Bylaws Draft Ver. 03 12 2018(添付資料 1.1.1)
- 2) NPART Bylaws Draft Ver. 03 12 2018(添付資料 1.1.2)
- 3) RPART Bylaws Draft Ver. 05 12 2018(添付資料 1.1.3)
- 4) Options regarding the establishment of NCC, NPART and RPART Ver. 28 Jan 2019(添付資料 1.1.4)
- 5) Information Brief Establishment of the NPART endorsed by CEPA MD(添付資料 1.1.5)
- 6) ToRs Interim NPART submitted to the 1st NPART Meeting(添付資料 1.1.6)

添付資料 1.1.1 NCC Bylaws



NATIONAL CONSERVATION COUNCIL

BYLAWS

CONSERVATION AND ENVIRONMENT PROTECTION AUTHORITY OF THE INDEPENDENT STATE OF PAPUA NEW GUINEA

30 NOVEMBER 2018

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PREAMBLE

These Bylaws shall complement, in part, the establishment of the National Conservation Council as declared under "Pillar One 1.3.3" of the Papua New Guinea Policy on Protected Areas 2014 (hereinafter referred to as "PNG PPA"). The development of these Bylaws is premised on the objective of "II Supporting Pillars" of the PNG PPA which calls for the establishment of legal and institutional frameworks necessary for effective management and governance of the PNG Protected Area Network.

SECTION 1 - NAME

1.1 The name of the Council shall be known as the National Conservation Council (hereinafter referred to as "NCC").

SECTION 2 - OBJECTIVES

- 2.1 The objectives of these Bylaws are
 - a) To prescribe matters pertaining to the powers and functions of the NCC;
 - b) To guide the Minister on appointment of the members of the NCC; and,
 - c) To establish the overall modus operandi of the NCC.

SECTION 3 - MEMBERSHIP

- 3.1 The NCC shall consist of not less than five (5) members, who shall
 - (a) Have technical (on merit) or special knowledge in relation to matters likely to be before the NCC;
 - (b) Be appointed at the discretion of the Minister;
 - (c) The members may be appointed from any of the following organizations: a senior manager in the Conservation and Environment Protection Authority (hereinafter referred to as "CEPA") from the section responsible for protected areas, a senior manager of a State entity specialized in law or regulatory matters, a well-established academic from any of Papua New Guinea's higher education institution with expertise in a discipline relevant to protected areas including natural, physical or biological sciences, representatives from national environmental non-governmental organizations, a senior manager from the National Museum and Art Gallery, a senior manager from the National Fisheries

Authority, a senior manager from the Climate Change and Development Authority, an environmental expert from the Papua New Guinea Chambers of Mines and Petroleum, a senior manager from the Tourism Promotion Authority, or a member from any other relevant government department or agency as declared under Part One 1.3.6 of the PNG PPA; and,

(d) Be represented adequately by female members.

SECTION 4 – OFFICERS AND APPOINTMENTS

- 4.1 The Minister shall appoint one member to be the Chairperson and another member to be the Deputy Chairperson.
- 4.2 In the event of the absence of the Chairperson, or his/her inability or unavailability to act, the Deputy Chairperson shall perform all the powers and functions of the Chairperson.
- 4.3 The Chairperson and Deputy Chairperson shall be appointed to the office for a period of 3 years and may be reappointed for a second term as determined by the Minister.

SECTION 5 – FUNCTIONS

- 5.1 The functions of the NCC shall be
 - (a) To furnish advice to the Minister on matters relating to protected areas, including action to conserve and improve existing protected areas;
 - (b) To endorse the criteria for areas to be recommended as protected areas;
 - (c) To consider and endorse any proposals for development affecting, or in the vicinity of, a protected area or proposed protected area;
 - (d) To provide advice to the Minister on the formulation of rules applicable to protected areas, and on the administration and control of protected areas;
 - (e) To provide advice to the Minister on the formulation of laws, regulations and other legal instruments related with protected areas;
 - (f) To encourage public interest and knowledge of protected areas and conservation generally;
 - (g) To review and endorse any new proposal for the establishment of protected areas before it is submitted to the National Executive Council (NEC) by the Minister;

- (h) To review and endorse the annual report of the Conservation and Environment Protection Authority (CEPA) on the implementation of protected areas policy, laws and regulations prior to forwarding to the Minister; and,
- (i) To advise the Minister on any matter referred to it by the Minister.

SECTION 6 – POWERS

- 6.1 The NCC may do all things that are necessary or convenient to be done for or in connection with performance of its functions, and, in particular, has the power to require details to be given to it of any development proposals in or in close proximity to a conservation area that, in its opinion, may injure or detrimentally affect a protected area.
- 6.2 In the exercise of its functions under Subsection (6.1) above, the NCC may, in respect of a development proposal, obtain a report from the protected areas management committee referred to under Pillar One of the PNG PPA 1.3.10 concerned in the area of that proposal.

SECTION 7 – MEETINGS

- 7.1 Meetings of the NCC shall be held at such time and place as the Chairperson determines (or consent of all members present in a meeting).
- 7.2 There shall be a regular meeting of the NCC once a year which may discuss matters relating to the Bylaws such as the annual report as stipulated under Section 11 of the Bylaws.
- 7.3 At a meeting of the NCC -
 - (a) 50% or half of the number of members of the NCC is a quorum;
 - (b) The Chairperson, or in his/her absence the Deputy Chairperson, shall preside;
 - (c) All matters before the NCC shall be decided by the majority of votes of the members present and voting; and,
 - (d) The member presiding has a deliberative and, in the event of an equality of votes on a matter, also a casting vote.
- 7.4 The NCC shall prepare minutes of its meetings to be recorded and deposited with the Secretariat.

- 7.5 The NCC shall determine further details regarding the procedures of the NCC meetings.
- 7.6 Emergency meetings may be called by the Chairperson with a 48-hour notice served to the members of the NCC.

SECTION 8 – SECRETARIAT

- 8.1 The CEPA shall act as Secretariat to the NCC.
- 8.2 The Secretariat shall perform all administrative tasks of the NCC including support to the Officers in performing their functions under these Bylaws.
- 8.3 The Secretariat shall be housed within CEPA offices.
- 8.4 CEPA shall assign to the Secretariat support staff to administer the day-to-day operations of the Secretariat.
- 8.5 The Secretariat shall keep records of proceedings/minutes of meetings, the Bylaws, and any other documentation related to the NCC and its work regarding protected areas.

SECTION 9 – VALIDITY OF PROCEEDINGS

9.1 No act or proceeding of the NCC, and no act done by any person acting as Chairperson or Deputy Chairperson shall be invalidated by reason of a vacancy or vacancies in the number of members of the NCC.

SECTION 10 - DISCLOSURE OF INTERESTS

10.1 Where a member has a direct or indirect financial interest otherwise than as a member of and in common with the other members of an incorporated company consisting of more than 25 persons and of which he/she is not a director, in a matter being considered or about to be considered by the NCC he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose the nature of his/her interest at a meeting of the NCC.

10.2 In Subsection (9.1) above, "indirect financial interest" includes an interest of a member's spouse or child.

10.3 Where a member is a member of an organization that has a direct or indirect financial or other special interest in a matter being considered or about to be considered by the NCC, he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose his/her membership of that organization and the nature of that interest at a meeting of the NCC.

10.4 A disclosure under this section shall be recorded in the minutes of the NCC.

10.5 The NCC may, on being informed of the interest of a member in a matter being considered or about to be considered by it, by resolution in which that member shall not vote, resolve that that member take no further part in the proceedings of the NCC in respect of that matter.

SECTION 11 - ANNUAL REPORTS

11.1 The NCC shall as soon as practicable after the end of each year, furnish to the Minister a report, both narrative and financial, on the operations of the NCC during that year.

SECTION 12 – TERM OF OFFICE

12.1 The NCC members shall be appointed to a term of three (3) years and may be reappointed for a second term.

SECTION 13 - FEES AND ALLOWANCES

13. 1 Members of the NCC who are not employees of any government entity shall be paid fees and allowances in accordance with the *Boards* (*Fees and Allowances*) *Act* (Chapter 299).

SECTION 14 - DISSOLUTION AND REPLACEMENTS

14.1 The Minister may dismiss any member of the NCC whom the Minister considers unfit for whatsoever reason which prevents the member from performing its functions

and duties effectively and efficiently including illness, non-performance, unethical conduct, non-attendance for two (2) consecutive meetings and an act that contravenes any provision of the By-laws.

- 14.2 The Minister shall notify the member, in writing, regarding the reason(s) and the decision for dismissal.
- 14.3 The Minister may appoint a new member to the NCC following the dismissal notification.
- 14.4 The Minister may replace a member in the event of the death of an existing member.
- 14.5 A member may vacate the office at his/her own will for whatsoever reason that may impede him/her from performing his/her functions under these Bylaws or from complying with any provisions of the Bylaws by notifying the Minister, in writing.

SECTION 15 - AMENDMENTS

- 15.1 Any change to the Bylaws may be proposed by any member of the NCC, in writing, to the Chairperson describing the proposed change or changes and justifications for the NCC to deliberate at the next NCC meeting.
- 15.2 The proposed change to the Bylaws shall be agreed by two thirds of the members of the NCC.
- 15.2 Amendments shall form a part of these Bylaws and must be appended to the Bylaws and deposited with the Secretariat.

添付資料 1.1.2 NPART Bylaws



NATIONAL PROTECTED AREAS ROUNDTABLE

BYLAWS

CONSERVATION AND ENVIRONMENT PROTECTION AUTHORITY OF THE INDEPENDENT STATE OF PAPUA NEW GUINEA

28 NOVEMBER 2018

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PREAMBLE

These Bylaws regard matters pertinent to the National Protected Areas Roundtable as declared under Pillar One 1.3.5 of the Papua New Guinea Policy on Protected Areas 2014 (hereinafter referred to as "PNG PPA"). The development of these Bylaws is premised on the objective of "II Supporting Pillars" of the PNG PPA which calls for the establishment of legal and institutional frameworks necessary for effective management and governance of the PNG Protected Area Network.

These Bylaws relate to the establishment of the National Protected Areas, in particular, National Parks, Marine Sanctuaries, National Heritage Areas and Special Management Areas or their review and management.

SECTION 1 - NAME

1.1 The name of the "Roundtable" as stipulated under the PNG PPA is the National Protected Area Roundtable, (hereinafter referred to as the "NPART").

SECTION 2 - OBJECTIVES

- 2.1 The objectives of these Bylaws are
 - (a) To support the establishment of the NPART;
 - (b) To prescribe and elaborate the powers and functions of the NPART;
 - (c) To guide the work of the NPART in executing its functions under Section 3;
 - (d) To guide the Conservation and Environment Protection Authority (hereinafter referred to as "CEPA") of its role; and,
 - (e) To establish the modus operandi of the NPART.

SECTION 3 – FUNCTIONS

- 3.1 The functions of the NPART shall be -
 - (a) To evaluate proposals for the establishment of National Protected Areas, namely, National Parks, National Heritage Areas, Special Management Areas, and National Marine Sanctuary;
 - (b) To provide technical advice to the National Conservation Council (hereinafter referred to as "NCC") on a range of matters regarding protected areas especially social, economic and ecological values and the local, national or global significance of the proposed area that is necessary for the establishment of the protected area; and,
 - (c) To make recommendations to the NCC for consideration and endorsement of National Protected Areas based on the assessment of the proposals.

SECTION 4 - MEMBERSHIP

- 4.1. The NPART shall comprise of at least five (5) members.
- 4.2 The composition of the NPART membership shall be -
 - (a) Senior personnel from CEPA working on protected areas;
 - (b) Representatives from conservation NGOs;
 - (c) Representatives of higher education institutions in Papua New Guinea with a strong background in ecological, cultural and social aspects of protected areas.
- 4.3 Adequate consideration must be given to female members for representation.

SECTION 5 - APPOINTMENTS

- 5.1 CEPA shall announce the call for expression of interest publicly and widely through the numerous medium of communication, especially the national newspapers, **TV**, **radios and CEPA's Website to attr**act suitable candidates.
- 5.2 Members other than personnel from CEPA shall submit an expression of interest letter to the Managing Director of CEPA who shall consider, and officially accept the membership through a letter of notification.

SECTION 6 - OFFICERS

- 6.1 The NPART shall consist of a Chairperson, a Vice-Chairperson and a Secretary.
 - (a) The Chairperson shall be the Deputy Managing Director of CEPA as directed under the PNG PPA Pillar One 1.3.5.
 - (b) The Vice-Chairperson and Secretary shall be voted from among the ordinary members of the NPART.
 - (c) The Chairperson: a voting member who shall prepare the agenda and preside over all NPART meetings and shall perform such other duties as the NPART shall direct. The Chairperson may assign duties to the Vice-Chairperson and other members of the NPART from time to time or during the absence of the Chairperson.
 - (d) The Vice-Chairperson: a voting member who shall preside the meetings in the absence of the Chairperson and shall perform such other duties as the NPART shall direct.
 - (e) The Secretary shall: record minutes of all NPART meetings; keep a permanent file of all NPART records; keep an up-to-date roll of members; maintain a record of member attendance to NPART meetings; issue notices of all NPART meetings; and, perform such other duties as the NPART shall direct. The copies of all documents must be deposited in the NPART binder at its respective office.

- 6.2 The term of office for the Officers with the exception of members who are CEPA employees shall be limited to a three-year term with the possibility of renewal for a second term.
- 6.3 Written notice of all elections shall be deposited with the NPART Secretariat and the NPART Secretariat shall be notified 14-days days prior to the election.
 - (a) Elections shall be conducted by the Secretariat once each three-calendar year through secret ballot.
 - (b) The Officers other than CEPA personnel shall be elected by majority of the votes cast. Ballots shall be counted, and results shall be announced at the next NPART meeting.
 - (c) All NPART members must be present during the designated day and time of the election. All ballots shall be placed in an envelope and presented to the NPART Secretariat to be filed.

SECTION 7 - SECRETARIAT

- 7.1 CEPA shall perform the functions of the Secretariat of NPART.
- 7.2 The Secretariat shall perform all administrative tasks of the NPART including support to the Officers in performing their functions under these Bylaws.
- 7.3 The Secretariat shall administer the affairs of the NPART at all times.
- 7.4 The Secretariat shall be housed within CEPA offices.
- 7.5 CEPA shall draft the Terms of References for the NPART and table it at the first meeting of the NPART for discussion and approval.
- 7.6 CEPA shall assign to the Secretariat support staff to administer the day-to-day operations of the Secretariat.
- 7.7 The Secretariat shall keep records of proceedings/minutes of meetings, the Bylaws, and any other documentation related to the NPART and its work regarding protected areas.

SECTION 8 - MEETINGS

- 8.1 The NPART shall meet four (4) times a year as expressed under Pillar One 1.3.5 of the PNG PPA.
- 8.2 The rules governing all meetings shall be the Robert's Rules of Order, except insofar as such rules are inconsistent with these Bylaws.

- 8.3 A quorum for the transaction of business at a NPART meeting shall consist of 50% of the members.
- 8.4 Any appointed member of the NPART is eligible to vote.
 - (a) It is expected that NPART members will excuse themselves from voting on issues where there is a conflict of interest such as where an issue would affect their personal or organizational interest.
 - (b) There shall be no voting by proxy or absentee ballot.
- 8.5 Appropriate notice must be posted with the NPART Secretariat at least 14 days prior to the meeting date.
- 8.6 In the event of cancellations of NPART meetings, due to emergencies or unavoidable circumstances, the Secretariat must inform the members of such cancellations immediately.
- 8.7 The Chairperson may call emergency or special meetings requires. Such meetings require a 48-hour notice.

SECTION 9 - FEES AND ALLOWANCES

9.1 Members of the NPART who are not employees of any government entity shall be paid fees and allowances in accordance with the *Boards (Fees and Allowances) Act* (Chapter 299).

SECTION 10 - DISSOLUTION AND REPLACEMENTS

- 10.1 The Chairperson may dismiss any member of the NPART whom the Chairperson considers unfit for whatsoever reason which prevents the member from performing its functions and duties effectively and efficiently including illness, non-performance, unethical conduct, non-attendance for three (3) consecutive meetings and an act that contravenes any provision of the Bylaws.
- 10.2 The Chairperson shall notify the member, in writing, regarding the decision for dismissal and the reason(s).
- 10.3 The Chairperson may appoint a new member to the NPART following the dismissal notification and in accordance with Section 5 of these Bylaws.
- 10.4 The Chairperson may replace a member in the event of a death of an existing member.

SECTION 11 - DISCLOSURE OF INTEREST

- 11.1 Where a member has a direct or indirect financial interest otherwise than as a member of and in common with the other members of an incorporated company consisting of more than 25 persons and of which he/she is not a director, in a matter being considered or about to be considered by the NPART he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose the nature of his/her interest at a meeting of the NPART.
- 11.2 In Subsection (11.1) above, "indirect financial interest" includes an interest of a member's spouse or child.
- 11.3 Where a member is a member of an organization that has a direct or indirect financial or other special interest in a matter being considered or about to be considered by the NPART, he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose his/her membership of that organization and the nature of that interest at a meeting of the NPART.
- 11.4 A disclosure under this section shall be recorded in the minutes of the NPART.
- 11.5 The NPART may, on being informed of the interest of a member in a matter being considered or about to be considered by it, by resolution in which that member shall not vote, resolve that that member take no further part in the proceedings of the NPART in respect of that matter.

SECTION 12 - AMENDMENTS

- 12.1. These Bylaws may be amended through a written request submitted by any member to the Secretariat through the NPART Chairperson.
- 12.2 Any such request shall be deliberated and voted upon at the next scheduled meeting of the NPART.
- 12.3 Amendments become effective by a favourable 2/3 vote of the NPART members, and shall be appended to these Bylaws. A copy of all amendments shall be provided to Secretariat.

添付資料 1.1.3 RPART Bylaws



REGIONAL PROTECTED AREAS ROUNDTABLE

BYLAWS

CONSERVATION AND ENVIRONMENT PROTECTION AUTHORITY OF THE INDEPENDENT STATE OF PAPUA NEW GUINEA

05 DECEMBER 2018

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PREAMBLE

These Bylaws regard matters pertinent to the Regional Protected Areas Roundtable as declared under Pillar One 1.3.8 of the Papua New Guinea Policy on Protected Areas 2014 (hereinafter referred to as "PNG PPA"). The development of these Bylaws is premised on the objectives of "Pillar One" of the PNG PPA and "II Supporting Pillars" of the PNG PPA, which declare the need to establish legal and institutional frameworks necessary for the effective management and governance of the PNG Protected Area Network.

These Bylaws relate to the establishment of the Regional Protected Areas, in particular, Community Conservation Areas, Locally Managed Marine Areas, and Private Sector Protected Areas, or their review and management.

The establishment of regional protected areas shall mean the establishment of protected areas in accordance with ecosystem approach undertaken at appropriate spatial and temporal scales rather than political boundaries.

SECTION 1 - NAME

1.1 The name of the "Roundtable" as stipulated under the PNG PPA is the Regional Protected Area Roundtable, (hereinafter referred to as the "RPART").

SECTION 2 - OBJECTIVES

- 2.1 The objectives of these Bylaws are -
 - (a) To support the establishment of the RPART;
 - (b) To prescribe and elaborate the powers and functions of the RPART;
 - (c) To guide the work of the RPART in executing its functions under Section 3;
 - (d) To guide the Provincial Government of its role; and,
 - (e) To establish the *modus operandi* of the RPART.

SECTION 3 - FUNCTIONS

- 3.1 The functions of the RPART shall be -
 - (a) To evaluate proposals for the establishment of Community Conservation Areas, Locally Managed Marine Areas, and Private Sector Protected Areas;
 - (b) To provide technical advice to the Provincial Executive Council (hereinafter **referred to as "**PEC") on a range of matters regarding protected areas especially social, economic and ecological values and the local or regional significance of the proposed area for the establishment of the protected area; and,
 - (c) To make recommendations to the PEC for consideration and declaration of Regional Protected Areas based on the assessment of the proposals received from the Working Group.

SECTION 4 - MEMBERSHIP

- 4.1. The RPART shall comprise of at least five (5) members.
- 4.2 The composition of the RPART membership shall be -
 - (a) Senior provincial government officials responsible for protected areas;
 - (b) Representatives from conservation NGOs working in the region;
 - (c) Representatives of higher education institutions in Papua New Guinea with the knowledge and strong background in ecological, cultural and social aspects of protected areas; and,
 - (d) CEPA officials.
- 4.3 Adequate consideration must be given to female members for representation.

SECTION 5 - APPOINTMENTS

- 5.1 CEPA and the Provincial Governments shall announce jointly the call for expression of interest publicly and widely through the numerous medium of **communication, especially the national newspapers, TV, radios and CEPA's Website** to attract suitable candidates.
- 5.2 Members other than personnel from CEPA and the Provincial Governments shall submit an expression of interest letter to the Managing Director of CEPA who shall consider, and officially accept the membership through a letter of notification.

SECTION 6 - OFFICERS

- 6.1 The RPART shall consist of a Chairperson, a Vice-Chairperson and a Secretary.
 - (a) The Chairperson shall be a Government official as directed under the PNG PPA Pillar One 1.3.8.
 - (b) The Vice-Chairperson and Secretary shall be voted from among the ordinary members of the RPART.
 - (c) The Chairperson: a voting member who shall prepare the agenda and preside over all RPART meetings and shall perform such other duties as the RPART shall direct. The Chairperson may assign duties to the Vice-Chairperson and other members of the RPART from time to time or during the absence of the Chairperson.
 - (d) The Vice-Chairperson: a voting member who shall preside the meetings in the absence of the Chairperson and shall perform such other duties as the RPART shall direct.
 - (e) The Secretary shall: record minutes of all RPART meetings; keep a permanent file of all RPART records; keep an up-to-date roll of members; maintain a record of member attendance to RPART meetings; issue notices of all RPART meetings; and, perform such other duties as the RPART shall direct. The copies of all documents must be deposited in the RPART binder at its respective office in the Secretariat.

6.2 The term of office for the Officers with the exception of members who are CEPA and Provincial Government employees shall be limited to a three-year term with the possibility of renewal for a second term.

SECTION 7 - SECRETARIAT

- 7.1 CEPA shall perform the functions of the Secretariat of RPART.
- 7.2 The Secretariat shall perform all administrative tasks of the RPART including support to the Officers in performing their functions under these Bylaws.
- 7.3 The Secretariat shall be housed within CEPA offices.
- 7.4 CEPA may draft the Terms of References for the RPART and table it at the first meeting of the RPART for discussion and approval.
- 7.5 CEPA shall assign to the Secretariat support staff to administer the day-to-day operations of the Secretariat.
- 7.6 The Secretariat shall keep records of proceedings/minutes of meetings, the Bylaws, and any other documentation related to the RPART and its work regarding protected areas.
- 7.7 The Secretariat shall keep all written notices of all elections and notified RPART members 14-days days prior to the election.
 - (a) Elections shall be conducted by the Secretariat once each three-calendar year through secret ballot.
 - (b) The Officers shall be elected by majority of the votes cast. Ballots shall be counted, and results shall be announced at the next RPART meeting.
 - (c) All RPART members must be present during the designated day and time of the election. All ballots shall be placed in an envelope and presented to the RPART Secretariat to be filed.

SECTION 8 - MEETINGS

- 8.1 The RPART shall meet on a need basis.
- 8.2 The rules governing all meetings shall be the Robert's Rules of Order, except insofar as such rules are inconsistent with these Bylaws.
- 8.3 A quorum for the transaction of business at a RPART meeting shall consist of 50% of the members.
- 8.4 Any appointed member of the RPART is eligible to vote.
 - (a) The RPART members may abstain from voting on issues where there is a conflict of interest such as where an issue would affect their personal or organizational interest.

- (b) There shall be no voting by proxy or absentee ballot.
- 8.5 Appropriate notice must be posted with the RPART Secretariat at least 14 days prior to the meeting date.
- 8.6 In the event of cancellations of RPART meetings, due to emergencies or unavoidable circumstances, the Secretariat must inform the members of such cancellations immediately.
- 8.7 The Chairperson may call emergency or special meetings requires. Such meetings require a 48-hour notice.

SECTION 9 - FEES AND ALLOWANCES

9.1 Members of the RPART who are not employees of any government entity shall be paid fees and allowances in accordance with the *Boards (Fees and Allowances) Act* (Chapter 299).

SECTION 10 - DISSOLUTION AND REPLACEMENTS

- 10.1 The Chairperson may dismiss any member of the RPART whom the Chairperson considers unfit for whatsoever reason which prevents the member from performing its functions and duties effectively and efficiently including illness, non-performance, unethical conduct, non-attendance for three (3) consecutive meetings and an act that contravenes any provision of the Bylaws.
- 10.2 The Chairperson shall notify the member, in writing, regarding the decision for dismissal and the reason(s).
- 10.3 The Chairperson may appoint a new member to the RPART following the dismissal notification and in accordance with Section 5 of these Bylaws.
- 10.4 The Chairperson may replace a member in the event of the death of an existing member.

SECTION 11 - DISCLOSURE OF INTEREST

- 11.1 Where a member has a direct or indirect financial interest otherwise than as a member of and in common with the other members of an incorporated company consisting of more than 25 persons and of which he/she is not a director, in a matter being considered or about to be considered by the RPART he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose the nature of his/her interest at a meeting of the RPART.
- 11.2 In Subsection (11.1) above, "indirect financial interest" includes an interest of a member's spouse or child.

- 11.3 Where a member is a member of an organization that has a direct or indirect financial or other special interest in a matter being considered or about to be considered by the RPART, he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose his/her membership of that organization and the nature of that interest at a meeting of the RPART.
- 11.4 A disclosure under this section shall be recorded in the minutes of the RPART.
- 11.5 The RPART may, on being informed of the interest of a member in a matter being considered or about to be considered by it, by resolution in which that member shall not vote, resolve that that member take no further part in the proceedings of the RPART in respect of that matter.

SECTION 12 - AMENDMENTS

- 12.1. These Bylaws may be amended through a written request submitted by any member to the Secretariat through the RPART Chairperson.
- 12.2 Any such request shall be deliberated and voted upon at the next scheduled meeting of the RPART. Amendments become effective by a favourable 2/3 vote of the RPART members, and shall be attached to the By-laws. A copy of all amendments shall be provided to Secretariat.

添付資料 1.1.4 Options regarding the establishment of NCC, NPART and RPART

Options regarding the establishment of National Conservation Council, National Protected Areas Roundtable and Regional Protected Areas Roundtable (Ver. 28 Jan 2019)

Background

The National Conservation Council (NCC), the National Protected Areas Roundtable (NPART) and the Regional Protected Areas Roundtable (RPART) under the Papua New Guinea Policy on Protected Areas are among some of the critical bodies necessary for the establishment of national and regional protected areas. These bodies have some of the primary tasks of considering, assessing and recommending proposals for the establishment of the numerous types of protected areas in Papua New Guinea (PNG). However, there is no NCC, NPART or RPART to date. The non-existence of these numerous important bodies makes it challenging to establish protected areas in the country.

Numerous references are being made of the NCC, NPART and RPART under current law and policy as well as the proposed legislation on protected areas. The specific references include the Conservation Areas Act 1978, the Conservation and Environment Protection Authority Act 2014, the newly adopted PNG Policy on Protected Areas (PNG PPA) 2014, and the draft Protected Areas Bill 2016 and the draft Protected Areas Regulations 2018.

An additional layer of challenge is the uncertainty surrounding the passing of the Protected Areas Bill and the adoption of the Regulations. Given such a situation it is a matter of urgency to consider options to establish the numerous bodies on an interim basis to facilitate current and immediate proposals and applications for protected areas until such time when the Protected Areas Bill is passed and Regulations adopted.

Therefore, this brief paper discusses the existing laws and policies regarding the NCC, NPART and RPART and proposes some options for consideration by CEPA that might help toward the establishment of the Interim NCC, NPART and RPART.

1. Existing Laws and Policies on National Conservation Council

a) Conservation Areas Act 1978

The Conservation Areas Act 1978 is the primary legislation that establishes the NCC and defines its rights and obligations. Part II of the Conservation Areas Act 1978 institutes the NCC, defines the functions and powers, provides for the composition of the members, and specifies other relevant matters regarding the NCC. The Act further stipulates that the Minister is responsible for appointing a number, not less than 5 persons, to the NCC, which should comprise of a Chairperson and a Deputy Chairperson and the members. The

exact number is not determined under the Act, but it could be 5 or any other number. It is recommended that an odd number would be useful in determining decisions to be taken.

However, the scope of work of the NCC under the Conservation Areas Act is limited to conservation areas, and does not cover other types of protected areas. As such the application of Conservation Areas Act may not be adequate to cover broader areas.

b) Conservation and Environment Protection Authority Act 2014

The second legislation that makes reference to the NCC is the CEPA Act 2014. This Act establishes CEPA. Furthermore, the CEPA Act lays out the roles, responsibilities and powers of the new organization, including those of the Minister, its employees, and the council and committee it establishes under the Act. The legislation also makes references to a set of environmental conservation laws and their relevance to the CEPA Act. The set of environmental conservation laws comprises of a number of specific laws relevant to conservation and they include Conservation Areas Act, Crocodile Trade (Protection) Act, Environment Act, Fauna (Protection and Control) Act, and the International Trade (Flora and Fauna) Act. Given the mutually supportive circumstance of the CEPA Act and the set of environmental conservation laws, they should be read together when applying these laws.

It is in this regard that the CEPA Act 2014 makes specific reference to the NCC established under the Conservation Areas Act when it speaks of the Minister's functions under Article 5 of the Act. The NCC is given prominence under the CEPA Act as it recognizes the significant role the NCC can deliver as an advisory body in providing advice to the Minister. When the Minister acts in delivering its principal functions of advising the National Executive Council (NEC) on matters related to environmental conservation laws, policies and strategies at the national level, the advice of the NCC in conjunction with that of the Authority and the Environment Council becomes relevant. The mention of the NCC under the CEPA Act demonstrates further the importance of the body and functions it is to perform.

However and again the NCC referred to is under the Conservation Areas Act and as was described above, the application of the Conservation Areas Act is narrow in scope and only covers conservation areas.

c) Papua New Guinea Policy on Protected Areas 2014

The Papua New Guinea (PNG) Policy on Protected Areas (PPA) is the formal document developed and endorsed by the PNG Government in 2014. The PNG PPA covers matters relating to the NCC, NPART and RPART. The PNG PPA has been established to support the development and management of a National Protected Area Network with the intention of guiding communities, organizations and agencies so that they can engage strategically in sustaining existing protected areas as well as contribute logically and constructively to the development of new protected areas in the country.

In order to strengthen institutional arrangements regarding Protected Areas Network in PNG the PPA calls for a number of steps to be taken in its proposal on developing either a new separate legislation on protected areas or amending existing legislation to accommodate these measures including the establishment of the NCC, NPART and RPART.

As the official document in the country mentioning the NCC, NPART and RPART, the PNG PPA awaits implementation, especially the establishment of these various important bodies.

2. Draft Protected Areas Bill 2016 & Regulations 2018

Following on from the recommendation by the PNG PPA for the consolidation of existing environmental conservation laws by way of amendments or either enactment of a new stand-alone legislation to regulate the development and management of protected areas in the country, PNG pursued the latter option by embarking on the development of a stand-alone Protected Areas Bill in 2016.

The draft Protected Areas Bill under Part II calls for the establishment of the NCC (Section 18) and provides for the establishment of an interim NCC until such time when the Regulations have been adopted to determine the composition of the membership, the responsibilities, functions and the modus operandi of the NCC. The Protected Areas Regulation 2018 further sets out the responsibilities of the NCC in the draft Regulations 2018.

In addition, the draft Protected Areas Bill and the Protected Areas Regulations cover the NPART and RPART as significant bodies to be established to pave way for the screening of applications and the recommendation of the proposals for approval.

However, the PA Bill and the draft Regulations are not formal documents, and as such they cannot be referenced.

3. Options for Consideration

Given the situation that both the Conservation Areas Act and the CEPA Act are narrow and inadequate, it becomes natural to explore options outside the two laws to establish the NCC as well as the NPART and RPART. Furthermore, the Protected Areas Bill is faced with uncertainties as to when it will be passed into law and Regulations adopted. The only official document which mentions the NCC, NPART and RPART is the PNG PPA, and it is appropriate to implement the content of this document, especially in establishing the NCC, NPART and RPART.

In giving effect to the PNG PPA, a number of options are available for consideration by CEPA toward the establishment of the NCC, NPART and RPART. These options include

the consideration of (1) expanding the functions of the National Coordination Committee under the Coral Triangle Initiative (CTI), (2) making a new submission to the NEC by CEPA for the establishment of Bootless Bay as a National Protected Area, the NCC, NPART and RPART, and (3) the establishment of these bodies by CEPA and the Managing Director of CEPA through the powers and functions bestowed upon them under the CEPA Act 2014.

a) Expanding the Functions of National Coordination Committee under the CTI

The first option is to consider reviewing and expanding the functions of the National Coordination Committee under the Coral Triangle Initiative (CTI) so as to allow for it to perform also the functions of the NCC.

The Coral Triangle Initiative – National Coordination Committee was established under the National Executive Council Decision No. 62/2009. The National Coordination Committee was established to manage PNG's International Engagement for the CTI – CFF, coordinate and promote the implementation of the PNG Marine Programme on Coral Reefs, Fisheries and Food Security. Furthermore, it has been established as a consultative or advisory authority regarding CTI PNG.

The composition of the members of the National Coordination Committee under the CTI is well represented from numerous line agencies and stakeholders. In this regard, the composition of the members is ideal for the NCC if this option were to be considered.

The functions of the National Coordination Committee under the CTI are multiple and more extensive compared with the functions of the NCC found under the Conservation Areas Act and the draft Protected Areas Regulations. However, the functions of the National Coordination Committee are more specific to matters related with marine, fisheries and food security. This may require a review of the functions of the National Coordination Committee to include more functions regarding protected areas generally. The functions of the National Coordination Committee further include matters such as resource mobilization and providing technical support which might not be functions attractive to the members of the NCC for protected areas.

An additional issue when considering this option will be the establishment of a new process for submission to the NEC for consideration of the expansion of the roles and responsibilities of the National Coordination Committee.

b) National Executive Council Submission

A second option is to consider a whole new submission to the NEC to specifically establish the Bootless Bay as a National Protected Area and to establish the NCC, NPART and RPART. The Prime Minister had made reference to the Bootless Bay during the World Oceans Conference in New York, and as such the NEC submission and endorsement would be seen as executing the commitment made by the Prime Minister.

The Minister under the CEPA Act 2014 (Section 5) has the functions and role to advise and make new submissions regarding environment conservation law, policy and strategies based on advice and recommendations from CEPA to NEC for their discussion and endorsement. CEPA has the opportunity to explore and initiate a process to seek endorsement by the NEC for the declaration of the Bootless Bay as a National Protected Area and the establishment of the NCC, NPART and RPART on an interim basis all under one submission.

The establishment of the interim NCC, NPART and RPART will serve the immediate need of establishing regional protected areas or other national protected areas so as not to hinder progress toward their assessment and declaration.

c) The Functions and Powers of the Authority and the Managing Director under CEPA Act 2014

The third, option is to consider the existing legislation to see if there are possibilities to establish the Interim NCC, NPART and RPART. In fact, the Authority under Section 6 (b) of the CEPA Act may take actions to establish the Interim NCC, NPART and RPART as they are matters specified in the PNG PPA. This provision also makes reference to Section 5 (d) which concerns priority setting by CEPA. If CEPA considers the establishment of the Interim NCC, NPART and RPART as its annual priority, which it should be, it can pursue this direction.

Furthermore, the functions of CEPA under Section 8 (a) is also most relevant. Section 8 (a) stipulates that as one of the functions of the Authority it is to do all things necessary for the conservation and protection of environment in accordance with environmental conservation laws and any policy directions. The establishment of the Interim NCC, NPART and RPART are matters that will indirectly contribute to environmental conservation and as such they should be put in place.

A significant provision relevant for the establishment of the Interim NCC, NPART and RPART is the function of the Managing Director under Section 23 (1) (d) where is states that it is responsible to the Minister for efficient implementation in accordance with the environmental conservation laws, or the policy of the government in relation to environment and conservation matters and of any policy direction given to the Authority under Section 6. The Interim NCC, NPART and RPART are matters expressed under the PNG PPA and therefore matters of policy. The Managing Director would be seen as implementing policy when it takes the decision to establish the various bodies stated under the PNG PPA.

These provisions are related and must be read together.

4. Recommendation by JICA Technical Team

After considering the 3 options and having discussed them with CEPA colleagues the JICA team considered option 3 to be the best and easiest to pursue. It will be easier for the Authority and the Managing Director to initiate a process to establish the Interim NCC, NPART and RPART until such time when the PA Bill is passed and Regulations adopted. JICA can invest toward this option by providing technical and financial support.

In the event, option 3 may not be considered, option 2 (a new NEC submission) has been considered the next best option. This option will be a package of the declaration of the Bootless Bay as a National Protected Area and the establishment of the Interim NCC, NPART and RPART.

Option (1) has been considered as more specific to marine and does not encompass terrestrial areas. This would require a review process to accommodate terrestrial matters. Furthermore, some of the functions of the National Coordination Committee are perhaps beyond those of the NCC such as resources mobilization.

A pros and cons table is provided below also regarding the three options for consideration.

Table of Pros and Cons

| Options | Pros | Cons |
|--|--|--|
| 1. National Coordination Committee - CTI | Established by NEC decision (Decision No 62/2009) Composition of membership is ideal (representation of key line agencies & stakeholders) Extensive functions | Specific to marine and fisheries and excludes terrestrial ecosystems and services Certain functions are irrelevant (e.g. resource mobilization). New submission to NEC may be timeconsuming. |
| 2. National Executive Council Submission | Will give CEPA clear directions for the establishment of NCC, NPART & RPART. Specific and straightforward/clear. Announcement by Prime Minister regarding Bootless Bay as National Protected Area. | New submissions Political unwillingness and may be time- consuming. |
| 3. CEPA – Powers of the Authority & Managing Director | Easy to proceed within CEPA. Policy backing (PNG PPA) CEPA Act supports Authority and MD to take action. JICA support (technical and financial available to undertake such tasks) | • Interim |

添付資料 1.1.5 Information Brief Establishment of the NPART endorsed by CEPA MD



CONSERVATION AND ENVIRONMENT PROTECTION AUTHORITY SUSTAINABLE ENVIRONMENT PROGRAMS

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INFORMATION BRIEF

15th October 2019

GUNTHER JOKU

Managing Director,

Subject:

ESTABLISHMENT OF THE NATIONAL PROTECTED AREAS

ROUND TABLE

1. PURPOSE

This brief is intended to:

- Inform you that the establishment of the National Protected Areas Round Table (NPART) under the PNG Policy on Protected Areas, 2014 is a function of the Managing Director,
- ii. Seek endorsement for the Sustainable Environment Programs Wing in collaboration with the CEPA-JICA Varirata Biodiversity Project Team to assist you in establishing the NPART in accordance with the PNG Policy on Protected Areas, 2014, and
- iii. Provide a background on the process leading to the establishment of NPART, and it's roles and responsibilities in assisting informed decisions on protected areas in the country.

2. BACKGROUND

The NPART is an important body referenced in the PNG Policy on Protected Areas (PNG PPA), 2014 that must be established to perform important functions for the establishment of National Protected Areas in the country. The specific functions of the NPART are;

- 1. To receive proposals from the working group for evaluation and establishment of National Protected Areas, namely, National Parks, National Heritage Areas, Special Management Areas, and National Marine Sanctuary,
- Provide technical advice to the National Conservation Council on a range of matters regarding proposal for protected areas especially social, economic and ecological values and the local, national or global significance of the proposed area that is necessary for the establishment of the protected area and,
- 3. Make recommendations to the National Conservation Council for consideration and endorsement of National Protected Areas based on the assessment of the proposals.

However, this important body has been non-existent since the adoption of the PNG Policy on Protected Areas, 2014. In its absence the most needed expert assessment and advice to the National Conservation Council on protected areas may not be readily available. Also, meeting the government's targets may not be realized when the establishment of protected areas are faced with the non-existence of significant bodies such as the NPART. Therefore, the establishment of the NPART and its existence will create an enabling environment that will make it easier for some of the outstanding tasks to be achieved.

3. CEPA-JICA VNP Biodiversity Project

The joint implementation of the project on Biodiversity Conservation at Varirata national Park by CEPA and JICA is in furtherance of the PNG PPA. One of the outputs of the project focuses on management and governance issues, which includes the establishment of bodies such as the NPART and also the National Conservation Council.

The JICA Team undertook a review and analysis on the policy and legal aspects of establishing the NPART, and held numerous exchanges with the CEPA Team on the matter. A consensus was reached between the CEPA and JICA Teams that in the absence of a Protected Areas law and the regulations, CEPA will proceed with the establishment of the NPART as an administrative matter.

The CEPA-JICA team has developed a draft Terms of Reference (ToR) for the NPART which has been reviewed by the CEPA – JICA team and will be tabled during the first meeting of the NPART for further review and endorsement. The team is now ready to help with the paper work to help CEPA Managing Director in establishing the NPART.

4. Process for Establishment of the NPART

On the interim, there will be six (6) members to the NPART not including the Director for SEP who by the policy is the chair to the NPART. There will be 2 officials from CEPA, one in Terrestrial and one in Marine, 3 Conservation NGOs and 1 expert with strong ecological background.

The following steps will be taken from now until December 2019 to establish the NPART:

- i. Nominate two (2) officers within CEPA to be part of the NPART,
- ii. Call for Expression of Interest (one (1) week) for interested Conservation NGOs (limited to 3) and one expert with strong ecological and protected areas background using competent media or other public announcement channels,
- iii. Receive EOI, screen and shortlist potential applicants for the NPART membership for your endorsement, and
- iv. Letter of offer will be released to the 4 successful candidates.

5. Recommendations

We therefore seek your endorsement to the following recommendations;

- i. The first meeting of the NPART will be convened in December 2019 (date to be decided).
- ii. The Members of NPART will be inducted on the PNG Policy on Protected Areas and their roles and responsibilities prior to this meeting,
- iii. The first meeting will endorse the Terms of Reference.

Endorsement by the Managing Director: ..(...

Kay Kalim Director 添付資料 1.1.6 ToRs Interim NPART submitted to the 1st NPART Meeting



INTERIM NATIONAL PROTECTED AREAS ROUNDTABLE

TERMS OF REFERENCE

CONSERVATION AND ENVIRONMENT PROTECTION AUTHORITY

2 APRIL 2019

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INTRODUCTION

The National Protected Areas include National Parks, National Marine Sanctuaries, National Heritage Areas and Special Management Areas.

These ToRs are valid until the Protected Areas Bill is enacted and the Protected Areas Regulations are adopted. The ToRs will become invalid after the Protected Areas Regulations are adopted. The Protected Areas Regulations will then apply.

SECTION 1 - NAME

1.1 The name of the body will be known as the Interim National Protected Areas Roundtable (INPART).

SECTION 2 - OBJECTIVES

- 2.1 The objectives of these ToRs are to:
 - (a) Prescribe and elaborate the powers and functions of the INPART;
 - (b) Guide the work of the members of the INPART in executing their functions
 - (c) Guide the Conservation and Environment Protection Authority (CEPA) of its roles and responsibilities;
 - (d) Provide guidance to the Managing Director of CEPA regarding his/her roles regarding the INPART; and,
 - (e) Establish the overall modus operandi of the INPART.

SECTION 3 – FUNCTIONS

- 3.1 The functions of the INPART will be to:
 - (a) Receive proposals from the working group for evaluation and establishment of National Protected Areas, namely, National Parks, National Heritage Areas, Special Management Areas, and National Marine Sanctuary;

- (b) Provide technical advice to the Interim NCC on a range of matters regarding proposal for protected areas especially social, economic and ecological values and the local, national or global significance of the proposed area that is necessary for the establishment of the protected area; and,
- (c) Make recommendations to the Interim NCC for consideration and endorsement of National Protected Areas based on the assessment of the proposals.

SECTION 4 - APPOINTMENTS

- 4.1 The Managing Director of CEPA shall announce a call for expression of interest publicly and widely through the numerous medium of communication, especially the national newspapers, TV, radios and CEPA's Website to attract suitable candidates.
- 4.2 Members other than personnel from CEPA shall submit an expression of interest letter to the Managing Director of CEPA who shall consider, and officially accept the membership through a letter of notification.

SECTION 5 - COMPOSITION OF MEMBERS

- 5.1 The INPART shall comprise of at least seven (7) members.
- 5.2 The composition of the INPART membership shall be:
 - (a) The Deputy Managing Director of CEPA, ex officio, as the Chairperson, a Deputy Chairperson, a Secretary and other members;
 - (b) Three (3) staff members of CEPA appointed by the Managing Director, one of which shall be a qualified legal practitioner;
 - (c) Two (2) representatives from Non-governmental Organizations; and,
 - (d) Two (2) Representatives of higher education institutions in Papua New Guinea with a strong background in ecological, cultural or social aspects related to protected areas.
- 5.3 The Deputy Chairperson and the Secretary shall be nominated from among the members of the INPART.
- 5.4 Written notice of all elections shall be deposited with the INPART Secretariat and the INPART Secretariat shall be notified 14-days days prior to the election:
 - (a) Elections shall be conducted by the Secretariat once each three-calendar year through secret ballot, unless the Managing Director of CEPA decides to renew the membership of the INPART for an additional term as stipulated under Sub-section 8.1;
 - (b) The members shall be elected by majority of the votes cast. Ballots shall be counted, and results must be announced at the next INPART meeting: and,

- (c) All INPART members must be present during the designated day and time of the election. All ballots shall be placed in an envelope and presented to the INPART Secretariat to be filed.
- 5.5 Three of the members of the INPART shall be females.

SECTION 6 - SECRETARIAT

- 6.1 CEPA shall perform the functions of the Secretariat of INPART.
- 6.2 The Secretariat of INPART shall be housed within CEPA offices.
- 6.3 The Secretariat shall perform all administrative tasks of the INPART including support to the members of the INPART in performing their functions prescribed under these ToRs.
- 6.4 CEPA shall draft the ToRs for the INPART and table it at the first meeting of the INPART for discussion and approval.
- 6.5 CEPA shall assign to the Secretariat two (2) support staff, one from the terrestrial program and another from marine program, to administer the day-to-day and overall operations of the Secretariat.
- 6.6 The Secretariat shall keep records of proceedings/minutes of meetings, proposals for the National Protected Areas, the ToRs, and any other documentation related to the INPART and its work regarding protected areas.

SECTION 7 - MEETINGS

- 7.1 The INPART shall meet four (4) times a year as expressed under "Pillar One 1.3.5" of the PNG PPA.
- 7.2 A quorum for the transaction of business at an INPART meeting shall consist of 50% of the members.
- 7.3 The Chairperson: a voting member who shall prepare the agenda and preside over all INPART meetings, and shall perform such other duties as the INPART shall direct. The Chairperson may assign duties to the Deputy-Chairperson and other members of the INPART from time to time or during the absence of the Chairperson.
- 7.4 The Deputy Chairperson: a voting member who shall preside the meetings in the absence of the Chairperson and shall perform such other duties as the INPART shall direct.

- 7.5 The Secretary shall: record minutes of all INPART meetings; keep a permanent file of all INPART records; keep an up-to-date roll of members; maintain a record of member attendance to INPART meetings; issue notices of all INPART meetings; and, perform such other duties as the INPART shall direct. The copies of all documents must be deposited in the INPART binder at its respective office.
- 7.6 Any appointed member of the INPART is eligible to vote during the meeting.
 - (a) It is expected that INPART members will excuse themselves from voting on issues where there is a conflict of interest such as where an issue would affect their personal or organizational interest as stipulated under Section 11 of these ToRs.
 - (b) There shall be no voting by proxy or absentee ballot.
- 7.7 Appropriate notice must be posted with the INPART Secretariat at least 14 days prior to the meeting date.
- 7.8 In the event of cancellations of INPART meetings, due to emergencies or unavoidable circumstances, the Secretariat must inform the members of such cancellations immediately.
- 7.9 The Chairperson may call emergency or special meetings. Such meetings require a 48-hour notice.

SECTION 8 - TERM OF OFFICE

- 8.1 The term of office for the members of the INPART shall be limited to a three-year term with the possibility of renewal for a second term.
- 8.2 The Chairperson and the CEPA staff who is a qualified legal practitioner as stipulated under Sub-section 5.2 (b) above shall be permanent members of the INPART and as such they shall be exempted from Sub-section 8.1 above.

SECTION 9 - FEES AND ALLOWANCES

9.1 The members of the INPART who are not employees of any government entity shall be paid fees and allowances in accordance with the *Boards (Fees and Allowances) Act* (Chapter 299).

SECTION 10 - DISSOLUTION AND REPLACEMENTS

10.1 The Chairperson may dismiss any member of the INPART whom the Chairperson considers unfit for whatsoever reason which prevents the member from performing its functions and duties effectively and efficiently including illness, non-performance, unethical conduct, bankruptcy, non-attendance for three (3) consecutive meetings and an act that contravenes any section of the ToRs.

- 10.2 Prior to the decision to dismiss a member, the Chairperson shall consult with the other members of the decision to dismiss the member of the INPART.
- 10.3 The Chairperson shall notify the member, in writing, regarding the decision for dismissal and state the reason(s).
- 10.4 Within 14 days of receipt of a notice, under Sub-section 10.3 above, the member may reply in writing to the Chairperson, who shall consider the reply and where necessary, terminate the appointment. Where the member referred to does not reply within 14 days of receipt of a notice, his/her appointment is terminated.
- 10.5 The Chairperson may appoint a new member to the INPART following the dismissal notification and in accordance with Section 5 of these ToRs.
- 10.6 The Chairperson may replace a member in the event of a death of an existing member.
- 10.7 A member may vacate the membership at his/her own will for whatsoever reason that may impede him/her from performing his/her functions under these ToRs or from complying with any section of the ToRs by notifying the Chairperson, in writing.

