

フィリピン共和国

畑地かんがい技術開発計画  
モデルインフラ整備事業  
施工管理業務

総合報告書

昭和63年5月

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国際協力事業団

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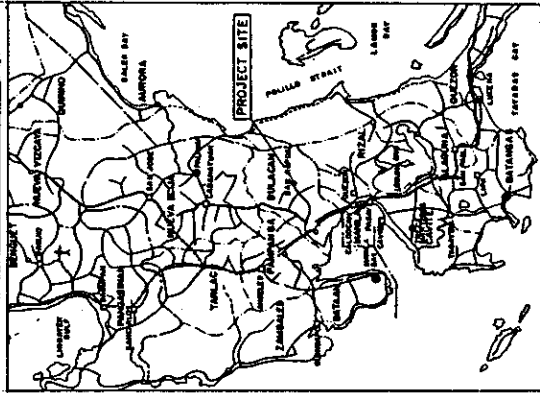
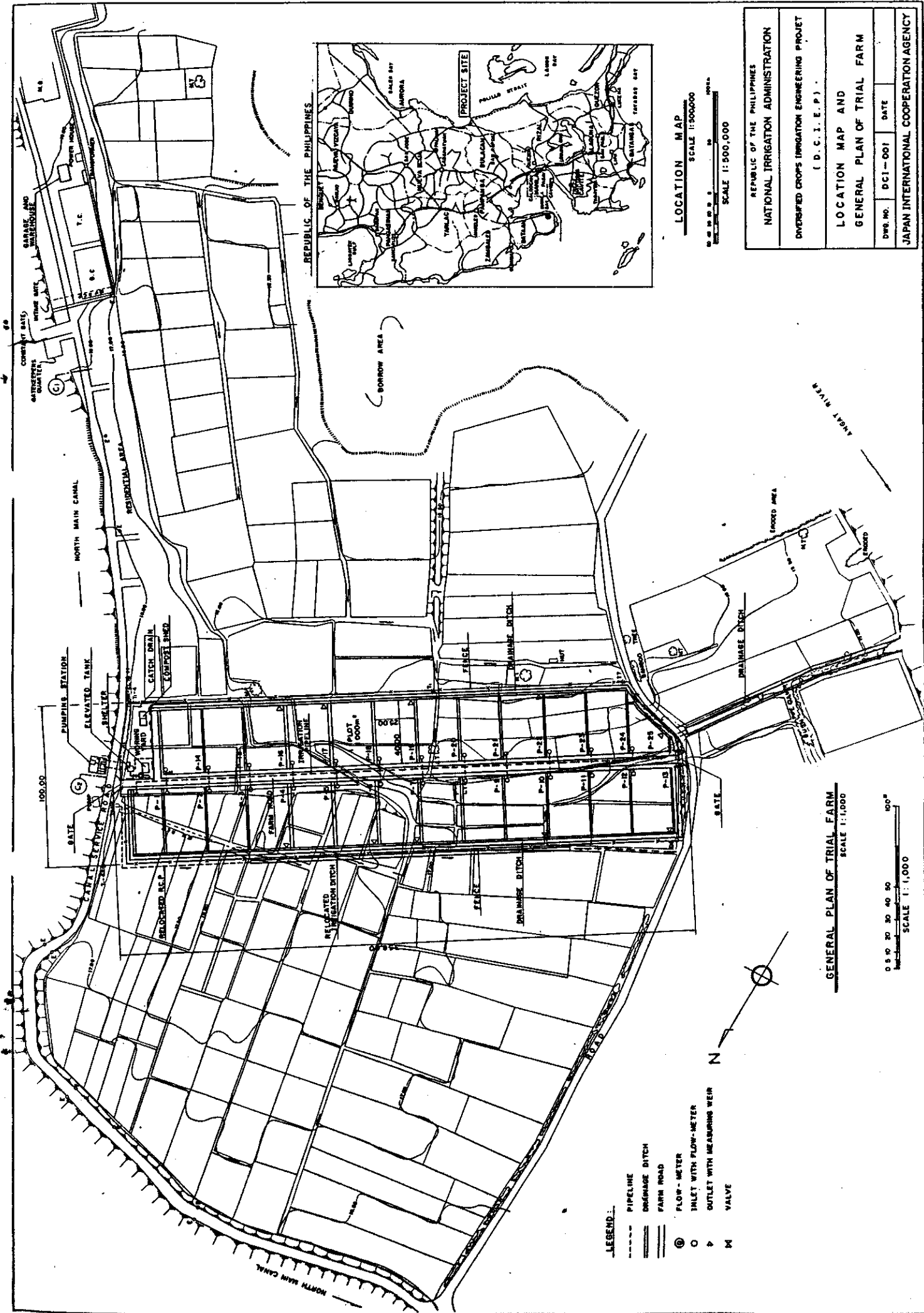


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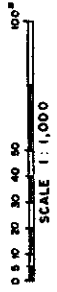


LOCATION MAP  
SCALE 1:500,000

REPUBLIC OF THE PHILIPPINES
NATIONAL IRRIGATION ADMINISTRATION
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT
( D. C. I. E. P. )
LOCATION MAP AND
GENERAL PLAN OF TRIAL FARM
DWG. NO. DCI-001
DATE
JAPAN INTERNATIONAL COOPERATION AGENCY

- LEGEND:
- PIPELINE
  - DRAINAGE DITCH
  - FARM ROAD
  - FLOW-METER
  - INLET WITH FLOW-METER
  - ▽ OUTLET WITH MEASURING WEIR
  - M VALVE