SECTION 11 - DISCLOSURE OF INTEREST

- 11.1 Where a member has a direct or indirect financial interest otherwise than as a member of and in common with the other members of an incorporated company consisting of more than 25 persons and of which he/she is not a director, in a matter being considered or about to be considered by the INPART he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose the nature of his/her interest at a meeting of the INPART.
- 11.2 In Sub-section 11.1 above, "indirect financial interest" includes an interest of a member's spouse or child.
- 11.3 Where a member of INPART is a member of an organization that has a direct or indirect financial or other special interest in a matter being considered or about to be considered by the INPART, he/she shall, as soon as possible after the relevant facts have come to his/her knowledge, disclose his/her membership of that organization and the nature of that interest at a meeting of the INPART.
- 11.4 A disclosure under this section shall be recorded in the minutes of the INPART.
- 11.5 The INPART may, on being informed of the interest of a member in a matter being considered or about to be considered by it, by resolution in which that member shall

not vote, resolve that that member take no further part in the proceedings of the INPART in respect of that matter.

SECTION 12 - AMENDMENTS

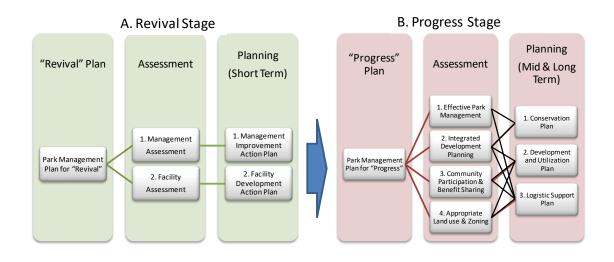
- 12.1. These ToRs may be amended through a written request submitted by any member of the INPART through the Chairperson.
- 12.2 Any such request shall be deliberated and voted upon at the next scheduled meeting of the INPART.
- 12.3 Amendments become effective by a favourable 2/3 vote of the INPART members, and shall be appended to these ToRs. A copy of all amendments shall be circulated to the members and provided also to the Secretariat.

C. 成果 2

活動コンポーネントの概要及び主要な成果品 公園施設の整備

1. 背景及び概要

プロジェクト開始時にバリラタ国立公園の管理状況のベースライン評価をするために、METT (Management Effectiveness Tracking Tool)による分析や関係者へのニーズの聞き取り調査を行った。その結果、サインボードや距離杭などの公園施設のほぼ全てが老朽化しており、それらの管理も適切に行われていない状況が判明した。一方で、1990 年代はレンジャーが配置されるなど必要十分な公園機能を有していたことが判明した。このような背景から、関係者との協議を通じて「バリラタ国立公園の管理能力の強化」に係る活動を「Revival stage」と「Progress stage」の2つのステージに分けて行うことにした。このうち「Revival stage」は、かつての公園施設の機能を取り戻すことを目標に定め、公園内の既存施設の修繕、整備を行った。具体的な作業は、公園施設の現状分析を行い、公園施設の改善のための計画を策定した。また、その計画に従って、サインボードや距離杭の設置、駐車場の整備などを行った。



2. 目的

公園の必要最低限の機能と役割を取り戻すために公園内の老朽化した施設の修繕と整備を行う(Revival stage)。

3. 活動内容

(1) Facility Assessment の実施

- (2) Facility Development Planの作成
- (3) 既存の公園施設の修繕、整備
- (4) 公園施設の管理及びモニタリング能力向上支援
- (5) バリラタ国立公園のガイドマップの作成

4. 活動経緯と実績

(1) Facility assessment の実施

| 2015年7月 | ▶ バリラタ国立公園内の施設をアセスメントするための現地調査を行 |
|---------|----------------------------------|
| ~10 月 | った。 |
| 2015年10 | ▶ バリラタ国立公園の施設データベースと施設マップを作成した。 |
| 月~12月 | ▶ 調査結果を取りまとめた施設アセスメントレポートを作成した。 |

(2) Facility Development Planの作成

| 2015年12 | > | 施設整備に必要な資材の見積りの収集及び積算作業を進めた。 |
|---------|---|--|
| 月~2016年 | | |
| 1月 | | |
| 2016年2月 | > | CP との議論を通じて Facility Development Planの概要を作成し |
| ~3 月 | | た。 |
| 添付資料 | > | Facility Development Planを最終化した。 |
| 2. 1. 1 | | |

(3) 既存の公園施設の修繕、整備

| 2016年1月 | > | 公園内の 79 の距離杭、1 つの橋、23 のサインボードを修理した。 |
|---------|---|--|
| ~2017年6 | > | 公園内の駐車場の整備を行った。 |
| 月 | > | ワークショップを開催し、施設整備の状況について関係者へ報告し |
| 添付資料 | | た。 |
| 2. 1. 2 | | |
| 2016年4月 | > | Main lookout と Main picnic area へそれぞれサインボードを設置 |
| ~12 月 | | した。 |
| | > | バードウォッチングプロジェクトに係る看板をバリラタ国立公園と |
| | | PAUへ設置した。 |
| | > | Scarp Track と Self Guide Track ヘツカツクリのサインボードを設 |
| | | 置した。 |

(4) 公園施設の管理及びモニタリング能力向上支援

| 2016年4月 | ▶ 公園施設のインスペク | ション用のマニュア | ルを作成し、 | CP 〜と説明 |
|---------|--------------|-----------|--------|---------|
| | | | | |

| ~2018年8 | | した。 |
|---------|---|---|
| 月 | > | Facility Databaseの更新方法について取りまとめ、CPへと説明し |
| | | た。また、更新方法について OJT で指導した。 |

(5) バリラタ国立公園のガイドマップの作成

| 2016年8月 | > | ガイドマップのデザイン案を作成した。 |
|---------|---|--------------------------|
| ~9月 | | |
| 2016年9月 | A | ガイドマップを最終化し、公園の訪問者へ配布した。 |
| ~2017年1 | | |
| 月 | | |
| 添付資料 | | |
| 2. 1. 3 | | |

5. 評価

(1) 成果到達度の評価

| 評価指標 | 指標の到達度の自己 | 評価結果 |
|--------------|-----------|--------------------------------------|
| | 評価 | |
| Facility | Achieved | 現場調査による公園施設の評価を通じて、2016 |
| Development | | 年3月にFacility Development Action Plan |
| Action Planを | | が作成された。 |
| 2016年3月ま | | |
| でに作成す | | |
| る。 | | |
| 公園施設が | Achieved | Facility Development Action Planに基づい |
| 2017年6月ま | | てサインボード、橋、距離杭などの公園施設が |
| でに作成した | | 整備された。 |
| プランに基づ | | |
| いて整備され | | |
| る。 | | |

(2) 目標到達度の評価

| 評価指標 | 指標の到達度 | 評価結果 | |
|--------|----------|----------------------------|--|
| 整備された公 | Achieved | 公園施設は、Park Ranger を中心に適切に管 | |
| 園施設が適切 | | 理、モニタリングされている。また、多くの観 | |
| に管理・活用 | | 光客が公園を訪問し、公園施設を利用してい | |
| される。 | | る。 | |

6. 教訓

(1) 公園施設に関する調査や修繕作業への地元民の巻き込み

CEPA カウンターパートと共に公園施設の調査を時間をかけて行い、また修繕作業も外注を最低限として共に実施していくことで、施設が改善されていく様子を見ながら成果を実感してもらうことができた。それにより、プロジェクト活動に対するモチベーションが向上し、同時にオウナーシップを高めることができた。また、公園整備では積極的に地域住民や地元工務店を雇用して実施したことで、地域住民の間でもプロジェクト活動についての理解が進み、その後に生計向上活動を実施したり公園管理委員会を発足させる際の土台となった。

7. 提言

(1) 公園施設整備・メインテナンスのための予算確保

プロジェクトで整備した公園施設を継続して機能させるためには、管理に加えて補修などのメインテナンス費用を確保する必要がある。現状では、公園施設の老朽化が進んだ段階で逐一CEPAへ予算申請を行う必要があるが、内部手続きには多くの時間がかかりタイムリーに作業を実施できない上、また必要な経費が支給されない事態も経験している。施設整備及びメインテナンスの費用は、公園管理委員会で議論が進められているように、公園で独立した予算枠をつくり、必要額の予算を確保しておくとともに、公園管理委員会などの裁量で執行できるような新たなシステムが求められる。

8. 主要な成果品リスト:

- 1) Facility Development Plan(添付資料 2.1.1)
- 2) Report of renovation of the existing facilities at VNP (2016)(添付資料 2.1.2)
- 3) Varirata National Park Guide Map(添付資料 2.1.3)

以上

添付資料 2.1.1 Facility Development Plan

Facility Development Plan

1. Principle of development plan

The principle of facility development plan in VNP is shown below.

[Principle of Facility Development Plan in VNP] (Recommendation)

- ◆ Two steps development
- ◆ The first step is located as "Revival stage", the target is the revival of facility condition in 1990s
- ♦ The second step is located as "Progress stage", the target is the further improvement of facility.
- ◆ The planning of the second step will be prepared during the first step implementation. And after first step, the second step will start.

Total of over 200 facilities are identified in VNP. It is not possible to revive all the facilities within the short term taking into consideration the cost and time frame. Therefore, firstly it is necessary to select prior items and start implementing them.

Priority of the facility shall be considered based on the priority of functions. There are 4 natural park functions; (1) Contribute to secure biodiversity or conservation of natural environment, (2) Contribute to provision of place and chance of experiences in nature or study of natural environment, (3) Contribute to safety of park utilization, and (4) Contribute to provision of place and chance of recreation. The most important function in VNP is considered as "(4) Contribute to provision of place and chance of recreation" followed by "(2) Contribute to provision of place and chance of experiences in nature or study of natural environment". And the function "(3) Contribute to safety of park utilization" is prior, because this function support the functions of (4) and (3).

On the aspect of "Revival" of park function in the past, the facilities related to function (4) and (2) are prior, followed by function (3) and (1).

The prior improvement targets are shown below.

[Prior improvement of Facility for Revival Stage]

- ◆ Function (4): The Facilities which contribute to provision of place and chance of recreation
 - Repair or replacement of the Shelters in Lake site, toilets
 - ➤ Improvement of <u>Camping facilities</u>
 - > Repair or replacement of <u>car stop piles</u>
- ◆Function (2): The facilities which Contribute to provision of place and chance of experiences in nature or study of natural environment
- ◆Function (3): The facilities which Contribute to safety of park utilization
 - Repair or replacement of Wooden bridges on Tracks
 - Preparation of track sign boards and guide map

3.3 Development plan framework

Table below shows the principle of facility development plan with the classification of short, medium and long term.

Table 1.1-1 Strategy for Facility Development in Varirata National Park

| Category of Facility | Strategy of Improvement/ | | Next steps | | |
|------------------------------|--|--|---|---|---|
| | development | Comment/Explanation | Short Term (1-2 Year) | Mid Term (2-3 Year) | Long Term (4-5 Year) |
| (1) Road and bridge | | | | | |
| 1) Car road | Pavement on dirt roads and secure maintenance of paved roads | 80% of total road length, main road and circuit road, have been paved. Maintenance of existing paved roads and pavement of the other roads are required. | Maintenance of paved roads | Maintenance of paved roads | Pavement on the other |
| 2) Track | Regular maintenance | Track condition is quite good currently because of good maintenance. The maintenance shall be secured to be implemented. | Regular maintenance | Regular maintenance | Regular maintenance |
| 3) Bridge (track) | Repair of middle size bridge is prior, small size bridge can be done later | Walking without middle sized bridge causes accidents or impossible to continue to walk the track. | Repair or replace middle sized bridge on tracks Regular maintenance | Small sized bridge set. Regular maintenance | Regular maintenance |
| 4) Hand rail (track) | 2 hand trails will be replaced urgently | The hand trails are necessary for safety walk on the tracks. | Replacements of 2 had trails. | Regular maintenance | Regular maintenance |
| (2) Open area | Keep the good condition by maintenance | Current condition is kept with good maintenance such as cleaning and lawn cutting. | Regular maintenance | Regular maintenance | Regular maintenance |
| (3) Quarter | Ranger's life lines and structures shall be improved. | The ranger's function for keeping safety is expected much; therefore, their life facility shall be improved. | Development planning of water supply for ranger's quarter | Development of water supply for ranger's quarter Planning of water supply for ranger's house | Development of water supply for ranger's house |
| (4) Shelter and other houses | | | | | |

Table 1.1-1 Strategy for Facility Development in Varirata National Park

| | Strategy of Improvement/ | | | Next steps | |
|---------------------------|---|---|--|---|--|
| Category of Facility | development | Comment/Explanation | Short Term (1-2 Year) | Mid Term (2-3 Year) | Long Term (4-5 Year) |
| 1) Shelter | Restoration of existing facilities first | Restoration of roof of existing shelters in lake site is prior. In the same time, maintenance of all existing shelters shall be done. | Restoration of roofs of shelters in lake site | Other shelters repair Maintenance of existing shelters | Regular maintenance |
| 2) Tollgate | Improved for safety in short term, dimension of the tollgate office will be improved in long term. | Improvement of safety function on the office is urgent (bandits counter measure). Bigger tollgate will be improved in long term. | Safety function of exiting tollgate | Planning bigger tollgate | Implement bigger tollgate |
| 3) Information center | Simple and same structure is revived in short term, another new and different system center will be developed in long term. | Simple and restoration is required in short term plan. The next generation information center (such as live video, on time camera traps, etc.) will be considered, planned and implemented with long term period. | Simple structure on the existing position or near position | Strategy, planning for new information system development | Implementation of new information system (electric information system) |
| (5) Camping facility | Restoration of existing facilities first. Especially, repair and improvement of lodges and toilets are prior. | Restoration of existing lodges and toilet, repair or replacement of door keys and gate facilities are prior. Necessity of water supply system, shower rooms and kitchen will be considered and improved. | Restoration of door keys of lodges, gate, toilet. | Maintenance of lodges, toilets. Consideration and strategy/ planning of water supply system, shower rooms and kitchen | Maintenance of existing facilities Development of water supply, shower rooms and kitchen |
| (6) Car Parking | Car stop pile shall be maintained. | Car stop pile is key to control the car movement. | Main picnic area Main lookout | Regular maintenance Other open areas | Regular maintenance |
| (7) Water supply facility | Ranger's facility must be improved. | Ranger's area water supply system shall be prior to the one for visitors. | For Ranger's quarter | For Ranger's house | For visitors |
| (8) Toilet | Repair or replacement of existing toilets is prior. Regular maintenance is crucial. | Cleaned toilet is one of the most important points for visitors. Replacement of damaged toilet and repair are prior. Daily | Cleaning, maintenance and replacement of all existing toilets | Cleaning and maintenance of existing toilets | Regular maintenance |

Table 1.1-1 Strategy for Facility Development in Varirata National Park

| Octobron of Facility | Strategy of Improvement/ | O | | Next steps | |
|------------------------------------|--|--|--|--|--|
| Category of Facility | development | Comment/Explanation | Short Term (1-2 Year) | Mid Term (2-3 Year) | Long Term (4-5 Year) |
| | | maintenance of toilet is one of the most important issues. | | shall be implemented. Additional toilets Regular maintenance | |
| (9) Sign | | | | | |
| 1) Traffic/ car road sign board | Existing boards shall be maintained. Unclear words shall be changed. | Change of unclear words is prior, and check the effects. | Sign words shall be changed. | Regular maintenance | Regular maintenance |
| 2) Track sign board | Distance piles, ref. piles, and guide map shall be improved. | Combination of distance piles, ref. piles and guide map shall be improved on time. | Restoration of all distance piles, and map preparation | Restoration of all ref. piles and map updating | Improve informing system (electric information system) |

Source: CEPA-JICA Project (Facility Assessment Report in Varirata National Park, 2015)

2. Schedule of Three Term Periods

The planning and implementation schedule of three term periods are shown below.

Table 2.1-1 Draft Schedule of Planning and Implementation during

| Stage/ Plan, | Implementation | 1 st Y | Year | 2 nd | Year | 3 rd 3 | Year | 4 th Y | Year | 5 th 3 | Year |
|----------------|----------------|-------------------|---|-----------------|------|-------------------|------|-------------------|------|-------------------|-------|
| | Planning | | • | | | | | | | | |
| Revival Stage | Implementation | | | | | \rightarrow | | | | | |
| Progress Stage | Planning | | • | | | | | ightharpoons | | | |
| Progress Stage | Implementation | | | | | | | | | | ••••• |

Source: CEPA-JICA Project (Facility Assessment Report in Varirata National Park, 2015)

The short term period is apply to the "Revival Stage", and mid-term and long-term period are apply to the "Progress Stage".

3. Revival Plan (Short-Term Plan)

3.1 Amount of Revival Plan

The necessary facilities which will be repaired or replaced during the "Revival stage" are shown below.

Table 3.1-1 Target Facilities of Development during Revival Stage

| Sub Category | Not necessary | Other Planning | Repair/ replacement | Total |
|---------------------|---------------|----------------|---------------------|-------|
| Area sign board | - | - | 1 | 1 |
| Track sign board | - | - | 5 | 5 |
| Traffic sign board | - | - | 5 | 5 |
| Facility sign board | - | - | 1 | 1 |
| Reference pile | - | 71 | - | 71 |
| Distance pile | - | 39 | 0 | 39 |
| Bridge | 2 | - | 19 | 21 |
| hand rail | - | - | 2 | 2 |
| Car stop pile | - | 6 | - | 6 |
| Other | - | - | 1 | 1 |
| Shelter/ hut | 9 | - | 4 | 13 |
| BBQ set | 5 | - | 7 | 12 |
| Fence | - | - | 4 | 4 |
| Gate | - | - | 1 | 1 |
| Toilet | - | - | 9 | 9 |
| Workshop | - | - | 1 | 1 |
| Information center | - | - | 1 | 1 |
| Car parking area | 7 | - | - | 7 |
| Total | 23 | 116 | 61 | 193 |

Source: Prepared CEPA-JICA Project based on Facility Assessment Report in Varirata National Park, 2015

3.2 Summary of Revival Plan

The summary of the revival plan is shown below.

Table 3.1-2 Summary of Revival Plan

| | Item | Amount | unit | Cost (PGK) |
|-------|------------------------------|--------|------------|------------|
| (1) | Distance pile | 73 | pile | |
| | Sign Board for distance pile | 8 | sign board | 7,774 |
| (2) | Car stop pile | 186 | pile | 10,439 |
| (3) | Sign Board | 12 | sign board | 4,545 |
| (4) | Bridge | 19 | bridge | 257,019 |
| (5) | Hand rail | 2 | rail | 8,547 |
| (6) | Fence | 3 | place | 62,681 |
| (7) | Toilet | 9 | toilet | 87,522 |
| (8) | Shelter | 4 | shelter | 248,745 |
| (9) | BBQ set | 12 | set | 8,783 |
| (10) | Workshop | 1 | building | 137,934 |
| (11) | Tree house | 1 | building | 55,176 |
| (12) | Information center | 1 | building | 306,526 |
| Total | | | | 1,195,691 |

^{*} The cost includes GST (10%)

3.3 Detail of the Revival Plan

The details of the revival plan are described below (1) to (10).

(1) Distance piles, sign boards and guide map

Many distance piles and reference piles show position of the visitor on a guide map. They have been distributed along the tracks. However, most of them are aged and damaged then do not work. In this plan, the lost function of guide of the park will be recovered by installation of distance piles at 100m each from the start point to the end point of each track. The sign boards will be replaced or installed newly to show the start and end point of each track, and the guide map will show the whole map, track detail maps to show the location of tracks, relation between the tracks and distance piles/ sign boards. Therefore, in this plan, installation of distance pile and sign board, preparation of guide map will be implemented as one set. Additionally, the guide map will be distributed to the visitors; therefore, additional printing will be necessary.

1) Plan of distance pile and sign boards installation

The new distance piles will be installed at 100m each on the tracks. Two sign boards will be installed at both of the start and end points. The planned number of new distance piles are shown below.

Table 3.3-1 Number of Distance piles and Sign Boards (Track basis)

| Track | Distance (m) | Number of distance pile | Number of new sign board |
|----------------------|--------------|-------------------------|--------------------------|
| Circuit Track | 1,910 | 18 | 2 |
| Self Guide Track | 1,930 | 18 | 2 |
| Scarp Track | 2,180 | 21 | 2 |
| Gare's Lookout Track | 1,640 | 16 | 2 |
| total | 7,660 | 73 | 8 |

The estimated cost of piles and boards installation is shown below.

Table 3.3-2 Cost of Distance piles and Sign Boards Installation

| Item | Number | Cost (PGK) |
|---------------|--------|------------|
| Distance pile | 73 | 4,312.7743 |
| Sign board | 8 | 2,754.5944 |
| Total | | 7,067.3687 |
| GST | | 706.7369 |
| Ground Total | | 7,774.1056 |
| Round | | 7,774 |

2) Plan of guide map preparation

The design of guide map will be prepared by the Project experts and illustration preparation and printing will be contracted. The size of guide map is A3 and both sides will be used.

The illustration will be prepared once. 1,000 maps will be printed per three month. The cost for map preparation is shown below.

Table 3.3-3 Cost of Guide Map Preparation

| Item | Number | Cost (PGK) |
|--------------|--------|------------|
| Illustration | 1 | 1,000 |
| Printing | 1,000 | 10,000 |
| Total | | 11,000 |
| GST | | 1,100 |
| Ground Total | | 12,100 |
| Round | | 12,100 |

(2) Car stop pile

No vehicles are allowed to enter to the open areas. The car spot pile limit the parking area; therefore, car stop piles of all car parking area are planned to be replaced.

The required number of car stop piles is shown below.

Table 3.3-4 Cost of Car Stop Piles replaced

| Facility No | Sub location | Length (m) | Distance of line of piles | Cost (PGK) |
|-------------|---------------------|------------|---------------------------|-------------|
| 30 | Main picnic area | 52 | 53 | 2,704.0176 |
| 55 | Lake site | 18 | 19 | 969.3648 |
| 56 | Lodge area | 36 | 37 | 1,887.7104 |
| 74 | Gare's lookout | 17 | 18 | 918.3456 |
| 75 | Gare's lookout | 25 | 26 | 1,326.4992 |
| 162 | Picnic site 4 | 32 | 33 | 1,683.6336 |
| Total | 6 car parking areas | 180 | 186 | 9,489.5712 |
| | | | GST | 948.9571 |
| | | | Ground Total | 10,438.5283 |
| | | | Round | 10,439 |

(3) Sign boards

The damaged sign boards of traffic sign boards, track sign boards, facility sign boards, and area sign boards will be replaced. The list of sign boards to be replaced is shown

below.

Table 3.3-5 List of Sign Board Repaired/ Replaced

| Facility No | Sub category | Sub location | Cost (PGK) |
|-------------|---------------------|----------------------|------------|
| 12 | Facility sign board | Main road | 344.3243 |
| 67 | Area sign board | Gare's lookout | 344.3243 |
| 68 | Track sign board | Gare's lookout | 344.3243 |
| 71 | Track sign board | Gare's lookout | 344.3243 |
| 76 | Traffic sign board | Main road | 344.3243 |
| 77 | Traffic sign board | Main road | 344.3243 |
| 78 | Traffic sign board | Main road | 344.3243 |
| 79 | Traffic sign board | Main road | 344.3243 |
| 80 | Traffic sign board | Main road | 344.3243 |
| 189 | Track sign board | Scarp track | 344.3243 |
| 208 | Track sign board | Gare's lookout track | 344.3243 |
| 209 | Track sign board | Gare's lookout track | 344.3243 |
| Total | 12 sign boards | | 4,131.8916 |
| | _ | GST | 413.1892 |
| | | Ground Total | 4,545.0808 |
| | | Round | 4,545 |

(4) Bridge

The bridge repair, replacement are classified into three types based on the depth of water way of planed place as below.

- Small size: the depth of water way is less than 10cm,
- Medium size: the depth of water way is less than 50cm, and
- Big size: the depth water way is equal or more than 50cm.

The list of bridges which will be developed during short- term period is shown below.

Table 3.3-6 List of Bridge Repaired/Replaced

| Facility No | Sub location | Type of repair-replacement | Cost (PGK) |
|-------------|------------------|---|--------------|
| 23 | Main picnic area | replacement of whole bridge (big size) | 49,213.0000 |
| 92 | Self guide track | replacement of whole bridge (big size) | 49,213.0000 |
| 99 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 103 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 105 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 107 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 109 | Self guide track | replacement of whole bridge (medium size) | 3,885.0865 |
| 113 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 114 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 116 | Self guide track | replacement of whole bridge (medium size) | 3,885.0865 |
| 119 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 120 | Self guide track | replacement of whole bridge (small size) | 1,200.7676 |
| 127 | Circuit track | replacement of whole bridge (big size) | 49,213.0000 |
| 132 | Circuit track | replacement of whole bridge (medium size) | 3,885.0865 |
| 143 | Circuit track | replacement of whole bridge (medium size) | 3,885.0865 |
| 178 | Boundary track | replacement of whole bridge (big size) | 49,213.0000 |
| 182 | Boundary track | replacement of whole bridge (medium size) | 3,885.0865 |
| 183 | Boundary track | replacement of whole bridge (medium size) | 3,885.0865 |
| 184 | Boundary track | replacement of whole bridge (medium size) | 3,885.0865 |
| Total | 21 Bridges | | 233,653.7463 |

| GST | 23,365.3746 |
|--------------|--------------|
| Ground Total | 257,019.1209 |
| Round | 257,019 |

(5) Hand trail

Two hand trails on the track have been disappeared or almost broken already. These will be replaced to the new trails. The list of hand trail is shown below.

Table 3.3-7 List of Hand Trail Repaired/ Replaced

| Facility No | Sub location | Damage level | Type repair- replacement | Cost_(PGK) |
|----------------|---------------------|--|-----------------------------|------------|
| 125 | Self guide track | Replacement is required or broken completely | replacement | 3,885.0865 |
| 134 | Circuit track | Replacement is required or broken completely | replacement | 3,885.0865 |
| Total | 2 hand trails | | | 7,770.1730 |
| | | | GST | 777.0173 |
| | | | Ground Total | 8,547.1903 |
| | | | Round | 8,547 |

(6) Fence

No. 207 and 213 are necessary to prevent an accident that the visitors would fall down the slope. No.254 stops the visitors who would enter the park through wrong entering place.

Table 3.3-8 List of Fence Repaired/Replaced

| Facility No | Subcateg ory | Sub location | Damage level | Type of repair- replacement | Cost (PGK) |
|----------------|--------------|----------------------|--|--------------------------------|-------------|
| 207 | Fence | Gare's lookout track | Replacement is required or broken completely | Replacement | 3,885.0865 |
| 213 | Fence | Gare's lookout track | Replacement is required or broken completely | Replacement | 3,885.0865 |
| 254 | Fence | Entrance gate site | Repair is required | Replacement | 49,213.0000 |
| Total | 3 Fences | | | | 56,983.1730 |
| | | | | GST | 5,698.3173 |
| | | | | Ground Total | 62,681.4903 |
| | | | | Round | 62,681 |

(7) Gate

The entrance gate is currently under repairing by CEPA (February, 2016). Also, CEPA is going to repair the gate at Lodge area and the main lookout. The gate at the main lookout is new gate which limits car entrance into the lookout, because police patrol vehicle comes into the main lookout once a week. However, general visitors are prohibited to enter the lookout. In this Development plan, the cost of repair or new installation of gates are not included.

| Facility No Subcategor | Description | Sub location | Type of repair-replacement |
|------------------------|-------------|--------------|----------------------------|
|------------------------|-------------|--------------|----------------------------|

| 4 Gate Tollgate gate | Entrance gate site | Replacement |
|----------------------|--------------------|-------------|
|----------------------|--------------------|-------------|

(8) Toilet

The condition of toilet is classified as i) seat is damaged, ii) floor is damaged, iii) both are damaged, and iv) whole toilet is damaged. The list of toilet which will be developed is shown below.

Table 3.3-9 List of Toilet Repaired/Replaced

| Facility No | Description | Type of repair-replacement | Cost (PGK) |
|-------------|--------------|--|-------------|
| 28 | for visitors | replacement of whole toilet | 12,468.0000 |
| 32 | for visitors | replacement of seat & floor only of toilet | 1,585.9225 |
| 33 | for visitors | replacement of seat & floor only of toilet | 1,585.9225 |
| 41 | for visitors | replacement of whole toilet | 12,468.0000 |
| 72 | for visitors | replacement of whole toilet | 12,468.0000 |
| 83 | for visitors | replacement of whole toilet | 12,468.0000 |
| 158 | for visitors | replacement of seat & floor only of toilet | 1,585.9225 |
| 172 | for rangers | replacement of whole toilet | 12,468.0000 |
| 176 | for rangers | replacement of whole toilet | 12,468.0000 |
| Total | 7 Toilets | | 79,565.7675 |
| | | GST | 7,956.5768 |
| | | Ground Total | 87,522.3443 |
| | | Round | 87,522 |

(9) Shelter

Most of the shelters in VNP are not bad conditions except the ones located in the lake side. The list of shelters which are necessary to replaced is shown below.

Table 3.3-10 List of Shelters Repaired/Replaced

| Facility No | Sub location | Damage level | Type of repair-replacement | Cost (PGK) | | |
|----------------|-----------------|--|------------------------------|--------------|--|--|
| 48 | Open area | Replacement is required or broken completely | replacement of whole shelter | 56,533.0000 | | |
| 51 | Lake site | Repair is required | replacement of whole shelter | 56,533.0000 | | |
| 53 | Lake site | Repair is required | replacement of whole shelter | 56,533.0000 | | |
| 54 | Lake site | Repair is required | replacement of whole shelter | 56,533.0000 | | |
| Total | 4 shelters | | | 226,132.0000 | | |
| | | | GST | 22,613.2000 | | |
| | | | Ground Total | 248,745.2000 | | |
| | | | Round | 248,745 | | |

(10) BBQ set

Some of BBQ sets are broken and necessary to be replaced. The list of BBQ sets which will be replaced is shown below.

Table 3.3-11 List of BBQ Sets Repaired/ Replaced

| Facility No | Sub location | Damage level | Cost (PGK) |
|-------------|------------------|--------------------|------------|
| 18 | Main picnic area | Repair is required | 1,140.6250 |
| 49 | Open area | Repair is required | 1,140.6250 |

| 70 | Gare's lookout | Slightly damage | 1,140.6250 |
|-------|----------------|--|------------|
| 87 | Picnic site 3 | Repair is required | 1,140.6250 |
| 89 | Picnic site 3 | Repair is required | 1,140.6250 |
| 156 | Lake site | Repair is required | 1,140.6250 |
| 157 | Lake site | Replacement is required or broken completely | 1,140.6250 |
| Total | 7 BBQ sets | | 7,984.3750 |
| | | GST | 798.4375 |
| | | Ground Total | 8,782.8125 |
| | | Round | 8,783 |

(11) Buildings

The buildings which are necessary to be developed during the Revival stage are i) workshop, ii) Koiari tree house, and iii) Information center.

Necessary cost of those are shown below.

Table 3.3-12 Workshop Replaced

| Facility No | Sub location | Cost (PGK) |
|-------------|------------------|--------------|
| 27 | Main picnic area | 125,394.5000 |
| | | 12,539.4500 |
| | | 137,933.9500 |
| | | 137,934 |

Table 3.3-13 Tree House Replaced

| Facility No | Subcategory | Description | Cost (PGK) |
|-------------|-------------|-------------------|-------------|
| 253 | Other | Koiari Tree House | 50,160.0000 |
| | | | 5,016.0000 |
| | | | 55,176.0000 |
| | | | 55,176 |

Table 3.3-14 Information Center Replaced

| Facility No | Sub location | Type of epair-replacement | Cost (PGK) |
|-------------|------------------|-----------------------------|--------------|
| 26 | Main picnic area | replacement of whole center | 278,660.0000 |
| | | GST | 27,866.0000 |
| | | Ground Total | 306,526.0000 |
| | | Round | 306,526 |

3.4 Tentative implementation schedule of Revival Plan

(1) Implementation methodology

There are two types of implementation methodology for facility development; i) direct construction by the project or CEPA, ii) contract basis construction (by the contractor). Because of much expensive cost by quotation submitted by some contractor companies, it is considered to implement by the Project or CEPA using some employees such as, carpenter, worker, supervisor, etc. most of the wood small sized facilities will be implemented by the direct implementation (Distance pile, Sign Board for distance pile, Car stop pile, Sign Board, Bridge, Hand rail, Fence. Some specific and big sized facilities

will be implemented contract basis (toilet, Shelter, BQ set, Workshop, Tree house, Information center).

(2) Implementation schedule

The implementation schedule is considered tentatively as below.

| | | | 2016 | | | | | | | | | | | | 2017 | | | | | | | | | | | |
|------|------------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| No. | Work Item | Cost | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| (1) | Distance pile | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Sign Board for distance pile | 7,774 | _ | | | | _ | | İ | | | | | | | | | | | | | | | | | |
| (2) | Car stop pile | 10,439 | | | | • | | | | | | | | | | | | | | | | | | | | |
| (3) | Sign Board | 4,545 | | | | | | | | | | | | | | | | | | | | | | | | |
| (4) | Bridge | 257,019 | | | | | | | | | _ | | | | | | _ | | | | | | | | | |
| (5) | Hand rail | 8,547 | | | | | | | | | _ | | | | | | | | | | | | | | | |
| (6) | Fence | 62,681 | | | | | | | | | | | | | | | | | | - | | | | | | |
| (7) | Toilet | 87,522 | | | | | | | | | | | | | | | | | | | | | | | | |
| (8) | Shelter | 248,745 | | | | | | | | | | _ | | | | | | | | | | | | | | |
| (9) | BBQ set | 8,783 | | | | | | | | | | | | | | | | | | | | | | | | |
| (10) | Workshop | 137,934 | | | | | | | | | | | | | | | | | | | | | | | | |
| (11) | Tree house | 55,176 | | | | | | | | | | | | | | | | | | | | | | | | |
| (12) | Information center | 306,526 | | | | | | | | | | | | | | | | | | | | | | | | |

The monthly cost of each work item is averaged and total cost of each month is calculated as below.

1st year (tentatively 2016)

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|---------|---------|
| 1,555 | 1,555 | 1,555 | 1,555 | 4,165 | 3,746 | 3,746 | 3,746 | 42,126 | 40,990 | 105,727 | 105,727 |

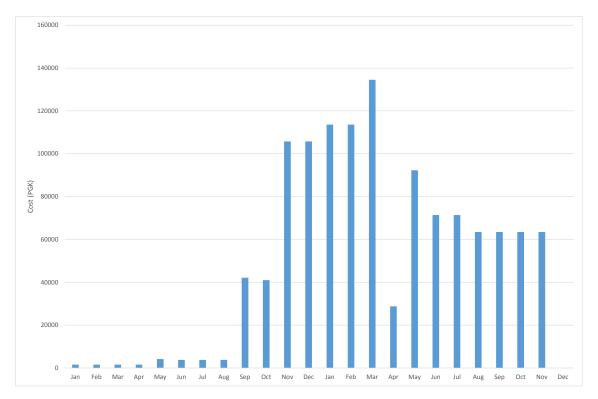
2nd year (tentatively 2017)

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 113,609 | 113,609 | 134,502 | 28,775 | 92,270 | 71,376 | 71,376 | 63,494 | 63,494 | 63,494 | 63,494 |

(The unit is PGK, including GST)

Note: The actual payment is composed as 50% at the beginning of work, 30% at middle of the work and 20% at the end of the work. Therefore, the cost distribution above is different from the actual condition. Also, the all cost is estimated based on some price research and collection of quotations. However, even the quotation, the cost will be changed by the contractors or suppliers at the actual implementation. Therefore, the cost above is absolutely estimation and when start implementation, serious quotations are required.

The monthly cost transition is shown as below.

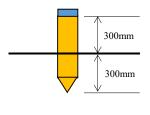


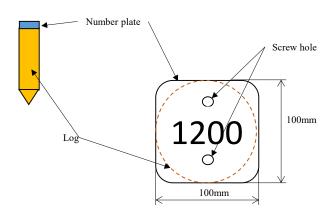
It is considered to prepare the contract with some contractors for the contract basis implementation; therefore, most of them are scheduled in the 2^{nd} year. The each cost of contract basis implementation is higher than the direct implementation. Therefore, the cost of the 2^{nd} year is much higher than the 1^{st} year.

- 3.5 Budget plan of the Revival Plan
- (1) Summary of current budget
- (2) Gaps of planned cost requirement and current revenew
- (3) Fund source

Appendix-A Outline of Design (Wood Facility for the Direct implementation)

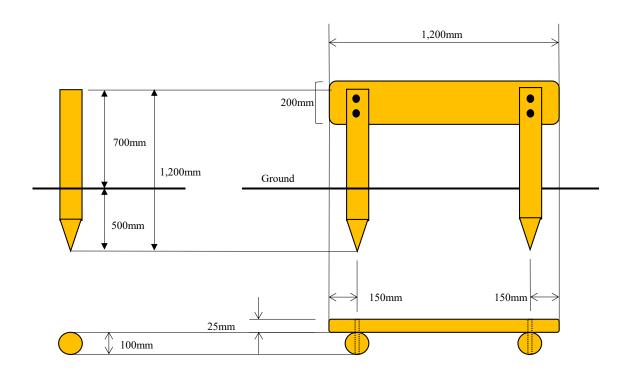
Outline design (1): Distance pile



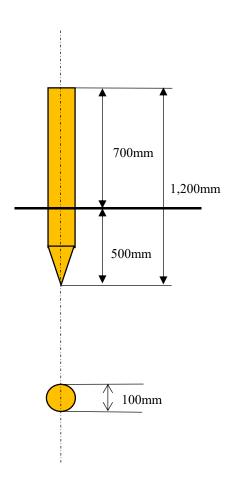


Enlarged Illustration of Distance Plate

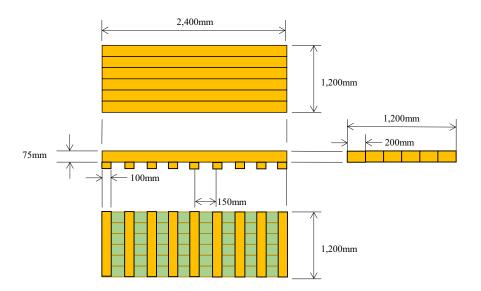
Outline design (2): Sign board



Outline design (3): Car stopping pile

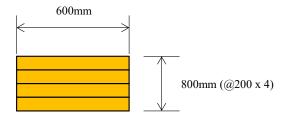


Outline design (4): Medium sized bridge



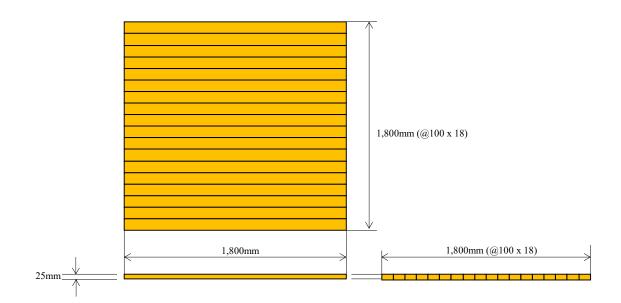
Note 1: This type will be used for place with less than 50cm of depth of water way. Note 2: The length of bridge is shorter than this type, cost will be estimated by proportional allotment.

Outline design (5): Small sized bridge

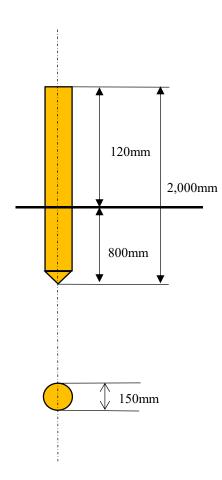


Note 1: This type will be used for place with less than 10cm of depth of water way. Note 2: The length of bridge is shorter than this type, cost will be estimated by proportional allotment.

Outline design (6): Floor of toilet



Outline design (7): Hand rail

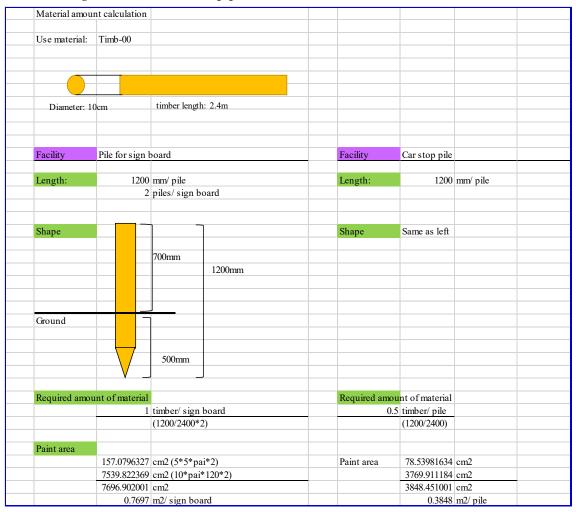


Appendix B Calculation of Volume of wood material

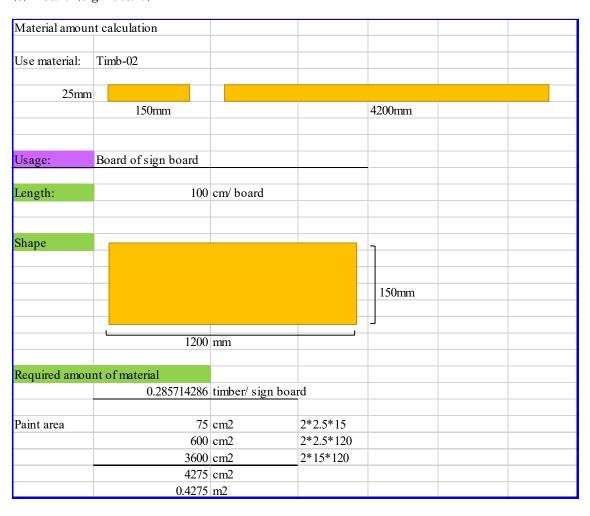
(1) Distance pile

| Material amour | nt calculation | | | Distance pile | |
|-------------------|----------------|-------------|-------|---------------|--|
| | | | | | |
| Material shape | & dimension | at shop | | | |
| | | | | | |
| | | | | | |
| | φ 10cm | | | 2.4m | |
| D: | :_4:1_ | | | | |
| Dimention of d | istance pile | | | | |
| Length: | 600 | mm | | | |
| Diameter Diameter | | mm | | | |
| 2 101112001 | 100 | | | | |
| | | | | | |
| Shape | | | | | |
| | | 300mm | | | |
| Ground | | | | | |
| | | | 600mm | | |
| | | 300mm | | | |
| | V | | | | |
| Required amou | nt of motorial | | | | |
| Required amou | | timber/pil | e | (600/2400) | |
| | 0.23 | thriber pir | | (000/2400) | |
| Paint area | 78.53981634 | cm2 | | (5*5*pai) | |
| | 1884.955592 | | | (10*Pai*60) | |
| | 1963.495408 | | | | |
| | 0.1963 | m2 | | | |

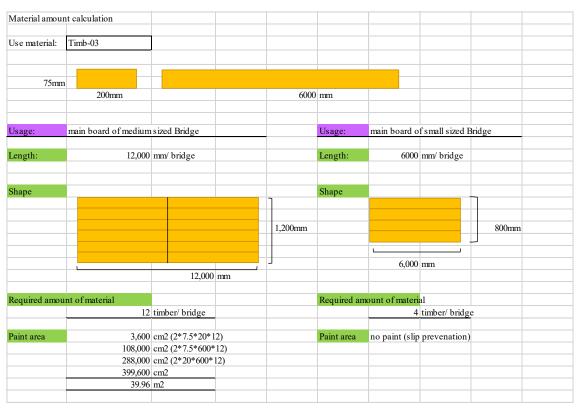
(2) Pile of sign board, and car stop pile



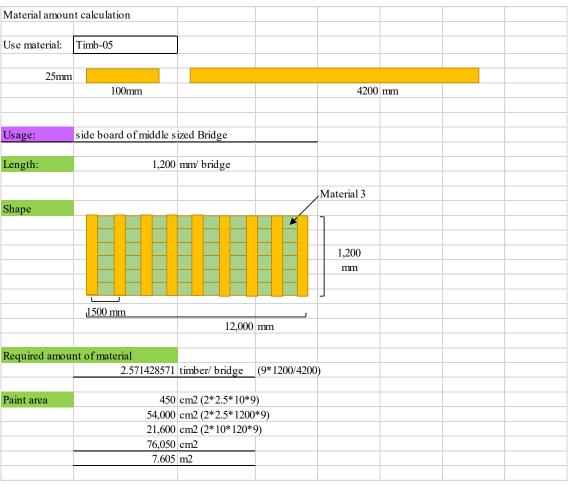
(3) Board (sign board)



(4) Bridge



(5) Medium size bridge



(6) Toilet Floor



Appendix C Cost estimation sheet

[1] Direct Implementation Costs

(1) Material cost estimation

| | Material cost etimation | | | | | | | | | | | |
|-----|-------------------------|--|-----------------|------------|---------------|-----------------|-------------------|-----------------|------------|---------------|-----------------|--------------------|
| | | | Material itself | | | | | | | | | |
| No. | Sub category | Type of repair/ replacement | Material-1 code | unit price | unit | required amount | unit | Material-2 code | unit price | unit | required amount | unit |
| | Sign Board | replacement of board only | Timb-02 | 37.49 | PGK/ material | 0.285714286 | board/ sign board | | | | | |
| | Sign Board | replacement whole sign board | Timb-02 | 37.49 | PGK/ material | 0.285714286 | board/ sign board | Timb-00 | 23 | PGK/ material | 1 | timber/ sign board |
| 3 | Distance pile | replacement whole distance pile | Timb-00 | 23 | PGK/ material | 0.25 | timber/ pile | Plate-01 | 21.5 | PGK/ material | 1 | plate/ pile |
| 4 | Car parking | replacement of whole car stop pile | Timb-00 | 23 | PGK/ material | 0.5 | timber/ pile | | | | | |
| 5 | Toilet | replacement of seat only | T-seat-01 | 1000 | PGK/ material | 1 | material/ seat | | | | | |
| 6 | Toilet | replacement of floor only of toilet | Timb-05 | 22.93 | PGK/ material | 9 | pieces/toilet | | | | | |
| | Toilet | replacement of seat & floor only of toilet | | | | | | | | | | |
| | Toilet | replacement of whole toilet | | | | | | | | | | |
| | Lodge | replacement of lock of lodge only | Lock-01 | 29.99 | PGK/ material | 1 | set/ lodge | | | | | |
| 10 | Lodge | replacement of whole lodge (2 rooms) | | | | | | | | | | |
| 11 | Lodge | replacement of whole lodge (4 rooms) | | | | | | | | | | |
| 12 | Shelter | replacement of whole shelter | | | | | | | | | | |
| 13 | Bridge (small size) | replacement of whole bridge (small size) | Timb-03 | 257.04 | PGK/ material | 4 | timber/ bridge | | | | | |
| 14 | Bridge (medium size) | replacement of whole bridge (medium size) | Timb-03 | 257.04 | PGK/ material | 12 | timber/ bridge | Timb-05 | 22.93 | PGK/ material | 2.571428571 | timber/ bridge |
| 15 | Bridge (big size) | replacement of whole bridge (big size) | | | | | | | | | | |
| | Information center | replacement of whole center | | | | | | | | | | |

| | Material cost etimation | | | | | | | | | | | | | | |
|-----|-------------------------|--|----------|------------|--------------|-----------------------------------|----|---------|-------------------|-----------------------------------|----|---------|-------------------|-----------------|-------------------|
| | Material cost etimation | | | | | | | | | | | | | 1 | little/10m2 |
| | | | Painting | | | | | | | | | | | | intic fonz |
| No | Sub category | Type of repair/ replacement | code | unit price | unit | required amount for material-1 | | | | required amount for material-2 | | | | total amount | |
| | | replacement of board only | Paint-01 | 54.99 | PGK/ littler | 0.4275 | m2 | 0.04275 | little/sign board | | m2 | | little/sign board | 0.04275 | little/sign board |
| | Sign Board | replacement whole sign board | Paint-01 | 54.99 | PGK/ littler | 0.4275 | m2 | 0.04275 | little/sign board | 0.7697 | m2 | 0.07697 | little/sign board | | little/sign board |
| 3 | Distance pile | replacement whole distance pile | Paint-01 | 54.99 | PGK/ littler | 0.1963 | m2 | 0.01963 | little/pile | | | | | 0.01963 | little/pile |
| 4 | Car parking | replacement of whole car stop pile | Paint-01 | 54.99 | PGK/ littler | 0.3848 | m2 | 0.03848 | little/pile | | | | | 0.03848 | little/pile |
| 5 | Toilet | replacement of seat only | | | | | | | | | | | | | |
| 6 | Toilet | replacement of floor only of toilet | Paint-01 | 54.99 | PGK/ littler | 8.19 | m2 | 0.819 | little/toilet | | | | | 0.819 | little/toilet |
| 7 | Toilet | replacement of seat & floor only of toilet | | | | | | | | | | | | | |
| - 8 | Toilet | replacement of whole toilet | | | | | | | | | | | | | |
| 9 | Lodge | replacement of lock of lodge only | | | | | | | | | | | | | |
| 10 | Lodge | replacement of whole lodge (2 rooms) | | | | | | | | | | | | | |
| 11 | Lodge | replacement of whole lodge (4 rooms) | | | | | | | | | | | | | |
| 12 | Shelter | replacement of whole shelter | | | | | | | | | | | | | |
| 13 | Bridge (small size) | replacement of whole bridge (small size) | | | | | | | | | | | | | |
| 14 | Bridge (medium size) | replacement of whole bridge (medium size) | Paint-01 | 54.99 | PGK/ littler | 39.96 | m2 | 3.996 | little/bridge | 7.605 | m2 | 0.7605 | little/bridge | 4.7565 | little/bridge |
| 15 | Bridge (big size) | replacement of whole bridge (big size) | | | | | | | | | | | | | |
| 16 | Information center | replacement of whole center | | | | | | | | | | | | | |

| | Material cost etimation | | | | | | | | | | | |
|----|----------------------------|--|-------------|-------------|------------------------------|------------|-------------------------------|--|-----------------|---|--------------------|-----------------|
| | Widterial Cost etilization | | | | | | | | | | | |
| Г | | | Cost | | | | | | | | | |
| No | . Sub category | Type of repair/ replacement | Materia-1 | Matrial-2 | Subtotal of material 1 &2 | Paint cost | Sub-total Material cost | Implementation: Direct or Contract | Processing cost | Tool cost (10% of material cost) | Total Matrial cost | |
| | Sign Board | replacement of board only | 10.71142857 | 0 | 10.71142857 | 2.3508 | 13.0622 | Direct | 175.0000 | 1.3062 | 189.3684 | PGK/ sign board |
| | Sign Board | replacement whole sign board | 10.71142857 | 23 | 33.71142857 | 6.5834 | 40.2948 | Direct | 218.7500 | 4.0295 | 263.0743 | PGK/ sign board |
| П | Distance pile | replacement whole distance pile | 5.75 | 21.5 | 27.25 | 1.0795 | 28.3295 | Direct | 11.6666 | 2.8330 | 42.8291 | PGK/ pile |
| г | Car parking | replacement of whole car stop pile | 11.5 | 0 | 11.5 | 2.116 | 13.616 | Direct | 11.6666 | 1.3616 | 26.6442 | PGK/ pile |
| | Toilet | replacement of seat only | 1000 | 0 | 1000 | 0 | 1000 | Direct | 0.0000 | 100.0000 | 1,100.0000 | PGK/ toilet |
| Г | Toilet | replacement of floor only of toilet | 206.37 | 0 | 206.37 | 45.0368 | 251.4068 | Direct | 87.5000 | 25.1407 | 364.0475 | PGK/ toilet |
| | 7 Toilet | replacement of seat & floor only of toilet | | | | | | Direct | | | 1,464.0475 | PGK/ toilet |
| | Toilet | replacement of whole toilet | | | | | | Contract | | | | |
| | Lodge | replacement of lock of lodge only | 29.99 | 0 | 29.99 | | 29.99 | Direct | 0.0000 | 2.9990 | 32.9890 | PGK/ lodge |
| 1 | Lodge | replacement of whole lodge (2 rooms) | | | | | | Contract | | | | |
| 1 | Lodge | replacement of whole lodge (4 rooms) | | | | | | Contract | | | | |
| 1 | Shelter | replacement of whole shelter | | | | | | Contract | | | | |
| 1 | Bridge (small size) | replacement of whole bridge (small size) | 1028.16 | 0 | 1028.16 | 0 | 1028.16 | Direct | 29.1666 | 102.8160 | 1,160.1426 | PGK/ bridge |
| 1 | Bridge (medium size) | replacement of whole bridge (medium size) | 3084.48 | 58.96285714 | 3143.442857 | 261.5599 | 3405.0028 | Direct | 58.3334 | 340.5003 | 3,803.8365 | PGK/ bridge |
| 1 | Bridge (big size) | replacement of whole bridge (big size) | | | | | | Contract | | | | |
| 1 | Information center | replacement of whole center | | | | | | Contract | | | | |

(2) Material processing cost

| | Contraction of an | infin-l | | | | | | | | | |
|-----|--|--|-----------|------------------|-------------|---------------|------------------------|--|---------------|-----------------|---------------------------------|
| | Cost estimation of processing of material (Direct implementation only) | | | | | | st of supervisour | 250 | PGK/ man-day | | |
| | (Direct implementation | ententation only) | | | | | unit cost of man-power | | | | |
| | Wood processing, pai | ation accomblished at | | | | unit co | unit cost of fuel | | PGK/ work day | - | |
| | wood processing, par | nting, assembling, etc. | _ | | | | unit cost of fuer | 10./3 | row workday | | |
| | | | Man nov | er of Carpenter | | | Cost | | | | |
| | | | Work | | work day of | Required man- | | | | | |
| No. | Sub category | Type of repair/ replacement | efficient | unit | carpenter | power/ party | Man power | Supervisour | Total | unit | Remarks |
| 1 | Sign Board | replacement of board only | 1 | board/ party-day | 1 | 1 | 50.0000 | 125.0000 | 175.0000 | PGK/ sign board | man-power includes carving text |
| 2 | Sign Board | replacement whole sign board | 0.8 | board/ party-day | 1.25 | 1 | 62.5000 | 156.2500 | 218.7500 | PGK/ sign board | man-power includes carving text |
| 3 | Distance pile | replacement whole distance pile | 15 | pile/ party-day | 0.066666667 | 1 | 3.3333 | 8.3333 | 11.6666 | PGK/ pile | |
| 4 | Car parking | replacement of whole car stop pile | 15 | pile/ party-day | 0.066666667 | 1 | 3.3333 | 8.3333 | 11.6666 | PGK/ pile | |
| 5 | Toilet | replacement of seat only | | seat/ party-day | 0 | 0 | 0.0000 | 0.0000 | | PGK/ toilet | |
| 6 | Toilet | replacement of floor only of toilet | 2 | floor/ party-day | 0.5 | 1 | 25.0000 | 62.5000 | 87.5000 | PGK/ toilet | |
| 7 | Toilet | replacement of seat & floor only of toilet | 2 | floor/ party-day | 0.5 | 1 | 25.0000 | 62.5000 | 87.5000 | PGK/ toilet | |
| 8 | Toilet | replacement of whole toilet | | | | | | | 0.0000 | | |
| 9 | Lodge | replacement of lock of lodge only | 0 | lock/ man | 0 | 0 | 0.0000 | 0.0000 | 0.0000 | PGK/ lodge | |
| 10 | Lodge | replacement of whole lodge (2 rooms) | | | | | | | 0.0000 | | |
| 11 | Lodge | replacement of whole lodge (4 rooms) | | | | | | | 0.0000 | | |
| 12 | Shelter | replacement of whole shelter | | | | | | | 0.0000 | | |
| 13 | Bridge (small size) | replacement of whole bridge (small size) | 6 | bridge/party-day | 0.166666667 | 1 | 8.3333 | 20.8333 | 29.1666 | PGK/ bridge | |
| 14 | Bridge (medium size) | replacement of whole bridge (medium size) | 3 | bridge/party-day | 0.333333333 | 1 | 16.6667 | 41.6667 | 58.3334 | PGK/ bridge | |
| 15 | Bridge (big size) | replacement of whole bridge (big size) | | | | | | | 0.0000 | | |
| 16 | Information center | replacement of whole center | | | | | | The state of the s | 0.0000 | | |
| | * Superviour's inut is o | calculated as 1/2 of man-power | | | | | | | | | |

(3) Construction cost (at the site)

| | struction/ installation/ repair of facility | | | | | | | | m const. | |
|--------------------------|---|----------------|-------------------|---------------|-----------------|---------|--------------------------|---------------|---------------|-----------------|
| (Direct implementation | only) | | | | | | unit cost of supervisour | | PGK/ man-day | |
| | | | | | | | of man-power | | PGK/ man-day | |
| | | | | | | u | nit cost of fuel | 18.75 | PGK/ work day | |
| | | Man power of 0 | | | | Cost | | | | |
| | | Man power of | arpenter | Required man- | work day | Cost | | Fuel cost for | | |
| · . | T 6 1/ 1 | Work efficient | unit | | | ., | | | Total | |
| No. Sub_category | Type of repair/ replacement | | | power/ party | (day/ material) | | Supervisour* | | | unit |
| 1 Sign Board | replacement of board only | | board/ party-day | 2 | 0.2 | 20.0000 | 25.0000 | | | PGK/ sign board |
| 2 Sign Board | replacement whole sign board | | board/ party-day | 2 | 0.333333333 | 33.3333 | 41.6667 | 6.25 | | PGK/ sign board |
| 3 Distance pile | replacement whole distance pile | 15 | pile/ party-day | 2 | 0.066666667 | 6.6667 | 8.3333 | | | PGK/ pile |
| 4 Car parking | replacement of whole car stop pile | 10 | pile/ party-day | 2 | 0.1 | 10.0000 | 12.5000 | 1.875 | 24.3750 | PGK/ pile |
| 5 Toilet | replacement of seat only | (| seat/ party-day | 2 | 0.166666667 | 16.6667 | 20.8333 | 3.125 | 40.6250 | PGK/ toilet |
| 6 Toilet | replacement of floor only of toilet | 3 | floor/ party-day | 2 | 0.333333333 | 33.3333 | 41.6667 | 6.25 | 81.2500 | PGK/ toilet |
| 7 Toilet | replacement of seat & floor only of toilet | 2 | floor/ party-day | 2 | 0.5 | 50.0000 | 62.5000 | 9.375 | 121.8750 | PGK/ toilet |
| 8 Toilet | replacement of whole toilet | | | | | | | | | |
| 9 Lodge | replacement of lock of lodge only | 10 | lock/ man | 1 | 0.1 | 5.0000 | 12.5000 | 1.875 | 19.3750 | PGK/ lodge |
| 10 Lodge | replacement of whole lodge (2 rooms) | | | | | | | | | |
| 11 Lodge | replacement of whole lodge (4 rooms) | | | | | | | | | |
| 12 Shelter | replacement of whole shelter | | | | | | | | | |
| 13 Bridge (small size) | replacement of whole bridge (small size) | 6 | bridge /party-day | 2 | 0.166666667 | 16.6667 | 20.8333 | 3.125 | 40.6250 | PGK/ bridge |
| 14 Bridge (medium size) | replacement of whole bridge (medium size) | 3 | bridge /party-day | 2 | 0.333333333 | 33.3333 | 41.6667 | 6.25 | 81.2500 | PGK/ bridge |
| 15 Bridge (big size) | replacement of whole bridge (big size) | | | | | | | | | |
| 16 Information center | replacement of whole center | | | | | | | | | |
| * Superviour's inut is c | alculated as 1/2 of man-power | | | | | | | | | |

(3)-1 Fuel cost

| Calculation of fuel cost | | | |
|----------------------------|-------|------------------|---|
| Driving distance | 50 | km/work day | CEPA office-VNP round trip & inside of VNP |
| Fuel consumption efficient | 8 | km/ litter | Consideration of road conditon based on official data by TOYOTA |
| Fuel consumption | 6.25 | litter/ work day | |
| unit price of fuel | 3 | PGK/ litter | Market research, Octover 2015 |
| Cost of fuel | 18.75 | PGK/ work day | |

[2] Contract basis implementation

| Assis Category | Estaimation | of facility constructed by contractor | | | | | | |
|--|----------------|--|-----------------|------------------|---------------|--------------|---------------|-------------|
| 1) Quotation of Information Center PCK, without CST Category Cost Ratio | Listamation | lacincy constructed by contractor | | | | | | |
| PGK, without GST | Basis | | | | | | | |
| Category | (1) Quotation | of Information Center | | | | | | |
| Material cost | | PGK, without GST | | | | | | |
| Contraction cost | | Category | Cost | Ratio | | | | |
| Total Cost 278,660 441.63 % | | Material cost | 63,098 | 100.00 | % | | | |
| Type of Facility Size | | Contruction cost | 215,562 | 341.63 | % | | | |
| Type of Facility | | Total Cost | 278,660 | 441.63 | % | | | |
| Type of Facility | | | | | | | | |
| Length (m) Width (m) Area (m2) Ratio (%) (PCK) | (2) Material | cost estimation based on area size comparis | son between I | nformation Ce | nter and othe | r facilities | | |
| Length (m) Width (m) Area (m2) Ratio (%) (PCK) | | | | | | | | |
| replacement of whole toilet | | Type of Facility | | Si | ze | | Material Cost | |
| replacement of whole lodge (2 rooms) 3 3 9 9.00 5,679 replacement of whole lodge (4 rooms) 6 5 30 30.00 18,929 replacement of whole shelter 3 4 12 12.00 7,572 replacement of whole shelter 10 10 100 100.00 63,098 Unit cost of small facility is expensive than big facility. | | | Length (m) | Width (m) | Area (m2) | Ratio (%) | (PGK) | |
| replacement of whole lodge (4 rooms) 6 5 30 30.00 18.929 replacement of whole shelter 3 4 12 12.00 7.572 replacement of bridge (big size) 12 1.2 14.4 14.40 9,086 replacement of bridge (big size) 10 10 100 100.00 63.098 Unit cost of small facility is expensive than big facility. | | replacement of whole toilet | 1.8 | 1.8 | 3.24 | 3.24 | 2,044 | |
| replacement of whole shelter 3 | | replacement of whole lodge (2 rooms) | 3 | 3 | 9 | 9.00 | 5,679 | |
| replacement of bridge (big size) 12 1.2 14.4 14.40 9.086 replacement of whole center 10 10 10 100 100.00 63.098 Unit cost of small facility is expensive than big facility. Therefore, the material cost shall be modificed based on size of facility. Type of Facility Ratio (%) Correction coefficient replacement of whole toilet 3.24 2.0 4.088 replacement of whole lodge (2 rooms) 9.00 2.0 11.358 replacement of whole lodge (4 rooms) 30.00 1.5 28.394 replacement of whole shelter 12.00 2.0 15.144 replacement of bridge (big size) 14.40 2.0 15.144 replacement of bridge (big size) 14.40 2.0 15.144 replacement of whole center 100.00 1.0 63.098 3) Coefficient based on complexity of construction Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole bedge (2 rooms) 100% 341.63 % replacement of whole bedge (4 rooms) 100% 341.63 % replacement of whole center 100.00 100% 341.63 % 1000 1000 1000 1000 1000 1000 1000 1 | | replacement of whole lodge (4 rooms) | | 5 | 30 | 30.00 | 18,929 | |
| Unit cost of small facility is expensive than big facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost shall be modificed based on size of facility. Therefore, the material cost state of the modification of the material cost state of the state of the shall be modificed based on size of facility. Therefore, the material cost state of the state of the material cost state of the state of | | replacement of whole shelter | 3 | 4 | 12 | 12.00 | 7,572 | |
| Unit cost of small facility is expensive than big facility. Therefore, the material cost shall be modificed based on size of facility. Type of Facility Ratio (%) Correction coefficient Modified material cost replacement of whole toilet 3.24 2.0 4.088 replacement of whole lodge (2 rooms) 9.00 1.5 2.8,394 replacement of whole lodge (4 rooms) 3.000 1.5 2.8,394 replacement of whole shelter 12.00 2.0 15,144 replacement of bridge (big size) 14.40 2.0 18,172 replacement of bridge (big size) 10.00 1.0 63,098 3) Coefficient based on complexity of construction Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) replacement of whole shelter 80% 273.30 % replacement of whole lodge (4 rooms) replacement of whole lodge (3 size) 710.80 *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ toilet 15 replacement of whole lodge (6 size) 15 (replacement of bridge (6 sig size | | | 12 | 1.2 | 14.4 | 14.40 | 9,086 | |
| Unit cost of small facility is expensive than big facility. Therefore, the material cost shall be modificed based on size of facility. Type of Facility Ratio (%) Correction coefficient Modified material cost replacement of whole toilet 3.24 2.0 4.088 replacement of whole lodge (2 rooms) 9.00 1.5 2.8,394 replacement of whole lodge (4 rooms) 3.000 1.5 2.8,394 replacement of whole shelter 12.00 2.0 15,144 replacement of bridge (big size) 14.40 2.0 18,172 replacement of bridge (big size) 10.00 1.0 63,098 3) Coefficient based on complexity of construction Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) replacement of whole shelter 80% 273.30 % replacement of whole lodge (4 rooms) replacement of whole lodge (3 size) 710.80 *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ toilet 15 replacement of whole lodge (6 size) 15 (replacement of bridge (6 sig size | | replacement of whole center | 10 | 10 | 100 | 100.00 | 63,098 | |
| Therefore, the material cost shall be modificed based on size of facility. Type of Facility Ratio (%) Correction coefficient Modified material cost | | | | | | | | |
| Type of Facility | | Unit cost of small facility is expensive tha | n big facility. | | | | | |
| replacement of whole lodge (2 rooms) 9.00 2.0 11,358 replacement of whole lodge (2 rooms) 9.00 2.0 11,358 replacement of whole lodge (4 rooms) 30.00 1.5 28,394 replacement of whole shelter 12.00 2.0 15,144 replacement of bridge (big size) 14.40 2.0 18,172 replacement of whole center 100.00 1.0 63,098 3) Coefficient based on complexity of construction Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Unit Peplacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole lodge (big size) 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | Therefore, the material cost shall be modif | ficed based on | size of facility | y. | | | |
| replacement of whole lodge (2 rooms) 9.00 2.0 11,358 replacement of whole lodge (4 rooms) 30.00 1.5 28,394 replacement of whole shelter 12.00 2.0 15,144 replacement of bridge (big size) 14.40 2.0 18,172 replacement of whole center 100.00 1.0 63,098 3) Coefficient based on complexity of construction Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole toilet 60% 204.98 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % replacement of whole center 100% 341.63 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. | | Type of Facility | Ratio (%) | Correction co | efficient | Modified ma | terial cost | |
| replacement of whole lodge (4 rooms) 30.00 1.5 28,394 replacement of whole shelter 12.00 2.0 15,144 replacement of bridge (big size) 14.40 2.0 18,172 replacement of whole center 100.00 1.0 63,098 3) Coefficient based on complexity of construction Construction of Information center is the most complicated. | | replacement of whole toilet | 3.24 | | 2.0 | | 4,088 | |
| Proplacement of whole shelter 12.00 2.0 15,144 Replacement of bridge (big size) 14.40 2.0 18,172 Replacement of whole center 100.00 1.0 63,098 Replacement of whole center 100.00 1.0 63,098 Replacement of whole center 100.00 1.0 63,098 Replacement of whole center is the most complicated. | | replacement of whole lodge (2 rooms) | 9.00 | | 2.0 | | 11,358 | |
| Teplacement of bridge (big size) 14.40 2.0 18,172 | | replacement of whole lodge (4 rooms) | 30.00 | | 1.5 | | 28,394 | |
| Type of Facility Coefficient Rario *1 | | replacement of whole shelter | 12.00 | | 2.0 | | 15,144 | |
| Type of Facility Coefficient Rario *1 | | replacement of bridge (big size) | 14.40 | | 2.0 | | 18,172 | |
| Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole toilet 60% 204.98 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % | | replacement of whole center | 100.00 | | 1.0 | | 63,098 | |
| Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole toilet 60% 204.98 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % | | | | | | | | |
| Construction of Information center is the most complicated. Type of Facility Coefficient Rario *1 replacement of whole toilet 60% 204.98 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % | (A) G (A) | | | | | | | |
| Type of Facility Coefficient Rario *1 replacement of whole toilet 60% 204.98 % | (3) Coefficien | | | | | | | |
| replacement of whole toilet 60% 204.98 % replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost *1: Ratio of facility (excluding GST) No. Type of Facility Material cost Construction cost Total cost unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | | | | | |
| replacement of whole lodge (2 rooms) 100% 341.63 % replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost *1: Ratio of facility (excluding GST) No. Type of Facility Material cost Construction cost Total cost unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | | | | | |
| replacement of whole lodge (4 rooms) 100% 341.63 % replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Unit replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | | | | | |
| replacement of whole shelter 80% 273.30 % replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Unit replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | 1 | | | | | |
| replacement of bridge (big size) 50% 170.82 % replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | | | | | |
| replacement of whole center 100% 341.63 % *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Total cost unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | | | | | |
| *1: Ratio of construction cost compaired with material cost 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Total cost unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | | | | | |
| 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Total cost unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | replacement of whole center | 100% | 341.63 | 70 | | | |
| 4) Total cost of facility (excluding GST) No. Type of Facility Material cost Construction cost Total cost unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | *1: Ratio of construction cost compaired | with material c | ost | | | | |
| No. Type of Facility Material cost Construction cost Unit 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | IIMICIMI C | | | | | |
| 8 replacement of whole toilet 4,088 8,380 12,468 PGK/ toilet 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | (4) Total cos | t of facility (excluding GST) | | | | | | |
| 10 replacement of whole lodge (2 rooms) 11,358 38,802 50,160 PGK/ lodge 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | No. | Type of Facility | Material cost | | Construction | cost | Total cost | unit |
| 11 replacement of whole lodge (4 rooms) 28,394 97,001 125,395 PGK/ lodge 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | - 8 | replacement of whole toilet | | 4,088 | | 8,380 | 12,468 | PGK/ toilet |
| 12 replacement of whole shelter 15,144 41,389 56,533 PGK/ shelte 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | 10 | replacement of whole lodge (2 rooms) | | 11,358 | | 38,802 | 50,160 | PGK/ lodge |
| 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | 11 | replacement of whole lodge (4 rooms) | | 28,394 | | 97,001 | 125,395 | PGK/ lodge |
| 15 replacement of bridge (big size) 18,172 31,041 49,213 PGK/ bridge | | | | 15,144 | | | | |
| 16 replacement of whole center 63,098 215,562 278,660 PGK/ center | 15 | replacement of bridge (big size) | | | | | | |
| | 16 | replacement of whole center | | 63,098 | | 215,562 | 278,660 | PGK/ center |

添付資料 2.1.2 Report of renovation of the existing facilities at VNP

Achievements of car stopping piles renewal work

Before installation of new piles September 22, 2019 CEPA-JICA Project

VNP Car Stop Piles Locations for Repair and Maintenance Work

1. Main picnic area 1/2

Photo-1 (before)



Photo-1 (after)



1. Main picnic area 1/2

Photo-2 (before)



Photo-2 (after)



1. Main picnic area 2/2

Photo-3 (before)



Photo-3 (after)



2.Picnic Site 3

trees; therefore, the material of piles shall be fit with in the trees. · Woody material will be used for Single pile type all piles and cross bars. 11.8 m 22.8 m 2

Cross-bas type

Existing bush and trees

• This area is surrounded by natural

Position and directions of taking

2. Picnic site 3 (1/2)

Photo-1 (before)



Photo-1 (after)



2. Picnic site 3 (1/2)

Photo-2 (before)



Photo-2 (after)



2. Picnic site 3 (2/2)

Photo-3 (before)



Photo-3 (after)



2. Picnic site 3 (2/2)

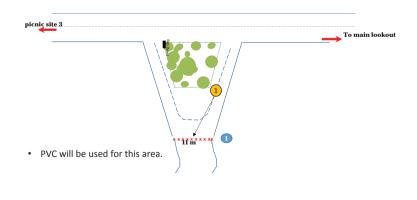
Photo-4 (before)



Photo-4 (after)



3.Camp Site



Position and directions of taking photos

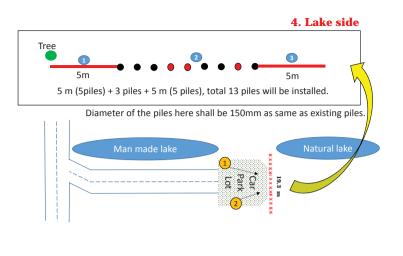
3. Camp site

Photo-1 (before)



Photo-1 (after)





4. Lake site





4. Lake site

Photo-2 (before)

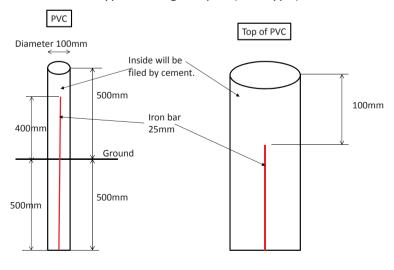


Photo-2 (after)



Position and directions of taking photos

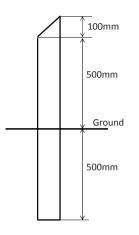
Typical design of pile (PVC type)

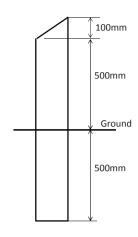


Typical design of pile (Wood type)

Diameter 100mm at other areas

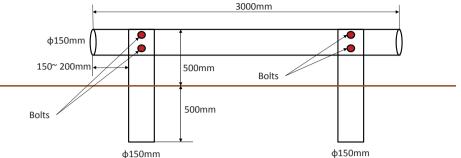
Diameter 150mm at Lake Side





3000mm

Typical design of pile (Wood Cross Bar type)



Achievements of facility renovation in VNP

Comparison between Before and After of key facilities November 4, 2016 **CEPA-JICA Project**

1. Wood bridge at main picnic area

Photo-1 (before)



Old bridge was aged, broken and not appropriate for use. There was a big risk for the visitors to get serious accidents.

Photo-1 (after)



The bridge was strengthened with additional supporting poles with the basement fixed by concrete. Wood flooring was totally replaced and painted. The risk of accident for visitor was eliminated.

2. Distance piles on all 4 tracks

(79 distance piles, all tracks 100m each)

Photo-1 (before)



Old piles were aged and no longer functioning. We did a detailed survey, and found only 35 piles remained otherwise disappeared.

Photo-1 (after)



After careful measuring of each 100 m, all piles were replaced by 79 wood poles of stronger structure (30% bigger diameter, corrosion proof paint). Plate was carefully designed and all-weather proof plates were installed.

3. Parking piles innovation

(80 PVC piles and 153 wood piles at Main picnic area, picnic site 3, camp site, lake site were installed)

Photo-2 (before) (Main picnic area)



Approx. 70% of parking piles were damaged, disappeared and no longer functioning. Cars freely enter into the lawn area, and destroyed the environment. Some lawn were seriously damaged.

Photo-2 (after) (Main picnic area)



All piles were replaced by 80 PVC poles and 153 wood poles of stronger structure (corrosion proof paint). Poles were fixed with 50 cm depth under ground. No car can enter and damage the lawn area at present.

4. Sign Boards

(23 Sign boards were renovated)

Photo-2 (before) (Main lookout area)



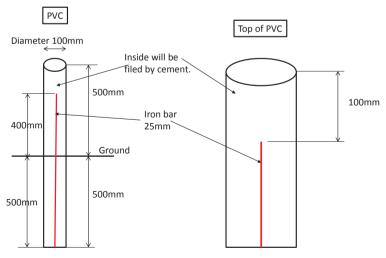
Old sign boards were aged and mostly broken. No visitors could understand the sign.

Photo-2 (after) (Main lookout area)

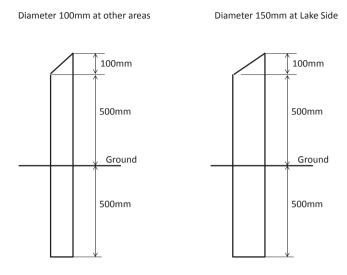


We replaced 23 sign boards of all-weather corrosion proof materials. Sign board are fully functioning now.

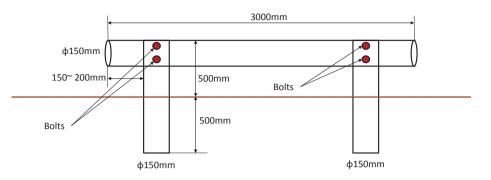
Typical design of car stop pile (1) (PVC type)



Typical design of ca stop pile (2) (Wood type)

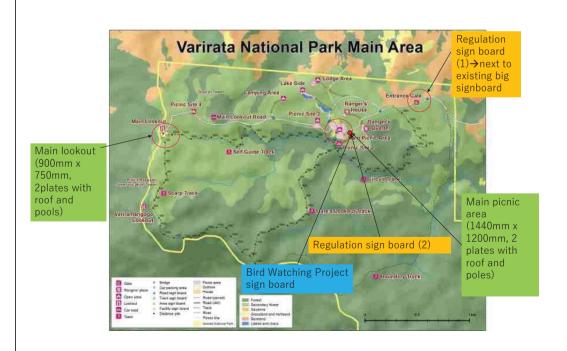


Typical design of car stop pile (3) (Wood Cross Bar type)



Distribution and Photos of Main Signboards in VNP

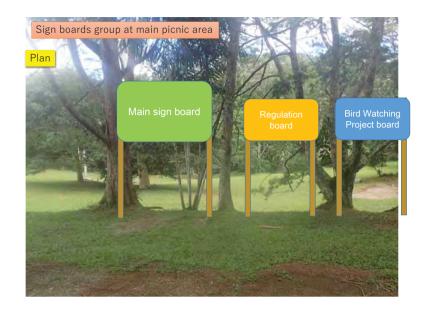
December, 2016 CEPA-JICA Project



Main lookout

Main signboard (900mm x 750mm, 2plates with roof and poles)





Main Picnic Area (3 major signboards)

Main signboard (1440x1200), Regulation board (2), and Bird watching project board

Achievement









Regulation sign board (1) at the toll gage

Achievement





Variational Park Main Area

2 signboards for Mega Pod (A3 size)

Depth Investigation of the Camping Area

Prime Size 1

Warrationage of the Camping Area

Prime Size 1

Warrationage of the Camping Area

Prime Size 3

Warrationage of the Camping Area

Warrationage of the Camping

Dimensions of Mega pod signboards x 2 – A3 (420mm x 297mm)

Dimensions



Mega pod signboard (1)

At nest of Brushturkey around 500m distance pile on the self guide track.

Achievement



Mega pod signboard (2)

At nest of Brushturkey around 300m distance pole on the scarp track.

Achievement





PAU Bird Watching signboard, at PAU main entrance near Sogeri Road

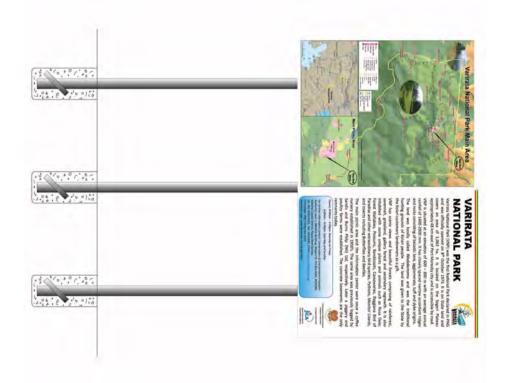
For your information only

Achievement



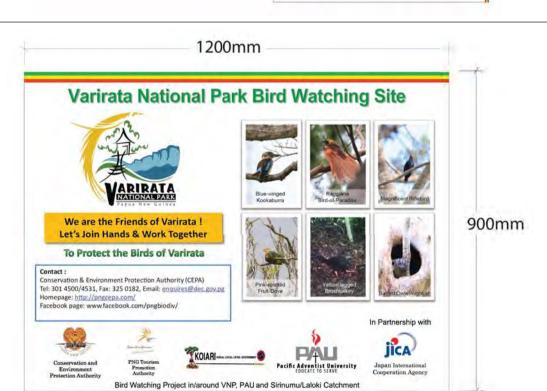






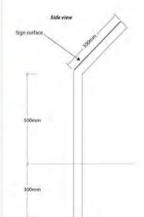












Bird Watching Project in/around VNP, PAU and Sirinumu/Laloki Catchment



Updating facility database

VNP facility management
July, 2016
CEPA-JICA Project Prepared

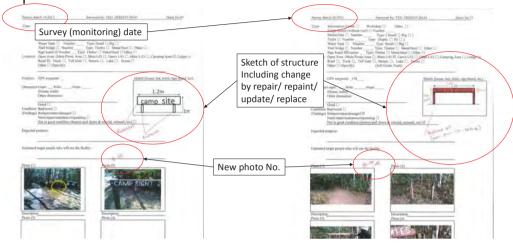
Procedure of updating the database

- At the site
 - 1. Check the condition of facility
 - 2. Record on existing profile
 - 3. Record photos which show condition such as, change, repair, replace conditions
- In the office
 - 1. Collect photos of updated facilities
 - 2. Resize photos in size of 1024 x 768 pixels and save in a specific holder
 - 3. Add one page next to the existing sheet of profile
 - 4. Fill necessary data

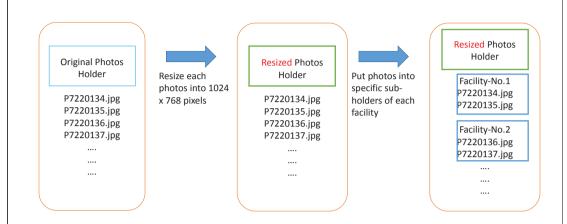
Updating activities at the site

- Case 1: repair, repaint, replace
 - Record on <u>hard copy paper</u> of the previous sheet [Point]
 - What parts were repaired?
 - How?
 - Current condition: size (measured record), condition (narratively record)
 - \bullet \rightarrow with sketch, memo
- Case 2: newly set up
 - Fill out the full sheet

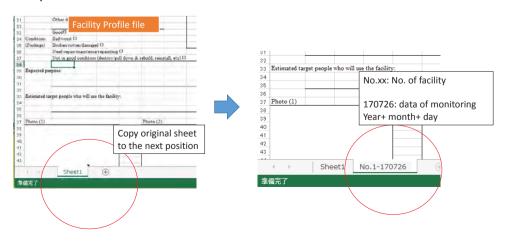
Example of records on hard copy paper of previous sheet



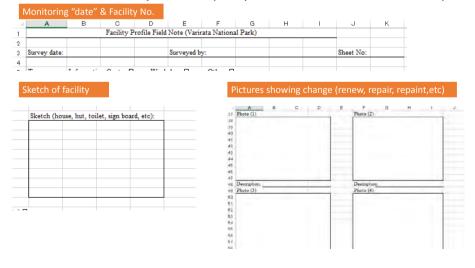
- 1. Collect photos of updated facilities &
- 2. Resize photos in size of 1024 x 768 pixels and save in a specific holder



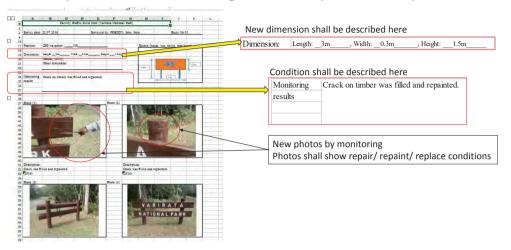
Add one page next to the existing sheet of profile

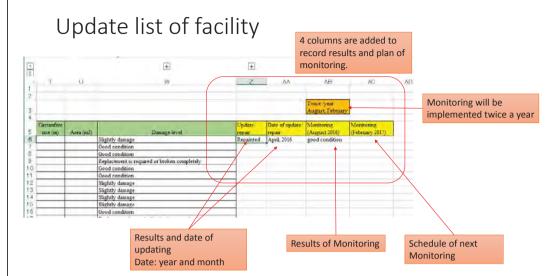


Fill necessary data (Important information)



Example of monitoring format (Excel file)





Purpose of Updating list

- Recording history of each facility
- Specify not-updated facilities (= update required facilities)
- Specify next timing of updating
- →This is management of facility

End of presentation

Thanks for listening!

添付資料 2.1.3 VNP Guide Map

Varirata National Park

Varirata National Park (VNP) was the first National Park declared in PNG on 10th December 1969 and was officially opened on 18th October 1973. It is on State land and covers an area of 1,063 ha. It is located on the Sogeri Plateau appropriately 48 km east of Port Moresby city and is accessible by road.

VNP is situated at an elevation of 600 – 800 m with an average annual rainfall of 1400-2000 mm. It has closely spaced narrow accordant ridges and rocks consisting of balastic lava, agglomerate, tuff and dyke origins.

The land was locally called *Wodobonomu* and was the traditional hunting grounds of Koiari people.

VNP has scenic views and beautiful forests comprising of rainforest, savannah, grassland, gallery forest and secondary regrowth. It is also inhabited with some unique plants and animals such as Rusa Deer, Forest Wallabies, Possums, Bandicoots, Cassowaries, Raggiana Bird of Paradise and other extraordinary bird species, Pythons, Monitor Lizards, and various insects including Butterflies and Beetles.

The main picnic area and the information center were once a coffee nursery established in 1950's. The same area was previously logged by Sandis and Burns Philp (NG) Ltd, respectively. Later a piggery and poultry farms were established. The concrete basements are the only remnants today.

Tracks of Varirata National Park

Self Guide Track – This is one of the common tracks which connect the main picnic area and main lookout. It is one of the most easily accessible tracks and mostly frequented by visitors. Many different kinds of wildlife can be seen whilst walking along the track. It is also full of bird life and enjoyed by many bird watchers who intend to visit VNP. The track also runs parallel to the Nairogo Creek. The sacred and shy Forest Bittern (*Zonerodius heliosylus*) and the small Azure Kingfisher (Ceyx azureus) can be seen during the stroll along the track.

Gare's Lookout Track – This is the shortest track but is quite steep, which connects the main picnic area and Gare's lookout. It starts from the main picnic area across the Nairogo Creek and diverts from the Circuit Track. It takes a slow stroll along the ridge leading towards the Gare's lookout. The first Koiari-tree house was built along this track in the early 1960's. The scenic view from the Gare's lookout is breath taking and ideal for photography fanatics.

Circuit Track – The track has an array of vegetation types including the natural rainforest, secondary regrowth, savannah and grassland. You can also enjoy watching many different birds within those forest types. It starts from the main picnic area and ends at the main VNP road, few distance from the toll gate. It is the most exciting track with the meandering streams and drainage systems, which you will cross on wooden bridges whilst walking along the track.

Scarp Track – This track connects the main lookout and Gare's lookout. The track is long covering approximately 2km. It is steep in few places along the track but the climb is not that difficult. The forest is dominant with Fagaceae trees (Lithocarpus and Nothofagus) on the ridges, which you tend to see and hear beautiful calls of the common White Cockatoo (*Kau* in local Koiari dialect). You will enjoy seeing the *Kau* feeding on the Fagaceae nuts.



EMERGENCY COMMUNICATIONS INFORMATION

Mobile/Satellite Phones: You may not be in network range in some areas of the Varirata National Park. Please contact CEPA for further information; Tel: +675 301 4500/4531 Email: enquires@dec.gov.pg



Conservation and Environment Protection Authority (CEPA)

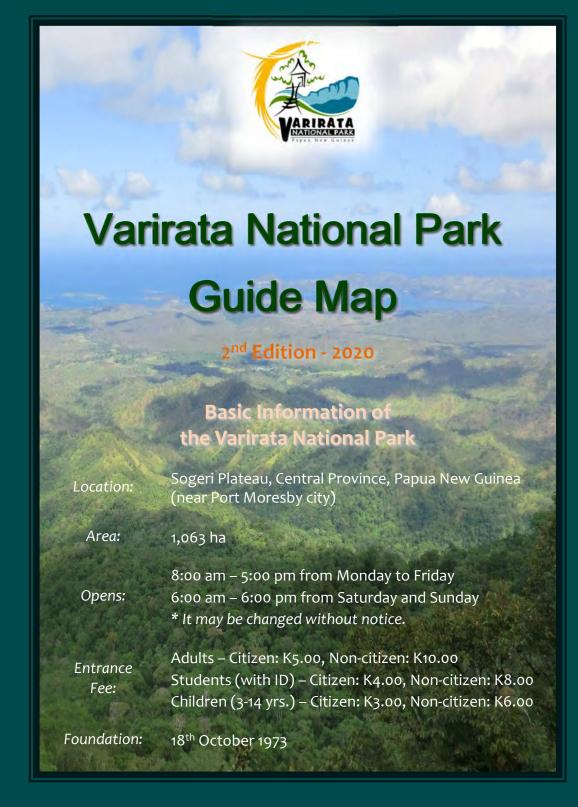
Address: P.O Box 6601, Boroko, National Capital District, Papua New Guinea Phone: (+675) 301-4500 Fax: (+675) 325-0182

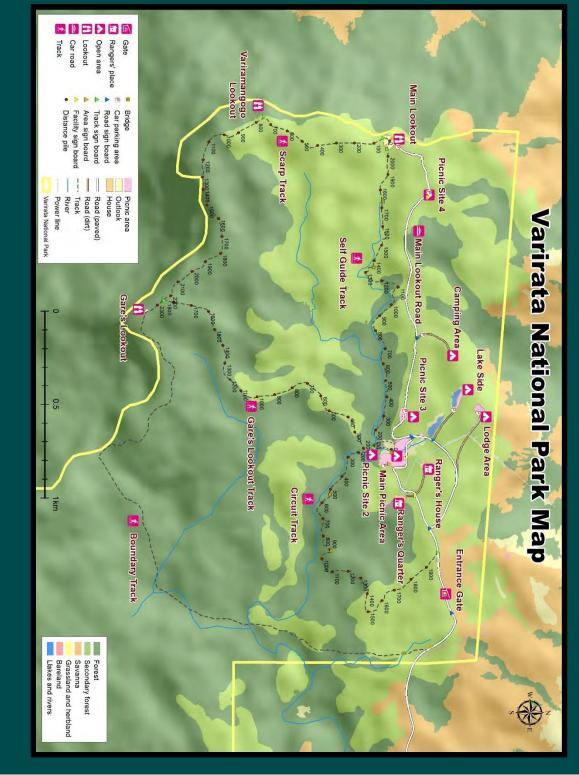
Facebook page: https://www.facebook.com/pngbiodiv/

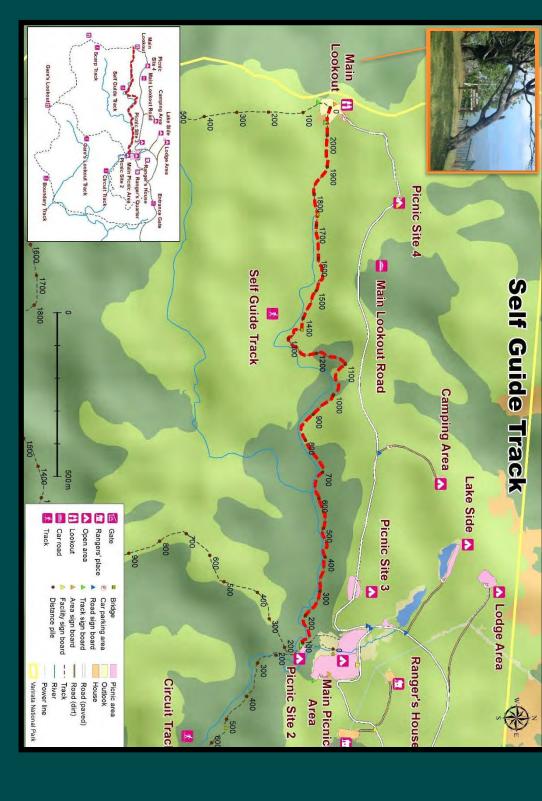
This Guide Map was produced through the activities of CEPA-JICA Biodiversity Project (2015-2020), which was the joint initiative between the governments of PNG and Japan for the revitalization of Varirata National Park.

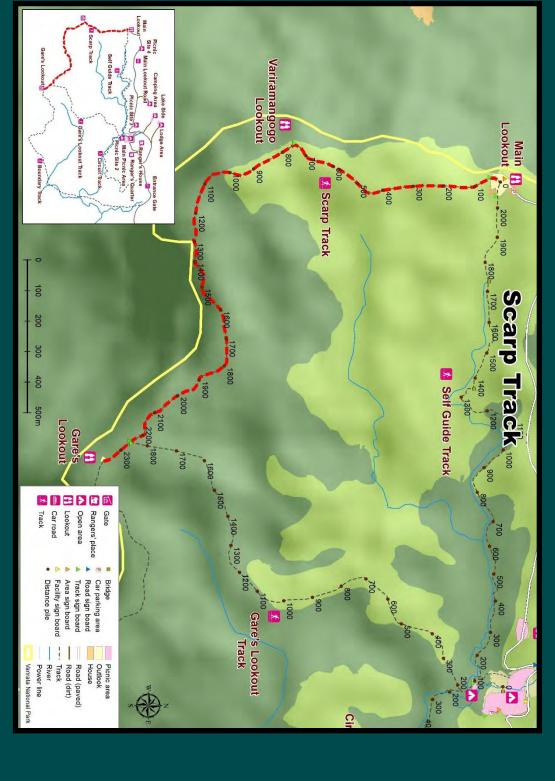




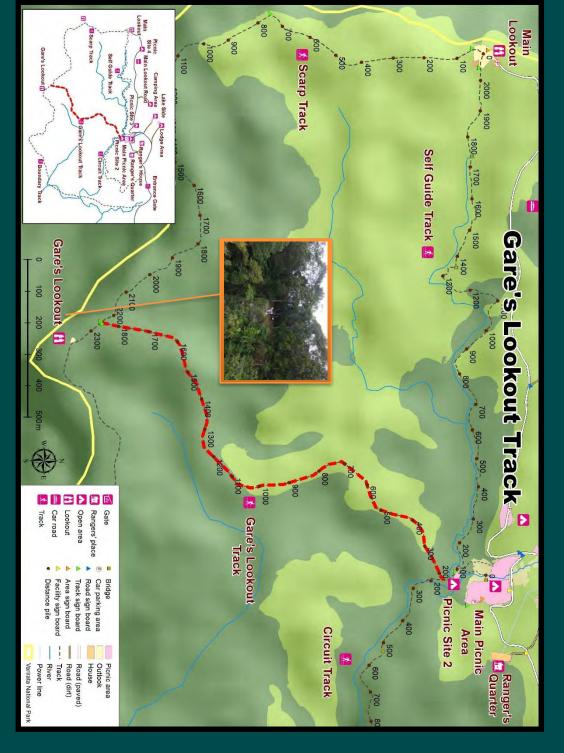












C-2 インフォメーションセンターコンプレックスの 整備

各活動コンポーネントの概要及び主要な成果品 インフォメーションセンターコンプレックスの整備

1. 背景及び概要

プロジェクト開始時にバリラタ国立公園の施設について調査したところ、公園内のインフォメーションセンターは老朽化が進み使用不可能な状況であり、そのためインフォメーションセンターが担っていた機能は完全に失われていることが判明した。

公園を回復させ更に将来に渡って発展させるためには、老朽化したインフォメーションセンターの修繕もしくは改築、新たなインフォメーションセンターの建設、周辺整備により、公園機能を充実させるなどが必要であった。そのためプロジェクトでは、施設整備のマスタープランとして「Information Center Complex 基本計画」を作成した。本基本計画に基づき、旧インフォメーションセンターの改修、新インフォメーションセンターの建築を含めたインフォメーションセンターコンプレックスの整備支援を行った。

2. 目的

インフォメーションセンターコンプレックスの整備を行い、それによる公園機能の回復及 び拡充を図る。

3. 活動内容

- (1) 基礎調査の実施
- (2) 新 IC 建設許可手続き
- (3) 入札図書の作成
- (4) 建設業者の決定
- (5) 工事監理
- (6) 新 IC 竣工
- (7) ウッドデッキ工事
- (8) 展示工事

4. 活動経緯と実績

(1) 基礎調査の実施

2016年10 月~2017年

1月

▶ 既存施設の状況、インフラ、敷地の形状と地盤、法規制、土地の所有権の確認とインフォメーションセンターの建設に向けた条件について調査を行った。

添付資料

| 2. 2. 1 | |
|---------|--|
| 2017年1月 | ➤ Information Center Complex の基本計画を作成した。 |
| ~3 月 | |
| 添付資料 | |
| 2. 2. 2 | |

(2) 新 IC 建設許可手続き

| 2017年2月 | > | Department of WorksおよびPapua New Guinea Fire Serviceに建 | | |
|---------|---|---|--|--|
| | | 設許可手続きを開始した。 | | |

(3) 入札図書の作成

| 2017年4月 | ~ | 2017 年 4 月から入札図書の作成を行った。 |
|---------|---|--------------------------|
| ~6 月 | | |

(4) 建設業者の決定

| 2017年6月 | ~ | 現地業者を訪問し、その実績、能力を調査した上で、入札に招待す |
|----------|---|---|
| 添付資料 | | る建設業者4社をショートリストした。 |
| 2.2.3 及び | > | 2017 年 6 月 6 日に新 IC の建設にかかる入札を JICA パプアニューギ |
| 2. 2. 4 | | ニア事務所で行い、AES 社と Rhodes PNG 社が応札した。Rhodes 社は |
| | | 予定価格内で落札し、7月17日付で JICA と契約した。 |

(5) 工事監理

| 2017年9月 | > | 2017年9月に建設許可の申請を行った。 |
|---------|---|----------------------------------|
| ~年 10 月 | > | 2017年10月に建築許可を受領した。 |
| 添付資料 | | |
| 2. 2. 5 | | |
| 2017年11 | > | 2017年11月に鉄骨組立を開始した。 |
| 月~2018年 | > | 2017年12月に鉄骨組立の中間検査を行った。 |
| 1月 | > | 2018年1月に鉄骨組立が完了した。 |
| 添付資料 | | |
| 2. 2. 6 | | |
| 2018年2月 | > | 2018年3月に工期を延長するための第1回目の変更契約を取り交わ |
| ~5 月 | | した。 |
| 添付資料 | > | 2018年5月に工期を延長するための第2回目の変更契約を取り交わ |
| 2.2.7及び | | した。 |
| 2. 2. 8 | | |
| | | |

(6) 新 IC 竣工

| 2018年5月 | > | 2018年5月25日に竣工し、26日に引渡しを行った。 |
|---------|---|-----------------------------|
| 添付資料 | | |
| 2. 2. 9 | | |

(7) ウッドデッキ工事

| 2017年7月 | A | 旧インフォメーションセンター整備のための材料を調達した。 |
|-----------|---|-------------------------------|
| ~2018年6 | > | 旧インフォメーションセンターの屋根及び外壁を整備した。 |
| 月 | | |
| 添付資 | | |
| 2. 2. 6 | | |
| 2018年7月 | > | ウッドデッキの設計図を最終化した。 |
| 添付資料 | > | ウッドデッキおよび関連工事について現地再委託先と契約した。 |
| 2.2.10 及び | | |
| 2. 2. 11 | | |
| 2018年7月 | > | ウッドデッキおよび旧インフォメーションの整備を行った。 |
| ~10 月 | | |
| 添付資料 | | |
| 2. 2. 6 | | |

(8) 展示工事

| 2018年8月 | > | 新インフォーメーションセンターの展示デザインを最終化した。 |
|---------|---|--------------------------------|
| ~10 月 | > | 壁紙が印刷され、新インフォーメーションセンターの内装工事を行 |
| | | った。 |

5. 評価

(1) 成果到達度の評価

| 評価指標 | 指標の到達度の自己 | 評価結果 |
|-----------|-----------|------------------------|
| | 評価 | |
| 2018年3月ま | Achieved | 当初の想定よりも作業に遅れが生じ、2度の契 |
| でに、新イン | | 約変更が発生したものの、2018年5月に新イ |
| フォメーショ | | ンフォメーションセンターが建設された。 |
| ンセンターを | | |
| 建設する。 | | |
| 2018年10月ま | Achieved | 旧インフォメーションセンターの屋根や床の整 |

| でに、旧イン | | 備を行い、2018年10月までに講堂の改修が完 |
|-----------|----------|------------------------------------|
| フォメーショ | | 了した。 |
| ンセンターを | | |
| 講堂として改 | | |
| 修する。 | | |
| 2018年10月ま | Achieved | Information Center Complex の基本計画に基 |
| でに、新旧イ | | づき、ウッドデッキとその周辺の整備が 2018 |
| ンフォメーシ | | 年10月までに完了した。 |
| ョンセンター | | |
| を繋ぐウッド | | |
| デッキ、その | | |
| 他の周辺整備 | | |
| を行う。 | | |
| 2018年10月ま | Achieved | 2018年9月にデザインを最終化し、2018年10 |
| でに、新イン | | 月に内装工事が完了した。 |
| フォメーショ | | |
| ンセンターの | | |
| 展示を整備す | | |
| る。 | | |

(2) 目標到達度の評価

| 評価指標 | 指標の到達度 | 評価結果 |
|--------|----------|------------------------------------|
| インフォメー | Achieved | Information Center Complex の基本計画に基 |
| ションセンタ | | づき施設整備が行われ、それにより公園の機能 |
| ーコンプレッ | | 回復及び拡充が達成された。 |
| クスの整備が | | |
| 行われ、それ | | |
| による公園機 | | |
| 能の回復及び | | |
| 拡充が図られ | | |
| る。 | | |

6. 教訓

(1) 柔軟な契約変更及びプロジェクトによる継続的な働きかけ インフォメーションセンターコンプレックスの整備作業は、建設業者との再委託契約 及び、地元工務店や人員の直接雇用などにより行った。それらを計画する段階では、 関係者すべてが合意した目標期限があったものの、すべての作業が計画とおり行われなかった。PNGの建設業者や工務店においては、工期が守られることは極めて稀である。したがって契約延長や変更などを柔軟に行うとともに、更に JICA 専門家及びローカルスタッフの頻繁な訪問と強い働きかけを行うことが重要である。

7. 提言

(1) 整備・メインテナンスのための予算確保

他の公園施設にも言えるが、施設の機能を継続して発揮させるためには、管理に加えて補修などのメインテナンス費用が必要である。現状では内部手続きに時間を要し、 更に必要な経費が支給されない事態が起きている。バリラタ国立公園で独立した予算枠をつくり、必要額の予算を確保しておくとともに、公園管理委員会などの裁量で執行できるようなシステムが求められる。

8. 主要な成果品リスト:

- 1) パプアニューギニア バリラタ国立公園インフォメーションセンター新築に関する基礎調査 調査報告書(添付資料 2.2.1)
- 2) Information Center Complex のマスタープラン(添付資料 2.2.2)
- 3) 新 IC 建設工事契約書(添付資料 2.2.3)
- 4) 新 IC 設計図(添付資料 2.2.4)
- 5) 新 IC 建設許可証(添付資料 2.2.5)
- 6) 工事記録写真(添付資料 2.2.6)
- 7) 新 IC 建設工事契約書 第 1 回修正(添付資料 2.2.7)
- 8) 新 IC 建設工事契約書 第 2 回修正(添付資料 2.2.8)
- 9) 新 IC 確認済み証(添付資料 2.2.9)
- 10) ウッドデッキ及び関連工事の契約書(添付資料 2.2.10)
- 11) ウッドデッキ工事設計図(提案書)(添付資料 2.2.11)

以上

添付資料 2.2.1 Master Plan of Information Center Complex March 2017

Master Plan of Information Center Complex (Version 1)

March 2017

CEPA-JICA Technical Cooperation Project Team $\label{eq:cooperation}$ The Project for Biodiversity Conservation through Implementation of the PNG Policy on Protected Areas

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<u>Annex</u>

Annex 01 Facility Distribution Map

Annex 02 List of Facility

Annex 03 Facility Profiles

Master Plan of Information Center Complex in Varirata National Park

1. Background

(Facility development plan)

The facility development plan was prepared based on the facilities assessment report in the Varirata National Park (VNP) in February, 2016 by the CEPA-JICA Project. The development plan recommended two steps development of the facilities in VNP as, the revival stage and the progress stage. The strategy for the facility development in VNP in the development plan was summarized in the Table 1.1-1 in the plan. The strategy of improvement/ development of information center is described as "Simple and same structure is revived in short term, another new and different system center will be developed in long term." The next generation information center (such as live video, on time camera traps, etc.) will be considered, planned and implemented with long term period.