GENERAL PLAN OF TRIAL FARM  
SCALE 1:1,000



## I. 事業の経緯及び目的

フィリピン国政府は、水田裏作に畑作物の導入を積極的に行い、作物の多様化とかんがい施設の利用率向上による水利事業の経営改善を図ることを計画し、我が国に技術協力要請を行った。

昭和62年 5月、日本国政府は、フィリピン国政府からの畑地かんがい技術開発計画に対する技術協力要請を受けて、実施協議調査団を派遣し、協議の結果、昭和62年 5月28日に R/Dの署名が行われ、両国は 5ヶ年にわたる「畑地かんがい技術開発計画」を実施することとして合意した。

これに基づき、日本国政府は本プロジェクトの技術開発に係る試験圃場の整備の実施設計を行うため、昭和62年 5月下旬から 7月上旬の期間、実施設計調査団を現地に派遣し、同年 8月実施設計報告書を得た。

本報告書は、上記の経緯を踏まえたフィリピン国政府の要請と両国の合意に基づき、国際協力事業団のプロジェクト基盤整備費により実施された、フィリピン国サンラファエル地区畑地かんがい技術開発計画試験圃場整備の施工管理業務を行った総合報告書である。

## II. 事業の実施範囲と派遣期間

### 1) 実施範囲

今回実施された建設工事は、フィリピン国畑地かんがい技術開発計画モデルインフラ整備工事である。本業務は、当該工事の請負契約締結に係る協力・補助業務から、工事の完了、竣工検査、工事費の精算に至るまでの一貫した施工管理業務であった。

実施された建設工事の概要は次のとおりである。

#### 建設工事概要

- 地区全体面積            3.6 ha
- 耕地面積                2.42 ha

原契約工事

- 用水施設
 

揚水ポンプ	2 基
貯水加圧タンク	1 基 (7.8 m <sup>3</sup> )
配水パイプライン	582 ■ (φ65~φ125)
給水施設	25 ヶ所
- 排水施設
 

排水路	954 ■
落差工	4 ヶ所
暗渠工	2 ヶ所
放流工	1 ヶ所
- 農道工
 

農道工	417 ■
-----	-------
- 圃場造成工
 

圃場造成工	2.6 ha
-------	--------
- 付帯工
 

フェンス工	1 式
倉庫・車庫	1 棟
堆肥舎	1 棟
作業所	1 棟
浄化槽	1 基

追加工事

- |            |       |
|------------|-------|
| 排水路ライニング   | 735 ■ |
| 農道コンクリート舗装 | 13 ■  |
| 付替用水路      | 129 ■ |
| 車庫         | 1 棟   |

## 2. 派遣期間

現地業務期間中、2名の施工管理技師を派遣し、事業の現場説明、入札準備、請負業者の選定、工事請負契約締結に係る協力・補助業務から竣工検査、工事費最終精算等までの施工管理業務を一貫して行った。

守谷 卓 昭和62年12月 2日 ～ 昭和63年 1月30日 (60日間)

細野 俊一 昭和63年 1月11日 ～ 昭和63年 5月 9日 (120日間)

## Ⅲ. 業務内容

派遣期間中、遂行した業務内容は、下記の5項目の業務に属するものであった。なお、各業務の報告の詳細については、Ⅳ.「資料」にその内容・添付資料を示している。

### (1) 工事請負契約書締結に関する協力・補助

- イ) 工事金額積算の見直し
- ロ) 契約書、仕様書、特別仕様書、設計図面、数量調書等各(案)分の検討
- ハ) 工事請負業者の選定に係る検討
- ニ) 現場説明会に関する事項

### (2) 施工管理業務

- イ) 工事の工程・期間の管理
- ロ) 設計図面に基づく工事施工の管理及び指示
- ハ) その他工事施工に付随する監督者の協力及び助力

### (3) 工事変更に伴う設計変更等業務の処理

### (4) 検査業務に関する補助

### (5) 必要となる工事関係図書の作成

## IV. 資料

当業務の期間中にフィリピン事務所長に提出したもの、及び本報告書により提出するものは、下記のとおりである。

(1) 現地にてフィリピン事務所長に提出したもの

- イ) 契約書、仕様書（特別仕様書も含む）、  
 数量書、設計図面等現場説明会関係資料 ..... 提出済
- ロ) 工事実施状況報告書（週報） ..... 提出済
- ハ) 工事打ち合わせ簿 ..... 提出済
- ニ) 出来高確認調書 ..... 提出済  
 （埋設物等出来高確認不可能な物件の写真を含む）

(2) 本報告書により提出するもの

- イ) 工事請負契約に関すること
- ロ) 工事設計に関すること
- ハ) 施工管理に関すること
- ニ) その他当該工事に関する留意点等
- ホ) 完工証明書及び直接工事費精算書  
 （現地にてフィリピン事務所長に提出したもののコピー）
- ハ) 末尾添付資料

- 資料 A. 業務請負業者の選定、見積評価と契約
- 〃 B. 工事請負契約書類
- 〃 C. 追加工事見積書、見積評価及び契約書類
- 〃 D. NIA からの要請書 2 通
- 〃 E. 施工管理業務中の発行・受領文書コピー
- 〃 F. 業務週報コピー

資料

## 1) 工事請負契約に関すること

### (1) 請負業者の選定

当初、業者選定の対象として、下記の方法が考えられた。

- ① 現地業者
- ② 国家ビルド・ア・プライ (N/A)
- ③ 日本業者
- ④ 日本と現地業者との共同企業体
- ⑤ 日本業者が資本参加する現地業者

上記の方法の中から、当該工事の特質、フィリピンに於ける過去のモデルインフラ整備事業に於ける経験等を考慮し、さらに JICA フィリピン事務所と協議を行った結果、下記の理由により、⑤ 日本業者が資本参加する現地業者、を対象とすることとした。