Meanwhile, the information center is located in the corner of the main picnic area and associated with car parks and empty lot of the park management office. The area seems to be used as complex of the information center in the old days. (Please see Annex-01, Information Center Complex Location Map). The area seems to be used as an independent compartment with functions. Therefore, for the development of the information center, we need to consider the comprehensive development of the area not only development of the information center.

(History of consideration of use of the complex area)

(1) Idea of re-use of the old information center building

The CEPA-JICA Project team has discussed the comprehensive development of the area above since October 2016, when an expert of architect joined to the JICA Expert Team (JET). During the expert examined, the old information center was judged not be used for the information center with full functions, and a new information center would be built on the place near to the old one. The Project again, discussed and got a results, the old information center demolition will cost again; therefore, reuse of the old information center shall be considered.

The expected functions for the information center in VNP are:

- 1) Guide the visitors to the park,
- 2) Give an explanation of information of the park,
- 3) Accelerate experience learning,
- 4) Supply rest or evacuation place for visitor,
- 5) Provide place and materials for research and study, and
- 6) Manage the park

The old information center was examined to be used as the information center which has all the necessary functions above. However, it was decided not to be possible, because 1) it is difficult to confirm stability and reliability of the foundation, 2) aging of roof and walls are significant, and 3)

refurbishment cost would be more than new construction and the period will be longer.

However, utilization of the old information center as a simple facility for meeting and etc. after rehabilitation of roof and walls with lightweight material is considered to be possible.

(2) Request from CEPA

CEPA has considered the function of experience leaning for VNP such as installation of koiari Tree House. During the discussion of utilization of the old information center, CEPA proposed the usage of the show-case function such as local culture display.

(3) Demand of livelihood improvement activity

Regards to the livelihood improvement activity of the Project Output-2, CEPA-JICA Project aims to introducing the eco culture tourism as one of measures. An event (dance and cooking introducing to the tourists) is one of the measures and the event space securement is the essential issue. The local people proposed to use any places of VNP for the space. The old information center can be used for the event space.

(4) Recent discussion in CEPA-JICA Project

The JICA Expert Team and CEPA counterparts continued to discuss the utilization of the information center complex including the old information center. Then, the consensus of re-use of the old information center, comprehensive development of the area including old and new information center, renewal of the parking spaces, and corridors which connects the old and new information center, parking area, car road and the main picnic area are considered becoming to a consensus.

As the results of historical discussion among experts of JET and counterparts of CEPA, the image of the utilization and comprehensive development of the information complex area has been becoming a consensus. However, any plans have not been prepared yet. Thus, hereby, the CEPA-JICA Project would like to prepare the Master Plan of Information Center Complex (version 1) and fix the consensus among the related organizations, CEPA, JICA, and the JICA Expert Team.

2. Objectives of preparation of the Master Plan

The objectives of preparation of the master plan are:

- 1) Demonstration of the concept of the information center complex development,
- 2) Consensus building of the concept among the actors, and
- 3) Setting principles of development of the complex for implementation of the development.

Also, this master plan is realization of the historical discussion results. Therefore, the plan will be updated whenever any new discussion or examinations will be held.

3. Principle of Master Plan

The Master Plan of information center complex (hereinafter referred to as "the Complex Master Plan")

covers the area shown in the Annex-01. The target area is located at the corner of the main picnic area of VNP and is expected to fulfill the general function of information center. And all facilities in the complex are connected and function organically.

3.1 Necessary facilities in the complex

The necessary facilities in the complex are listed below.

- (1) New information center
- (2) Re-used old information center
- (3) Car parking areas (three)
- (4) Corridors connecting each facility and the main picnic area
- (5) Demonstration (show-case) of Koiari Tree House: additional

3.2 Expected function of each facility

(1) New Information center and (2) re-used old information center

Generally, the expected functions for information center are described below.

- 1) Guide the visitors to the park,
- 2) Give an explanation of information of the park,
- 3) Accelerate experience learning,
- 4) Supply rest or evacuation place for visitor,
- 5) Provide place and materials for research and study, and
- 6) Manage the park

With assumption of re-use of the old information center building, the expected functions above will be demarcated to the two facilities, new and re-used information center.

The expected functions which can be expected to the re-used old information center are limited, because of strength of the building. The expected functions to the re-used old information center are planned below.

- 4) Supply rest or evacuation place for visitor,
- 5) Provide place and materials for research and study, and

Therefore, the expected functions to the new information center are focused on the remaining functions as below.

- 1) Guide the visitors to the park,
- 2) Give an explanation of information of the park,
- 3) Accelerate experience learning, and
- 6) Manage the park
- (3) Car parks

There are four (4) car parking areas beside the main picnic area as shown in Annex-01. One of the

areas is located at the south-west direction from the complex and the distance is approximately 120m along the main road. The car parks inside the complex are necessary to lead the visitors to the information center complex. The car parks beside inside of the complex will be sued for the visitors who will use the information centers.

(4) Corridors connecting each facility and the main picnic area

The surface of the complex is covered grasses and sometimes wet. Therefore, the corridors connecting each facility are necessary for the visitors. Also, some of the visitors are assumed to go to the main picnic area after visiting the complex. Therefore, the corridors are expected to connect the facilities and the main picnic area.

(5) Demonstration (show-case) of Koiari Tree House: additional

Koiari tree House is a symbolic architecture for the local people in Koiari. There is a empty lot of old Koiari Tree House near the main picnic area. Unfortunately, it was aged much and almost broken. The Koiari local people, especially the Clan members of VNP has been expecting re-construction of the tree house. Due to consideration of safety, the re-construction of the tree house has not decided yet. Then, the demonstration of the Koiari Tree House in the complex can satisfy both demands of local people and visitors' interest.

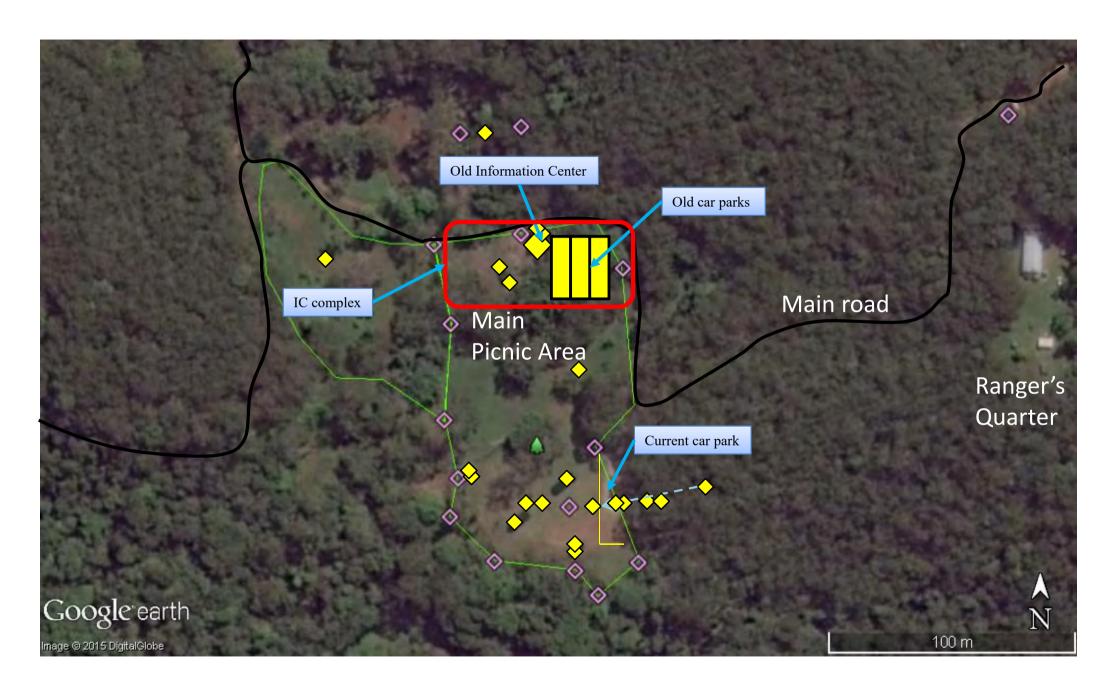
4. Outline of Facility Development Plan

The outline of facilities are shown below and Annex-02, Master Plan of Information Complex Development.

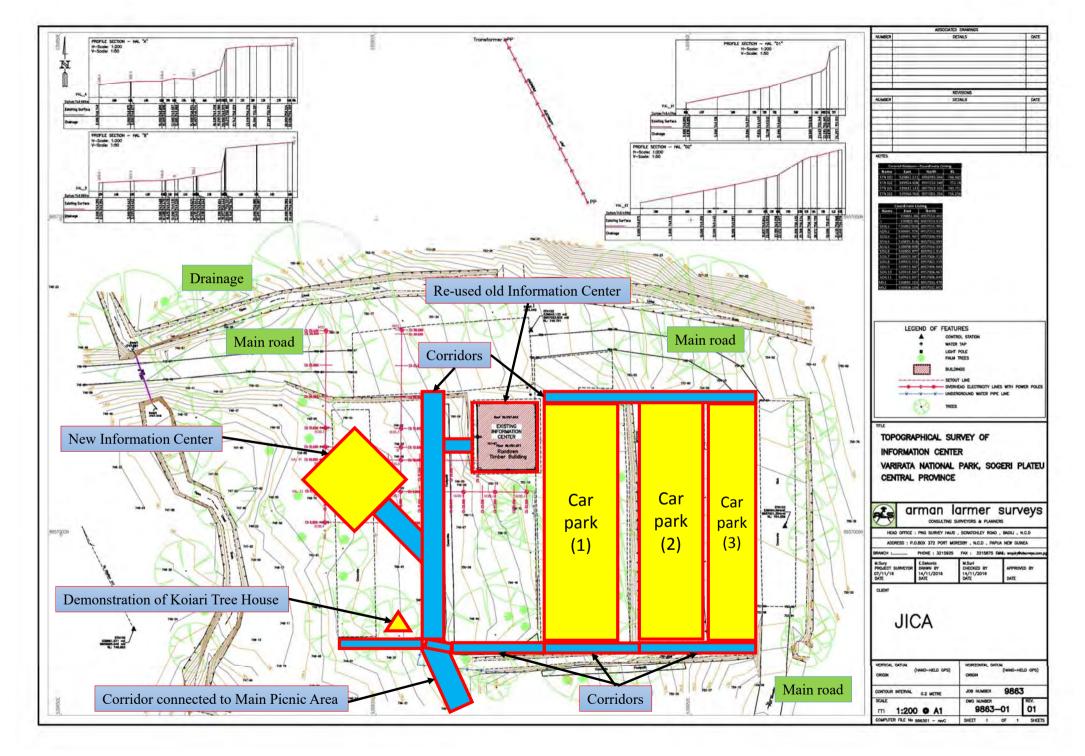
Outline of Facilities in the Information Complex

| Facility | Number, amount | Dimension |
|------------------------------------|-------------------------------------|-------------------------|
| (1) New information center | 1 building | 10m x 10m |
| (2) re-used old information center | 1 building | 10m x 10m |
| (3) Car parks | 3 parks | 40m x 7m (1) |
| | | 40m x 9m (2) |
| | | 40m x 6m (3) |
| (4) Corridors | North side of parks | 25m x 1m |
| | South side of parks | 25m x 1m |
| | South side of information buildings | 25 m x 2m |
| | South-north between new/old | 40m x 4m |
| | information center building | |
| | Old information center-corrido | 5m x 4m |
| | New information center-corridor | 10m x 4m |
| (5) Demonstration (show-case) of | 1 | 3m x 3m x 1m (Lx W x H) |
| Koiari Tree House | | |

⁻⁻ End of Document--



Annex-01_Information Center Complex Location Map



添付資料 2.2.2 Contract agreement for construction of new information center

Contract Agreement

THIS AGREEMENT made the International Cooperation Agency Papua New Guinea Office (hereinafter "the Employer"), of the one part, and Rhodes PNG Limited (hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as The Design-Build Project on Construction of New Information Center at Varirata National Park should be executed by the Contractor, and has accepted a bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

- 1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
- 2. The following documents (hereinafter "Contract documents") shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Conditions of Contract;
 - (b) the Specification; and
 - (c) the Drawings.

For the purpose of interpretation, the priority of the listed documents shall be in accordance with the above listed order.

- 3. In consideration of the payments to be made by the Employer to the Contractor as indicated below, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract documents.
- 4. The Employer hereby covenants to pay the Contractor the amount of PGK676,688,10 [Six Hundred Seventy Six Thousand Six Hundred Eighty Eight Kina and Ten Toeal (hereinafter "Contract Amount") in consideration of the execution and completion of the Works by the day of 7th, , March (hereinafter "Intended Completion Date") and the remedying of defects therein.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Papua New Guinea on the day, month and year indicated above.

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Signed by: Signed by: ≤ for and on behalf of the Employer for and on behalf of the Contractor in the presence of: Witness: Witness: Signature: Signature: Name: Mr. Koji Asano Name: Mr. Gunthe Joku Position: Managing Director, CEPA Position: Chief Technical Advisor, CEPA-Date: 1/07/17 JICA Project Office Date:

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Conditions of Contract

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A. General

Definitions

- 1.1 The following words and expressions shall have the meanings hereby assigned to them.
 - (a) "Completion Date" is the date of completion of the Works as certified by the Employer, in accordance with Clause 19.
 - (b) "Contract" means the Contract Agreement between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in Sub-Clause 2.2.
 - (c) "Contract Amount" means the price payable to the Contractor as specified in the Contract Agreement.
 - (d) "day" means calendar day.
 - (e) "Defect Liability Period" is the period pursuant to Sub-Clause 15.1.
 - (f) "Intended Completion Date" is the date, which is specified in the Contract Agreement Clause 4, on which it is intended that the Contractor shall complete the Work.
 - (g) "Project Manager" is a person appointed by the Employer and notified to the Contractor, who is responsible for supervising the execution of the Works and administering the Contract.
 - (h) "Taking-Over Certificate" is the certificate issued by the Employer upon deciding that the whole of the Works is completed for the purpose of taking-over.
 - (i) "Works" means the design, the permanent works and the temporary works (works designed, constructed, installed, and removed that are temporarily needed for construction or installation of the Works) to be executed by the Contractor under this Contract.

Interpretation

- 2.1 In interpreting this Conditions of Contract, words indicating one gender include all gender. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about this Conditions of Contract.
- 2.2 The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Contract Agreement,
 - (b) Conditions of Contract,
 - (c) Specification, and
 - (d) Drawings.
- 2.3 The Contract constitutes the entire agreement between the

Employer and the Contractor and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of the Contract.

2.4 No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

Language

3.1 The language of the Contract shall be the English language.

Notices

4.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address hereunder. The term "in writing" means communicated in written form with proof of receipt.

[The Employer]

Attention: Mr. Masatake Harada, Assistant Representative

Address: JICA Papua New Guinea Office

2nd Floor, PWC Haus, Harbour City, Port Moresby, N.C.D., P.O. Box 1660, Port Moresby, N.C.D., Papua New Guinea

Telephone: (675) 321 2677

E-mail address: pn oso rep@jica.go.jp

[The Contractor]

Attention: Emanuel Papastamatis

Address: Portion 2733 Napa Napa Road, Porebada, Central

Province, Papua New Guinea Telephone: +675 7091 4457

E-mail Address: e.papas@rhodesprojects.com.au

Subcontracting

5.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

Employer's Risk

- 6.1 From the start of the Works until the date of the taking-over of the Works by the Employer, the following are Employer's risks:
 - (a) The risks of loss of or damage to property (excluding the Works, plant, materials, and equipment), which are due to:
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works; or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
 - (b) The risk of damage to the Works, plant, materials, and equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war, hostilities (whether war declared or not), invasion, act of foreign enemies, rebellion, terrorism, revolution, insurrection, military or usurped power,

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- civil war, riot, commotion of disorder or radioactive contamination directly affecting the country where the Works are to be executed.
- 6.2 From the date of taking-over of the Works by the Employer until the end of the Defect Liability Period prescribed in Sub-Clause 15.1, the risk of loss of or damage to the Works, plant, and materials is an Employer's risk except loss or damage due to:
 - (a) a defect which existed on the Completion Date,
 - (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
 - (c) the activities of the Contractor on the Site after the Completion Date.

Contractor's Risk

7.1 From the start of the Works until the end of the Defect Liability Period, the risk of personal injury, death, and loss of or damage to property (including, without limitation, the Works, plant, materials, and equipment) which are not Employer's risks are Contractor's risks.

Approval by the Project Manager

- 8.1 The Contractor shall be responsible for design of the temporary works in accordance with the requirements specified in the Specification.
- The Contractor, if requested, shall submit design documents of the 8.2 temporary works to the Project Manager for his approval. The Project Manager's approval shall not alter the Contractor's responsibility for design of the temporary works.

Safety

- 9.1 The Contractor shall:
 - (a) comply with all applicable safety regulations;
 - (b) take care for the safety of all persons entitled to be on the Site;
 - (c) use reasonable effort to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons; and
 - (d) provide necessary fencing, lighting, guarding and watching of the Works until completion and the taking-over.

- Access to the Site 10.1 The Employer shall give possession of all parts of the Site to the Contractor.
 - 10.2 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

Settlement of **Disputes**

The Employer and the Contractor shall make every effort to resolve 11.1 amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

11.2 Notice

- (a) If the parties are in dispute over any matter in connection with this document, either party may give Notice and particulars of the dispute to the other and require the dispute to be resolved by an independent expert with at least 10 years' experience in the area of the dispute and who is acceptable to both parties.
- (b) any expert determination conducted pursuant to this clause 11 must be held in Port Moresby.

11.3 Nomination of independent expert

If the parties do not agree on an independent expert within 15 Business Days of the date of the Notice issued under clause 11.1, either party may request the President of the Papua New Guinea Law Society to nominate an independent expert in the area of the dispute to determine the dispute.

11.4 Procedures

- (a) The parties must require the independent expert to:
 - act as an expert and not as an arbitrator;
 - (ii) make a determination as soon as possible; and
- (iii) give written reasons for that determination.

11.5 Binding nature of determination

The parties will be bound by the determination of the independent expert, except in the case of manifest error or as specified in clause 11.9.

11.6 Rules of determination

The Expert Determination Rules of the New South Wales Chapter of the Australian Commercial Disputes Centre current as at the date of the dispute apply to the determination of a dispute under this clause, except where those rules conflict with a clause in this document, in which case, this document prevails.

11.7 Costs

The parties must share the Costs of the determination of the dispute under this clause II equally unless the independent expert specifies otherwise, in which case, the Costs must be paid by the parties as specified by the independent expert.

11.8 Interlocutory relief

Nothing in this clause 11 will operate to prevent a party approaching a court for interim or urgent interlocutory relief.

11.9 Final and binding decision

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Unless there is an obvious error, the independent expert's decision is final and binding on the parties, except where the decision involves an amount exceeding K1,000,000, in which case the parties may institute proceedings in the Courts of Papua New Guinea in respect of the dispute at any time. The parties hereby irrevocably submit to the nonexclusive jurisdiction of the Courts of Papua New Guinea to resolve any such disputes.



B. Time Control

Program

12.1 Within fourteen (14) days after the date of the signing of the Contract, the Contractor shall submit to the Project Manager a program showing the general methods, arrangements, order, and timing for all activities relating to the Works.

Management Meetings

13.1 Either the Project Manager or the Contractor may require the other to attend one or more management meetings at a time reasonably convenient to both the Project Manager and the Contractor. The business of a management meeting shall be to review the plans for remaining work and to deal with matters that may likely arise in future and adversely affect the execution of the Works.

C. Quality Control

Identifying Defects 14.1

14.1 The Project Manager shall check the Contractor's work and notify the Contractor of any defects that are found. The Project Manager may instruct the Contractor to search for a defect and to uncover and test any work in conformity with the Specification.

Correction of Defects

- 15.1 The Employer shall give notice to the Contractor of any defects before the end of the Defect Liability Period, which extends over three-hundred sixty-five (365) days calculated from the Completion Date.
- 15.2 If a defect is corrected under this Clause, the Defect Liability Period shall be extended to the defect as corrected for a further period of 365 days.
- 15.3 Every time notice of a defect is given, the Contractor shall correct the notified defect as soon as practicable after such notice.
- 15.4 If the Contractor has not corrected a defect within the reasonable time, the Employer shall assess the cost of having the defect corrected, and the Contractor shall pay this amount.

D. Cost Control

Payment

- 16.1 The Employer shall pay the Contractor the amounts, and on the conditions specified as follows:
 - (a) Advance Payment

 The Employer shall make advance payment to the Contractor of the amounts PGK270,675.24 [Two Hundred Seventy Thousand Six Hundred Seventy Five Kina and Twenty Four

Toeal, which corresponds to forty percent (40%) of the Contract Amount, against provision by the Contractor of an unconditional bank guarantee acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the Completion Date.

(b) First Interim Payment

The Employer shall make first interim payment to the Contractor of the amounts PGK101,503.21 [One Hundred One Thousand Five Hundred Three Kina and Twenty One Toeal, which corresponds to fifteen percent (15%) of the Contract Amount, against completion certificate of the following works, issued by the Project Manager and verified by the Employer.

- Reinforced concrete foundation work

(c) Second Interim Payment

The Employer shall make second interim payment to the Contractor of the amounts PGK67,668.81 [Sixty Seven Thousand Six Hundred Sixty Eight Kina and Eighty One Toeal, which corresponds to ten percent (10%) of the Contract Amount, against completion certificate of the following works, issued by the Project Manager and verified by the Employer.

- Erection of main structure work

(d) Final Payment

The Employer shall make final payment to the Contractor of the amounts PGK236,840.84 [Two Hundred Thirty Six Thousand Eight Hundred Forty Kina and Eighty Four Toeal, which corresponds to thirty five percent (35%) of the Contract Amount, against the Taking-Over Certificate issued by the Employer.

16.2 All payments by the Employer to the Contractor above, shall be made upon a request for payment by the Contractor accompanied by the necessary documents and certificates, within twenty-eight (28) days of the date of the request is received. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment, calculated from the date by which the payment should have been made up to the date when the late payment is made, at the rate of five (5) percent per annum calculated on the basis of a year of 365 days for the number of days elapsed.

Liquidated **Damages**

17.1 In case that the Contractor does not complete the Work by the Intended Completion Date, the Contractor shall pay liquidated damages to the Employer at the rate of zero point one percent (0.1%) of the Contract Amount for each day from the Intended Completion Date up to and including the Completion Date. The total amount of liquidated damages shall not exceed twenty-five percent (25%) of the Contract Amount. The Employer may deduct liquidated damages from payments due to the Contractor.

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Securities

- 18.1 The Performance Security shall be provided to the Employer within twenty eight (28) days after the Employer notifies the Contractor that the Contractor's bid has been accepted. The Performance Security shall be issued by a bank or surety acceptable to the Employer, and denominated in the same currency as the Contract Amount, for an amount equal to twenty five percent (25%) of the Contract Amount.
- 18.2 Performance Security shall be valid and enforceable until the Contractor has executed and completed the Works and remedied any defects.
- 18.3 The Performance Security shall be returned to the Contractor within twenty-eight (28) days after the end of the Defect Liability Period.

E. Finishing the Contract

Completion

19.1 The Contractor shall request the Employer to issue a Taking-Over Certificate for the Works, and the Employer shall do so upon deciding that the whole of the Works is completed for the purpose of taking-over.

Taking Over

20.1 The Employer shall take over the Site and the Works within seven (7) days of the issuing date of the Taking-Over Certificate.

Termination

- 21.1 The Employer or the Contractor may terminate the Contract if the other party breaches a fundamental term of the Contract.
- 21.2 Fundamental breaches of the Contract shall include, but are not limited to, the following:
 - (a) the Contractor stops work for more than twenty-eight (28) days when no stoppage of work is shown on the current program, prescribed in Clause 12, and the stoppage has not been authorized by the Project Manager;
 - (b) the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - (c) a request for payment is not paid by the Employer to the Contractor within eighty-four (84) days after the Employer receives such request;
 - (d) the Employer gives notice that failure to correct a particular defect is a fundamental breach of the Contract and the Contractor fails to correct it within a reasonable period of time determined by the Employer;
 - (e) the Contractor does not maintain a Security, which is required;
 - (f) the Contractor has delayed the completion of the Works by the

- number of days for 100 or more days;
- (g) if the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to Clause 22; or
- (h) if the Contractor continuously fails to comply with the instructions provided by the Project Manager.
- 21.3 Notwithstanding the above, the Employer may at any time and for any reason terminate the Contract (that is, termination for convenience).

Corrupt or Fraudulent **Practices**

22.1 If the Employer determined, based on reasonable evidence, that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving fourteen (14) days notice to the Contractor, terminate the Contractor's employment under the Contract and expel the Contractor from the Site.

Payment upon **Termination**

- 23.1 If the Contract is terminated because of a fundamental breach of the Contract by the Contractor, the Employer shall issue a certificate for the value of the work done and materials ordered, less the amount of the payments already made by the Employer, and less twenty percent (20%) of the value of the work not completed. The amount so certified shall in the absence of manifest error and assuming that it is a positive number be payable by the Employer to the Contractor within 28 days after the certificate is issued. Additional liquidated damages shall not apply. If the total amount due to the Contractor in accordance with this clause 23.1 is less than the aggregate of any payments due by the Contractor to the Employer under this Contract, the difference shall be a debt payable by the Contractor to the Employer and may be set off by the Employer against the amount otherwise payable by the Employer to the Contractor under this clause 23.1.
- 23.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of the Contract by the Employer, the Contractor shall issue a certificate for the value of the work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's cost of protecting and securing the Works, and less amount of payments already received. The amount so certified shall in the absence of manifest error be payable by the Employer to the Contractor within 28 days after the certificate is issued.



Specification (Work Requirements)

A. Scope of Works

1. Design-Build system

The Contractor shall fulfil the following works to complete "The Design-Build Project on Construction of New Information Center at Varirata National Park".

a. Detail design & shop drawings

b. Structural design & calculation for RC foundation and main structure, which shall be certified by a qualified engineer

c. Acquisition of building permit, fire service approval, and others, if any, from the relevant authorities prior to construction work commencing

d. Construction of the building

2. Design criteria

a. Location: The Varirata National Park, outside Port Moresby towards

Sogeri, Central Province

b. Floor space: Approximately 100 square metres

c. Building height: Approximately 9.5 metres high from the average Ground

Level

d. Foundation: Reinforced concrete spread / pedestal footing

e. Main structure: Steel construction

f. Finishes: (Exterior finishes)

- Roof Square hipped roof of 45 degrees pitch

Galvanized steel corrugated roofing with resin paint coated (colour bond) with water-proofing sheet (roofing felt) on

plywood sheathing underlayment

Gutter of PVC or steel paint finished

- Soffit Calcium silicate board paint finished

- Wall HardiePlank Lap Siding (Fiber cement siding) paint finished

with water-proofing sheet on plywood underlayment

- Roof top skylight

6mm thick toughened glass

(Interior finishes)

[Gallery, Study & Information]

- Floor T&G timber plank flooring varnish finished

- Skirting Timber board varnish finished

- Wall Plaster board (water proofing type) or Calcium silicate board

paint finished (Off-white colour)

- Ceiling Timber board varnish finished

[Offices & Stores]

- Floor T&G timber plank flooring varnish finished

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- Skirting

Timber board varnish finished

- Wall

Plaster board or Calcium silicate board paint finished (Off-

white colour)

- Ceiling

Timber board varnish finished

- Top of Ceiling Plywood varnish finished

Furniture & Fittings:

[Gallery]

- Display table with cupboard beneath along the wall

- Display wall

- Picture rail & hanging wire

- Entrance doors

[Study]

- Oval shape table & 14 round shape stools

[Information]

- Information counter (fixed) & 2 chairs

[Administration Office]

- 2 working desks & 2 chairs - I book shelf (movable) - Door & window with blind

[Research Office]

- 3 working desks & 3 chairs

- 2 book shelves (movable) - Windows with blinds

[Store (1)]

- Entrance doors & interior door and windows

[Store (2)]

- Door and window

[Exterior]

- Security grills for windows

- JICA sign board

Electrical work (Lighting fittings and equipment):

[Gallery]

- Spot light (down light) with lighting rail (33 nos.) above

display table & display wall

[Study]

- Special lighting fitting above table, hung from the ceiling

[Information]

- Concealed type down light (6 nos.)

[Administration Office]

- Linear type ceiling light (2 nos.)

[Research Office]

- Linear type ceiling light (2 nos.)

[Store (1)]

- Linear type ceiling light (2 nos.)

[Store (2)]

- Linear type ceiling light (1 no.)

i. Rain water collection system:

Tuffa Rainwater Tank 9000 liters capacity (2 nos.)

Security camera: j.

Security camera (2 nos.) with monitor and recorder

Fire Extinguisher:

4.5Kg CO2 Fire Extinguisher (1 no.)

B. Specification

All the relevant works to complete "The Design-Build Project on Construction of New Information Center at Varirata National Park" shall follow and comply with the related Australian / PNG Codes, Standards and Regulations.

Detail Design & Shop Drawings

The Contractor is requested to prepare detail design & shop drawings, which shall be submitted to the Supervisor for approval.

- Structure of reinforced concrete foundation shall be determined by qualified structural engineer from the Contractor taking into consideration the soil conditions of the site and the structural design conditions prevailing in the country.
- The design of main structure shall be determined by a qualified structural engineer appointed by or employed by the Contractor taking into consideration the structural design conditions prevailing in the country.
- Certificate for the structural design of reinforced concrete foundation and main structure, certified by the qualified engineer, shall be submitted to the Supervisor.
- The Contractor is requested to obtain the building permit, fire service approval, and others, if any, from the relevant authorities prior to the construction work.
- Fee for the application of permit/approval shall be inclusive in the contract and born by the Contractor.

Preliminaries & Temporary Work

- The Contractor is required for site clearance to demolish the existing concrete slab to the extent of the limited area necessary for the construction of the building.
- The debris derived from the demolition of existing concrete slab shall be taken out of the park for disposal.
- It is not allowed for the Contractor to construct the temporary accommodation for labourers inside the park area.

Reinforced Concrete Foundation Work

- a. Following concrete shall be used for reinforced concrete work;
 - Footings:

25MPa reinforced concrete

- Columns: 25MPa reinforced concrete

b. The Contractor is required, due to the nature of the soil, for back filling and compaction of soil to use the soil recommended and approved by the Supervisor.

4. Main Structure

- a. Main structure shall be steel construction.
- The Contractor is required to propose the main structure system (framing system) to the Supervisor during the Design stage. The main structure system shall be finalized after the study, review and consultation with the Supervisor and the Contractor.

5. Finishing Work

- Roof top skylight Skylight comprises aluminium or stainless steel supporting frames with 6mm thick toughened glass, complete with all accessories
 - Apex on top of aluminium or stainless steel
- b. Roof cladding
- Roof cladding shall be galvanized steel corrugated roofing with resin paint coated (colour bond).
- Roof cladding shall be installed on water-proofing sheet (roofing felt) on plywood sheathing underlayment
- Exterior wall cladding
 - Exterior wall cladding shall be HardiePlank Lap Siding (Fiber cement siding) with resin paint finish

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|----|----------|
| d. | Painting |

- Exterior wall cladding shall be installed on water-proofing sheet on plywood underlayment
- 3 coats of varnish finish for interior timber of T&G timber flooring, skirting and ceiling
- 1 undercoat paint and 2 coats of acrylic resin paint finish for exterior wall and timber doors
- 1 undercoat paint and 2 coats of acrylic emulsion paint finish for interior wall
- Urethane resin paint finish for furniture
- e. Termite-proof
 - _..1_4! _ ..
- f. Insulation
- All the timbers are termite-proof treated
- Fiber glass thermal insulation shall be installed inside the whole area of exterior wall and roof

6. Furniture & Fittings

- a. Gallery
- Fixed display table of timber top (30mm thick) with cupboard beneath, 400mm wide x 750mm high, urethane resin paint finished (refer to the attached drawing)
- Fixed display wall (refer to the attached drawing)
- Picture rail & hanging wire above display table and display wall (refer to the attached drawing)
- Double leaf swinging doors of solid core timber with slit windows of 6mm thick toughened glass, with lockset and other hardware, 1,800mm wide x 2,100mm high (refer to the attached drawing)
- Exterior finish of the doors shall be the same as the exterior wall finish, and the interior shall be paint finished (refer to the attached drawing)
- b. Study
- High grade working table of timber top (30mm thick) with round corner treated, urethane resin paint finished for furniture (refer to the attached drawing)
- Oval shape table, with size of 1,000mm wide x 3,000mm long x 750mm high
- c. Information
- Size of timber chair (stool), 450mm dia. x 420mm high Fixed information counter of timber top (30mm thick),
- 500mm wide x 3,000mm long x 750mm high, urethane resin paint finished (refer to the attached drawing)
- d. Administration Office
 - Medium grade office furniture, 2 working desks & 2 chairs, subject to the selection of the Supervisor
 - Size of desk, 600mm wide x 1,200mm long x 750mm high
 - 1 ready-made book shelf, 300mm wide x 900mm long x
 - Hollow core timber door with lockset and other hardware, 900mm wide x 2,100mm high, paint finished

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- Aluminium sliding window with 6mm toughened glass, 2,100mm wide (2 series) x 1,100mm high, fly screen, security grill outside, and blind inside

- e. Research Office
- Medium grade office furniture, 3 working desks & 3 chairs, subject to the selection of the Supervisor
- Size of desk, 600mm wide x 1,200mm long x 750mm high
- 2 ready-made book shelves, 300mm wide x 900mm long x 1,800mm high each
- Aluminium sliding window with 6mm toughened glass, 2,100mm wide (2 series) x 1,100mm high, fly screen, security grill outside, and blind inside
- Aluminium sliding window with 6mm toughened glass, 1,000mm wide x 1,100mm high, fly screen, security grill outside, and blind inside
- f. Store (1)
- Double leaf swinging doors of solid core timber, with lockset and other hardware, 1,800mm wide x 2,100mm high
- Exterior finish of the doors shall be the same as the exterior wall finish, and the interior shall be paint finished (refer to the attached drawing)
- 2 aluminium sliding windows with 6mm toughened glass, 1,000mm wide x 450mm high each, fly screen, security grill outside
- g. Store (2)
- Hollow core timber door with lockset and other hardware, 900mm wide x 2,100mm high, paint finished
- Aluminium sliding window with 6mm toughened glass, 1,000mm wide x 450mm high, fly screen, security grill outside
- h. Exterior
- Security grills for all aluminium windows
- Sign board of JICA either carved on timber board designed and hand-made by local artist or printed on stainless steel panel of 900mm square

7. Electrical Work

Application and payment to PNG POWER for power supply extension and installation of primary cabling outside shall be inclusive in the contract and the cost shall be paid by the Contractor.

Attached hereto, as Appendix IV, is the quotation from PNG POWER for power supply extension, for reference.

Installation of control panel, lighting fittings, sockets, switches and domestic cabling, complete, shall be executed.

All the lighting fittings shall be equipped with LED lamps. Lighting fittings and equipment for each room are as follows;

- a. Gallery
- 33 nos. of removable spot lights (down lights) with lighting rail (lighting duct) above display table and display wall

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b. Study - Special lighting fitting above table, hung from the ceiling (refer to the attached drawing)

c. Information - 6 nos. of concealed type down lights inside the ceiling

d. Administration Office

- 2 nos. of linear type ceiling lights

e. Research Office - 2 nos. of linear type ceiling lights

f. Store (1) - 2 nos. of linear type ceiling lights

g. Store (2) - 1 no. of linear type ceiling light

8. Rain Water Collection System

2 nos. of Tuffa Rainwater Tanks, 9,000 liter capacity each, with accessories, locks, complete, shall be installed for collection of rain water from the roof. Roof gutter and downpipes to divert rain water into the tanks shall also be installed.

Concrete slab to support the tanks shall be provided.

9. Security Camera

2 nos. of security cameras shall be installed for CCTV system; one inside, at the corner of Gallery, and the other, outside on the soffit of entrance.

The camera inside shall be an ordinary type.

The camera outside shall be water-proof type and wide lens equipped.

The monitor (display) and recorder for security cameras shall be installed inside Administration Office.

10. Fire Extinguisher

1 no. of 4.5Kg CO2 Fire Extinguisher shall be installed inside Gallery.

C. Drawings

Refer to the following drawings attached hereto;

- 1. Building Layout Plan.
- 2. Floor Plan, Elevations, and Section of the Building.
- 3. Ceiling Plan and Details

D. Supplementary Information

1. Proposal of the bidder's intended schedule.

The bidder is required to propose its intended working schedule in Gantt chart (Bar chart) which clearly indicates how all the works, including Design and Build, are to be sequenced and scheduled from the commencement date to the completion date of the works.

The schedule shall be described in Section II. Bidding Forms: BF-7: Construction Schedule.

Attached hereto, as "Appendix I", the overall schedule of the works for reference.

2. Geotechnical investigation

Attached hereto, as "Appendix II", the Topo Survey Map and, as "Appendix III", the Report on Geotechnical Investigation of the construction site.

The bidder is required to examine the contents of the map and the report, and to utilize them for structural design of the building.

3. Quotation from PNG POWER

Attached hereto, as Appendix IV, the quotation letter from PNG POWER for power supply extension to Varirata Information Center, dated 14th December, 2016, addressed to JICA Expert Team, for reference.

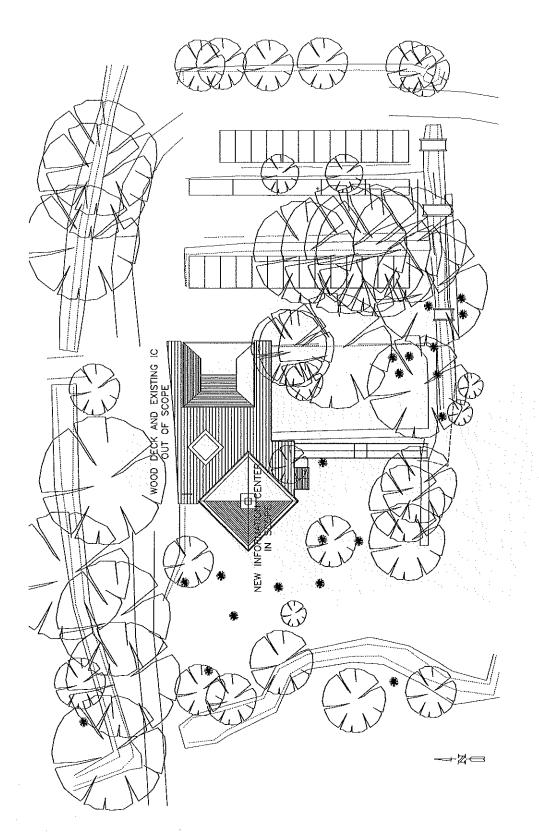
The bidder is required to refer to the letter from PNG POWER, not only for the amount to pay but also for payment term, and include the necessary expenses in bidding amount.

[Appendices]

Appendix I: Overall schedule
Appendix II: Topo Survey Map

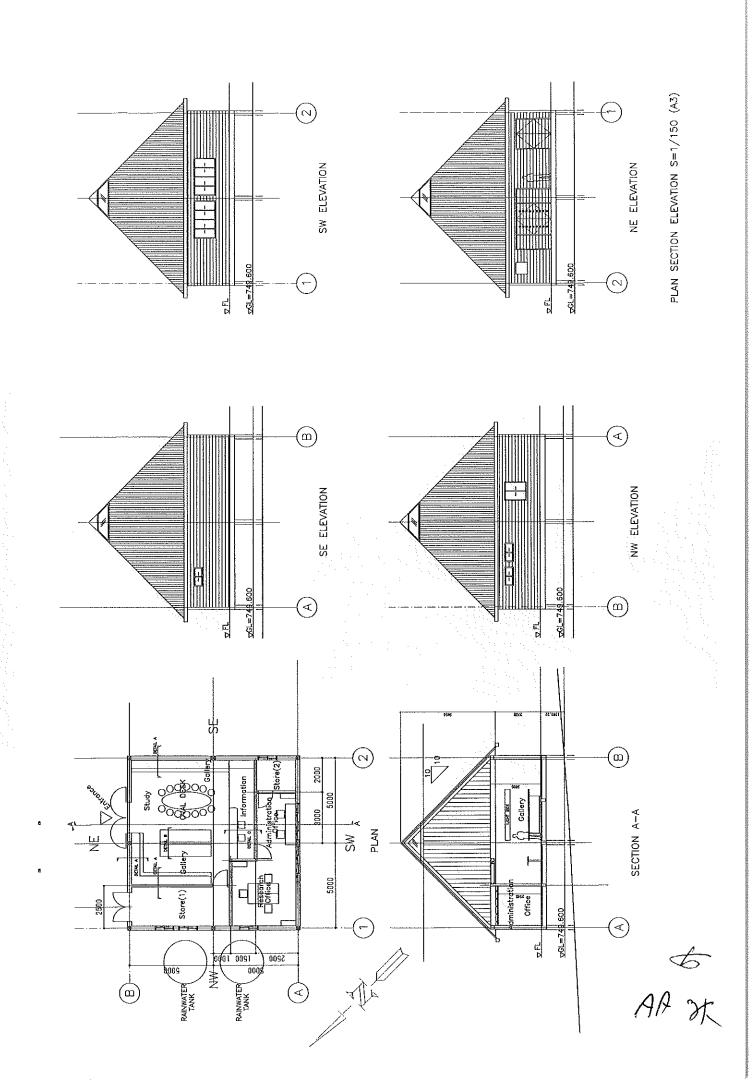
Appendix III: Report on Geotechnical Investigation Appendix IV: Quotation letter from PNG POWER

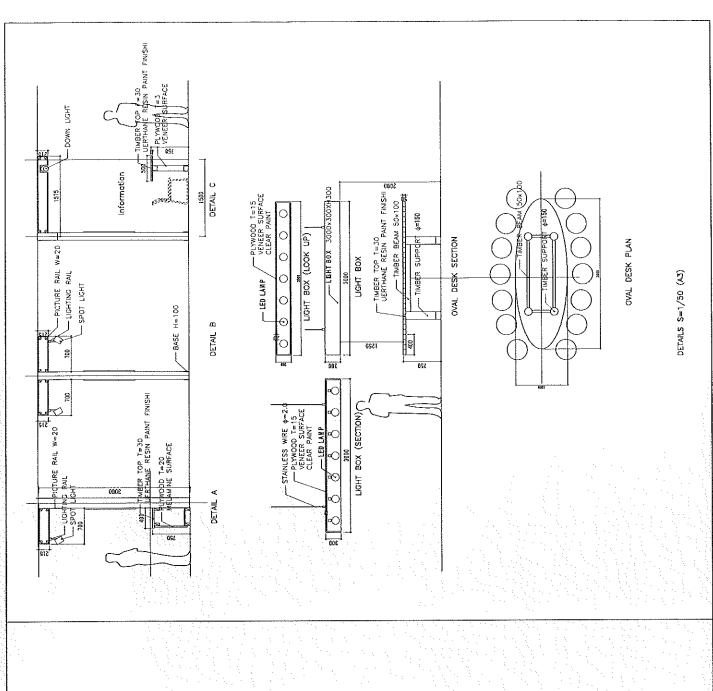
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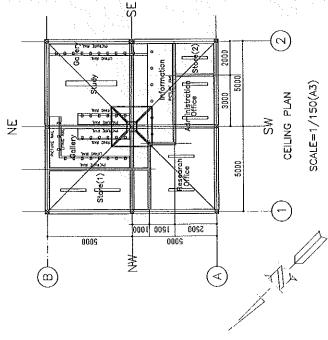


SITE PLAN S=1/400 (A3)

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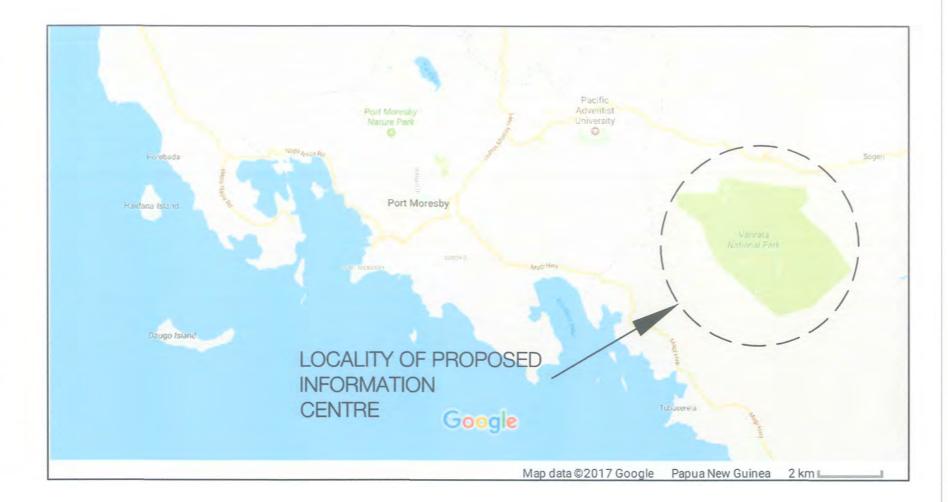


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添付資料 2.2.3 Final Design Drawing of new information center

VARIRATA INFORMATION CENTRE ARCHITECTURAL SET

| DRAWING ID | DRAWING NO. | DESCRIPTION |
|------------------------|----------------|----------------------------|
| 201726-ARC-VAR-A-000 | A-00-000 | INDEX |
| 201726-ARC-VAR-A-001 | A-01-000 | SITE PLAN |
| 201726-ARC-VAR-A-002 | A-02-000 | FOOTING PLAN / FLOOR PLAN |
| 201726-ARC-VAR-A-003 | A-02-001 | FLOOR FRAMING PLAN |
| 201726-ARC-VAR-A-004 | A-02-002 | ELECTRICAL PLAN |
| 201726-ARC-VAR-A-005 | A-02-003 | FURNITURE PLAN |
| 201726-ARC-VAR-A-006 | A-02-004 | WALL & FLOOR FINISHES PLAN |
| 201726-ARC-VAR-A-006A | A-02-005 | REFLECTED CEILING PLAN |
| 201726-ARC-VAR-A-007 | A-03-000 | ROOF PLAN |
| 201726-ARC-VAR-A-008 | A-04-000 | ELEVATIONS |
| 201726-ARC-VAR-A-009 | A-05-000 | SECTION A-A |
| 201726-ARC-VAR-A-010 | A-05-001 | SECTION B-B |
| 201726-ARC-VAR-A-0011 | A-06-000 | DETAILS 1 |
| 201726-ARC-VAR-A-0012 | A-06-001 | DETAILS 2 |
| 201726-ARC-VAR-A-0013 | A-06-002 | DETAILS 3 |
| 201726-ARC-VAR-A-0013A | A-06-003 | DETAILS 4 |
| 201726-ARC-VAR-A-0013B | A-06-004 | DETAILS 5 |
| 201726-ARC-VAR-A-0014 | A-07-000 | DOOR & WINDOW SCHEDULE |
| 201726-ARC-VAR-A-0014A | A-07-001 | DOOR & WINDOW DETAILS |
| 201726-ARC-VAR-A-0015 | A-08-001 | TANK SLAB DETAILS |
| 201726-ARC-VAR-A-0015A | A-08-002 | TANK_DRAWINGS_1 |
| 201726-ARC-VAR-A-0015B | A-08-003 | TANK DRAWINGS 2 |



GENERAL:

- 1. THIS DRAWING SET IS TO BE READ IN CONJUNCTION WITH ALL STRUCTURAL SET, CLIENT'S DRAWINGS, SPECIFICATIONS AND WITH ANY OTHER WRITTEN INSTRUCTION AS MAY BE ISSUED DURING THE COURSE OF CONSTRUCTION. ANY DISCREPANCY SHALL BE REFERRED TO THE PROJECT MANAGER BEFORE PROCEEDING WITH THE WORK.
- ALL WORK AND MATERIAL SHALL CONFORM TO CURRENT PNG STANDARDS.
- ALL DIMENSIONS SHOWN ARE TO BE VERIFIED ON SITE. DRAWINGS SHALL NOT BE SCALED.
- SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT MANAGER.