- ① 試験圃場は、特に各圃場の区画形状、区画面積の均一性及び圃場造成における表土と砂礫層の精度の高い処理施工が要求される。しかし、現地業者は、圃場整備の経験をほとんど持っており、施工中の技術指導と責任態勢の面で日本業者の参加が望ましい。
- ② ボール農業開発計画に於て、N/A による直営工事形式が行われたが、現場における資材調達の問題、資金不足、施工機械の搬入遅れと故障、現場技術者不足による工事の質の低下、等の問題があった。
- ③ 公開入札を資格審査を前提とする、準備、新築公告、資格審査等に早く進む必要があるため、来年度中には作付けが予定された試験圃場では工期的に困難となる。

以上の方針に基づき、JICA 7(1)セン事務所と協議を行  
い、下記の3社を選定し、指名競争入札とした。

- ・ CCT CONSTRUCTION CORPORATION (東洋建設株)
- ・ CORREA ZENITAKA INC. (株鉄高組)
- ・ SUMMA KUMAGAI INC. (株熊谷組)

これらの選定した業者に対し、12月18日、JICA事務所にて  
現場説明会を開催し、事業の背景と目的、工事の内容、入札の程  
序を説明するとともに、入札図書(契約条件、一般条件、特別仕様  
書、B/Q、B/C設計図面)を配布した。

12月21日、指名業者3社の現場案内を行ひ、12月28日  
正午よりJICA事務所にて入札を行つた。

## (2) 入札結果と審査

### a) 各業者の入札金額

初回の入札では、3社とも JICA 予定価格 (上限価格) を  
上回ったため、2回目の入札を行つた。各社  
の入札価格は下記の通りであった。

	1回目	2回目
・ JICA 予定価格	-	(¥3,584,780)
・ SUMMA KUMAGAI	¥3,637,669	¥3,270,000
・ CCT CONSTRUCTION	4,023,528	3,550,000
・ CORREA ZENITAKA	4,329,285	3,610,000

### b) 審査

上記入札の結果、SUMMA KUMAGAI INC が最低価格  
となった。道ちに入札書の審査を行ひ、その結果

Bid Bond の提出, 入札金額の内訳, 組織図・予定する技術者  
経歴者の内容, 日本人技術者の経歴, 概略工程表, 搬入予定  
の施工機械リストの内容等全般にわたる妥当であると判断し,  
その旨を フォリボン事務所長宛報告した。

尚, 入札及び入札審査報告書付末尾添付資料 1. に示されている。

### (3) 工事請負契約

SUMMA KUMAGAI INC. (以下、請負業者と云う) の入札者と  
審査結果を SICA フォリボン事務所へ報告・説明し、了解を得  
たので、これに基づいて契約書類を作成した。請負業者に  
対する落札通知書を SICA フォリボン事務所長より 1月7日に  
発行し、昭和63年1月8日、SICA フォリボン事務所にて  
大島次長(所長代行)と業者代表 MR. TEODORO A. LEGASPI との  
間で契約書の調印が行われた。

- ・ 契約金額                      円 3,270,000.00
- ・ 工 期                              昭和63年1月8日 ~ 同年5月1日(115日間)

尚、契約書調印後、同日付にて着工命令書が請負業者に手交  
された。

### (4) 追加工事契約

本試験農場の施設の充実のため、また、現現用水路に対する  
補償水路の必要性のため、NIA (国農水産省) から工事請  
があり、SICA事務所へ指示に従って下記のような追加  
工事の設計を行った。その後、請負業者に対して追加工事  
の思慮依頼を行い、提出された見積書の高値を経て、SICA  
フォリボン事務所長と請負業者との間で追加工事契約が調印  
された。

### ◇ 昭和63年3月23日調印の追加工事契約

WORK(1)	車庫建設	1棟
WORK(2)	補償のための付け替排水路	129m
WORK(3)	農道取付部の外側舗装	13m
WORK(4)	農道側溝ライニング	265m
WORK(5)	排水路ライニング	735m

尚、N/Aからの要請者、追加工事に対する実施設計報告書、見積書、見積書着査報告書及び追加工事契約書等は、末尾添付資料3.及び4.に示されている。

### ④ 工事設計に関すること

工事設計の詳細は実施設計調査期間に実施工山、との報告は昭和62年8月に行なった。今回、契約図書の見直し、検討時に於ては、プロジェクトの日本人専門家による礫石の調査資料を差に検討した結果、圃場予定地における礫石の掘削深を、実施設計時に30cmとしていたものを50cmとした。それに従って、入札図書にB/Q数量、設計図面の修正作業を行った。

施工管理業務期間中は、工事設計に関することとして、実施設計報告書、第3章、圃場設計の項に述べられている点に留意して業務を遂行した。

また、今回工事期間中に新たに生じた追加工事に関しては、N/Aのレビ事務所の要請に差がえ設計を行った。

### ⑤ 施工管理に関すること

今回の施工は、請負契約であったが、実際の施工に関しては全体工事の運営、工事技術の詳細、特に圃場造成工事における運土計画、巻盤及び表土均平、礫石の掘削等に於ては、常に

我々の細目指導言、指示、指導が必要であった。

## (1) 工程管理

請負業者から提出された詳細工程計画に基づいて、人員と資機材、施工機械の配置計画、工事材料の手配等について詳細な指導、指示を行った。特に仮設等の準備工事、及び工事採取、の遅滞は全体工程に大きく影響を及ぼすので強く指示を行った。