INSULATION NOTES:

- 1. WHERE REQUIRED, INSULATION MUST BE INSTALLED SO THAT IT:
 - 1.1 ABUTS OR OVERLAPS ADJOINING INSULATION OTHER THAN AT SUPPORTING MEMBERS SUCH AS STUDS, NOGGINGS, JOISTS, FURRING CHANNELS AND THE LIKE WHERE THE INSULATION MUST BE AGAINST THE MEMBER; AND
 - 1.2 FORMS A CONTINUOUS BARRIER WITH CEILINGS, WALLS, BULKHEADS, FLOORS OR THE LIKE THAT INHERENTLY CONTRIBUTE TO THE THERMAL BARRIER; AND
 - 1.3 DOES NOT AFFECT THE SAFE OR EFFECTIVE OPERATION OF A SERVICE OR FITTING.

MATERIAL FIRE RATING:

1. PAINT USED AS INTERNAL FINISH TO BE NON-FLAMMABLE

ROOFING:

 METAL ROOF CLADDING, ROOF CONNECTIONS AND IMMEDIATE SUPPORTING MEMBERS DESIGNED TO COMPLY WITH THE PNG BUILDING REGULATIONS 1994.

ZXALANO 2018.03.05

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DRAWING INFORMATION

DRAWIN BY: GU 14/07/17

CHECKED BY: ST 05/12/17

CLIENT APPROVED:

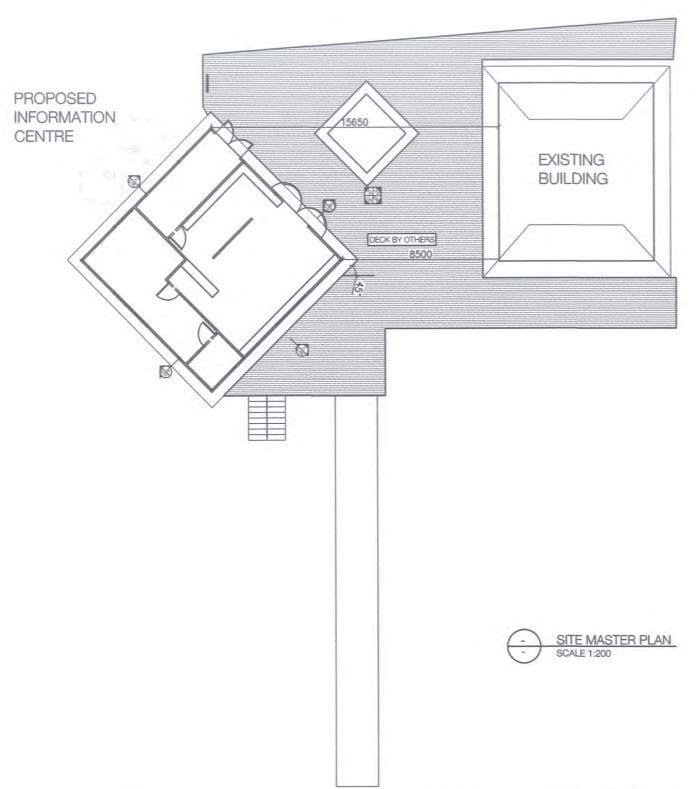
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POREBADA, CENTRAL PROVINCE
PORTION 2702 NAPA NAPA ROAD
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(P) +675 705 08372
(Q) clfos@thodesprig.com
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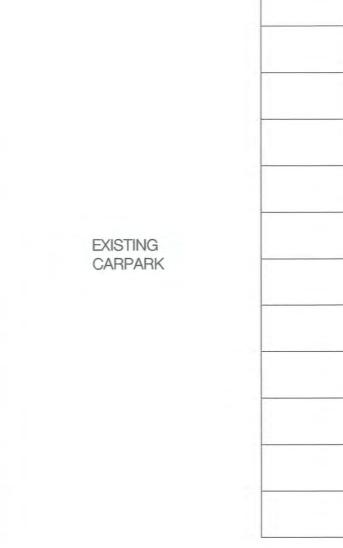
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| VARIRATA INFORMATION CENTRE | LOCATION VARIRATA ,PAPUA NEW GUINEA |
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| INDEX | REV: |

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| | REV | BY | DESCRIPTION | DATE |
|---|-----|----|--------------------------------|------------|
| | 5 | GU | ADDITION OF SIGNBOARD LOCATION | 12/12/2017 |
| | 6 | GU | APPROVAL ISSUE | 28/12/2017 |
| | 7 | GU | FOR CONSTRUCTION ISSUE | 07/02/2018 |
| 1 | | | | |
| 1 | | - | | |

| | DRAWING II | NFORMA | TION |
|---------|------------------|--------|----------|
| STATUS | DRAWN BY: | GU | 14/07/17 |
| PPROVAL | CHECKED BY: | ST | 05/12/17 |
| APA | CLIENT APPROVED: | | |

RHODES PNG
POREBADA, CENTRAL PROVINCE PORTION 2702 NAPA NAPA ROAD PAPUA NEW GUNEA

(P) +675 705 08372
(E) office@rhodesproj.com
(W) www.rhodesprojects.com

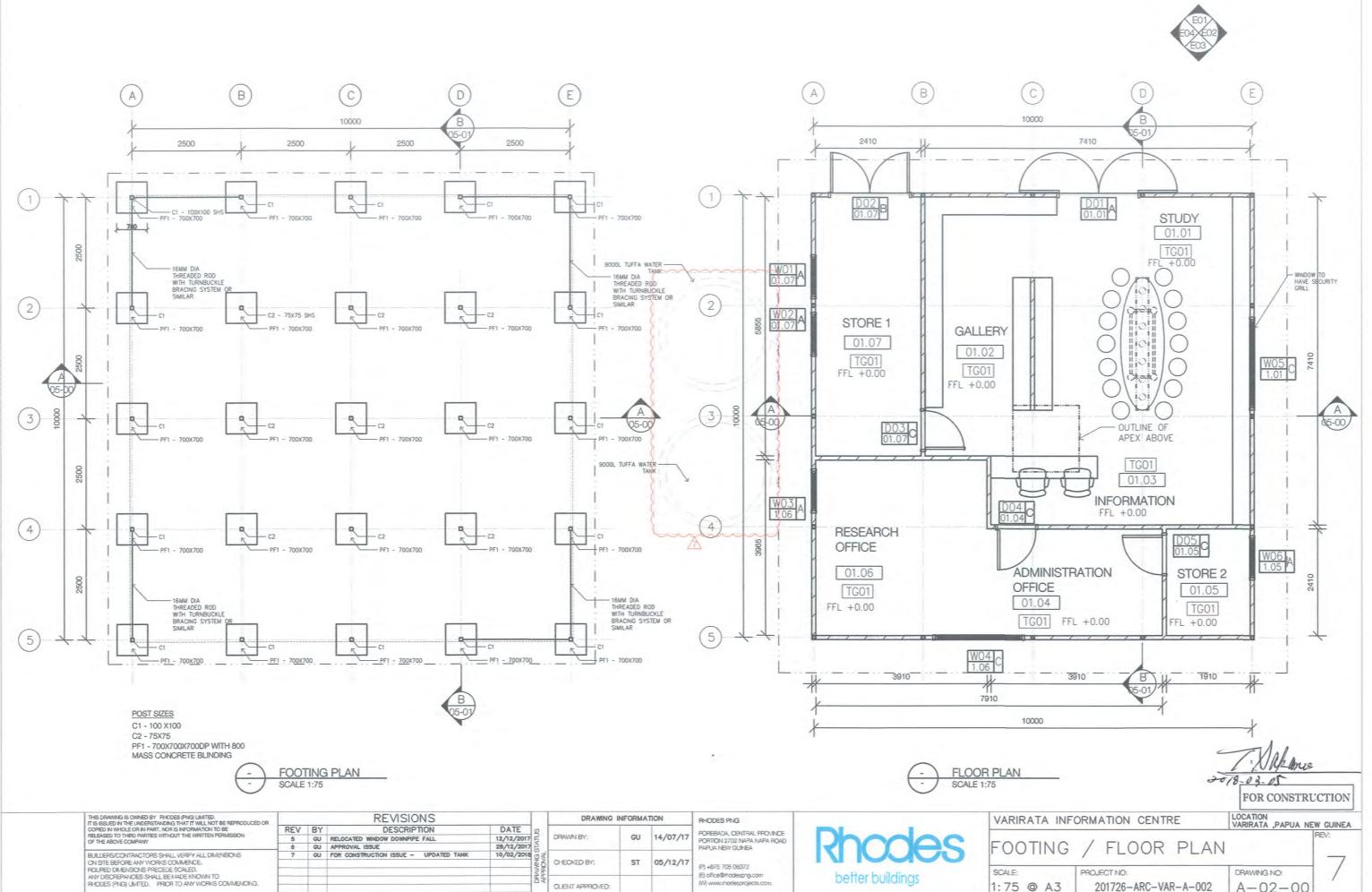


| VARIRATA INFORMATION CENTE | ₹E |
|----------------------------|----|
| SITE PLAN | |

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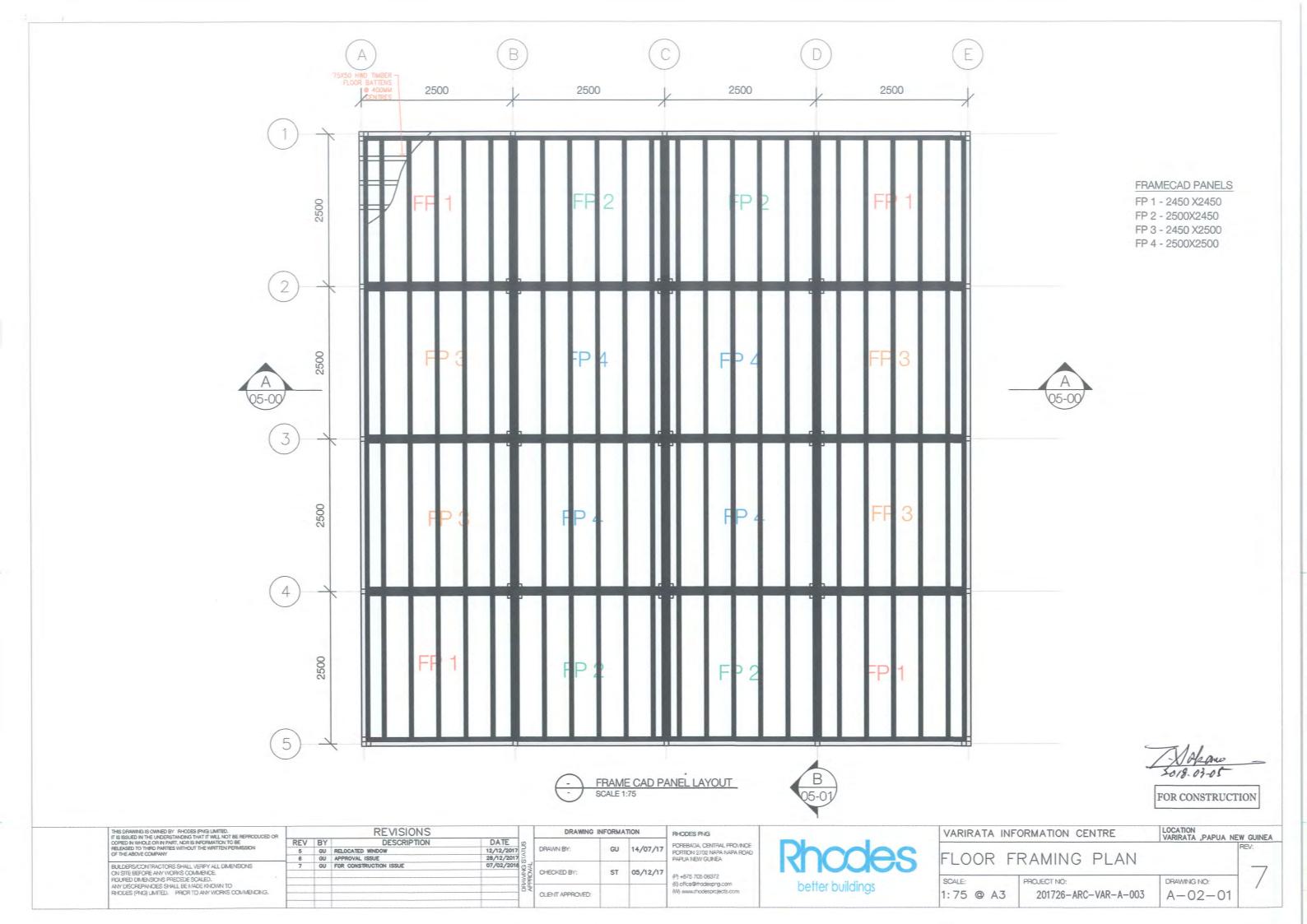




CLIENT APPROVED:

201726-ARC-VAR-A-002

A-02-00



GENERAL NOTES

- ALL ELECTRICAL WORKS TO BE CARRIED OUT BY A VALIDLY LICENSED ELECTRICAL CONTRACTOR WHO HAS NO LESS THAN 5 YEARS WORK EXPERIENCE IN SUCH WORKS.
- ALL WORKS TO COMPLY WITH PNG POWER'S STANDARD WORK PRACTICES, AS3000 SAA RATING RULES, AND ALL OTHER RELEVANT AS/NZS STANDARDS WHICH ARE DEEMED APPLICABLE FOR THIS INSTALLATION BUT NOT LIMITED TO: PNG POWER'S REVISED ELECTRICAL CIRCULAR.
- ALL WORKS TO COMPLY WITH PNG POWER'S STANDARD WORK PRACTICES, AS3000 SAA WIRING RULES, AND ALL OTHER RELEVANT AS3000 SAA WIRING RULES, AND ALL OTHER RELEVANT AS/NZS WHICH ARE DEEMED APPLICABLE FOR THIS INSTALLATION:
- THE CONTRACTOR DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENTS OF THE VARIOUS ITEMS OF THE WORKS AS DESCRIBED IN THE SPECIFICATION. THEY DO NOT NECESSARILY SHOW EXACT POSITIONS, RUNS, OF FULL DETAILS OF WORKS REQUIRED, AND IN SOME INSTANCES ARE MERELY DIAGRAMMATIC. HOWEVER, SPECIFICATION AND THE DRAWINGS MUST BE UNDERSTOOD TO COVER EVERYTHING REQUIRED TO MAKE A FIRST CLASS INSTALLATION, ANYTHING SHOWN ON THE DRAWINGS WHICH IS NOT INCLUDED IN THIS SPECIFICATION, OR ANYTHING HEREIN AND NOT SHOWN ON THE DRAWINGS IN THIS SPECIFICATION, OR ANYTHING HEREIN AND NOT SHOWN ON THE DRAWINGS SHALL BE DEEMED TO BE REQUIRED AS PART OF THE CONTRACT...

for 今井香村 Hideki IUAH (Mr.)

CCTV SYSTEM TYPE



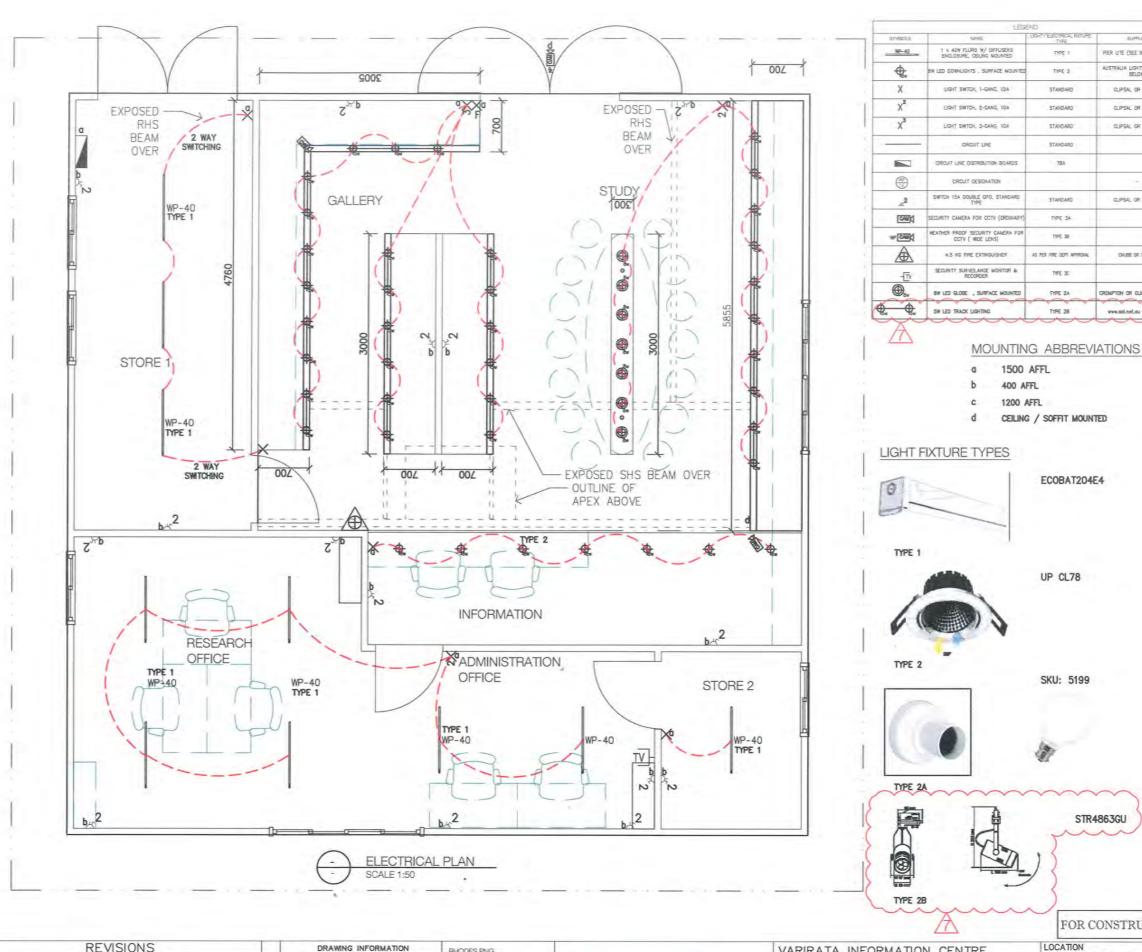
1000TVL 24 IR Led Security Surveillance Outdoor CCTV Carnera



1000TVL 24PCS IR Leds Weatherproof Security Camera Had IR Cut (white)



8CH HD-TVI 720P/1080N Video DVR Video Recorder System



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|---|
| BUILDERS CONTRACTORS SHALL VERBY ALL DIMENSIONS ON SITE BEFORE ANY WORKS COMMENCE. HIS HED DIMENSIONS PRECEDE SCALED. ANY DISCREPANCES SHALL BE MADE INJOIN TO RECOES PINGLUMED. PRICE TO ANY WORKS COMMENCING. |

| | | IVE VISIONS | | |
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| REV | BY | DESCRIPTION | DATE | 00 |
| 5 | GU | DELETED FANS, ADDED LIGHT & CCTV SPECS | 12/12/2017 | E |
| 6 | GU | APPROVAL ISSUE | 28/12/2017 | Es |
| 7 | GU | FOR CONSTRUCTION ISSUE - REVISED TRACKLIGHTS | 07/02/2018 | 50 |
| | | | | ₹6 |
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PHODES PNG POFEBADA, CENTRAL PROVINCE 14/07/17 DRAWN BY: GU PORTION 2702 NAPA NAPA ROAD PAPUA NEW GUNEA CHECKED BY: ST 05/12/17 P) +675 705 08372 (ii) officeth holesprogram (iv) www.hocksprojects.com CLIENT APPROVED:

better buildings

| ARIRATA INFORMATION CENTRE | LOCATION VARIRATA ,PAPUA NEW GUINEA |
|----------------------------|--|
| LECTRICAL PLAN | REV: |

PIER LITE (SEE IMAGE BELOW)

USTRALIA LIGHTS (SEE MAGE BELOW)

DIRCH OF CHILDS

CLIPSAL OR SIMILAR

CLIPSAL OR SMILAR

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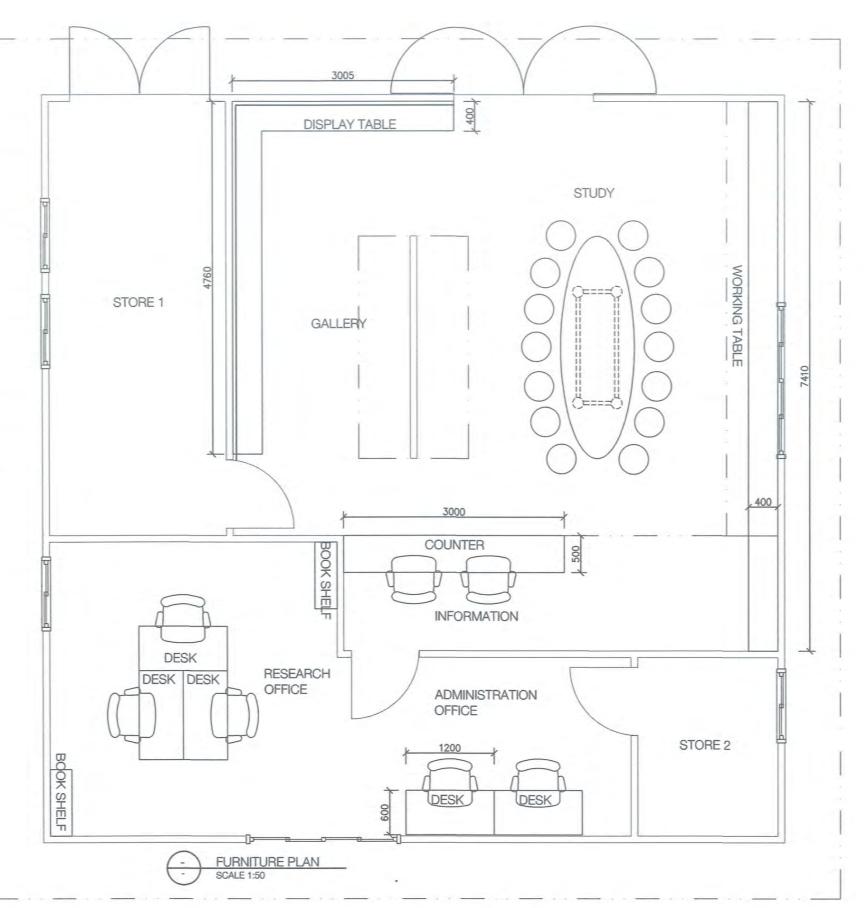
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FOR CONSTRUCTION

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SCALE: PROJECT NO: DRAWING NO: 1:50 @ A3 201726-ARC-VAR-A-004 A - 02 - 02





- ALL LEVELS AND DIMENSIONS MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK.
- 2. ALL WORKS MUST BE EXECUTED IN A WORKMAN LIKE MANNER AND ALL MATERIALS MUST CONFORM TO THE PNG STANDARD CODES.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE. DO NOT SCALE FROM
- WINDOW SIZES ARE NOMINAL ONLY.
- THIS DRAWING(S) IS TO BE READ IN CONJUNCTION WITH THE PROJECT SCHEDULE AND SPECIFICATIONS, ENGINEERS COMPUTATIONS AND / OR PLANS AND SOIL TEST REPORT WHERE INDICATED.
- 6. ALL THE LEVELS AND NUMBER OF STAIRS TO BE DETERMINED ON SITE BY AGL SITE SUPERVISOR
- 7. FINISHED FLOOR LEVEL TO BE DETERMINED ON SITE

2018-03-05

FOR CONSTRUCTION

LOCATION VARIRATA ,PAPUA NEW GUINEA

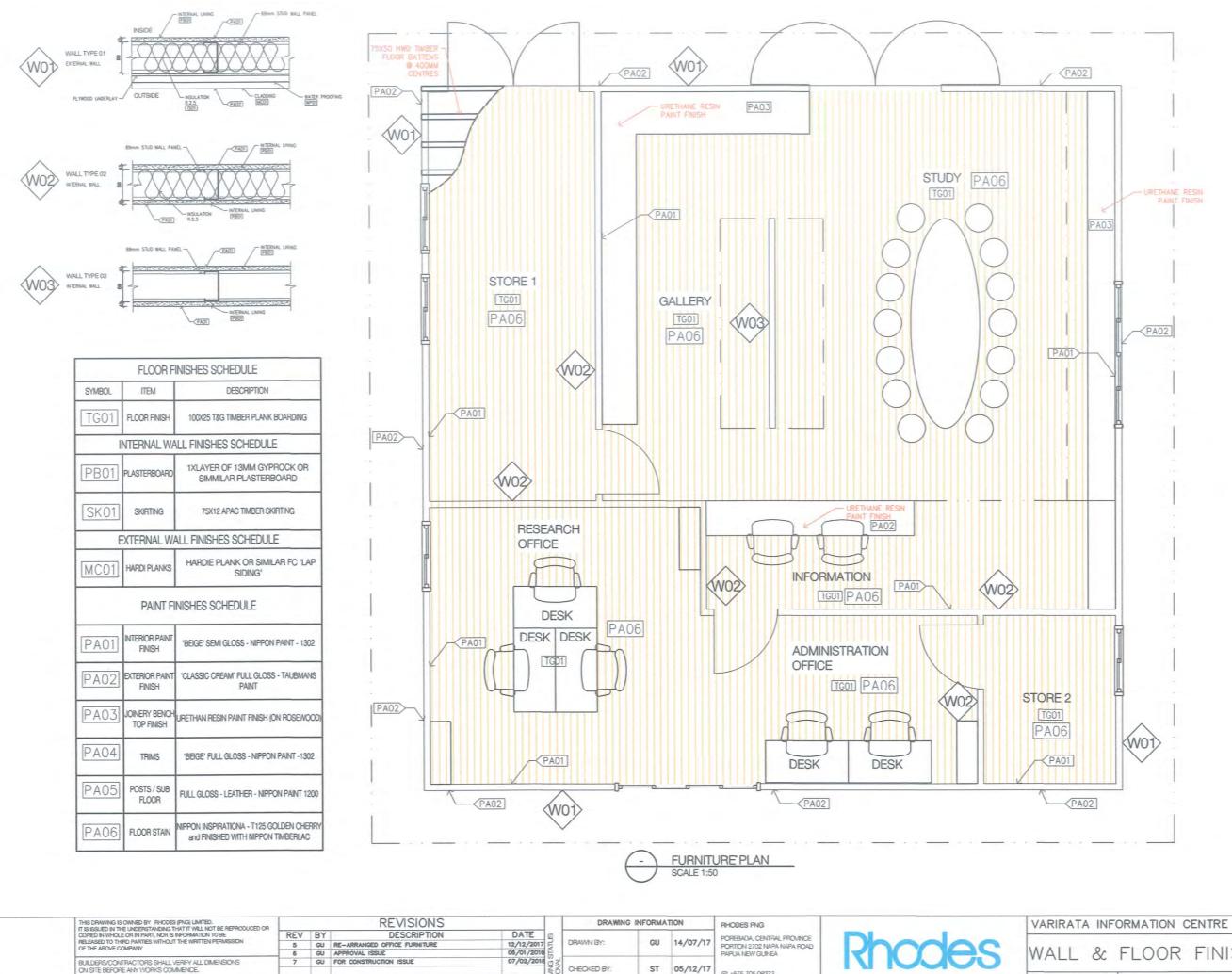
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| | RELEASED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE ABOVE COMPANY | 5 | GU | RE-ARRANGED OFFICE FURNITURE | 12/12/2017 F | P DRAWN BY: | GU | 14/07/17 | PORTION 2702 NAPA NAPA PO | |
| | | 6 | GU | APPROVAL ISSUE | 28/12/2017 | 2 | | | | PAPUA NEW GUINEA |
| | BUILDERS/CONTRACTORS SHALL VERIFY ALL DIMENSIONS | 7 | GU | FOR CONSTRUCTION ISSUE | 07/02/2018 | 23 | ST | 05/12/17 | | |
| | ON SITE BEFORE ANY WORKS COMMENCE. | 8 | GU | UPDATED BOOKSHELF QTY | 19/02/2018 | | | | (P) +675 705 08372 | |
| | RIGURED DIMENSIONS PRECEDE SCALED. ANY DISCREPANCIES SHALL BE MADE KNOWN TO | | | | | 3 1 | | | 1 | (E) office@rhodespng.com |
| | RHODES (PNG) LIMITED. PRIOR TO ANY WORKS COMMENCING. | - | - | | 2 | 25 | CLIENT APPROVED: | | | (W) www.rhodesprojects.com |
| | | | | | | - 1 | OLICINI APPROVILID. | | | |

SCALE: better buildings 1:50 @ A3

| VARIRATA | INFORM | ATION | CENTRE |
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PROJECT NO:

DRAWING NO: 201726-ARC-VAR-A-005 A - 02 - 03



07/02/2018

CHECKED BY

CLIENT APPROVED:

ST 05/12/17

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better buildings

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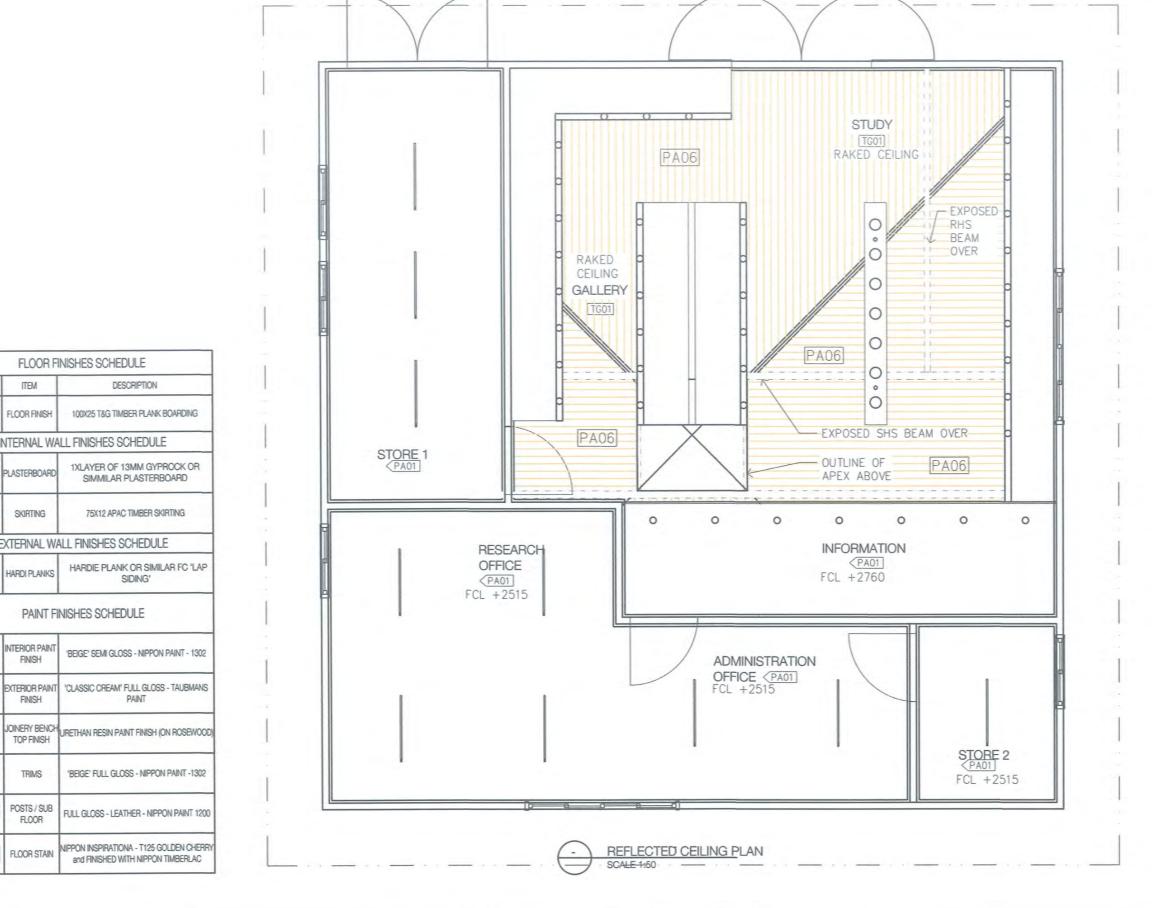
LOCATION VARIRATA ,PAPUA NEW GUINEA

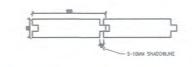
2018-03-05

FOR CONSTRUCTION

WALL & FLOOR FINISHES SCHED

SCALE: PROJECT NO: DRAWING NO: 1:50 @ A3 201726-ARC-VAR-A-006 A-02-04





T&G CEILING LINING DETAIL

FOR CONSTRUCTION

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| RELEASED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE ABOVE COMPANY | 5 | GU | DELETED FANS, ADDED LIGHT FITTINGS | 12/12/2017 | E | DRAWN BY: | GU | 14/07/17 | PORTION 2702 NAPA NAPA RO |
| UF IREABUVE COMPANY | 6 | GU | APPROVAL ISSUE | 04/01/2018 | 37 | | | | PAPUA NEW GUINEA |
| BUILDERS/CONTRACTORS SHALL VERIFY ALL DIMENSIONS | 7 | GU | FOR CONSTRUCTION | 07/02/2018 | oZ. | | | | |
| ON SITE BEFORE ANY WORKS COMMENCE. | | | | | ₹8 | CHECKED BY: | ST | 05/12/17 | (P) +675 705 08372 |
| FIGURED DIMENSIONS PRECEDE SCALED. | | | | | 36 | | | | (E) office@rhodespna.com |
| ANY DISCREPANCIES SHALL BE MADE KNOWN TO | | | | | 무수 | | | | NV www.modesprojects.com |

FLOOR FINISHES SCHEDULE

INTERNAL WALL FINISHES SCHEDULE

EXTERNAL WALL FINISHES SCHEDULE

PAINT FINISHES SCHEDULE

DESCRIPTION

100X25 T&G TIMBER PLANK BOARDING

1XLAYER OF 13MM GYPROCK OR SIMMILAR PLASTERBOARD

75X12 APAC TIMBER SKIRTING

HARDIE PLANK OR SIMILAR FC 'LAP

SIDING'

'BEIGE' SEMI GLOSS - NIPPON PAINT - 1302

'CLASSIC CREAM' FULL GLOSS - TAUBMANS

'BEIGE' FULL GLOSS - NIPPON PAINT -1302

FULL GLOSS - LEATHER - NIPPON PAINT 1200

SYMBOL

SK01

MC01

PA01

PA02

PA03

PA04

PA05

ITEM

FLOOR FINISH

SKIRTING

HARDI PLANKS

NTERIOR PAINT

EXTERIOR PAINT

TOP FINISH

TRIMS

POSTS / SUB

FLOOR

PA06 FLOORSTAIN

PB01 PLASTERBOARD

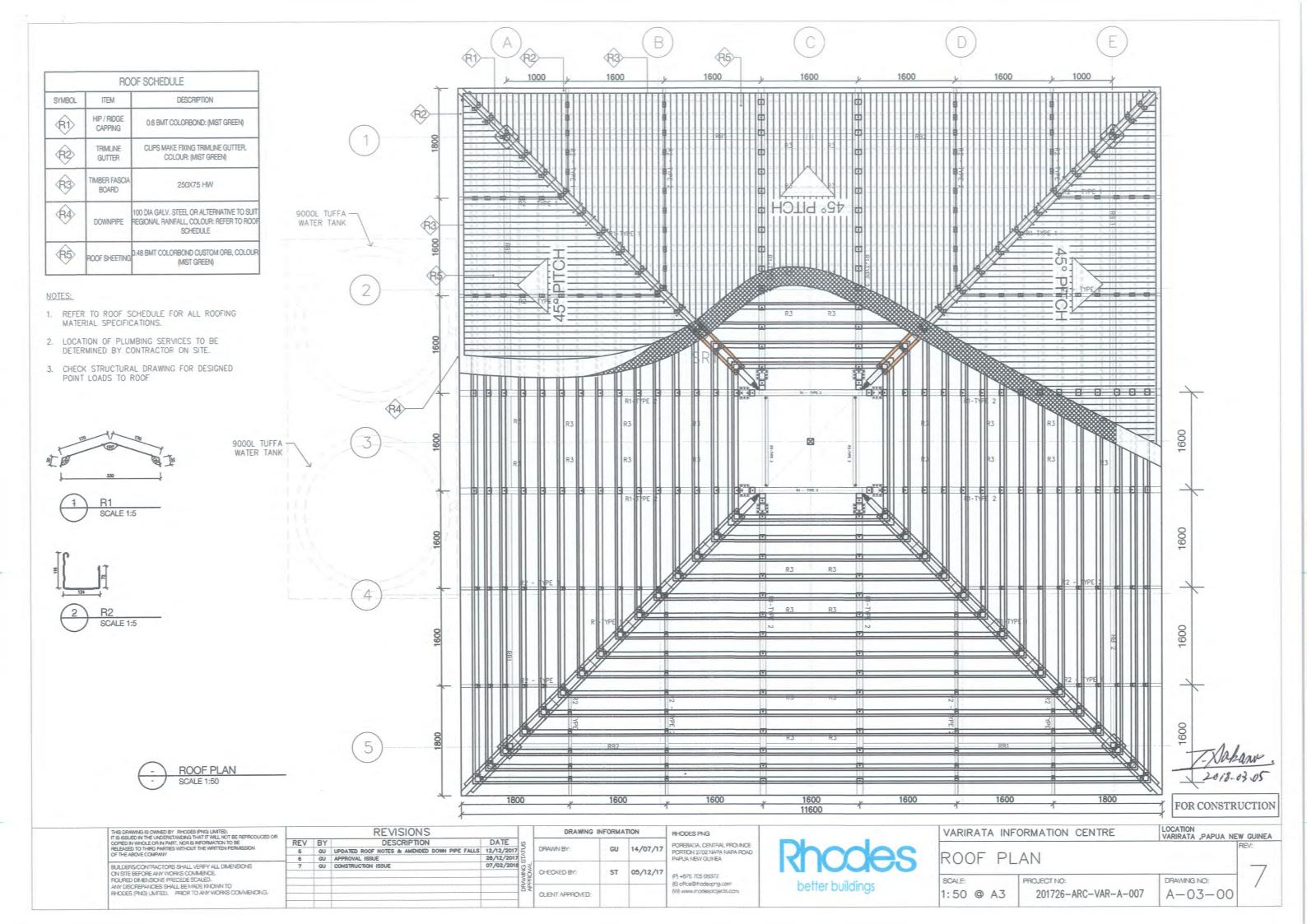
better buildings

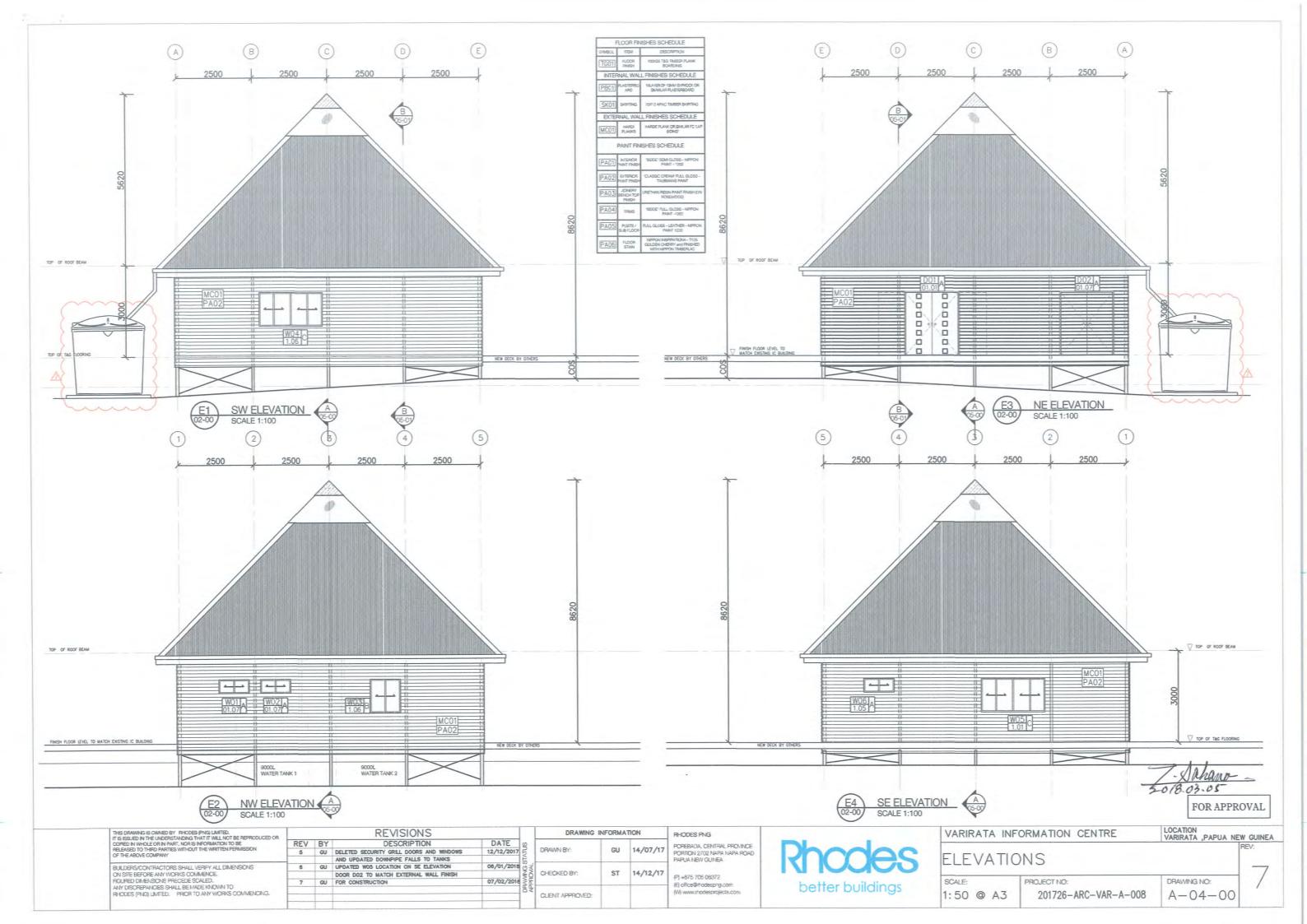
VARIRATA INFORMATION CENTRE

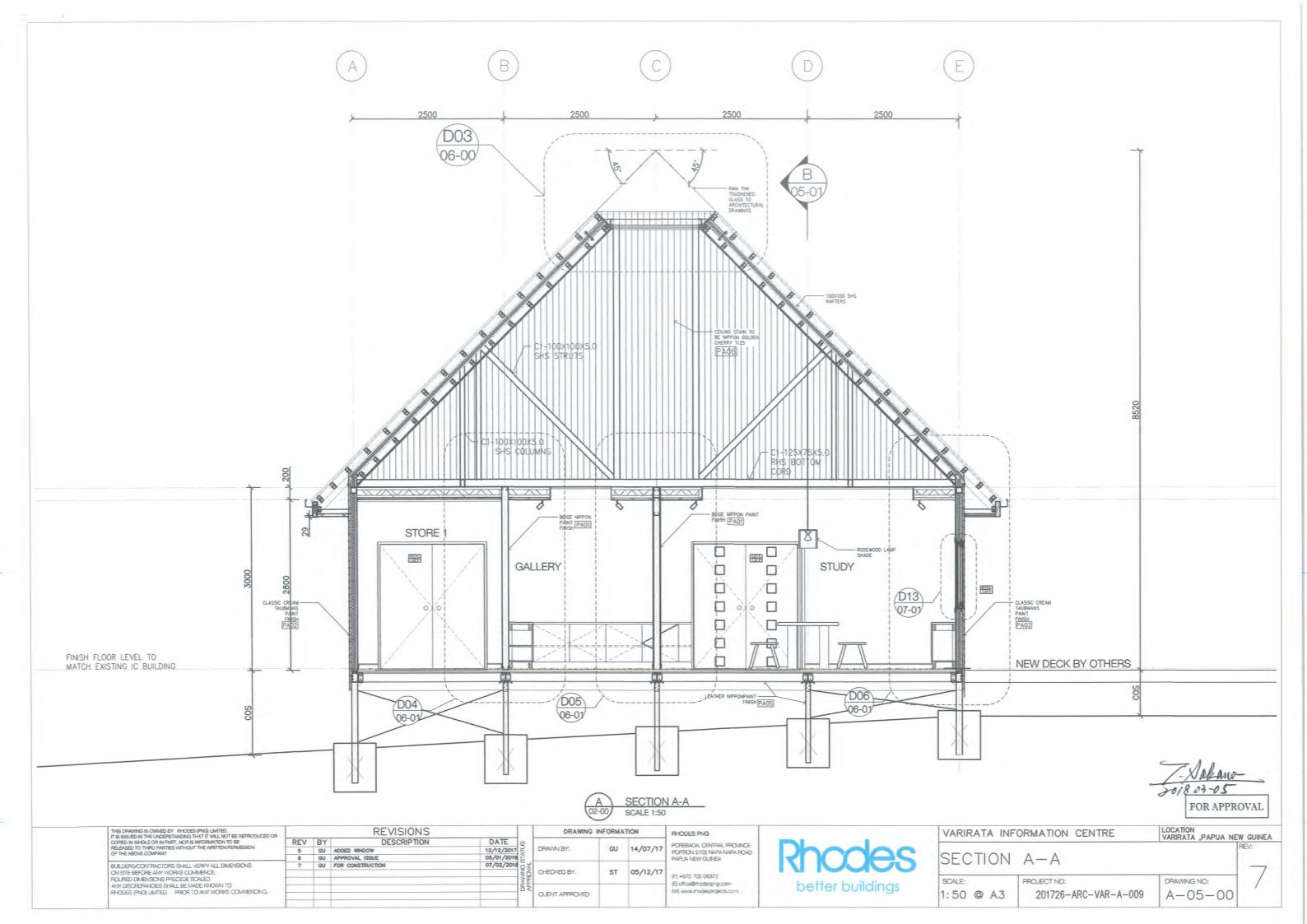
LOCATION VARIRATA ,PAPUA NEW GUINEA

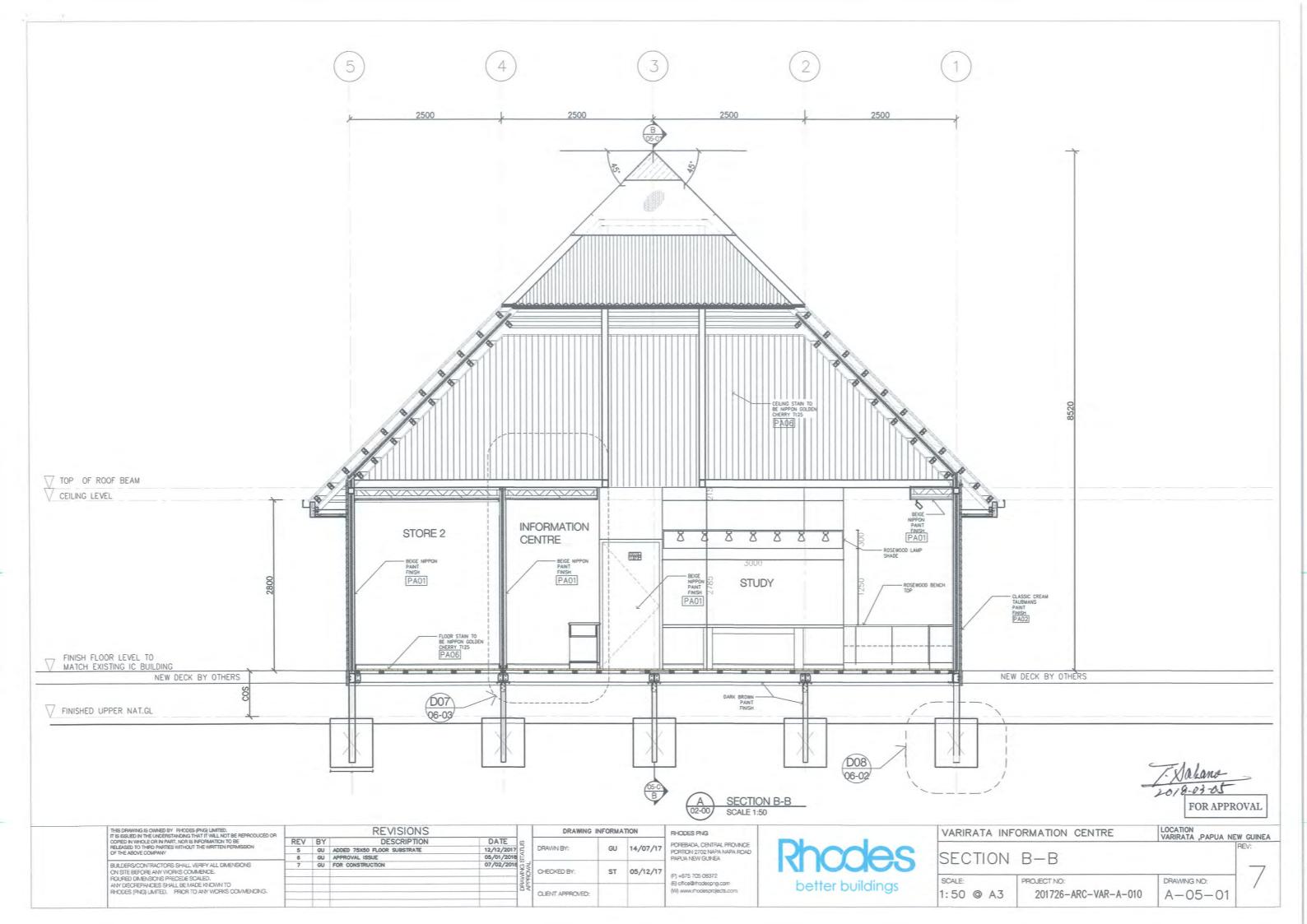
REFLECTED CEILING PLAN

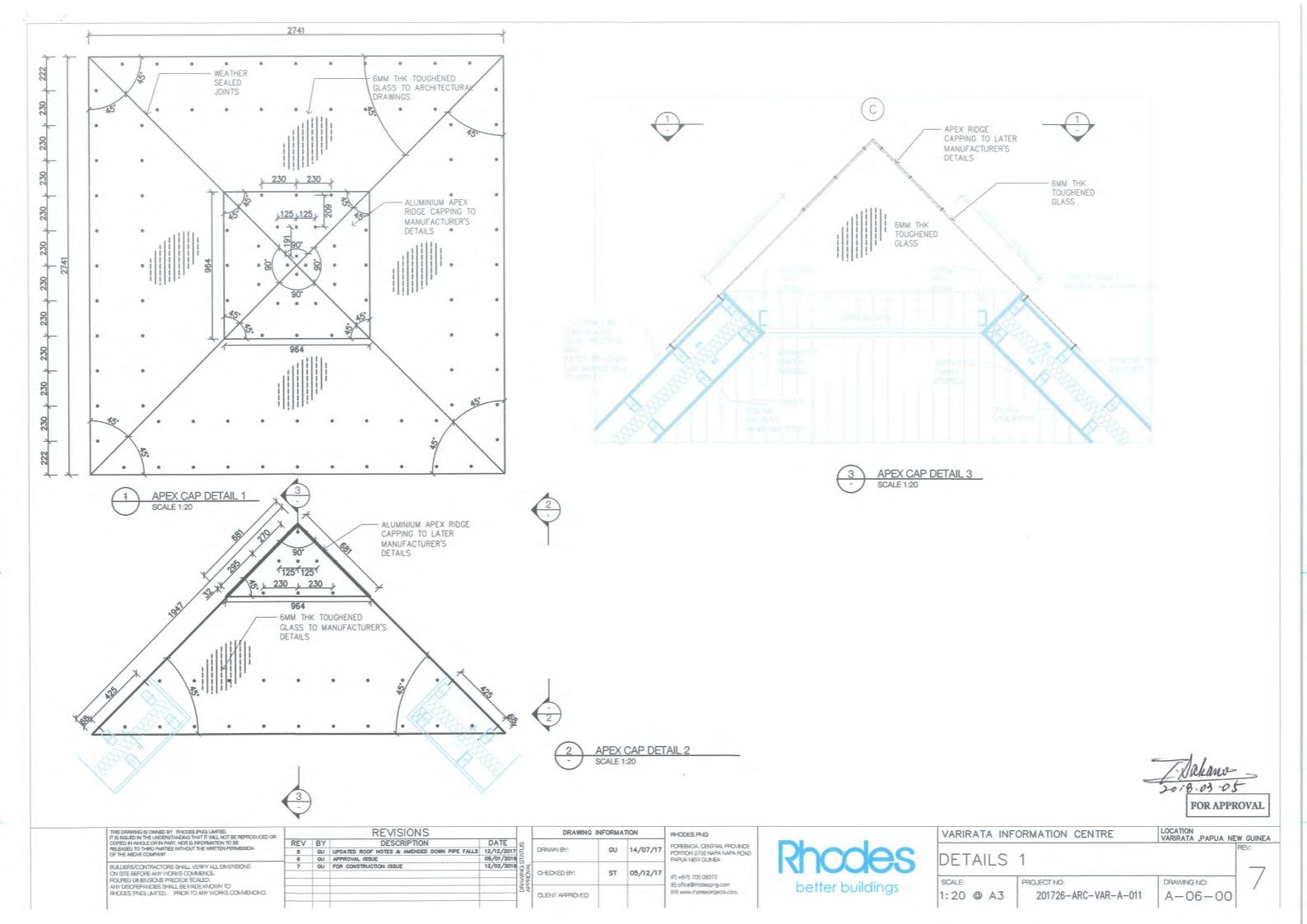
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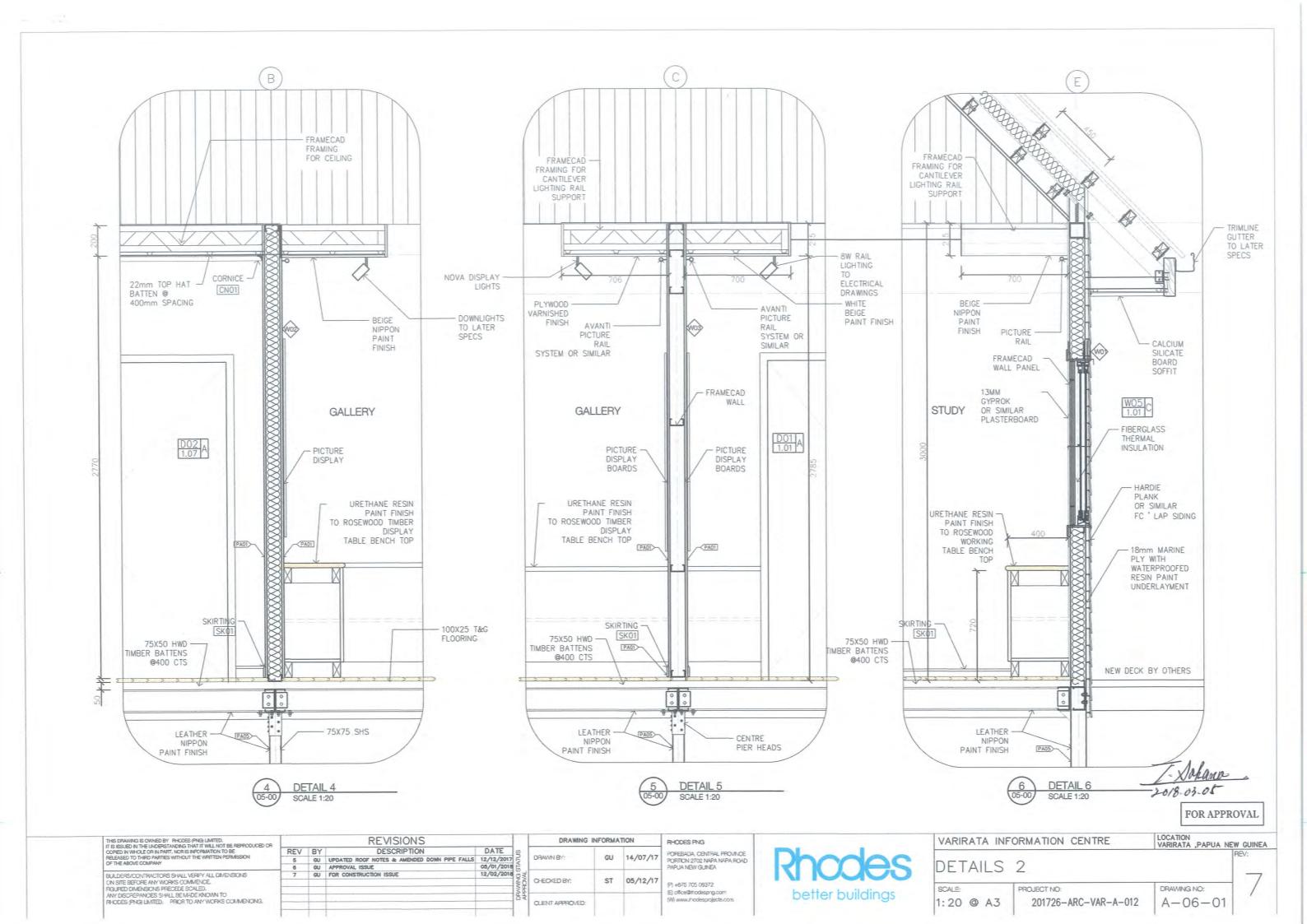


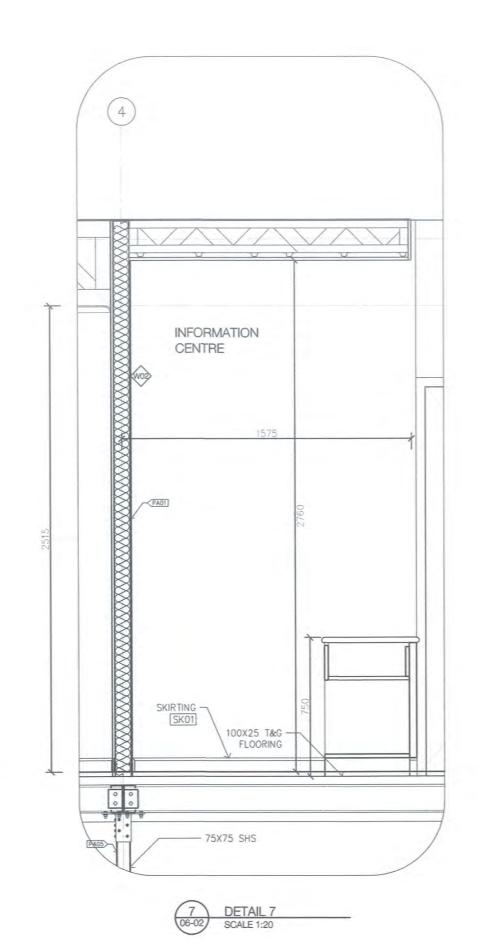


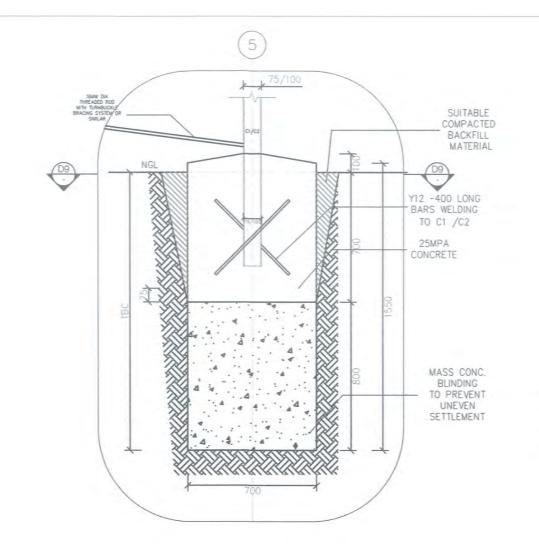


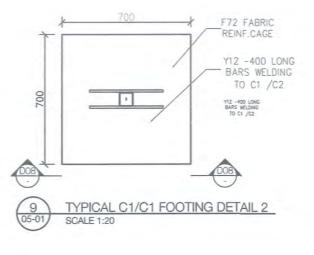












8 TYPICAL C1/C1 FOOTING DETAIL 1 06-02 SCALE 1:20

> 20/5:03-05 FOR APPROVAL

> > A-06-02

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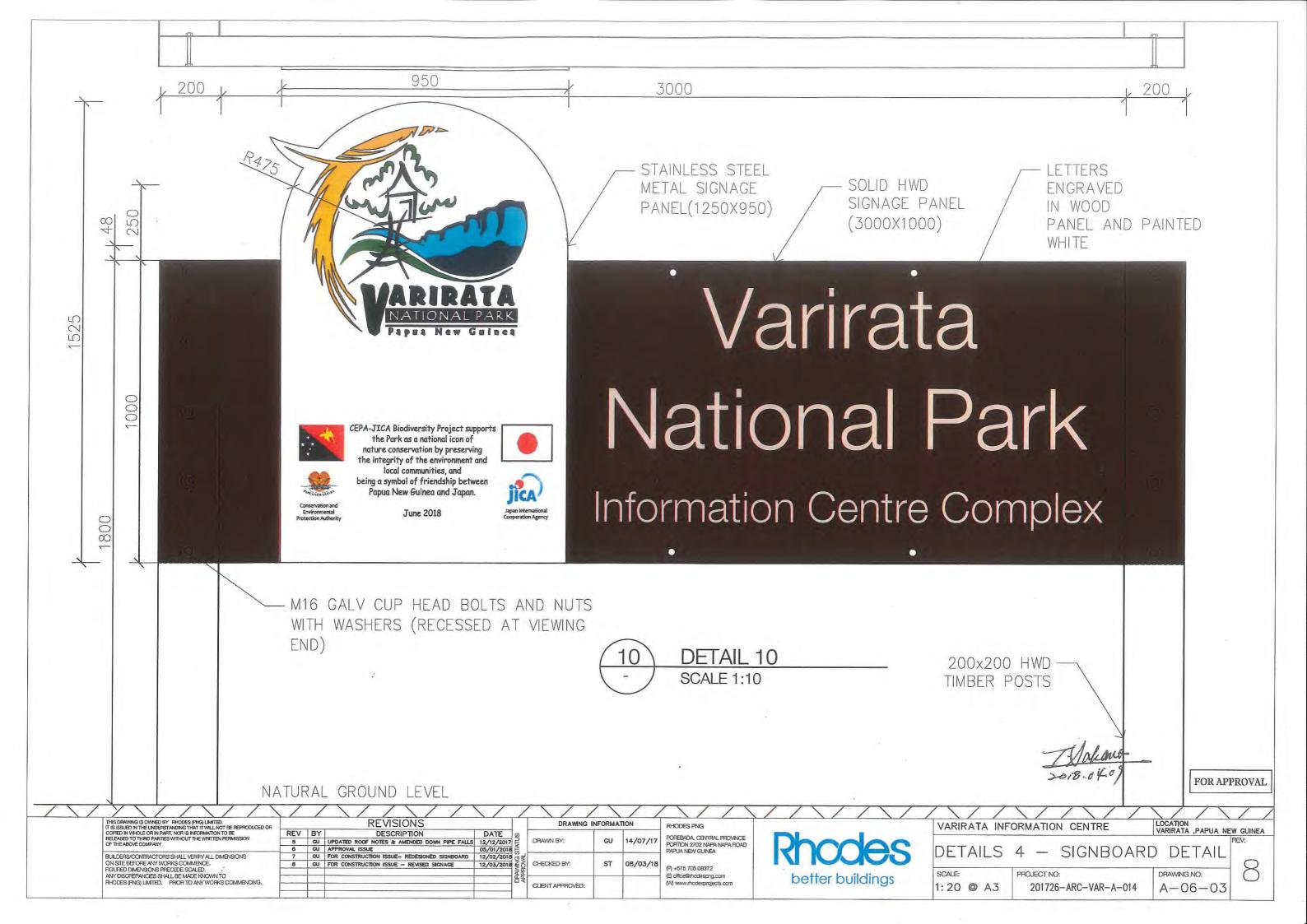
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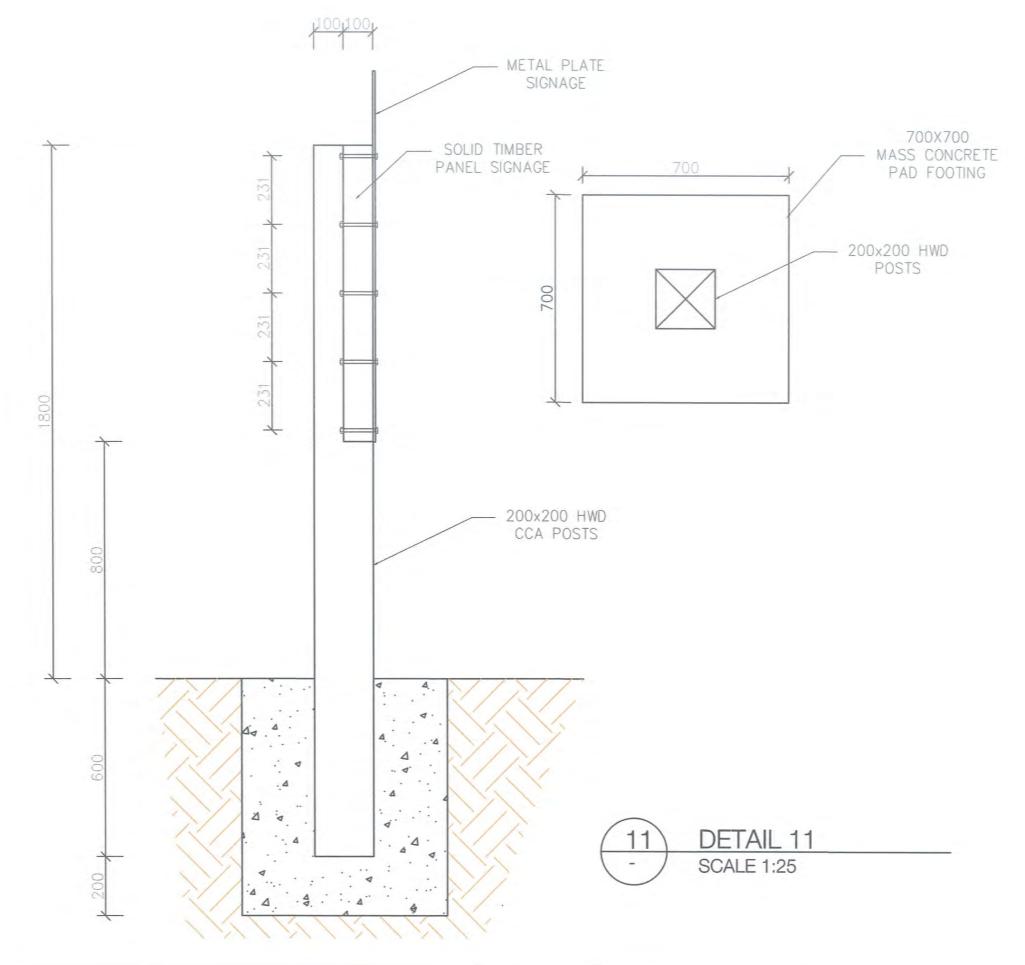
better buildings

| VARIRATA | INFORMATION CENTRE | LOCATION VARIRATA ,PAPUA NEW GUI | NEA |
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201726-ARC-VAR-A-013

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7. Nahane 2018.03.05

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REV BY DESCRIPTION DATE

6 GU UPDATED ROOF NOTES & AMENDED DOWN PIPE FALLS 12/12/2017 OF THE ABOVE COMPANY

BUILDERS/CONTRACTORS SHALL VERIFY ALL DIMENSIONS

CN SITE BEFORE ANY VIORICS COMMENCE.

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ANY DISCREPANCES SHALL BE MADE INJOHN TO RHOUSE (PING) LIMITED.

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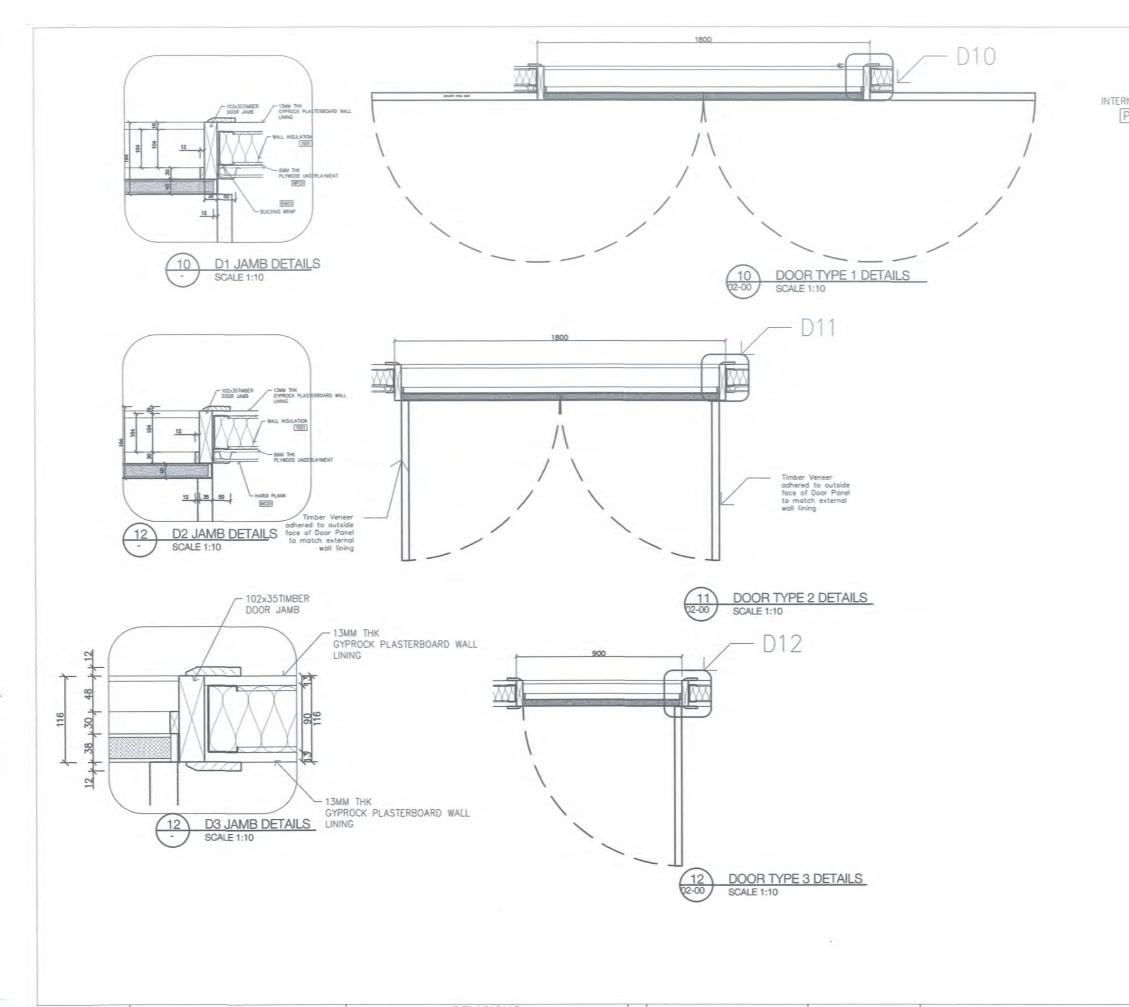
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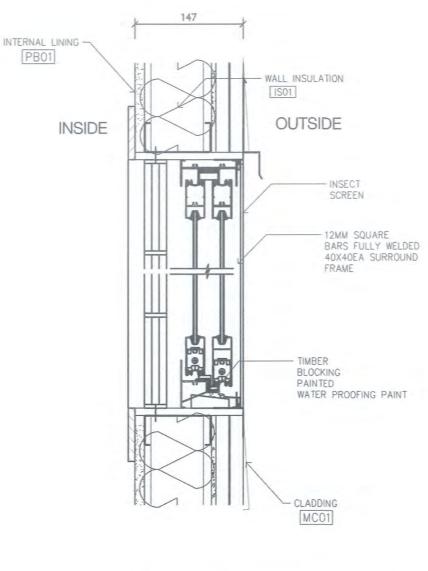
Rhodes better buildings VARIRATA INFORMATION CENTRE

LOCATION VARIRATA ,PAPUA NEW GUINEA

DETAILS 5 - SIGNBOARD DETAIL

04





13 TYPICAL WINDOW DETAIL
SCALE 1:10

1-Xakano-2018.03.05

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REVISIONS
REV BY DESCRIPTION DATE
5 GU DELETED EXTERNAL SECURITY DOORS 12/12/2017
6 GU APPROVAL ISSUE 06/01/2018
7 GU FOR CONSTRUCTION ISSUE 07/02/2018

Rhodes

better buildings

VARIRATA INFORMATION CENTRE

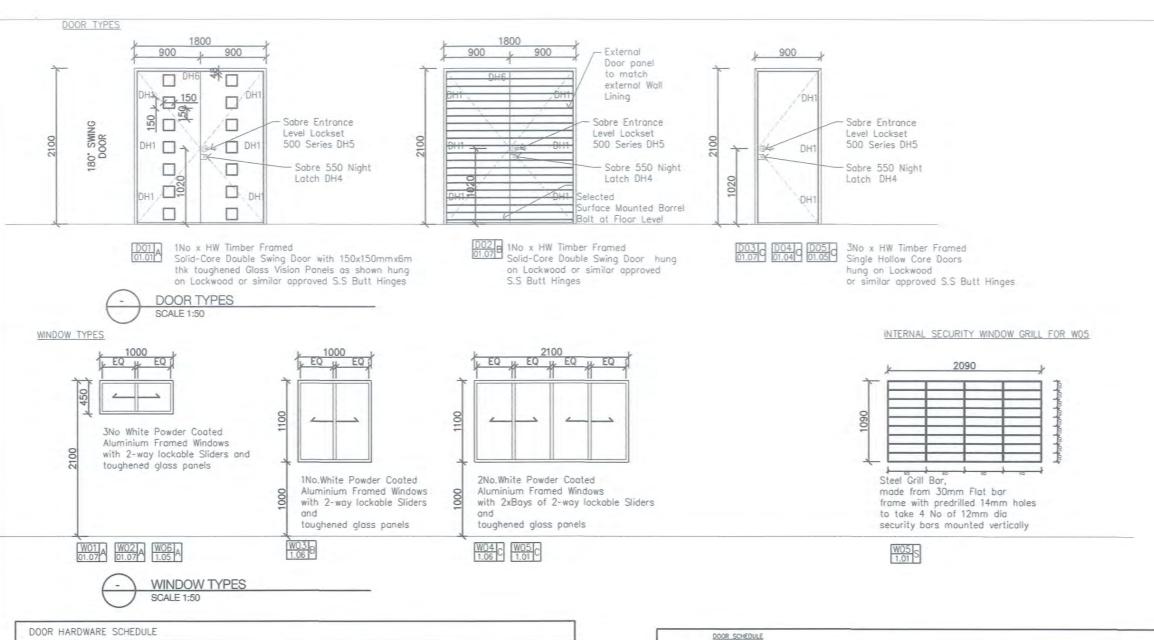
SCALE:

LOCATION VARIRATA ,PAPUA NEW GUINEA

DOOR AND WINDOW DETAILS

PROJECT NO: DRAWING NO: 201726-ARC-VAR-A-0014A A-07-01

/



| TEM CODE | HARDWARE NAME | BRAND NAME | MODEL | FINISH | PHOTO | REMARKS |
|----------|---|---------------|--------------------------------|--|-------|---|
| DH1 | STAINLESS STEEL BALL BEARING HINGES | LOCKWOOD | 100 SERIES LW10075 BBPSS | STAINLESS STEEL | | |
| DH2 | DOOR CLOSER | SABRE | SAB 625 | DIE CAST ALUMINIUM HOUSING | | |
| DH3 | DOOR STOP | SABRE | SAB 350 | STAINLESS STEEL WITH RUBBER BUFFER | • | |
| DH4 | RIM NIGHT LATCH (ENTRANCE) | SABRE | SABNL550 -SSS | 304 STAINLESS STEEL | 1 64 | 201 CYLINDER TO BE INCLUDED AND STRIKE PLATES |
| DH5 | DOOR LEVER LOCK SET (ENTRANCE) | SABRE | SAB 500 | SATIN CHROME | 和 | STRIKE PLATES TO BE INCLUDED |
| DH6 | AUTO FLUSH BOLTS | SABRE | SAB - 940 SSS | STAINLESS STEEL | T | TO BE INSTALLED ON INACTIVE DOOR LEAF |

RHODES (PNG) LIMITED. PRIOR TO ANY WORKS COMMENCING.

| DOOR | SCHEDULE | | | | | | | | | | | | | |
|----------------------------------|-------------------------|-----------|--------|----------|----------|--------|-----------|----------|--------|-------------|-------------------------------------|------------|------------|-----------------|
| DOOR MARK | | DOOR SIZE | | DOOR SPE | cs | | | FRAME | | HARDWARE | | | | |
| | TYPE | WIDTH | HEIGHT | CORE | MATERIAL | FINISH | THICKNESS | MATERIAL | FINISH | MAIN LOCK | LEVER LOCKSET | DOOR STOPS | | DOOR HANDLES |
| D01 A | DOUBLE SWING DOOR | 1800 | 2100 | SOLID | WOOD | PA01 | 40MM | WOOD | | NIGHT LATCH | SABRE 500 SERIES ENTRANCE SET | YES | | |
| D0/2 01.07 | DOUBLE SWING DOOR | 1800 | 2100 | SOLID | WOOD | PA01 | 40MM | W000 | | NIGHT LATCH | SABRE 500 SERIES ENTRANCE SET | YES | - | |
| 00314 D04 000514 01.074 01.04 | SINGLE SWING DOOR | 900 | 2100 | HOLLOW | WOOD | PA01 | 40MM | W000 | | NIGHT LATCH | SABRE 500 SERIES ENTRANCE SET | YES | D1.04 ONLY | |

| WINDOW SCHEDULE | | | | | |
|--------------------------------------|--------|--------|-----------|-----------|---------|
| WINDOW MARK | WINDOW | SIZE | WINDOW | TYPE | GLAZING |
| W01 W02 W06 A 01.07 1.05 A | WIDTH | HEIGHT | MATERIAL | OPERATION | CLEAR |
| (WO.3) B | 1000 | 450 | ALUMINIUM | SLIDER | CLEAR |
| W04 0 W05 0 | 1000 | 1100 | ALUMINIUM | SLIDER | CLEAR |

2018-03-05

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| RELEASED TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF THE ABOVE COMPANY | 5 | 5 | GU | DELETED EXTERNAL SECURITY DOORS | 12/12/2017 | E | DRAWN BY: | GU | 14/07/17 | PORTION 2702 NAPA NAPA |
| OF THE PROPERTY OF THE PROPERT | 6 | GU | APPROVAL ISSUE | 06/01/2018 | 15 | | | | PAPLIA NEW GLINEA | |
| BUILDERS/CONTRACTORS SHALL VERIFY ALL DIMENSIONS | 7 | GU | FOR CONSTRUCTION ISSUE | 07/02/2018 | 04 | | | | | |
| ON SITE BEFORE ANY INORKS COMMENCE. | 8 | GU | CHANGED SLIDERS TO TOUGHENED GLASS | 19/02/2018 | 128 | CHECKED BY: | ST | 05/12/17 | D 200 00000 | |
| RGURED DIMENSIONS PRECEDE SCALED. ANY DISCREPANCIES SHALL BE MADE KNOWN TO | | | | | ₩. | | | | (P) +675 705 08372 (E) office@rhodespha.com | |
| 771 000 0 1 1000 0 1 200 110 110 110 110 1 | | | | | 3 2 | | | | 14. | |

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| VARIRATA | INFORMATION | CENTRE |
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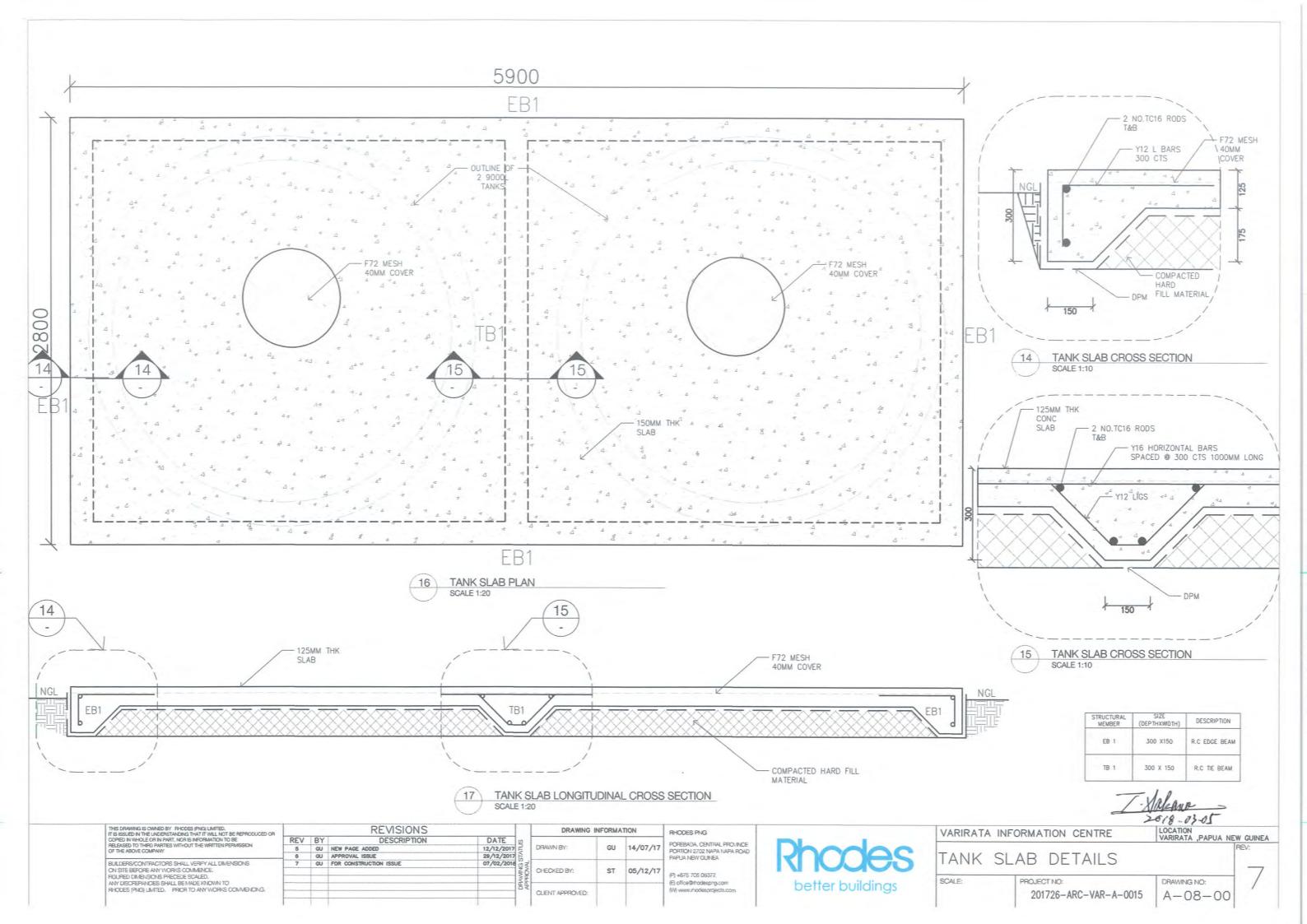
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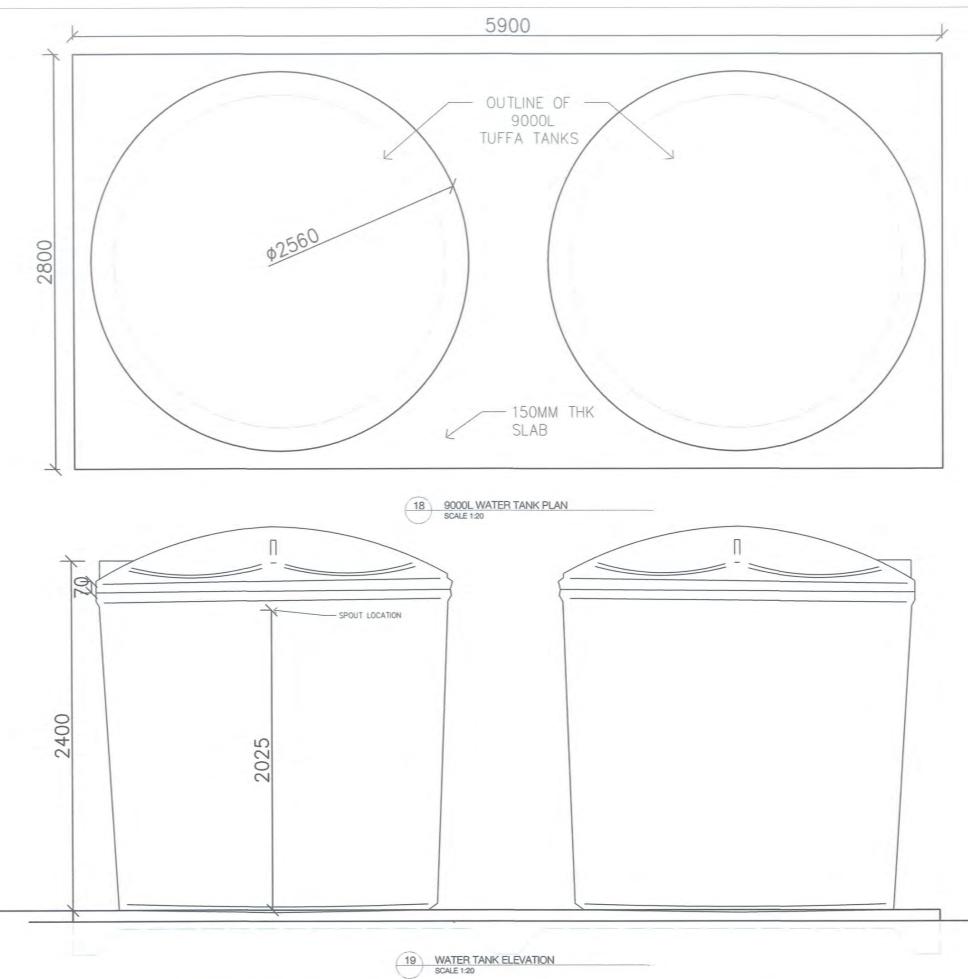
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LOCATION VARIRATA ,PAPUA NEW GUINEA

| CON THE MINDON CONLEDGE | OOR | AND | WINDOW | SCHEDULE |
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PROJECT NO: DRAWING NO: 201726-ARC-VAR-A-0014 A - 07 - 00





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| OR | | | REVISIONS | | |
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| | 5 | GU | NEW PAGE ADDED | 12/12/2017 | E |
| | 6 | GU | APPROVAL ISSUE | 29/12/2017 | 1 |
| | 7 | GU | FOR CONSTRUCTION ISSUE | 07/02/2018 | NA KG |
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| WING SHOVAL | CHECKED BY: | ST | 05/12/17 | (P) +675 705 08372 |
| APA | CLIENT APPROVED: | | | (E) office@rhodesprg.c (W) www.rhodesprojec |

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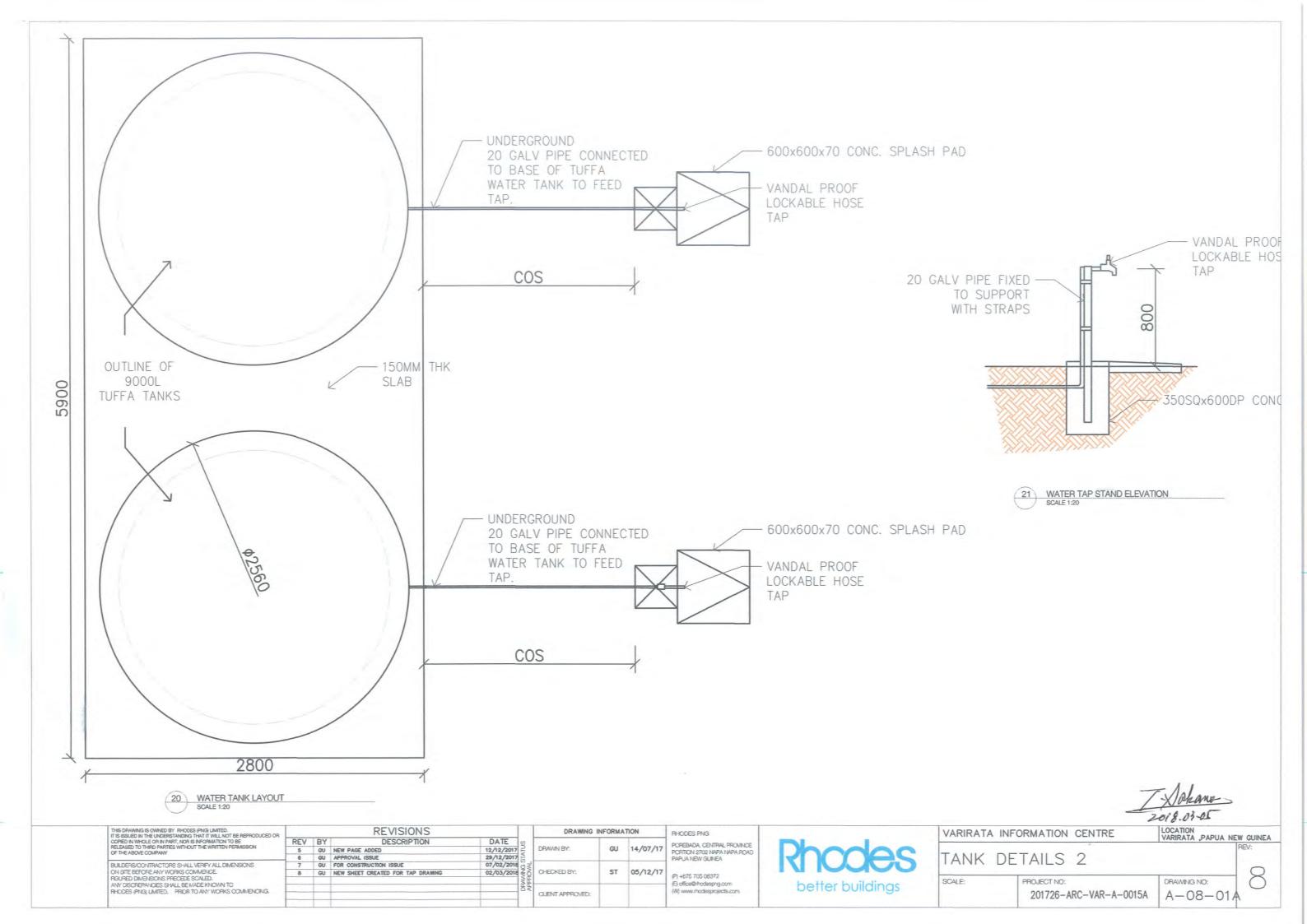
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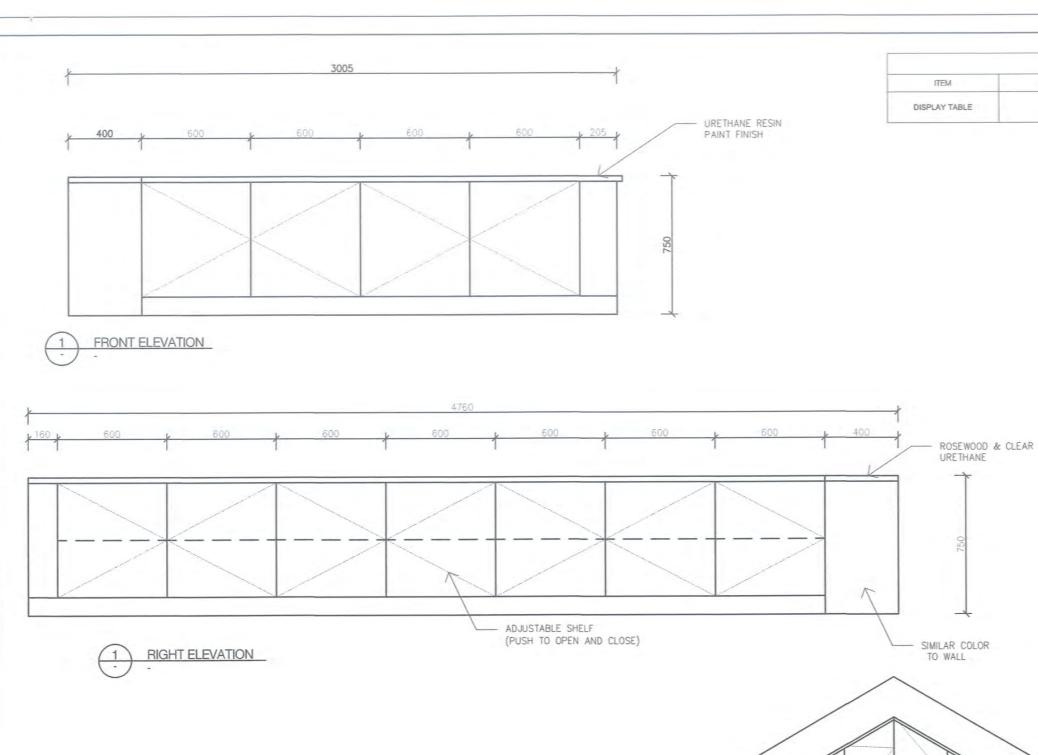
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| | LOCATION VARIRATA | PAPUA | NEW | GUINEA | |
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| LEGEND | | | |
|---------------|-----|---|--|
| ITEM | QTY | DESCRIPTION | |
| DISPLAY TABLE | 1. | FIXED DISPLAY TABLE OF TIMBER TOP(30MM THICK)WITH CUPBOARD BENEATH,400MM WIDEX 750 HIGH,URETHANE RESIN PAINT FINISHED | |

FOR REVIEW



FABRICATION NOTES

- 1. ALL MATERIAL & FABRICATION TO COMPLY WITH AS4100
- REMOVE ALL SHARP EDGES, BURRS, SLAG, ETC. ALSO ROUND ALL CORNERS.

 ALL WELDS TO BE 6mm CONT FILLET U.N.O. ALL BUTT WELDS FULL PENETRATION U.N.O.
- 4. ALL NOTCHES TO HAVE 11mm RADIUS AT INTERNAL CORNERS.
- 5. ALL RATHOLES TO BE 30mm RADIUS. 6. ALL CLEATS TO BE ON CENTRELINE U.O.N.
- 7. MATERIAL SIZES DO NOT ALLOW FOR WELD PREPARATIONS, FINAL SIZES TO BE DETERMINED TO SUIT WELD PROCEDURES.

- B. ALL STEEL AND WELDED SHARP EDGES SHALL BE ROUNDED.