一般に、フィリピンにおける土木工事では契約工期に対する意識が低く、工期内に完工されない事業が多い。従って、特に毎週1回定例会議を開催し、工事進捗のレビュー、工事採取等の指示、取言を与えるなど工程管理の面に於て細心の注意を払った。施工期間の後半は、追加工事も含めた改訂工程表を使い、24に1~2週間程度の短期の詳細日程表を作成して工程管理を行った。

請負契約及び追加工事契約における契約工期は、昭和63年1月8日から同年5月1日までの115日間であり、実際工事はサトの後半にグナも含めて、最終期日である昭和63年5月1日に完了した。

## (2) 品質管理

一般の建設工事において、品質、コストの良否は、工事進行速度、労働者（オペレーター及び職人）の熟練度、建設材料の質、請負業者の熱意といった条件に左右される。

当工事においては、下記の3つの要因による品質低下が見られた。

- ・ 工期が限定されているため、工事を急ぐことによる品質低下。
- ・ 労働者の未熟な技能及び工事の不慣れによる品質低下。
- ・ 請負業者のマネジメントの不足、労働者、機械オペレーター等の指示の欠如による品質低下。

上記のよう品質低下を極力排除するため、工事期間中はほとんどの現場にはりつて、施工現場及び合同ミーティング等において、サリエネジヤ、サリエンジヤ、測量技術者、ファイマン等への技術的指導を常に行いおこなうを得た。特に本工事は、試験圃場の建設工事であり、何故するにせよ、いかにいかにといった技術的根拠を根拠よく説明し、指導し、よくすることが大切だと思われた。

また、請負業者にとって最も不満だと思われた圃場造成工事に関しては、運土計画書作成、表土ハギ工、差盤切盤工、表土戻し工、表土均平作業等、各工程毎に詳細な段取りを打ち合せを行い、品質の確保に努めた。

### (3) 竣工検査、完工証明と直接工事費の精算

各工程の品質、寸法、公差等々の検査については、工事進行過程において、我々施工管理担当者から常に指導・確認して来た。

最終的な竣工検査は、昭和63年5月2日、JICA 7川ビーン事務所から丹羽検査職員を現地に迎え、請負業者から香山プロジェクトマネージャー、さらにDCIEPチームの森川監督職員並に会いの下で行われ、5月5日、完工証明書がJICA事務所から請負業者に対して発行された。直接工事費最終精算明細書は5月3日、細野施工管理担当者からJICA事務所長宛提出された。

各契約工事の完工証明書と直接工事費精算書は (4) 完工証明書及び直接工事費精算書 の項に添付されている。

二) 当該工事に関する留意点

(1) 計画とでの留意点

- ・ 今後、類似プロジェクトにおいて、圃場整備の一貫として既存の農地を利用する場合は、用地の賃借権、用地取得について事前にはっきりと解決しておくこと。用地については農場地だけでなく、流入処理工としてのF流側排水路等についても事前に確保しておく必要がある。さらに、用地内での作付中の作物に対する補償等についても事前に農民に対して連絡するなど注意が必要である。今回工事の場合、N/A側からの了解があったにもかかわらず、用地時立木の切り倒し、F流の排水路No.3の用地、工事開始時における用地内での栽培中の作物の処理、などの問題が発生した。

- ・ 施設位置については、計画時に於て、相手側責任者と確認を行い、文書にて了解を取りつける事。今回は、倉庫車庫の子定地が、基礎掘削開始後、N/Aの要請によって、他の位置に変更となった。

- ・ 用材施設に於ける、ポンプ、流量計、バルブ類、パイプライン材料(今回はPVCφ125)等の機材については、現地での入手可能性、調達难易度について正確に調査する事。請負業者の調達、1か所日本あるいは外国調達と有る場合は、その国の調達に要する期間を考慮して、全体工期に無理が生じないように慎重に検討する必要がある。

(2) 契約とでの留意点

- ・ 工事を急ぐために乱雑な工事による品質低下を避けるため、その国の建設業者の事情・能力に合わせた工事期間を設定する事。

### (3) 施工管理上の留意点

・ 技術協力による発展途上国での施工管理は、日本では先進国の請負業者による建設工事の監理業務と異なり、工程の出来上がった品質の検査業務より、むしろ、下記の諸点を常に考慮して、建設工事の各作業を一緒にやりながら、工程の遅れや品質の不良による手戻り工事を出させないよう指導・管理を行っていくことが、良質で工期を守る施工を行う方法であると思う。

- 必要資機材、施工機材の搬入時期、台数、数量、品質管理の指導。
- 工事単位出力の算定、工程の組み立て方、労働力、施工機材の配置計画の指導。
- 丁張、型枠取り付け、コンクリート練り、乾燥、溝畔等工事の指導。

また、これには、請負業者の能力、すなわち各工程に対する熟練度、工期・品質に対する認識度、サットエンジニアの技術能力及びサットマネージャの管理・運営能力を早期に把握し、上記の事項に対して適切に対応していく事が大切である。

・ 施工工程立業時に、周囲の農作業に伴う用・排水の時期と、それによって防げられる工事の施工時期のタイミング等は十分に余裕をもつて計画すること。

### (4) 完成施設の維持管理上の留意点

・ 揚水機場、用水施設、排水路等の水利施設は、常に長期的維持管理が必要である。フィリピンに於ては、それらの施設が完全に壊れて機能を果たさなくなるまで放置される傾向にあると思われるので、本工事による完成施設に対しては、以下の諸点の点検・維持管理が適切に行われるよう強く要望したい。

- 水路の維持管理：排水路は全てコンクリートライニング（側壁のみ）と厚みがあり、水路底に生える雑草の除去、流入堆積土砂の定期的な除去・復旧。

- 畦畔の維持管理：本圃場は傾斜地に造成されたため、隣接する圃場の高低差が最大約1.0mの段丘圃場となっている。従って、特に雨期の水田として利用する場合、代かき初期における畦畔の維持管理が必要である。
- 各小構造物：農作業に使用される各種農業機械が、給水栓ボックス、圃場排水工、流量測定槽、水路堤、地下川測定孔、圃場進入工のバルブ等に対し破損等の被害を及ぼすことが予想される。これは、機械オペレーターの未熟及び不注意によるものであり、彼らへの指導・教育が必要と思われる。また、破損した場合は速やかに対応修理が行われるべきである。


(尔) 完工证明書及直接工事費精算書

フィリピン  
畑地かんがい技術実証計画  
モデルインフラ整備事業

完工証明書及び  
直接工事費精算書

(A) SUMMA KUMAGAI INC 社との請負工事契約

(B) 同 社 との追加工事契約

昭和63年5月6日  
施工管理担当員  
畑野俊一 

## 完工証明及び直接工事費精算

当事業は下記ノ工事項目ハラリ、各工事費ノ精算金額ニシテ完工証明書ハ、彼ニ添付された表ニシテコピーノトナリである。

(A) 工事： Summa Kumagai 社との請負工事契約  
 契約日：昭和63年1月8日  
 完了日：昭和63年5月1日

(B) 工事： 同社との追加工事契約  
 契約日：昭和63年3月23日  
 完了日：昭和63年5月1日

当事業の直接工事費は総計 ¥3,977,036 とつたが、両工事の当初契約金額合計 ¥3,976,078 との差は ¥958 と僅少であるので、同社の同意を得て、最終精算金額は当初契約金額の通り ¥3,976,078 とつた。

(A) 工事は当初の請負契約工事であり、(B) 工事は国家はんがい庁 (NIA) の要請に差つて実施した追加契約工事である。工事内容、精算明細書、要請書コピーは彼員に示している。

## 添付資料

- (I) 工事契約金額と最終精算金額
- (II) 工事完了証明書及び完了届・収金簿書
- (III) 各工事の最終精算明細書
  - 1) Summa Kumagai 社との請負工事契約の精算
  - 2) 同社との追加工事契約の精算

フィリピン国  
 畑地かんがい技術開発  
 エアラインラ整備事業

昭和 23年 5月 6日  
 施工管理担当員  
 細野俊一

(I) 工事契約金額と最終精算金額

工事項目	当初契約金額 (円)	最終精算金額 (円)	備考
(A) Summa Kumagai社との工事請負契約			
1. 準備工事	136,200	136,200	
2. 用水施設工事	1,613,335	1,613,335	
3. 排水施設工事	372,061	366,458	
4. 農道工事	208,740	202,630	
5. 示場造成工事	391,630	391,630	
6. 付帯施設工事	548,034	539,784	
計	3,270,000	3,250,037	
(B) 同社との追加工事契約			
WORK (1), (2), (3), (4) 及び (6) (排水路側溝及び付帯) (用水路等工事)	706,078	726,999	
計	706,078	726,999	
合計	3,976,078	3,977,036 (3,976,078)	改訂.



JAPAN INTERNATIONAL COOPERATION AGENCY

TEL. 88-30-66

L.C. Building, 375 Sen. Gil J. Puyat Avenue Extension  
Makati, Metro Manila, Philippines  
P.O. Box 1229, MCPO  
Makati, Metro Manila

~~Tels. 88-54-67~~  
~~85-82-91~~  
~~89-90-11~~

Ref. No.  
Date : 5 May 1988

Mr. Teodoro A. Legaspi  
Summa Kumagai, Inc.  
Ground Floor, Electra House Bldg.  
115 Esteban St., Legaspi Village  
Makati, Metro Manila

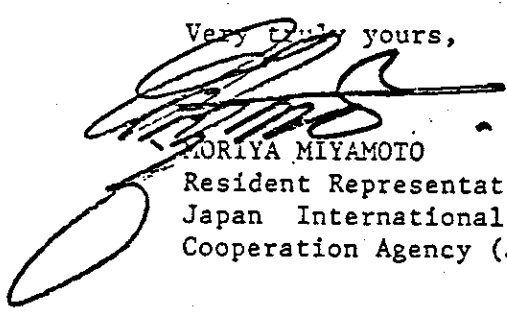
SUBJECT : CERTIFICATE: Completion of the Works  
on the Construction of Trial Farm for DCIEP

S i r ;

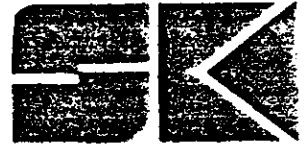
The certification is hereby granted for the entire completion of the works covered and stipulated in the contract and the Supplementary Agreement on the construction of Trial Farm for Diversified Crops Irrigation Engineering Project (DCIEP) at San Rafael, Bulacan.

However, in case that any inconvenient matter or defective works are found in the future, and which are deemed to be caused by your fault, either due to defective workmanship or inadequate equipment or any other cause, it shall be made good as necessary by you to the satisfaction of the JICA at your own expenses.

Very truly yours,

  
MORIYA MIYAMOTO  
Resident Representative  
Japan International  
Cooperation Agency (JICA)

# SUNNKA KUNAGAI, INC.



(正) - 2, 总了后·检查报告

L-88-789

1 May 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (DCIEP)

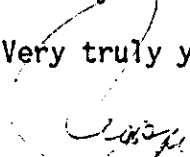
Dear Sir :

Please be informed that the construction of the above subject project is already completed as of May 1, 1988 in accordance with contract documents. In this regard, we would like to request your office to conduct the necessary final inspections so that final payment will be also facilitated.