 9. ALLOW DRAINAGE AND VENT HOLES FOR GALVANIZING.

| A - FOR REVIEW | |
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PROJECT NUMBER:

201713

PROJECT TITLE:

VARIRATA INFORMATION

SHOP DRAWING

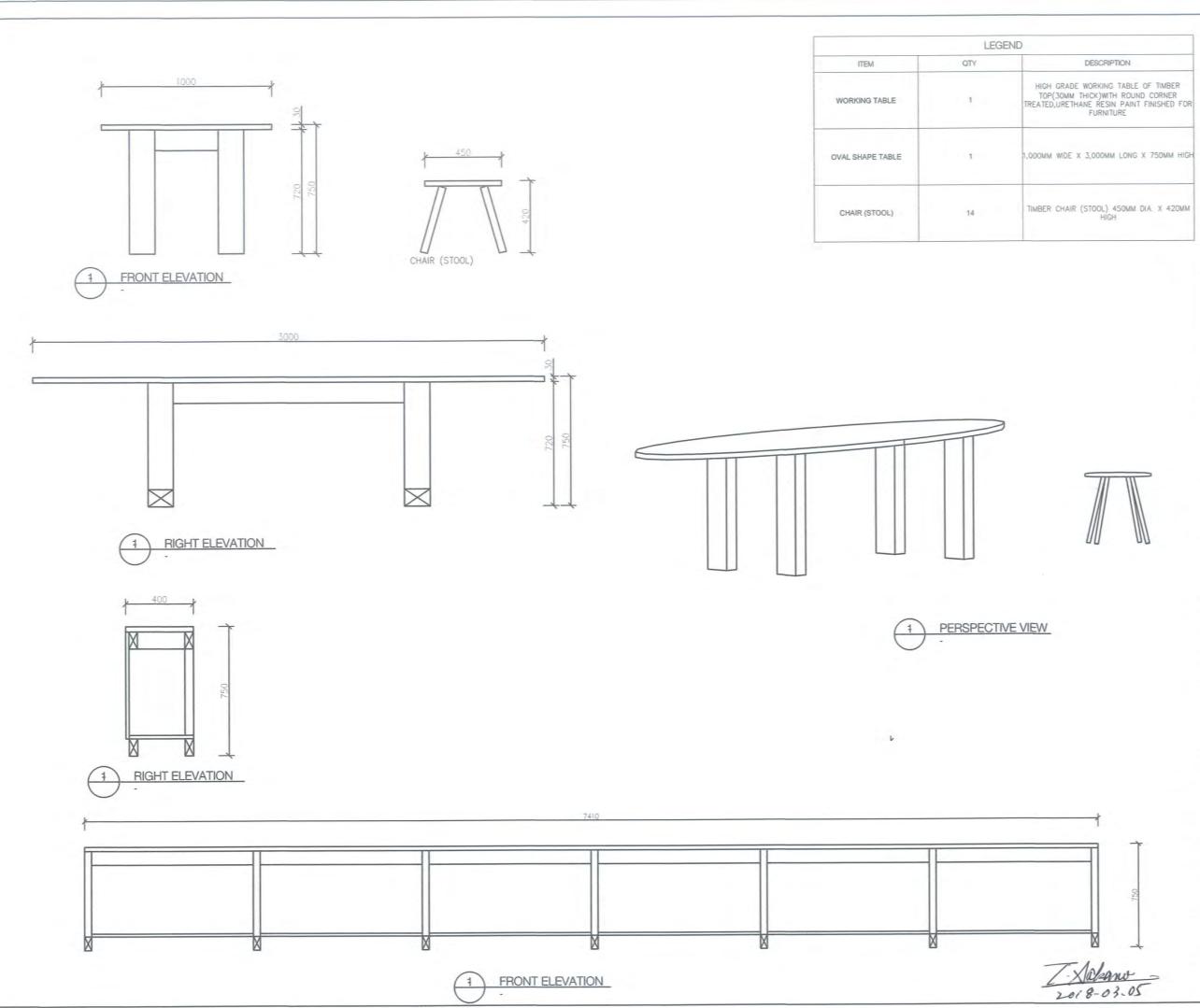
DRAWING TITLE:

GALLERY FURNITURES

DRAWING NUMBER:

REVISION: A SCALE: AS NOTED

PERSPECTIVE VIEW



FOR REVIEW



FABRICATION NOTES

- 1. ALL MATERIAL & FABRICATION TO COMPLY WITH AS4100
- 2. REMOVE ALL SHARP EDGES, BURRS, SLAG, ETC. ALSO ROUND ALL CORNERS. 3. ALL WELDS TO BE 6mm CONT FILLET U.N.O. ALL BUTT WELDS FULL PENETRATION U.N.O.
- 4. ALL NOTCHES TO HAVE 11mm RADIUS AT INTERNAL CORNERS.
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REVISIONS REV BY DESCRIPTION DATE FOR REVIEW

PROJECT NUMBER:

201713

PROJECT TITLE:

VARIRATA INFORMATION

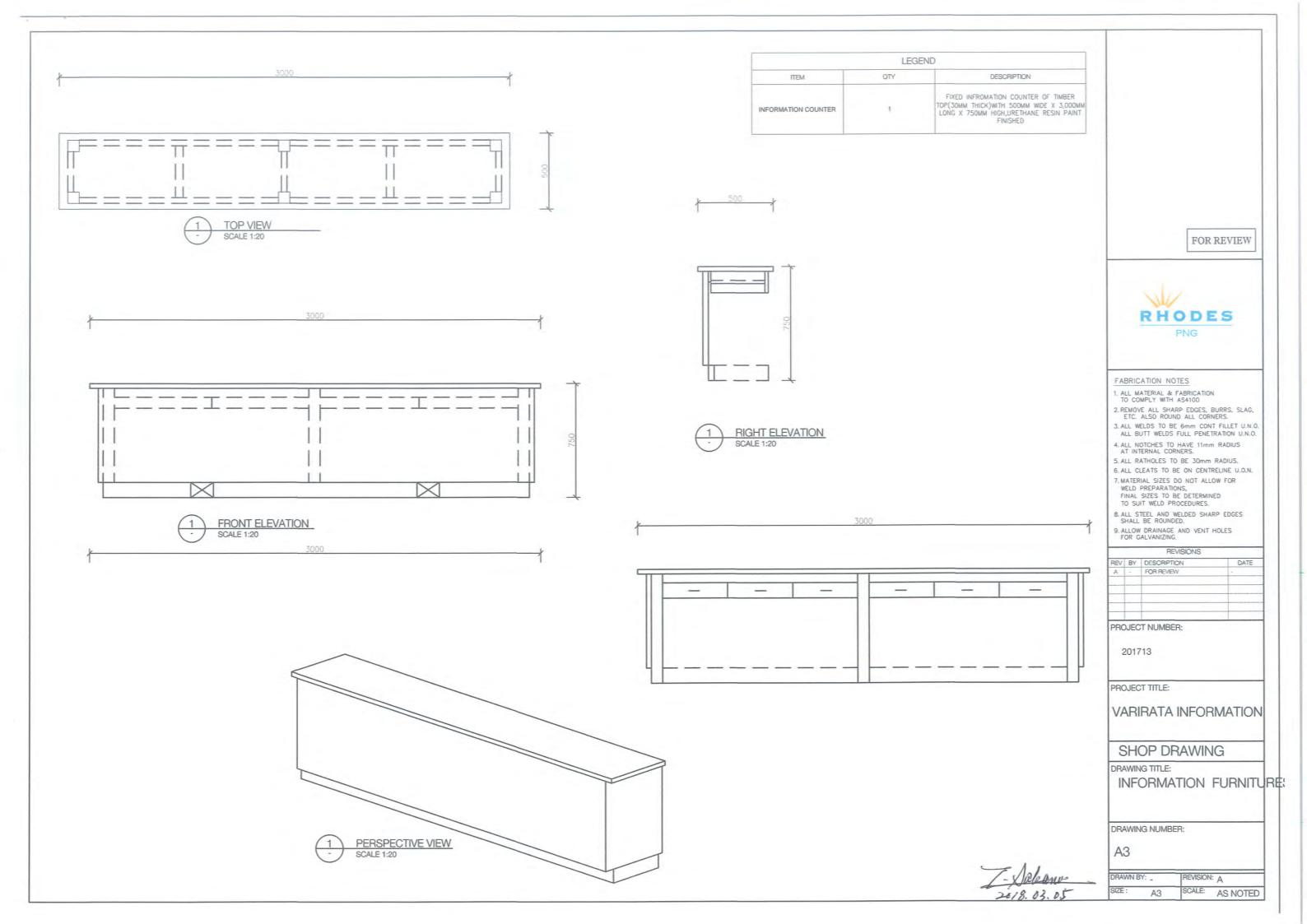
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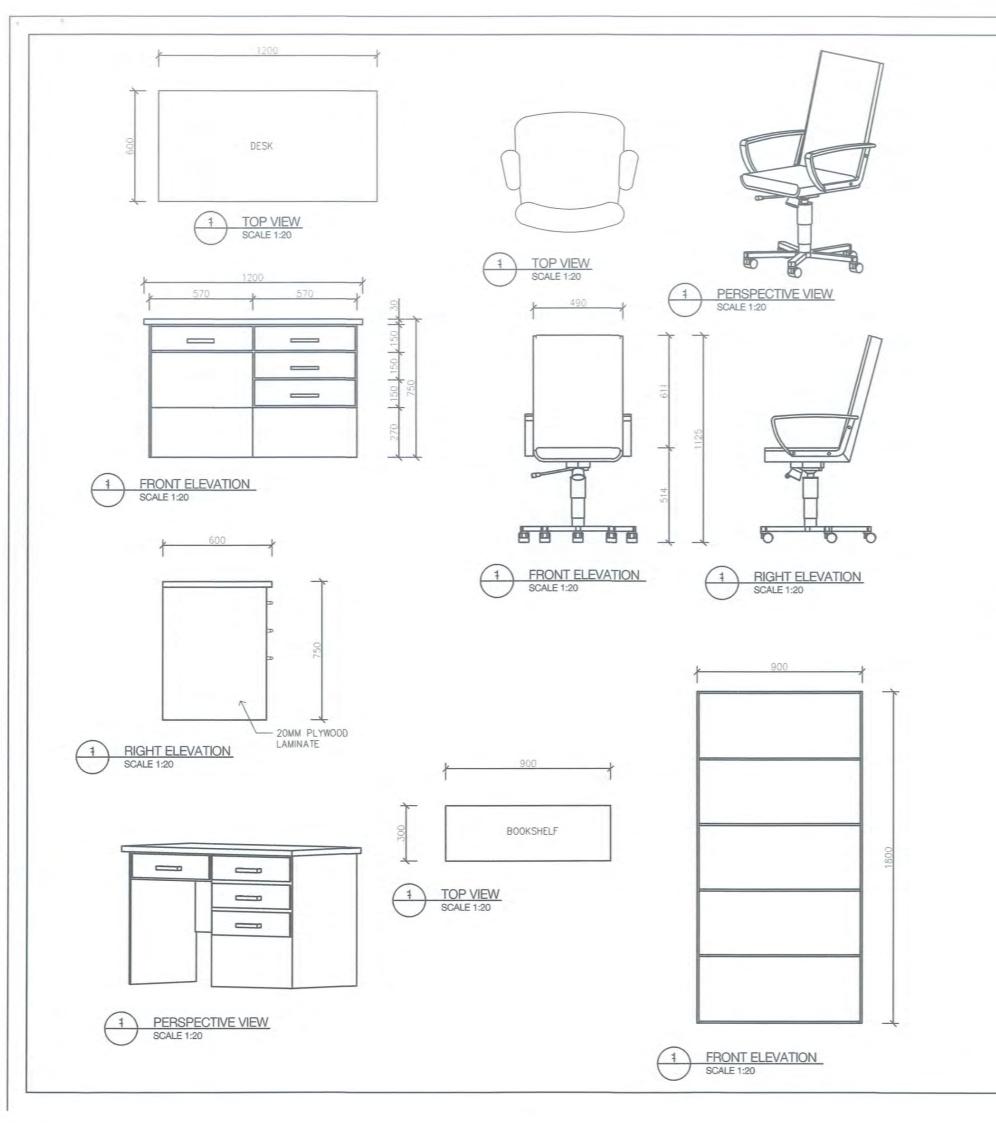
DRAWING TITLE:

STUDY FURNITURES

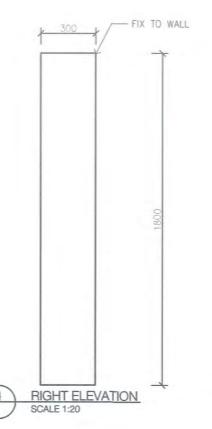
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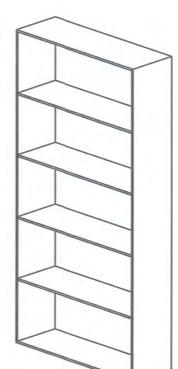
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| SIZE: | A3 | SCALE: | AS NOTED |





| LEGEND | | | | | |
|------------|-----|--|--|--|--|
| ITEM | QTY | DESCRIPTION | | | |
| DESK | 5 | 600MM WIDE X 1,200MM LONG X 750MM HIGH | | | |
| BOOK SHELF | 3 | 300MM WDE X 900 MM LONG X 1,800MM HIGH | | | |
| CHAIR | 7 | | | | |





PERSPECTIVE VIEW

FOR REVIEW



FABRICATION NOTES

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- 2. REMOVE ALL SHARP EDGES, BURRS, SLAG, ETC. ALSO ROUND ALL CORNERS. 3. ALL WELDS TO BE 6mm CONT FILLET U.N.O.
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REV BY DESCRIPTION DATE FOR REVIEW

PROJECT NUMBER:

201713

PROJECT TITLE:

VARIRATA INFORMATION

SHOP DRAWING

DRAWING TITLE:

ADMIN. OFFICE

DRAWING NUMBER:

A4

DRAWN BY: _ REVISION: A SCALE: AS NOTED

Certificate No: DK14/2017

BUILDING ACT CHAPTER 301 REVISED LAWS OF PAPUA NEW GUINEA STRUCTURAL ADEQUACY CERTIFICATE

This certificate is issued in accordance with Regulation No. 4 and Parts iii, iv and v of the third schedule of the Papua New Guinea Building Regulations.

Proposed Building:

Single Storey Information Centre Building, Varirata National Park

Location:

Varirata National Park, Sogeri, Central Province, PNG

Portions of building certified:

Structure & Foundation - structure comprises steel framed roof, steel posts, 100mm light steel framed stud walls, light steel floor joists and bearers. Steel posts founded on reinforced concrete pad footings support the superstructure. A separate slab on the ground supporting 2 x 9000L water tanks is reinforced concrete, supported on well compacted granular fill.

List of drawings to which Certificate applies:

Refer Drawings List below:

Drawings by RHODES PNG Limited: Drawing Nos: 201726-S-01-00/2, SN-01/2, S-02-00/2, S-02-01/2, S-02-02/2, S-02-03/2, S-02-04/2, S-03-00/2, S-04-00/2, S-05-00/2, S-05-01/2, S-05-02/2, S-05-03/2, A-05-04/2, S-05-05/2, S-05-06/2, S-05-07/2, A-

05-08/2 and S-05-09/2 (A3, Revision 2) [19 Sheets].

This is certify that the drawings and calculations for the above building or portion thereof have been prepared and checked by me, or by others under my supervision, and provided that the workmanship is in accordance with normal standard practice, the building, or portion thereof outlined above, is structurally adequate and complies with the design requirements of Papua New Guinea Standards PNGS 1001: Parts 1 to 4 and the relevant provisions of PNGS 1002 and 1003 and PNG Timber Design Standard (Draft).

Design criteria:

Seismic Coefficient: Structural Type Factor:

C = 0.10 (Zone 4, Soft Soil) K = 2.5 Steel Cross bracing

Wind Speed: Terrain Category: 28m/s (50 year wind)

Primary Structural System:

Steel framed roof, supported on steel ring beams, steel columns and 100mm steel stud walls. T&G flooring on light steel floor joists are supported on light steel bearers. The superstructure is supported on steel posts, founded on reinforced concrete pad footings, on 800mm deep mass concrete base. The water tanks are supported on reinforced concrete slab on ground, founded on

well compacted granular fill.

Horizontal restraint provided by: Braced steel posts, founded on reinforced concrete pad footings.

Name of Registered Engineer:

David Kawagle

Structural Registration No:

0696159

Address:

RHODES PNG Limited

Portion 2702 Napa Napa Road

Porebada, Central Province

Signature:

f Q-22/11/2017

Date:

VARIRATA INFORMATION CENTRE STRUCTURAL SET

| DRAWING ID | DRAWING NO. | DESCRIPTION |
|----------------------|-------------|--|
| 201726-STR-VAR-S-000 | S-01-00 | INDEX |
| 201726-STR-VAR-S-001 | SN-01 | STRUCTURAL NOTE |
| 201726-STR-VAR-S-002 | S-02-00 | FOOTING PLAN / SUB-FLOOR FRAMING PLAN |
| 201726-STR-VAR-S-003 | S-02-01 | SUBFLOOR FRAMECAD PANEL PLAN |
| 201726-STR-VAR-S-004 | S-02-02 | RING BEAM LAYOUT |
| 201726-STR-VAR-S-005 | S-02-03 | FRAMECAD CEILING AND BULKHEAD FRAMING PLAN |
| 201726-STR-VAR-S-006 | S-02-04 | ROOF FRAMING PLAN |
| 201726-STR-VAR-S-007 | S-03-00 | FRAMECAD WALL ELEVATIONS |
| 201726-STR-VAR-S-008 | S-04-00 | SECTION A-A |
| 201726-STR-VAR-S-009 | S-05-00 | DETAILS 1 - FOUNDATION & FOOTING DETAILS |
| 201726-STR-VAR-S-010 | S-05-01 | DETAILS 2 - POST TO FLOOR CONNECTIONS 1 |
| 201726-STR-VAR-S-011 | S-05-02 | DETAILS 3 - POST TO FLOOR CONNECTIONS 2 |
| 201726-STR-VAR-S-012 | S-05-03 | DETAILS 4 - POST TO RING BEAM CONNECTION 1 |
| 201726-STR-VAR-S-013 | S-05-04 | DETAILS 5 - POST TO RING BEAM CONNECTION 2 |
| 201726-STR-VAR-S-014 | S-05-05 | DETAILS 6 - RAFTER SUPPORTS |
| 201726-STR-VAR-S-015 | S-05-06 | DETAILS 7 - ROOF APEX DETAIL 1 |
| 201726-STR-VAR-S-016 | S-05-07 | DETAILS 8 - ROOF APEX DETAIL 2 |
| 201726-STR-VAR-S-017 | S-05-08 | DETAILS 9 - MAIN RAFTER DETAILS - COMMON & OBLIQUE |
| 201726-STR-VAR-S-018 | S-05-09 | DETAILS 10 - TANKS SLAB DETAILS |

FRAMECAD NOTES:

FRAMECAD ERECTORS MUST BE AWARE OF THE FOLLOWING POINTS BEFORE CONSTRUCTING FRAMECAD STEEL FRAMES.

- FRAMECAD STEEL FRAMES SHOULD BE INSPECTED ON ARRIVAL TO SITE.

 ANY DAMAGED PARTS SHOULD BE REPORTED IMMEDIATELY TO ENSURE

 CORRECT RECUTICATION PARELS MUST BE CLEARED AND FREE FROM DIRT

 PROR TO INSTALLATION. ANY DEEP SCRAIGHES IN THE GALVANIZING

 COATING MUST BE TOUCHED UP WITH GALVANIZING PAINT. PARELS SHOULD

 BE KEPT UNDER COVER PRIOR TO INSTALLATION AT ALL TIMES.
- FRAME MODIFICATIONS MUST BE CHECKED BY ENGINEER
 WINDOW MODIFICATIONS TO FRAMES ARE EASILY MADE ON-SITE IF REQUIRED
 BY THE CUENT. HOWEVER, CHECK WITH BHODES PROJECTS FOR ANY
 STRUCTURAL IMPLICATIONS.
- 3. MPORTANT NOTE: TO ENSURE FRAME IS NOT INSTALLED UPSIDE DOWN OR ARONG WAY ARGUND, MATCH THE FRAME NUMBERS AS PER THE FRAMING LAYOUT ALL NUMBERS SHOULD BE INSTALLED THE RIGHT WAY UP: AUXIST SEFER BACK TO THE ARCHITECTURAL PLANS, AND FRAMECAD ASSEMBLY DRAWINGS PRIOR TO FIXING DOWN THE FRAMES TO ENSURE CONSTRUCTION & CORRECT.

ABBREVIATIONS:

GENERAL:

- TP TOP PLATE
 BP BOTTOM PLATE
 ST STUD
 NG NOGGING
 FP FLOOR PANEL

- 0/A OVER ALL B.O.C. BACK OF CHANNEL

WALL:

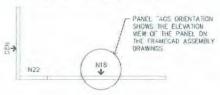
- L LOAD BEARING WALL
 N NON-LOAD BEARING WALL
 BR BRACE
 WE WEB RAIL
 HD HEADER
 SL SILL
 LS LOW STUD
 NS NOGGING SUPPORT
 S SERVICE HOLE

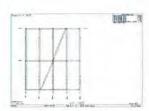
TRUSS:

- TOP RAIL

- W WEB
 B BOTTOM RAIL
 R RAFTER
 S SPLICE
 O OUTRIGGER
 F FASTENERS
 PL POINT LOAD

HOW TO READ WALL PANEL LAYOUT DRAWING:





STRUCTURAL:

STEELWORK NOTES:

FOOTINGS NOTES:

DESIGN LOADS:

1. DES/GN LOADS TO PNGS 1001

WIND -VELOCITY 28 m/s -TERRAIN CATEGORY 3 SEISMIC - ZONE 4

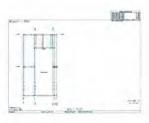
THESE DRAWNES SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND FRAMECAD DRAWNGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT ALL DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH WORK

 BOLTS ARE DESIGNATED ON THE DRAWINGS BY NUMBER, DIAMETER, GRADE, ALL BOLTS TO BE STANDARD BOLTS LINLESS NOTED OTHERWISE. ANY DAMAGED GALVANISED SURFACE SHALL RECEIVE DNE SITE COAT OF APPROVED ZINC EPOXY PAINT.

FILLET WELDS SHALL BE AT LEAST 6mm CONTINUOUS FOR THE FULL CONTACT OF THE MEMBER UNLESS NOTED OTHERWISE ALL BUTT WELDS SHALL BE FULL PENETRATION WELD.

THE BASE OF ALL FOOTINGS SHALL BE CLEANED OUT OF ALL LOOSE AND DISTURBED MATERIAL PRIOR TO PLACKE, CONCRETE CARE SHALL BE TAKEN TO PREVENT LOOSE SURFACE MATERIAL FALLING INTO EXCAVATION

2 THE FOUNDATION EXCAVATION SHALL BE KEPT FREE OF WATER AT ALL TIME CONCRETE SHALL NOT BE PLACED IN WATER.



SAMPLE - FRAMECAD ASSEMBLY DRAWINGS

This drawing is certified to comply with the 'scirclura' Engineering provisions of " Regulations, under the Building Act. Chapter 301 of the Revised Laws of Papua New Gumea.

De autable - 22/11/2017 Name: David Kawagle

Registered Structural Engineer No.: 0696159

FOR CONSTRUCTION



| DRAWING IS CHINED BY RHODES (PNG) LIMITED. IT IS | | REVISIONS | | | |
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| RODUCED OR COPIED IN WHOLE OR IN PART, NOR IS DRIVATION TO BE RELEASED TO THIRD PARTIES WITHOUT | PEV | BY | DESCRIPTION | DATE | |
| WRITTEN PERMISSION OF THE ABOVE COMPANY | 14 | GU | CONSTRUCTION ISSUE | 24/11/2017 | |
| DERS/CONT INCTORS SHALL VERIFY ALL ENSIONS ON SITE BEFORE ARM WORKS COMMENCI JRED DIMENSIONS PRECEDE SCALED | 2 | GU | CONSTRUCTION ISSUE REVS | 21/11/2017 | |
| / DISCREPANCIES SHALL BE MADE KNOWN TO DDES (PNG) LIMITED PRIOR TO ARY WORKS MYTHICKIG | | | | | |

| DRAWING STATUS APPROVAL | DRAWN BY: | GU | 14/07/2017 | |
|----------------------------|------------------|----|------------|--|
| | DESIGN BY: | | | |
| | CHECKED BY: | DK | 20/11/17 | |
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| INDEX | REV: | | |

201726-ARC-VAR-S-000

PROJECT NO:

DRAWING NO: S-01-00

GENERAL NOTES:

- 1. IN THE INTERPRETATION OF THESE DRAWINGS, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES OR SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- 2. ALL REINFORCED COMCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL STRUCTURAL CODE OF PNG..
- 3. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH THE PNG CODE
- 4. SLABS ON FILL MUST BE PLACED UNLESS FILL HAS BEEN PROPERLY COMPACTED, UNLESS DETAILED OTHERWISE, ALL SLABS ON FILL SHALL BE PROVIDED WITH 50mm WELL COMPACTED CLEAN COARSE SAND BED. BACK FILLING OF ALL EXCAVATED AREAS AND PREPARATION OF SUB BASE SHALL BE WELL COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR DENSITY BEFORE LAYING 100mm CLEAN COARSE SAND BED.
- 5. SAND SHALL BE "WASHED SAND" AND FREE OF ANY MUD, DIRT AND ANY OTHER FOREIGN MATERIALS.

NOTES ON CONCRETE SLABS:

- 1. ALL SLABS REINFORCEMENT SHALL HAVE A CLEAR DISTANCE OF 20mm FROM THE BOTTOM AND FROM THE TOP OF SLABS.
- 2. IF SLABS ARE REINFORCED BOTH WAYS, BATS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THOSE ALONG THE SPAN AT THE CENTER AND OVER THE LONGER SPAN BARS NEAR THE SUPPORTS.

NOTES ON STRUCTURAL FRAMING:

LIGHT GAUGE STEEL FRAMING SYSTEM

1. STRUCTURAL FRAMING - GALVANIZED STEEL, USING UN-OILED, DRY TYPE COILS.

BMT THICKNESS

1. BASE METAL THICKNESS (EXAMPLE: 0.75 BMT = Z275 COATING (0.04mm)=APPROX. 1.20mm)

STRENGTH

- 1. HIGH TENSILE: G550 FOR 0.55 0.95mm THICK COIL
- 2. LOW TENSILE: G250 G350 FOR 1.15mm THICK COIL

A CALCULATED WEIGHT

1. 1mm X 100mm X 1.0METER = 0.008488235 KGS

NOTES ON CONCRETE MIXES AND PLACING:

1. UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE SPECIFICATIONS THE MINIMUM 28-DAY CYLINDER COMPRESSIVE STRENGTH OF CONCRETE. fc, SHALL BE AS FOLLOWS:

CONCRETE WALLS

25 MPA

SLABS ON GRADE FOOTING

25 MPA 25 MPA

- 2. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, RE-HANDLING OR FLOWING. PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS OR WHEEL BARROWS. NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEEL BARROWS OR BUCKETS. IN WHICH CASE, THEY SHALL NOT EXCEED SIX (6) METERS IN AGGREGATE LENGTH.
- 3. CONTRACTOR SHALL DESIGN, INSTALL, AND MONITOR ALL EXCAVATION RETENSION SYSTEMS AS REQUIRED FOR PROTECTION OF ADJACENT PROPERTIES AND PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO MINIMIZE SETTLEMENT AND PREVENT DAMAGE TO ADJACENT EXISTING OR NEW CONSTRUCTION.

NOTES ON REINFORCING STEEL BARS;

- 1. ALL REINFORCING BARS SHALL BE CLEANED THOROUGHLY OF ALL LOOSE RUST, SOIL OR OTHER MATERIAL IMMEDIATELY PRIOR TO PLACING CONCRETE.
- 2. REINFORCING BARS SHALL NOT BE WELDED WITHOUT THE STRUCTURAL ENGINEER'S WRITTEN PERMISSION. WELDING OF STIRRUPS, TIE, INSERTS OR OTHER SIMILAR ELEMENTS TO LONGITUDINAL REINFORCEMENT SHALL NOT BE ALLOWED.
- 3. CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS: (MINIMUM)

CONCRETE CAST AGAINST EARTH

75mm

CONCRETE EXPOSED TO EARTH OR WEATHER

160 BARS AND SMALLER

40mm

CONCRETE NOT EXPOSED TO EARTH OR WEATHER

SLABS, WALLS, JOINTS

20mm

BEAMS AND COLUMNS

40mm

4. SEE TABLE "A" FOR SCHEDULE OF LAP AND SPLICES, GIRDERS

TABLE A: LAS SPLICE LENGTH

| BAR DIAMETER | BEAM/GIRDERS | COLUMNS | WALLS | SLABS |
|--------------|--------------|---------|-------|-------|
| 10 | - | - | 400 | 400 |
| 12 | - | - | 400 | 400 |

NOTES ON STRUCTURAL STEEL:

1. STEEL SHALL HAVE THE FOLLOWING MINIMUM VALUES YIELD STRESS (FY) UNLESS SHOWN OTHERWISE:

SECTIONS AND PLATES TO AS 1204

- 250MPA - 250MPA

SQUARE AND RECTANGULAR HOLLOW SECTIONS TO AS 1163

CIRCULAR HOLLOW SECTIONS TO AS 1163 OR AS 1074: : DIAMETERS UP TO AND INCLUDING 165MM - 200MPA

: DIAMETERS 168MM AND LARGER

- 350MPA

PARALLEL FLANGE CHANNEL TO AS/NZS 3679.1-300

- 425MPA

Engineering provisions of the Regulations under the Building Act. Chapter 301 of the Revised Laws of Papua New Guinea.

Name: David Kawagle

RHODES PNG

Registered Structural Engineer No.: 0696159

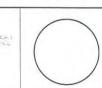
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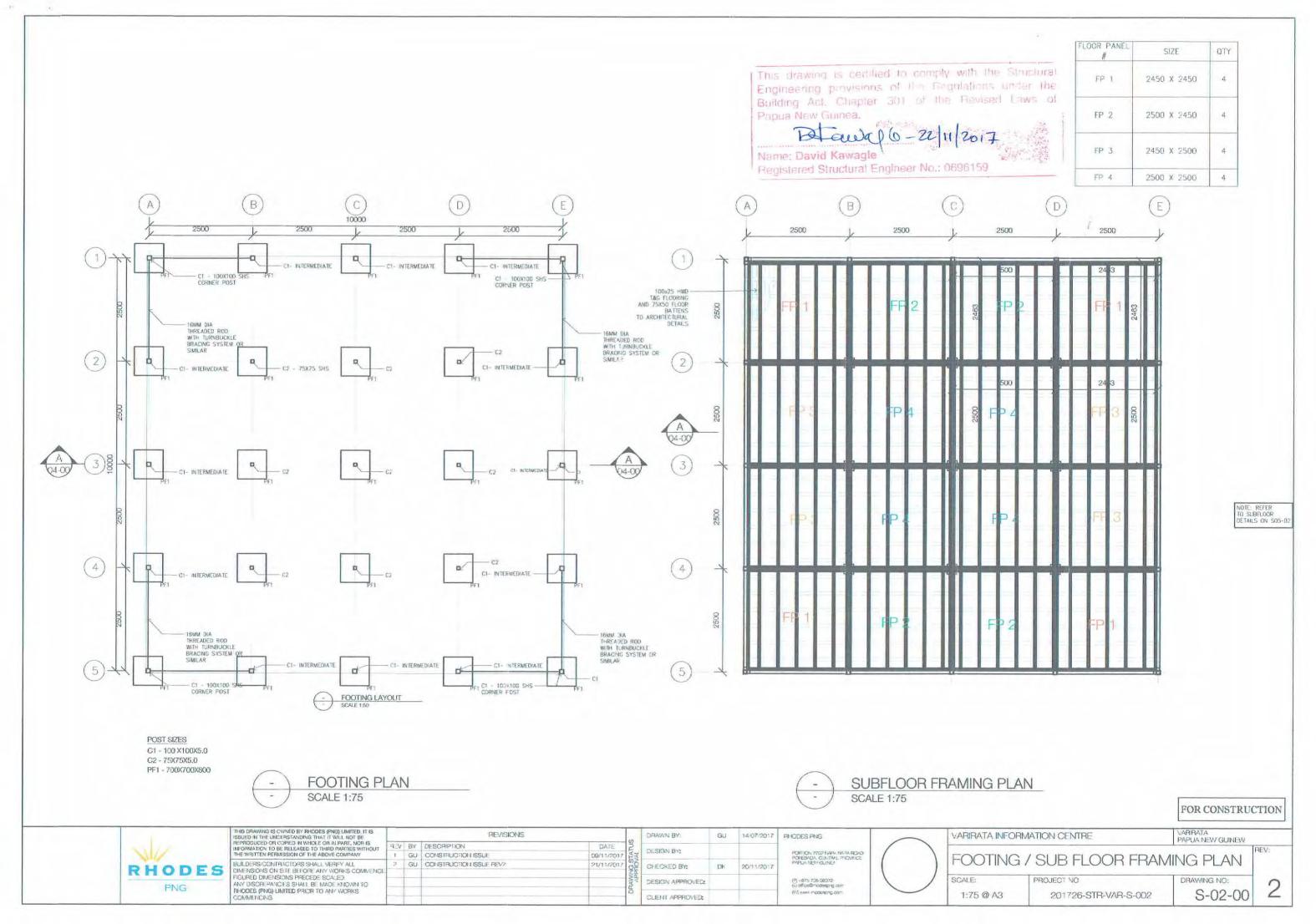
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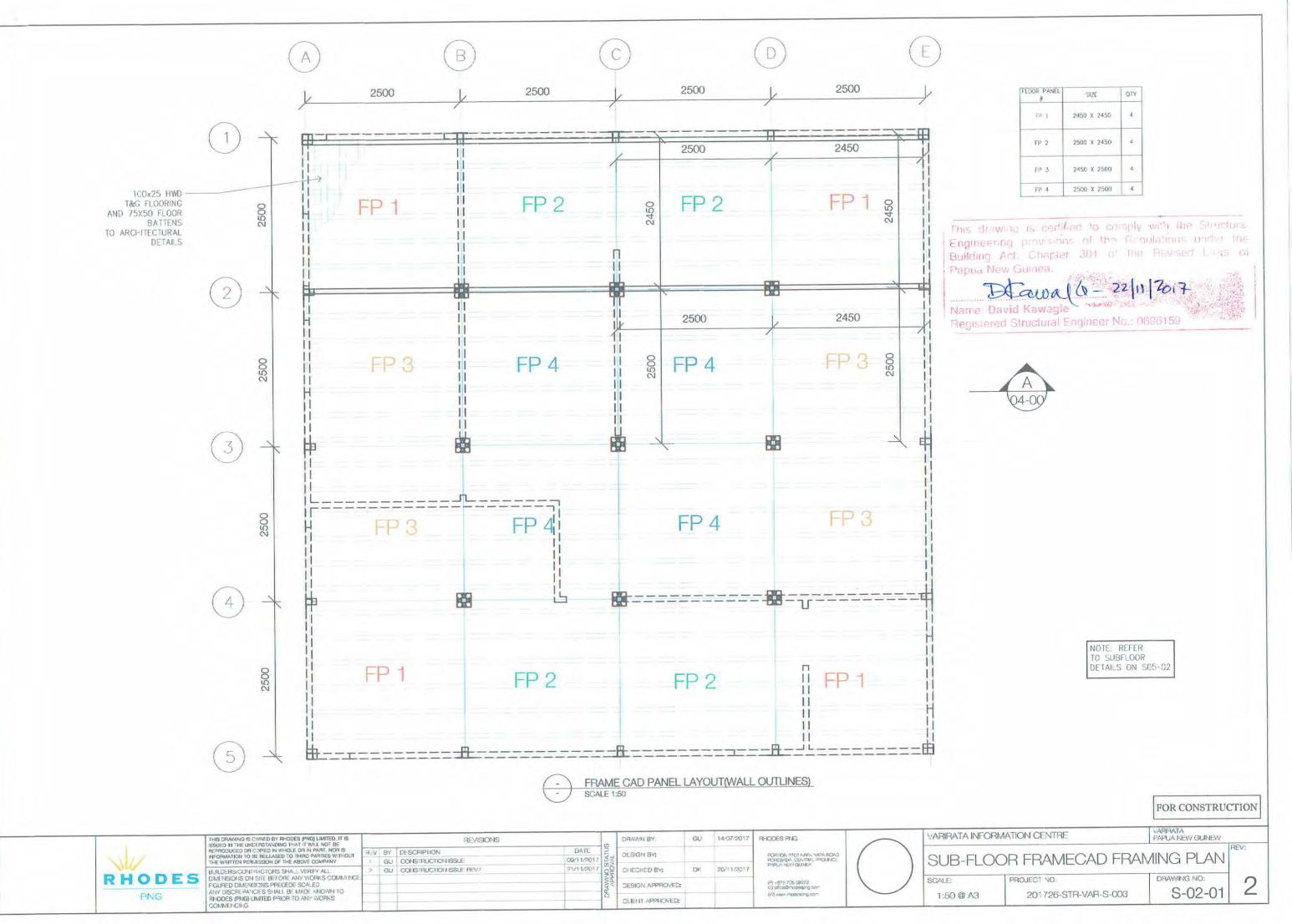


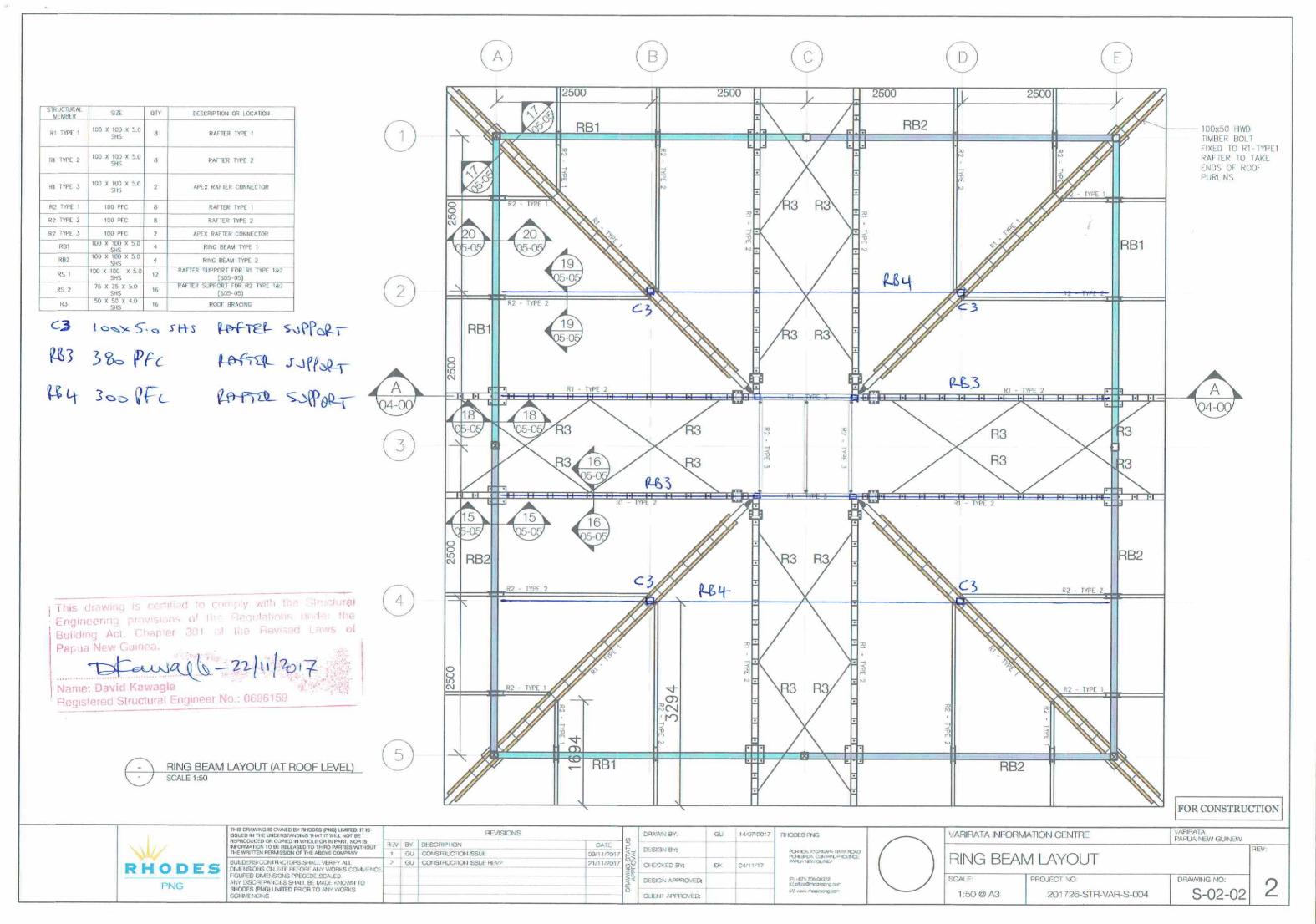
| _ | VARIRATA |
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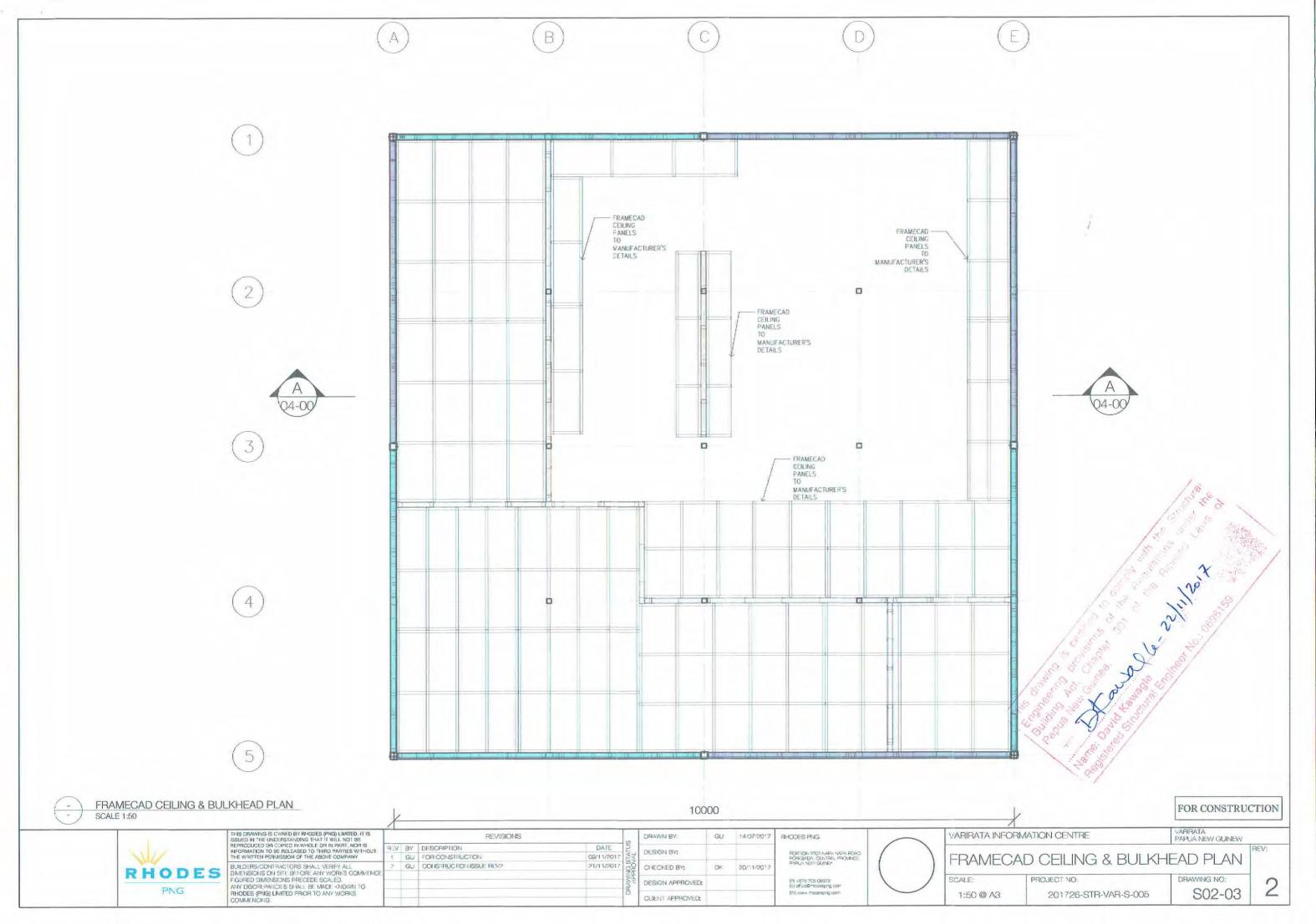
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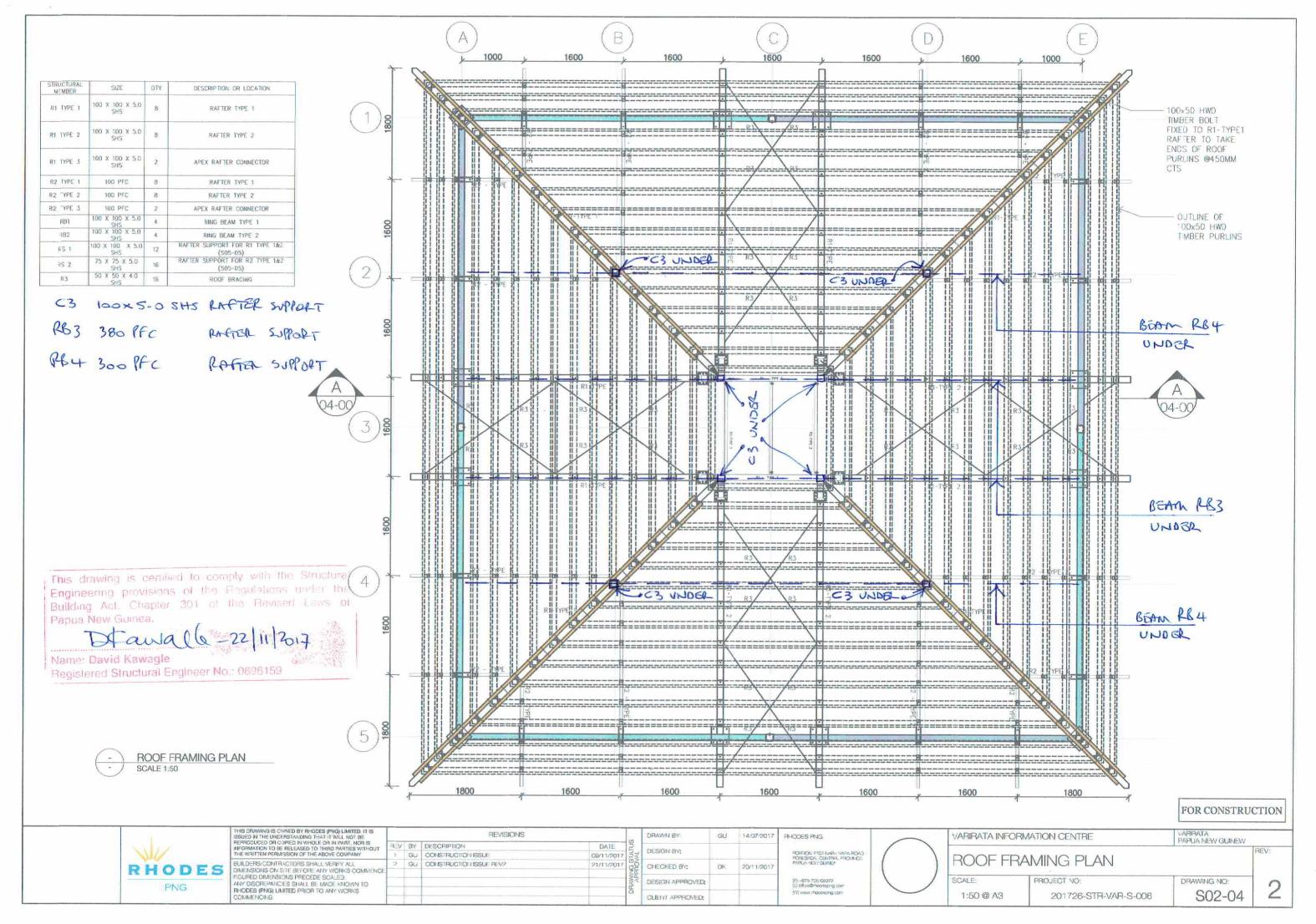
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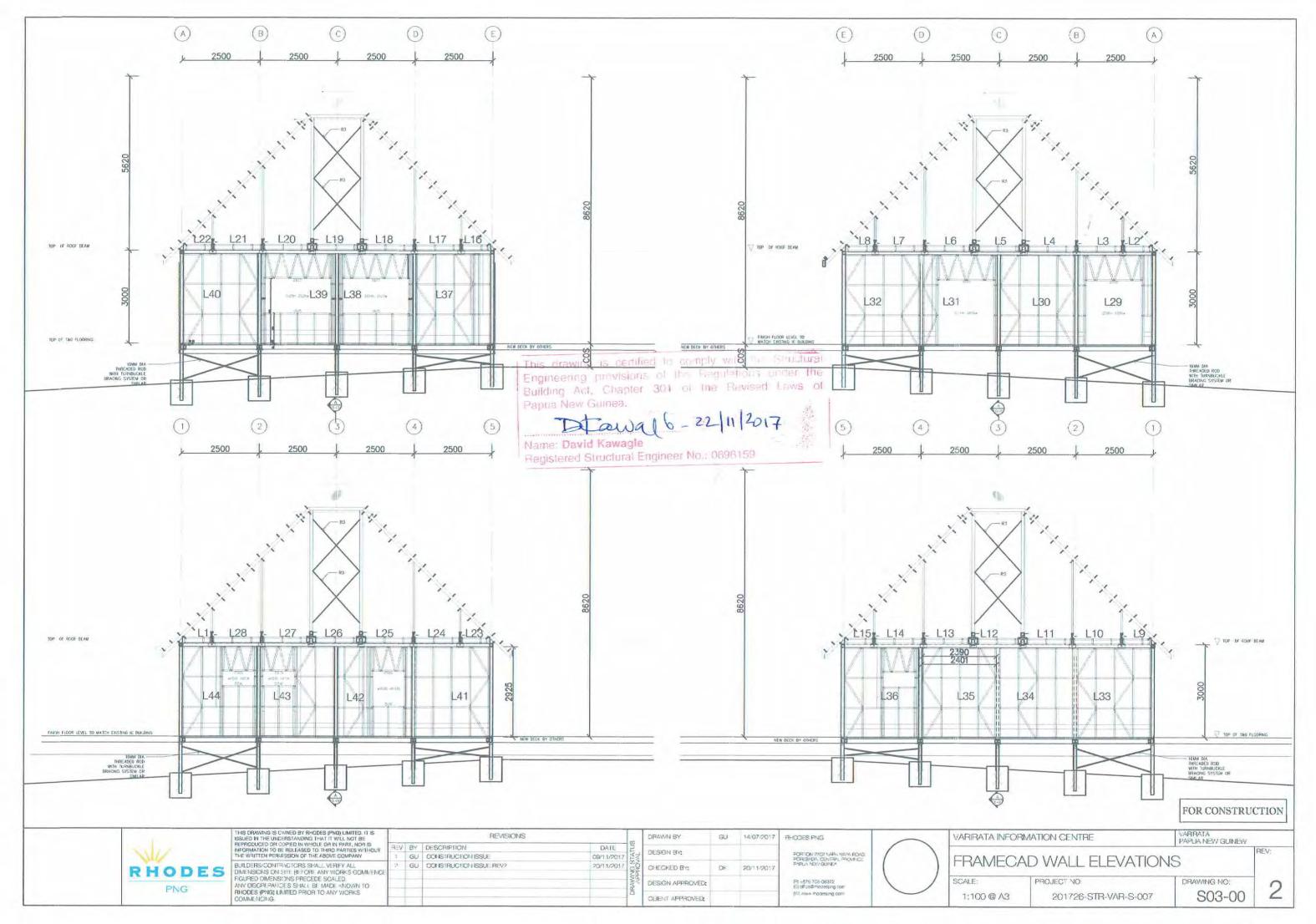