Your prompt attention to our request will be highly appreciated.

Thank you,

Very truly yours,

  
TEODORO A. LEGASPI  
President

(四) 各工項之最終精算明細表

20

Ref. No. DCIEP -cs- 038

Date : May 3, 1988

MR. MORIYA MIYAMOTO  
Resident Representative  
Japan International Cooperation Agency (JICA)  
2nd Floor, L.C. Building  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

SUBJECT : CERTIFICATE FOR THE FINAL PAYMENT ON  
THE CONSTRUCTION OF TRIAL FARM FOR DCIEP

Dear Sir ,

According to clause GC-40 of the Contract and Article 3 of the Supplementary Agreement for the construction of Trial Farm for Diversified Crops Irrigation Engineering Project (DCIEP), we hereby certify that the sum of Two Million Three Hundred Seventy Three Thousand Seven Hundred Eighty Five and 80/100 Pesos (₱ 2,373,785.80) are to be paid to the Contractor, Summa Kumagai Inc., as the Final Payment of the works as follows :

I. Contract Amount

Original Contract	₱	3,270,000.00
Supplementary Agreement		<u>706,078.00</u>
Total . . .	₱	<u>3,976,078.00</u>

II. Actual Accomplished Amount

Original Contract	₱	3,250,037.00
Supplementary Agreement		<u>726,999.00</u>
Total . . .	₱	<u>3,977,036.00</u>

It has been agreed by the Contractor that the excess of Nine Hundred Fifty Eight Pesos (₱ 958.00) in the actual accomplished amount against the contract amount is negligible and therefore the contract amount shall be duly acknowledge as full payment.

III. Payment already paid by JICA to SKI

1) Advance payment for Original Contract (Jan. 22, 1988)

₱ 490,500.00

2. Interim Payment for Original Contract (March 23, 1988)  
 ₱ 1,005,880.50
3. Advance payment for Supplementary Agreement (March 24, 1988)  
 ₱ 105,911.70

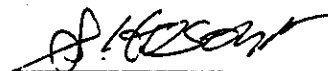
TOTAL . . . . ₱ 1,602,292.20

IV. Final payment to be made by JICA to SKI

- 1) Duly acknowledge as  
 actual accomplished amount . . . . ₱ 3,976,078.00
- 2) Total amount already paid . . . . 1,602,292.20  
 Amount to be paid for final  
 settlement . . . . ₱ 2,373,785.80

Thanking for your kind attention on this matter, we remain.

Yours faithfully,



SHUNICHI HOSONO

Supervisor,  
 Construction of Trial Farm  
 For DCIEP  
 JICA

C.C. Mr. Teodoro A. Legaspi  
 President,  
 Summa Kumagai Inc.

Attachment : Final Settlement of Bill of Quantities

PROJECT : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (DCIEP)

LOCATION : SAN RAFAEL, BULACAN

FUNDING AGENCY : JAPAN INTERNATIONAL COOPERATION AGENCY

CONTRACTOR : SUMMA KUMAGAI, INC.

SUBJECT : SUMMARY OF FINAL ACCOMPLISHMENT REPORT

COMPLETION DATE : MAY 01, 1988

(Ⅳ)-1. Summa Kumagai 社の  
請負工事契約の概算明細書

ITEM	DESCRIPTION	CONTRACT AMOUNT	ACCOM. AMOUNT	REMARKS
Div. 1	General	¥ 136,200.00	136,200	
Div. 2	Irrigation Facilities	1,613,335.00	1,613,335	
Div. 3	Drainage Facilities	372,061.00	366,458	(-) 5,603
Div. 4	Farm Road	208,740.00	202,630	(-) 6,110
Div. 5	Land Consolidation	391,630.00	391,630	
Div. 6	Other Facilities	548,034.00	539,784	(-) 8,250
TOTAL		¥ 3,270,000.00	3,250,037	(-) 19,963

PROJECT : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (DCIEP)

LOCATION : SAN RAFAEL, BULACAN

FUNDING AGENCY: JAPAN INTERNATIONAL COOPERATION AGENCY

CONTRACTOR : SUMMA KUMAGAI, INC.

SUBJECT : FINAL ACCOMPLISHMENT REPORT

COMPLETION DATE : MAY 01, 1988

ITEM NO.	DESCRIPTION	QTY.	ORIGINAL CONTRACT U. PRICE	AMOUNT	ACCOMPLISHMENT		REMARKS
					QTY.	AMOUNT	
Division 1 - General							
1001	Survey Works	1 LS		7,200.00	LS	7.200	
1002	Common Temporary Works	1 LS		129,000.00	LS	129,000	
TOTAL FOR DIVISION 1				<u>136,200.00</u>		<u>136,200</u>	
Division 2 - Irrigation Facilities							
<u>Section 2.1 Temporary Works</u>							
2101	Temporary Works	1 LS		32,273.00	LS	32,273	
SUB-TOTAL				32,273.00		32,273	
<u>Section 2.2 Civil Works for Pumping Station &amp; Elevated Tank</u>							
2201	Excavation	42 M <sup>3</sup>	22	924.00	42	924	

ITEM NO.	DESCRIPTION	ORIGINAL CONTRACT		ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE	AMOUNT	QTY.	
2202	Fill and Backfill	21 M <sup>3</sup>	31	651.00	21	651
2203	Reinf. Concrete Class - A	26 M <sup>3</sup>	1780	46,280.00	16	46,280
2204	Plain Conc. Class - B	30 M <sup>3</sup>	1,700	51,000.00	30	51,000
2205	Levelling Conc. Class - C	0.2 M <sup>3</sup>	1620	324.00	0.2	324
2206	Formwork	255 M <sup>2</sup>	110	28,050.00	255	28,050
2207	Reinforcing Bar	878 Kg	13	11,414.00	878	11,414
2208	Grouted Rip-Rap	18 M <sup>3</sup>	615	11,070.00	18	11,070
2209	Rip-Rap	22 M <sup>3</sup>	340	7,480.00	22	7,480
2210	Wooden Manhole Cover	3 No.	350	1,050.00	3	1,050
SUB-TOTAL				158,243.00		158,243

Section 2.3 Supply & Installation of Pump & Pipes around Elevated Tank

2301	Single suction volume pump (Ø80 MM 0.56 M <sup>3</sup> /Min.) incl. suction pipe, foot valve, sluice valve & outlet pipe around pump	2 set	47,200	94,400.00	2	94,400
2302	Galvanized steel pipe(Ø150 MM)	13 M	926	12,038.00	13	12,038
2303	Galvanized steel pipe(Ø125 MM)	52 M	719	37,388.00	52	37,388
2304	Galvanized steel pipe(Ø 50 MM)	19 M	198	3,762.00	19	3,762
2305	Galvanized steel pipe(Ø 25 MM)	5 M	126	630.00	5	630
2306	PVC Pipe (Ø 150 MM)	22 M	540	11,880.00	22	11,880
2307	PVC Pipe (Ø 125 MM)	4 M	170	680.00	4	680

ITEM NO.	DESCRIPTION	QTY.	ORIGINAL CONTRACT		ACCOMPLISHMENT QTY.	AMOUNT	REMARKS
			U. PRICE	AMOUNT			
2308	Cast Iron Sluice Valve (Ø 125 MM)	1 No.	2247	2,247.00	/	2,247	
2309	Cast Iron Sluice Valve (Ø 50 MM)	1 No.	800	800.00	/	800	
2310	Bronze Valve (Ø 25 MM)	1 No.	430	430.00	/	430	
2311	Strainer (Ø 125 MM)	1 No.	4,500	4,500.00	/	4,500	
2312	Flow meter with measuring function of both moment and accumulated discharge (Ø 125 MM, one flange)	1 No.	53,000	53,000.00	/	53,000	
2313	Coupling (Ø 125 MM)	2 No.	400	800.00	2	800	
				222,555.00		222,555	
2401	<u>Section 2.4 Pump House</u> Pump House	13 M <sup>2</sup>	1840	23,920.00	13	23,920	
2501	<u>Section 2.5 Supply &amp; Installation</u> PVC Pipe (Ø 125 MM)	366 M	404	147,864.00	366	147,864	
2502	PVC Pipe (Ø 65 MM)	216 M	130	28,080.00	216	28,080	
2503	Flow meter with measuring function of accumulated discharge (Ø 65 MM one flange)	25 No.	31,400	785,000.00	25	785,000	
2504	Hydrant (Ø 65 MM)	25 No.	3,600	90,000.00	25	90,000	
2505	Cast Iron Sluice Valve (Ø 125 MM)	2 No.	1890	3,780.00	2	3,780	
2506	Coupling (Ø 65 MM)	25 No.	306	7,650.00	25	7,650	
2507	Flow meter & Hydrant Box	25 No.	2250	56,250.00	25	56,250	
2508	Valve Box (Ø 125 MM)	1 No.	900	900.00	/	900	
2509	Blow of valve box	1 No.	360	360.00	/	360	
				1,119,884.00		1,119,884	


ITEM NO.	DESCRIPTION	ORIGINAL CONTRACT		ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE	AMOUNT	QTY.	
<u>Section 2.6 Miscellaneous Works</u>						
2601	Hand Rail	12 M	580	6,960.00	12	6,960
2602	Ladder (H=3.35 M)	2 No.	2700	5,400.00	2	5,400
2603	Ladder (H=4.32 M)	1 No.	3600	3,600.00	1	3,600
2604	Screen	3 No.	13,500	40,500.00	3	40,500
SUB-TOTAL				56,460.00		56,460
TOTAL FOR DIVISION 2				1,613,335.00		<u>1,613,335</u>
Division 3 - Drainage Facilities						
<u>Section 3.1 Civil Works</u>						
3101	Earthworks Drainage Ditch (No. 1)	350 M	80	28,000.00	335	26,800 Shortened
3102	Earthworks Drainage Ditch (No. 2)	457 M	92	42,044.00	441	40,572 -do-
3103	Earthworks Drainage Ditch (No. 3)	147 M	99	14,553.00	158	15,642 Extended
SUB-TOTAL				84,597.00		83,014
<u>Section 3.2 Structure</u>						
3201	Drops (A) Type	3 No.	7450	22,350.00	3	22,350
3202	Drops (B) Type	1 No.	8270	8,270.00	1	8,270
3203	Culvert (A) Type	1 No.	13,850	13,850.00	1	13,850
3204	Culvert (B) Type	1 No.	30,500	30,500.00	1	30,500
3205	Waste Way	1 No.	18,900	18,900.00	1	18,900