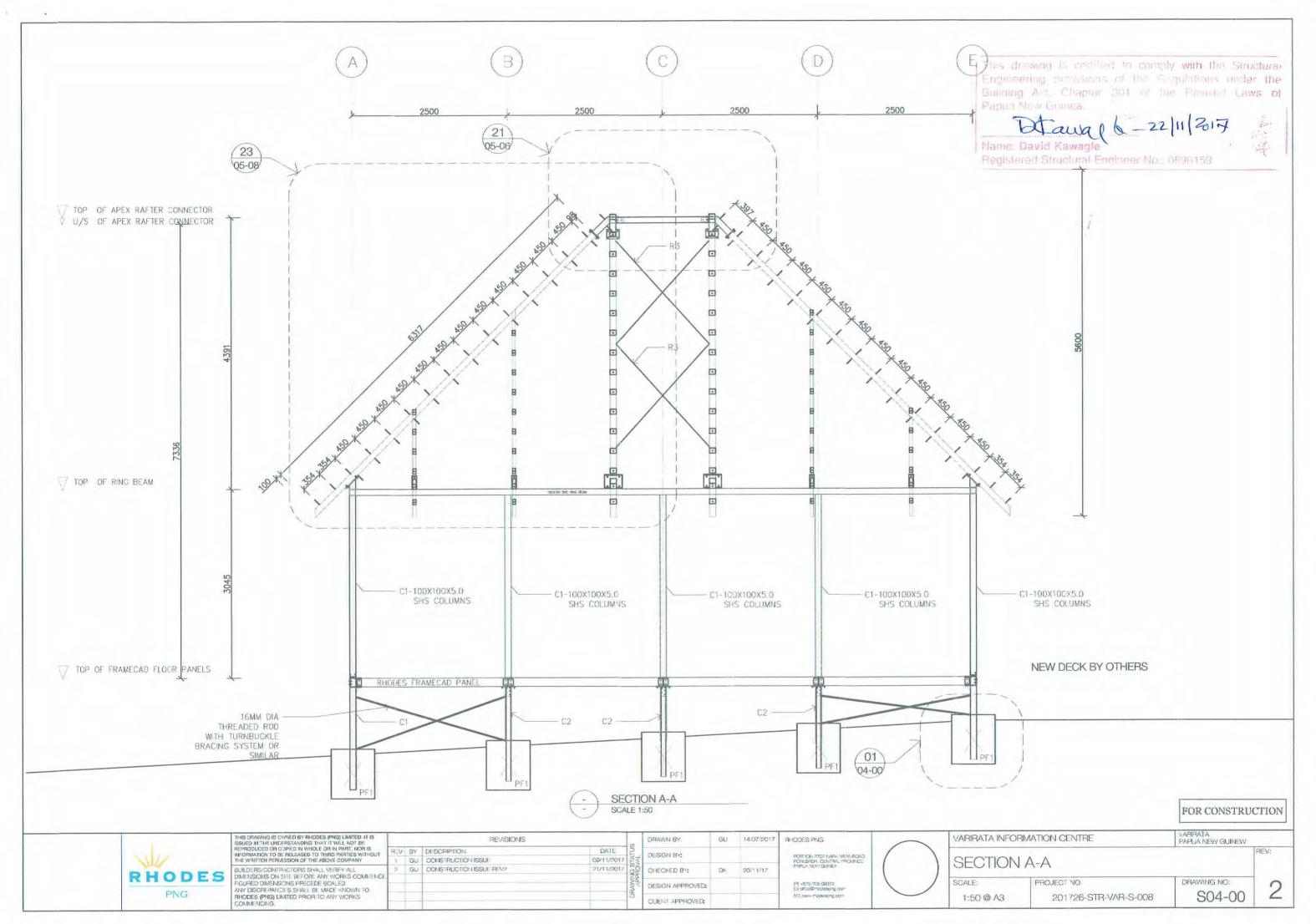


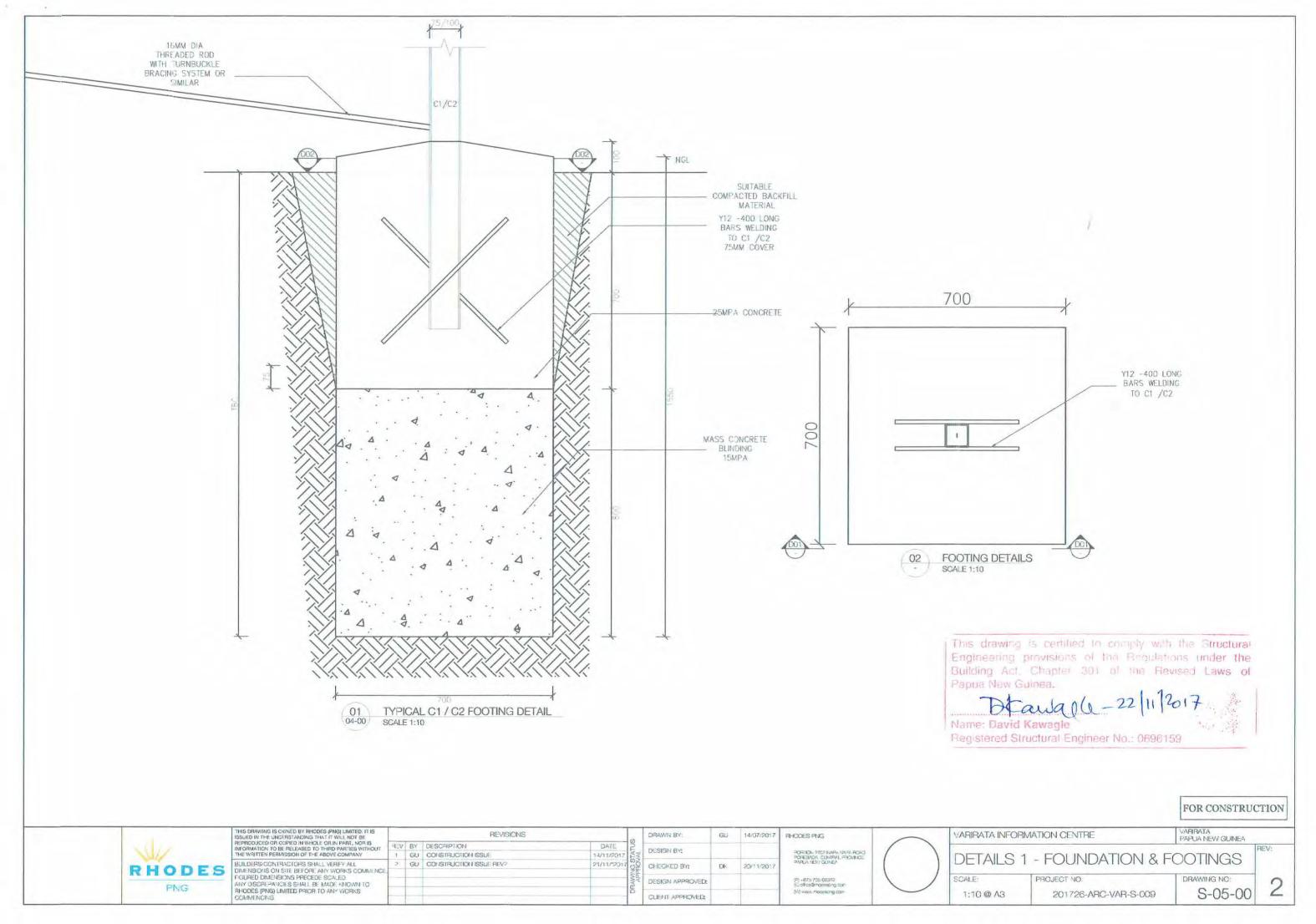


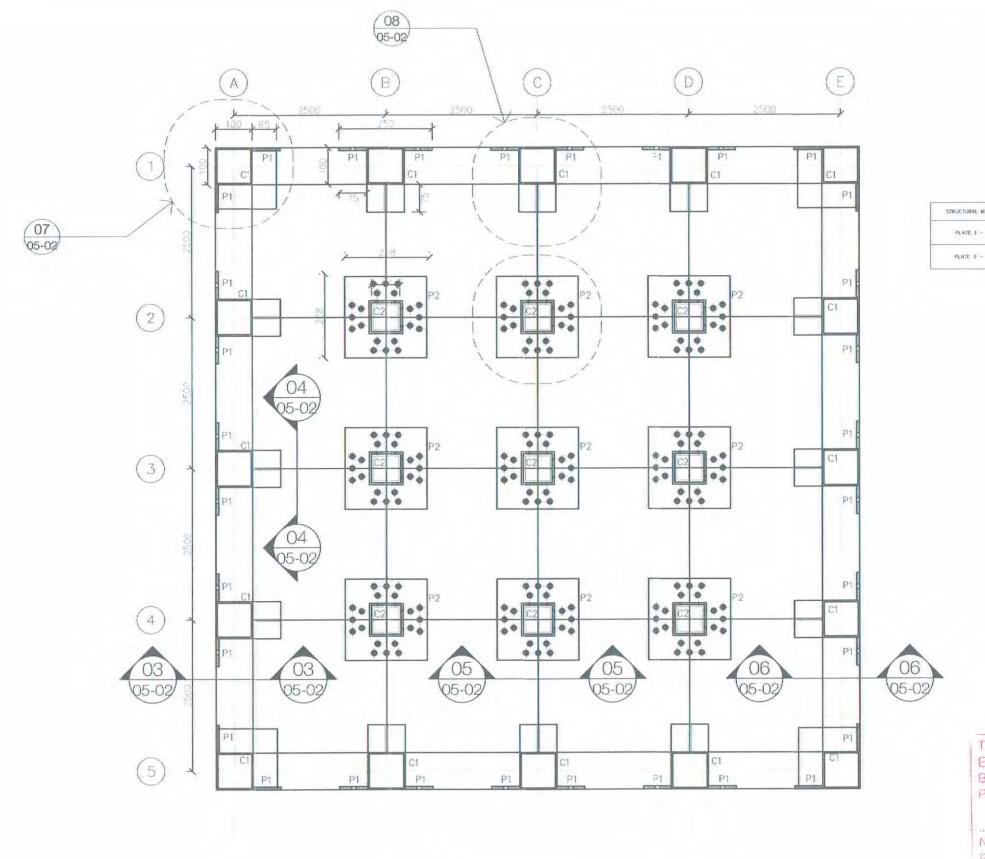












STRUCTURAL VENUER STRUCTURA.

WENGER

PLATE 1 - PT

CLEAT FOR

PERHETE 2 50

SUB PLIDS

PLATE 2 - P2

PIER HEAD PLATE 9 500 FLIDS

220x20x48nn

This drawing is certified to comply with the Structure Engineering provisions of the Regulations under the Building Act. Chapter 301 of the Revised Laws Papua New Guinea.

Name: David Kawagle

Registered Structural Engineer No.: 0696159

5 PIER HEAD AND COLUMN PLATE DETAILS
SCALE 1:10

FOR CONSTRUCTION



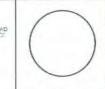
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 DRAWN BY
 GU
 14/07/2017
 RHODES PNG

 DESIGN BY:
 POREMON, CENTRAL PROPERTION, CENTRAL PROPERTION, CENTRAL PROPERTION, CENTRAL PROPERTION, CENTRAL PROPERTIES

 DESIGN APPROVED:
 P) +876 705 08375

 CLIENT APPROVED:
 Milliant approved



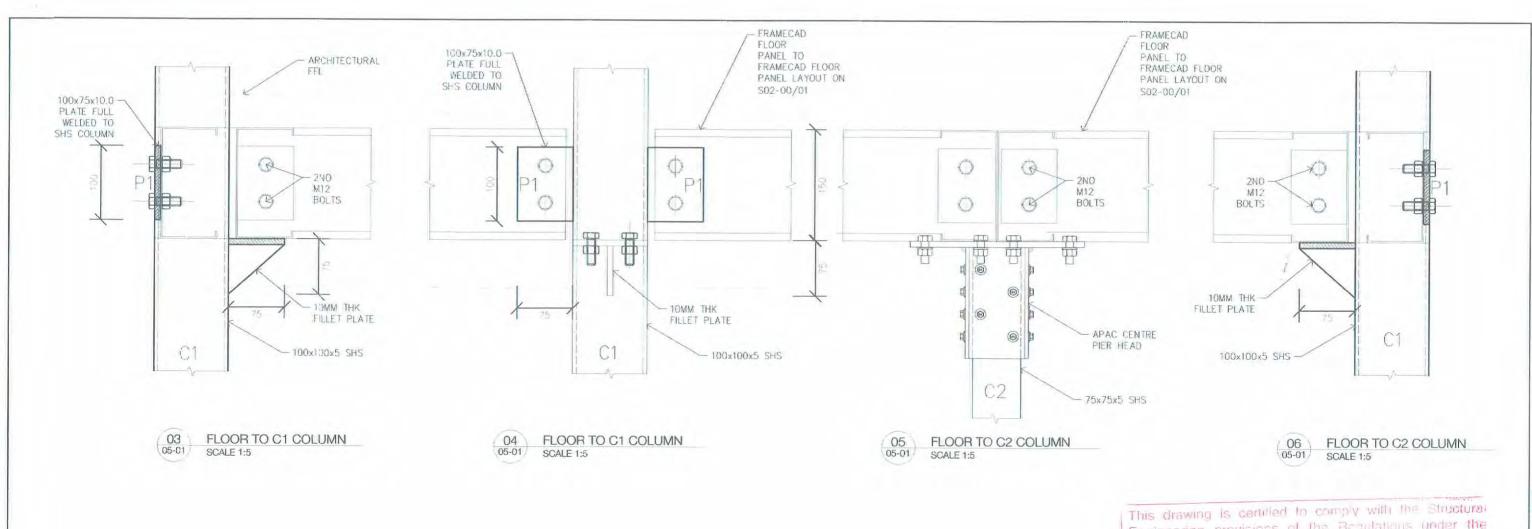
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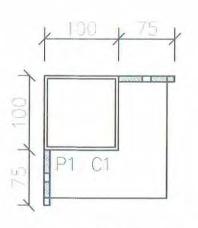
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DETAILS 2- POST TO FLR CONNECTNS 1

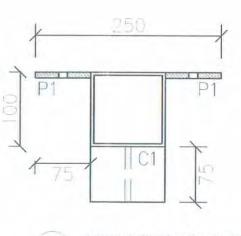
SCALE: PROJECT NO: DRAWING NO: S-05-01

2





CORNER POST PLATE DETAIL SCALE 1:5



INTERMEDIATE POST PLATE DETAIL 05-01 SCALE 1:5

Engineering provisions of the Begulations under the Building Act, Chapter 301 of the Revised Laws of Papua New Guinea.

Name: David Kawagle

Registered Structural Engineer No.: 0696159

| STRUCTURAL WEMBER | STRUCTURAL MEMBER | OLA | DESCRIPTION OR LOCATION | PLATE SIZES |
|-------------------|---------------------------------|-----|-------------------------|-------------|
| PLATE 1 - PI | CLEAT FIR FURLING FURLING | 39 | SUR F_C/CR | 100x773x80n |
| SA - S STAJA | PIER HEAD PLATE | 9 | NUB F_DOR | 220x220x8nn |

INTERMEDIATE SUBFLOOR CENTRAL PIER HEAD 05-01 SCALE 1:5

P1 = 100X75X10

FOR CONSTRUCTION



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| 1 | | | REVISIONS | |
|---------|-----|----|-------------------------|------------|
| LT | REV | BY | DESCRIPTION | DATE |
| | 1 | GU | CONSTRUCTION ISSUE | 09/11/2017 |
| NCE | 2 | GU | CONSTRUCTION ISSUE REV2 | 21/11/2017 |
| 11 5.80 | - | | | |
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| DRAWN BY: | GU | 14/07/2017 | RHODES PNG |
|------------------|----|------------|---|
| DESIGN BY: | | | PORTION 2762 NAPA NARA ROAD PORESAGA, CENTRAL PROVINCE |
| CHECKED BY: | DK | 20/11/2017 | PAPUA NEW GUNEA |
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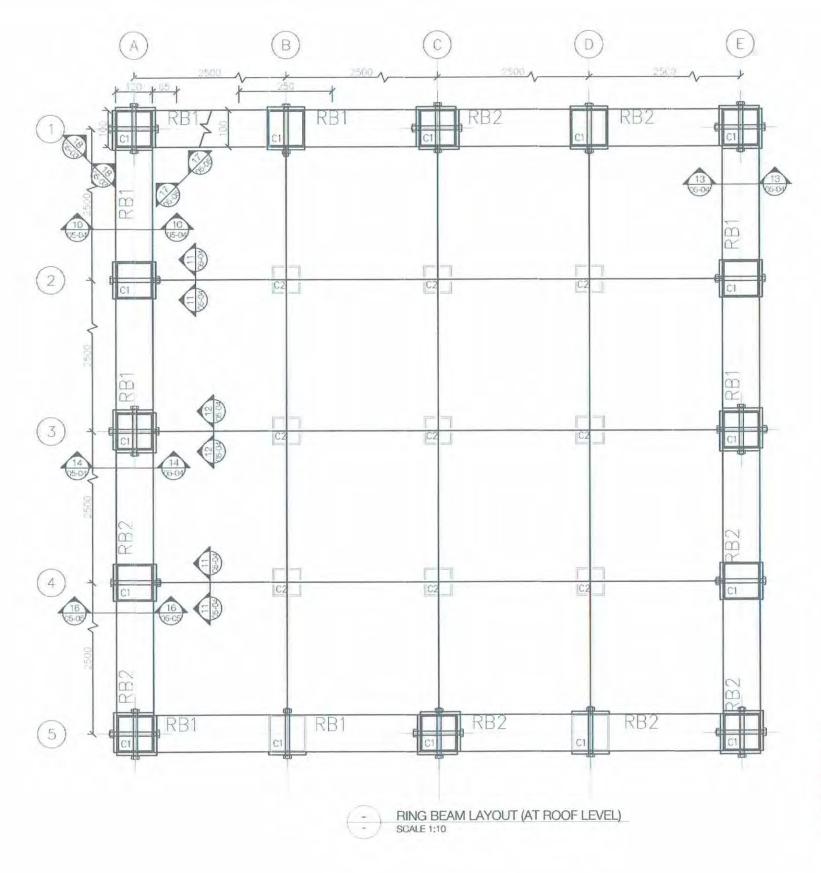


1:5 @ A3

VARIFATA PAPLIA NEW GUINEW VARIRATA INFORMATION CENTRE

DETAILS 3- POST TO FLR CONNECTNS 2 SCALE PROJECT NO: DRAWING NO: 201726-ARC-VAR-S-011

S-05-02



| STRUCTURAL MEMBER | SIZE | OLA | DESCRIPTION OR LOCATION |
|----------------------|------------------------|-----|---|
| R1 TYPE 1 | 100 X 100 X 5.0 SHS | 8 | RAFTER TYPE 1 |
| RI TYPE 2 | 100 × 100 × 5.0 SHS | 8 | RAFTER TYPE 2 |
| RI TYPE 3 | 100 x 100 x 5.0 SHS | 2 | APEX RAFTER CONNECTOR |
| R2 TYPE 1 | 100 PFC | 8 | RAFTER TYPE 1 |
| RZ TYPE 2 | 100 PFC | 8 | RAFTER TYPE 2 |
| R2 TYPE 3 | 100 PFC | 2 | APEX RAFTER CONNECTOR |
| RB1 | 100 X 100 X 5.0 SHS | 4 | RING BEAM TYPE 1 |
| RB2 | 100 X 100 X 5.0 5HS | ā | RING BEAM TYPE 2 |
| RS 1 | 100 X 100 X 5.0 SHS | 12 | RAFTER SUPPORT FOR RI TYPE 1&2 (SQ5-DS) |
| RS 2 | 75 X 75 X 5.0 SHS | 16 | RAFTER SUPPORT FOR R2 TYPE 18-2 (S05-05) |
| R3 | 50 X 50 X 4.0 SHS | 16 | ROOF BRACING |

This drawing is certified to country with the Structural Engineering provisions of the Rugulations under the Building Act, Chapter 301 of the Foresed Laws of Papua New Guinea.

Name: David Kawagle

Registered Structural Engineer No.: 0696159

FOR CONSTRUCTION



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REVISIONS PEV BY DESCRIPTION GU CONSTRUCTION ISSUE GU CONSTRUCTION ISSUE REV2

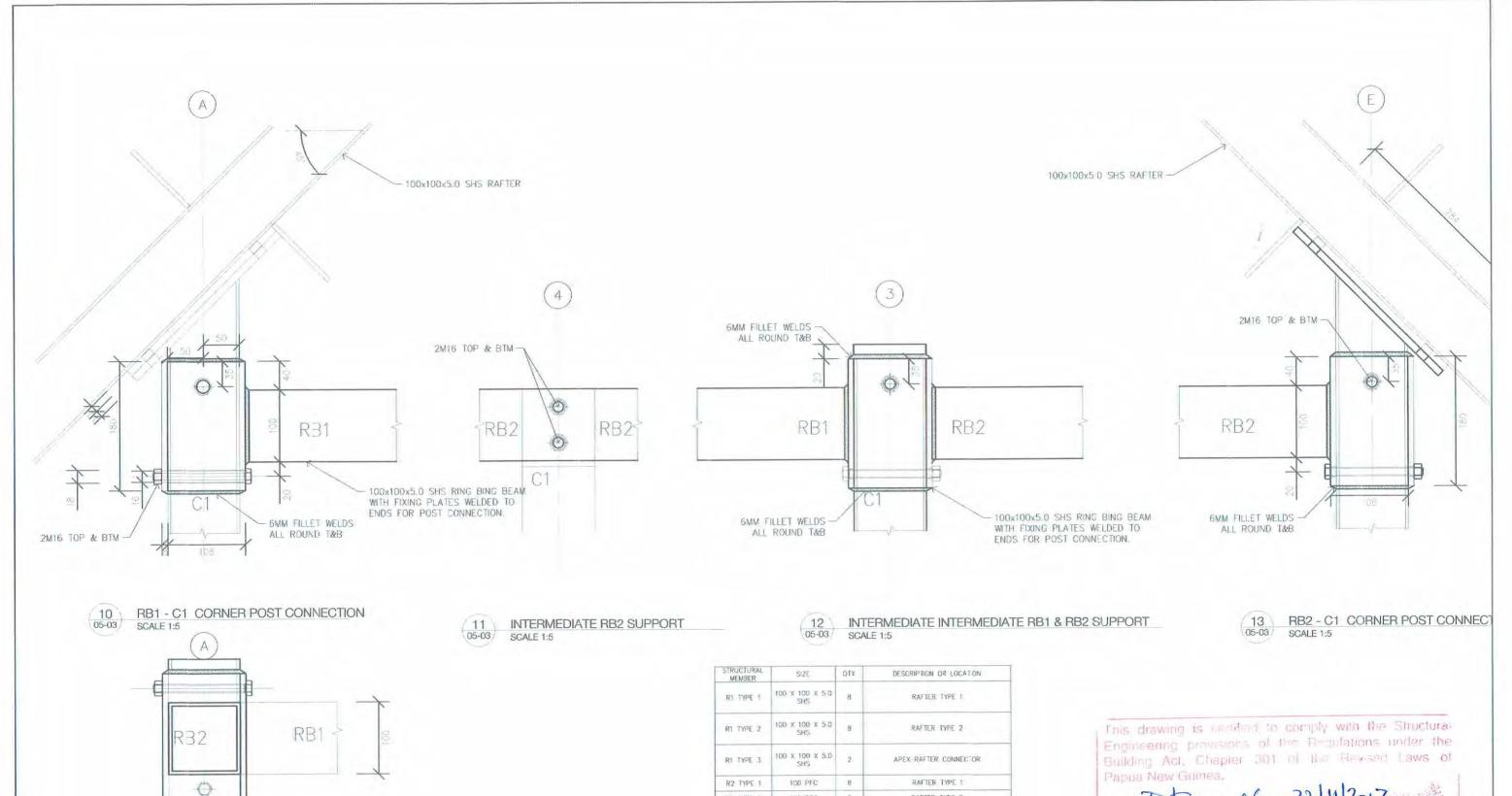
DRAWN BY 14/07/2017 GU RHODES PNG DESIGN BY: CHECKED BY: DIS 20/11/2017 FT +875 706 08372 FT offer@modeleging.com (M) every modeleging.com DESIGN APPROVED: CLIENT APPROVED:



VARIRATA INFORMATION CENTRE DETAILS 4- POST TO RING BEAM CON.

VARIRATA PAPUA NEW GUINEA

DRAWING NO: SCALE: PROJECT NO: S-05-03 1:10 @ A3 201726-ARC-VAR-S-012



| STRUCTURAL MEMBER | SIZE | QTY | DESCRIPTION OR LOCATION |
|----------------------|------------------------|-----|--|
| R1 TYPE 1 | 100 X 100 X 5.0 SHS | 8 | RAFIER TYPE 1 |
| R1 TYPE 2 | 100 x 100 x 5,0 SH5 | 8 | RAFTER TYPE 2 |
| RI TYPE 3 | 100 X 100 X 5.0 SHS | 2 | APEX RAFTER CONNECTOR |
| R2 TYPE 1 | 100 PFC | 8 | RAFTER TYPE 1 |
| R2 TYPE 2 | 100 PFC | 8 | RAFTER TYPE 2 |
| R2 TYPE 3 | 100 PFC | 2 | APEX RAFTER CONNECTOR |
| RB1 | 100 X 100 X 5.0 SHS | 4 | RING BEAM TYPE 1 |
| RB2 | 100 X 100 X 5.0 5HS | 4 | RING BEAM TYPE 2 |
| RS I | 100 X 100 X 5.0 SHS | 12 | RAFTER SUPPORT FOR R1 TYPE 1&2 (S05-05) |
| RS 2 | 75 X 75 X 5.0 SHS | 16 | RAFTER SUPPORT FOR R2 TYPE 182 (S05-05) |
| R3 | 50 X 50 X 4.0 SHS | 16 | ROOF BRACING |

Name: David Kawagle

Registered Structural Engineer No.: 0696159

FOR CONSTRUCTION



6MM FILLET WELDS -

ALL ROUND T&B

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| THE WRITTEN PERMISSION OF THE ABOVE COMPANY | - 41 | GU | CONSTRUCTION ISSUE | 09/11/2017 | | |
| BUILDERS/CONTRACTORS SHALL VERIEY ALL DIMENSIONS OR. SITE BEFORE ANY WORKS COMMENCE. FIGURED DIMENSIONS PRECEDE SCALED. ANY DISCREPANCIES SHALL BE MADE KNOWN TO RHODES (PNG) LIMITED PRIOR TO ANY WORKS COMMENCING. | 2 | GU | CONSTRUCTION ISSUE REV2 | 21/11/2017 | | |

- 100x100x5.0 SHS RING BING BEAM

14 INTERMEDIATE RB2 - C1 CONNECTION SCALE 1:5

WITH FIXING PLATES WELDED TO

ENDS FOR POST CONNECTION.

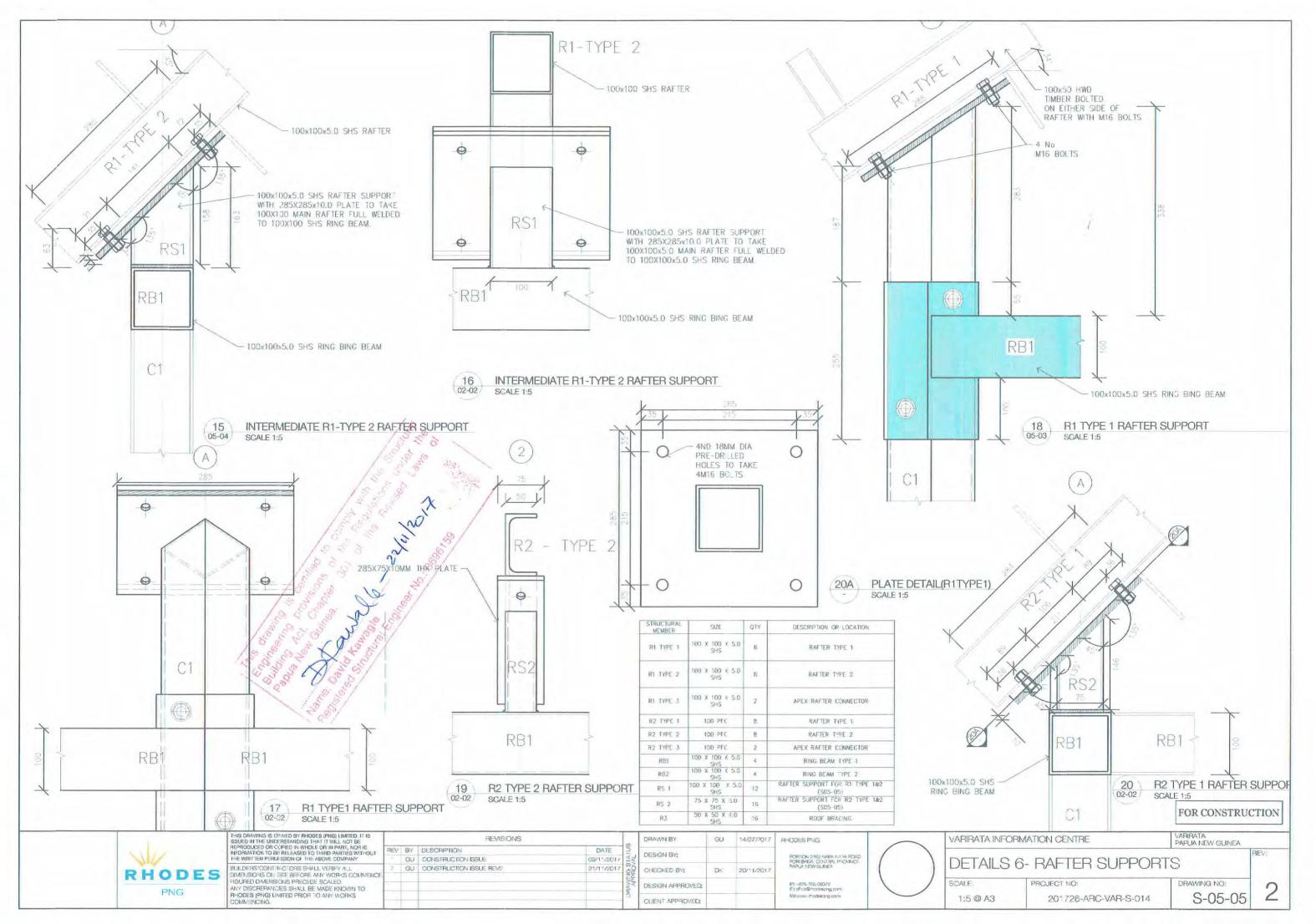
SCALE 1:5

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| | DESIGN BY: | | | PORTION 2702 NAPA NAPA POAD POREBADA, CENTRAL PROVINCE |
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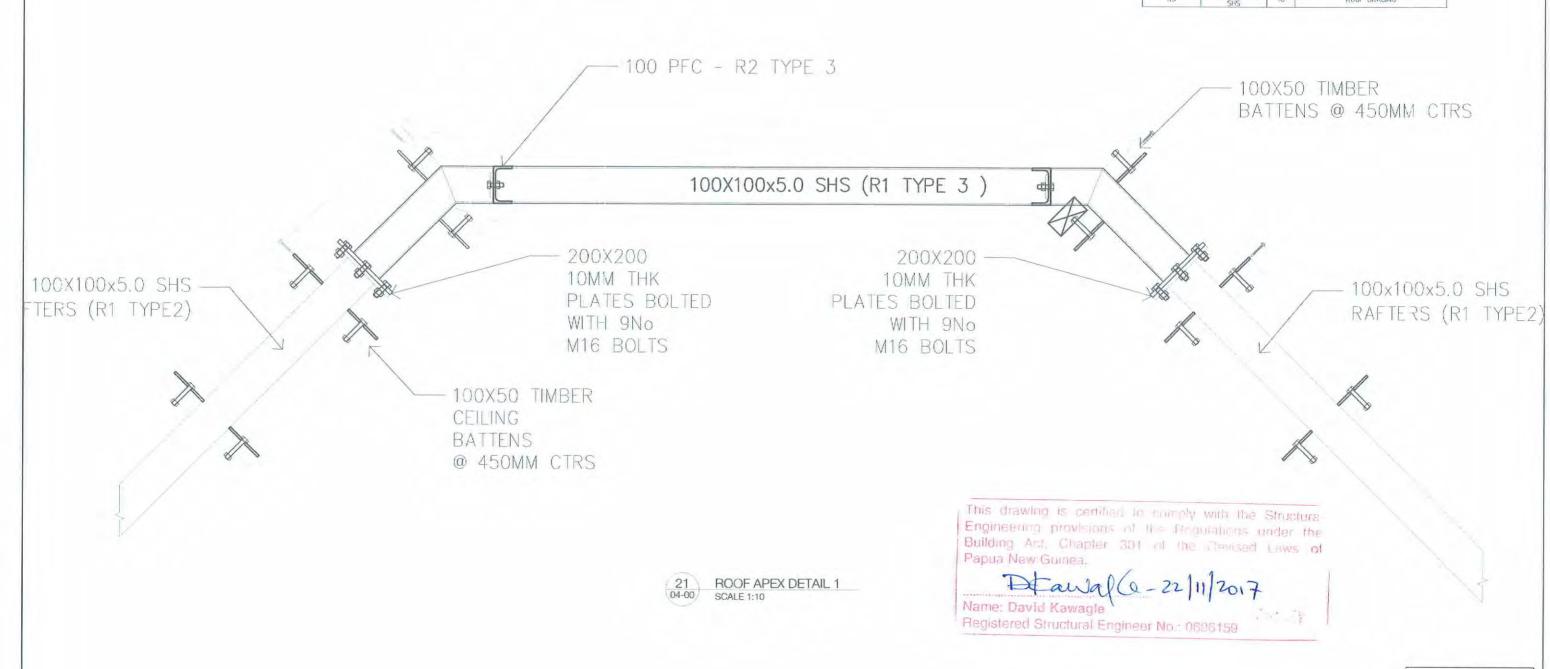


| VARIRATA INFORMATION CENTRE | VARIRATA. PAPUA NEW GUINEA |
|-----------------------------|-------------------------------|
| DETAILS 5 - POST TO RIN | IG BEAM CON2 |

| SCALE: | PROJECT NO: | DRAWING NO: |
|--------|-------------|-------------|
| | | A-05-0 |







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DRAWN BY: GU 14/07/2017

DESIGN BY: DK 20/11/2017

DESIGN APPROVED:

CUENT APPROVED:

RHODES PNG

PORIDA 2702 IMPA NA PA ROID
POREBADA, CENTRAL PROVINCE
PAPUA NEW GLAVEA

P) -878 706 08372
P) alter@moraneprg.com

1:10 @ A3

VARIRATA INFORMATION CENTRE VARIRATA PAPUA NEW GUINEA

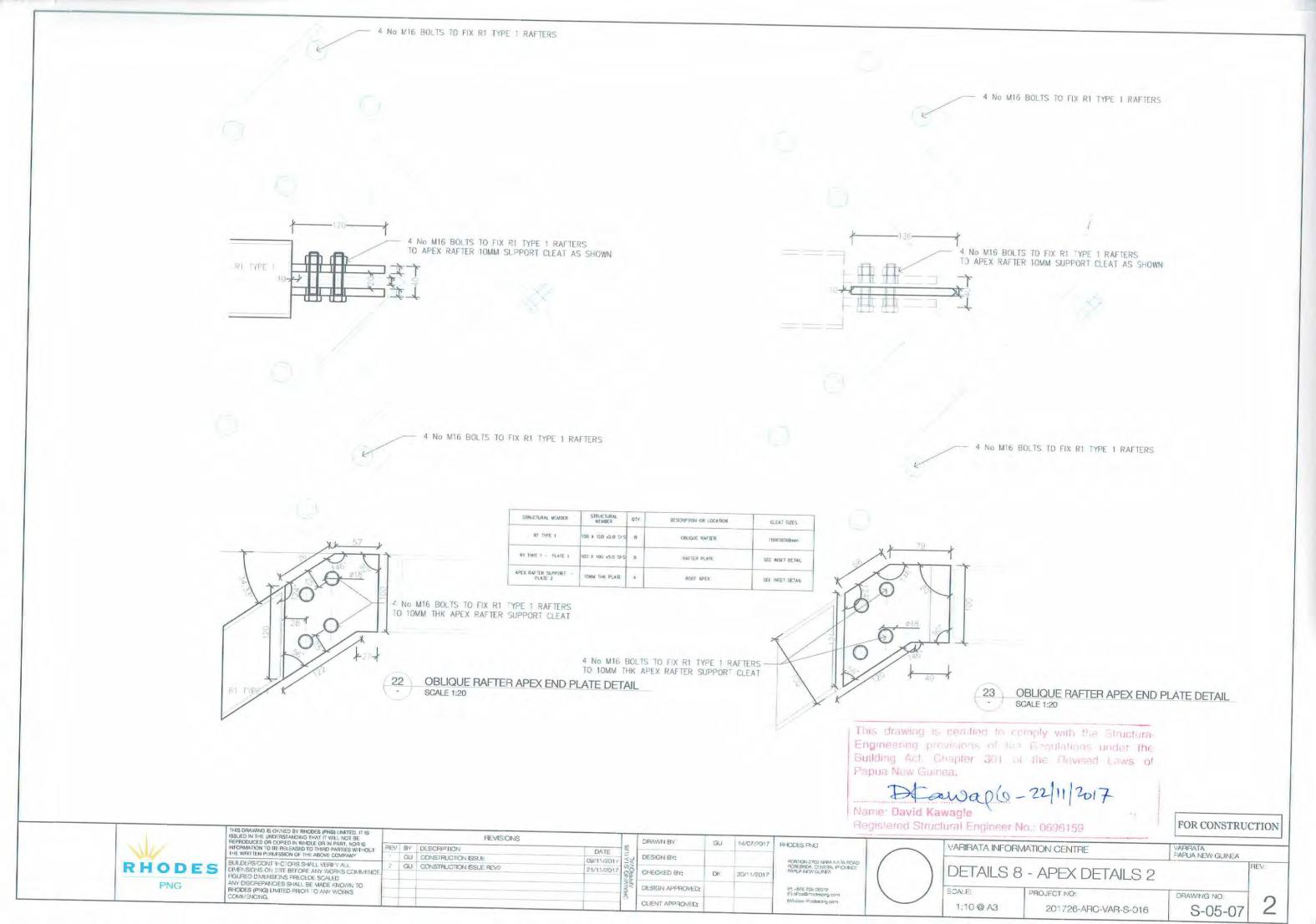
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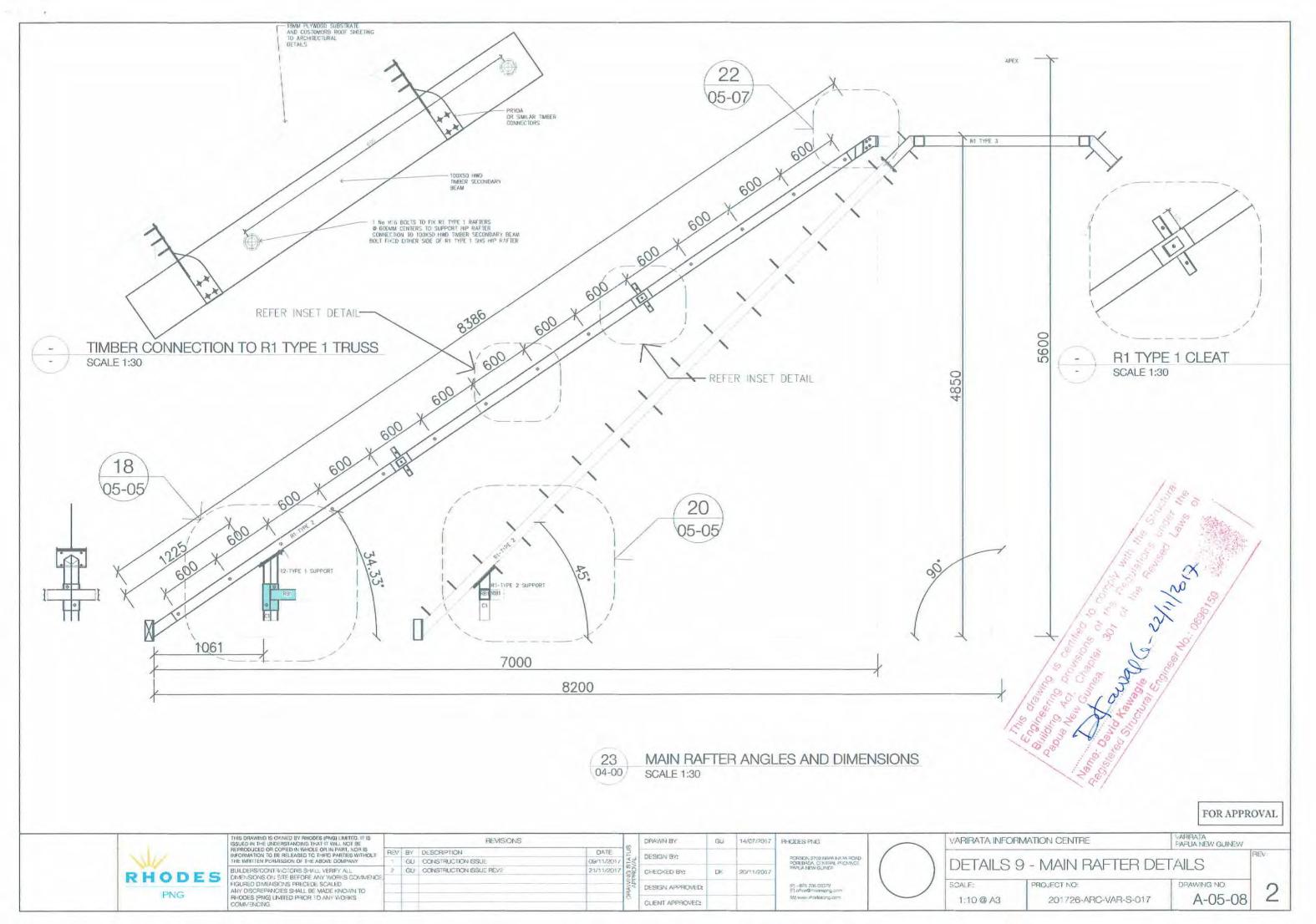
DETAILS 7 - APEX DETAILS 1

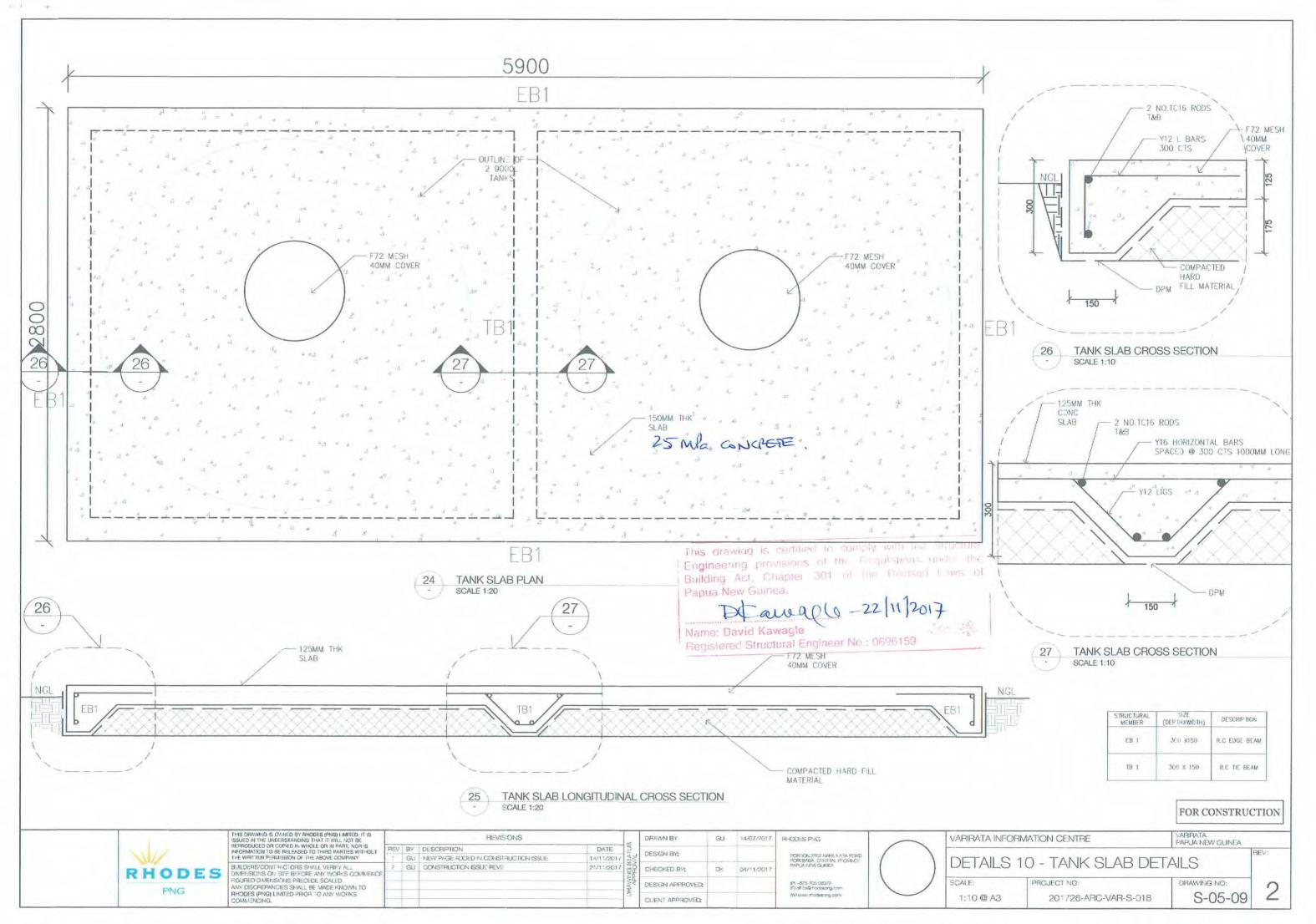
SCALE: PROJECT NO:

S-05-06

2







添付資料 2.2.4 Building permit for new information center at VNP



DEPARTMENT OF WORKS

HEADQUARTERS PO Box 1108, BOROKO, NCD 111



Papua New Guinea

Telephone: 3241 406; Facsimile: 3241 391

PAPUA NEW GUINEA Building Act & Regulations (Chapter 301) 1994

BUILDING PERMIT

Alexander Lloyd Pacific PO Box 1619 PORT MORESBY National Capital District Central Province Regulation Section 12 Form 2 Permit No. **BBHQcp005/2017**

BUILDING APPROVAL FOR VISITOR INFORMATION CENTRE AT VARIRATA NATIONAL PARK FOR CONSERVATION & ENVIRONMENT PROTECTION AUTHORITY (CEPA).

Department of Works Headquarters in absence of the Central Provincial Building Board has approved the application of *Alexander Lloyd Pacific, PO Box 1619, PORT MORESBY, National Capital District* to erect 10m x 10m (100m²) prefabricated steel "Visitor Information Centre" at Varirata National Park for CEPA.

The works is to be carried out in accordance with the submitted, approved drawings and specifications and the PNG Building Act & Regulations (Chapter 301) 1994 and all relevant PNG Codes and Standards.

The building covered in this Permit is *prefabricated steel Visitor Information Centre* of which the Occupancy Classifications is *CLASS X* (Out Building).

Dated at 10:00 a.m. on Wednesday 18th September 2017.

VAGHI GAIROWAGEA

Assistant Secretary (Architecture & Buildings)

DAVID WEREH

Secretary

Date

Date

APPLICANTS COPY