ITEM NO.	DESCRIPTION	ORIGINAL CONTRACT		ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE	AMOUNT	QTY.	
3206	Measuring Weir (Triangular Weir)	10 No.	3600	36,000.00	10	36,000
3207	Outlet	25 No.	2300	57,500.00	25	57,500
3208	Brick Drainage	113 M	108	12,204.00	103	11,124 Shortened
3209	Brick Drainage with Cover	14 M	280	3,920.00	14	3,920
3210	Drainage Lining	153 M	490	74,970.00	147	72,030 Shortened
3211	Investigation hole of under ground water	50 No.	180	9,000.00	50	9,000
SUB-TOTAL				287,464.00		283,444
TOTAL FOR DIVISION 3				<u>372,061.00</u>		<u>366,458</u>
Division 4 - Farm Road						
4101	Farm Road	417 M	395	164,715.00	403	159,185 Shortened
4102	Gravel Paving	1,425 M <sup>2</sup>	29	41,325.00	1,405	40,745 - do -
4103	Farm Entrance Type A	2 No.	540	1,080.00	2	1,080
4104	Farm Entrance Type B	12 No.	135	1,620.00	12	1,620
TOTAL FOR DIVISION 4				<u>208,740.00</u>		<u>202,630</u>
Division 5 - Land Consolidation						
5101	Cut and Embankment	4,885 M <sup>3</sup>	25	122,125.00	4,885	122,125
5102	Top-soil stripping	5,178 M <sup>3</sup>	15	77,670.00	5,178	77,670
5103	Top-soil removing	5,178 M <sup>3</sup>	15	77,670.00	5,178	77,670
5104	Land Levelling (Foundation)	25,893 M <sup>2</sup>	1	25,893.00	25,893	25,893

ITEM NO.	DESCRIPTION	ORIGINAL PRICE		CONTRACT AMOUNT	ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE		QTY.	AMOUNT	
5105	Land Levelling (1st stage)	25,893M <sup>2</sup>	1	25,893.00	25,893	25,893	
5106	Land Levelling (2nd Stage)	25,893M <sup>2</sup>	1	25,893.00	25,893	25,893	
5107	Plot Border	2,394 M	14	33,516.00	1,394	33,516	
5108	Slope grading	165 M <sup>2</sup>	18	2,970.00	165	2,970	
TOTAL FOR DIVISION 5				391,630.00		391,630	
Division 6 - Other Facilities							
Section 6.1 Relocation of Existing Pipe Line							
6101	Removal of existing pipeline	94 M	36	3,384.00	94	3,384	
6102	Pipeline	127 M	375	47,625.00	105	39,375	shortened
6103	Irrigation Ditch	210 M	47	9,870.00	210	9,870	
TOTAL FOR SECTION 6.1				60,879.00		52,629	
Section 6.2 - Fence Works							
6201	Fence	915 M	157	143,655.00	915	143,655	
6202	Gate	2 No.	37,500	75,000.00	2	75,000	
TOTAL FOR SECTION 6.2				218,655.00		218,655	
Section 6.3 Building							
6201	Garage and Warehouse	60 M <sup>2</sup>	2430	145,800.00	60	145,800	
6202	Compost Shed	28 M <sup>2</sup>	2100	58,800.00	28	58,800	
6203	Shelter	24 M <sup>2</sup>	2100	50,400.00	24	50,400	

ITEM NO.	DESCRIPTION	ORIGINAL CONTRACT		ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE	AMOUNT	QTY.	
6204	Septic Tank	1 No.	13,500	13,500.00	/	13,500
TOTAL FOR SECTION 6.3				268,500.00		268,500
TOTAL FOR DIVISION 6				548,034.00		539,784
TOTAL				₱3,270,000.00		3,250,037


Submitted by:

  
RYOHEI KOVAMA  
 Project Manager  
 Summa Kumagai, Inc.

Recommended by:

  
SHUNICHI HOSONO  
 JICA Supervisor

APPROVED BY:

  
NORIAKI NIWA  
 Asst. Resident Representative  
 Philippine Office  
 Japan International Cooperation Agency  
 ( J I C A )

(四) 2. 同社との共同工事契約の  
精算明細書

PROJECT : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (DCIEP)  
 LOCATION : SAN RAFAEL, BULACAN  
 FUNDING AGENCY : JAPAN INTERNATIONAL COOPERATION AGENCY  
 CONTRACTOR : SUMMA KUMAGAI, INC.  
 SUBJECT : SUMMARY OF FINAL ACCOMPLISHMENT REPORT  
 COMPLETION DATE : MAY 01, 1988

(EXTRA WORK)

ITEM	DESCRIPTION	CONTRACT AMOUNT	ACCOM. AMOUNT	REMARKS
Work (1)	Construction of Garage	P 208,450.00	208,450	
Work (2)	Relocated Farm Ditch	66,093.00	90,373	(+) 24,280
Work (3)	Farm Road Concrete Pavement	22,100.00	22,100	
Work (4)	Side Ditch Lining	36,305.00	32,880	(-) 3,425
Work (5)	Drainage Ditch Lining	373,130.00	373,196	(+) 66
TOTAL		P 706,078.00	726,999	(+) 20,921

PROJECT : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (DCIEP)

LOCATION : SAN RAFAEL, BULACAN

FUNDING AGENCY : JAPAN INTERNATIONAL COOPERATION AGENCY

CONTRACTOR : SUMMA KUMAGAI, INC.

SUBJECT : FINAL ACCOMPLISHMENT REPORT

COMPLETION DATE : MAY 01, 1988

ITEM NO.	DESCRIPTION	ORIGINAL CONTRACT		ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE	AMOUNT	QTY.	
<u>Work (1) Construction of Garage</u>						
7101	Building	42 M <sup>2</sup>	2430	102,060.00	42	102,060
7102	Front Concrete Pavement	170 M <sup>2</sup>	477	81,090.00	170	81,090
7103	Water Supply/Drainage Pipeline	110 M	230	25,300.00	110	25,300
TOTAL				208,450.00		208,450
<u>Work (2) Relocated Farm Ditch</u>						
7201	Earth Canal	40 M	50	2,000.00	0	0 Substituted
7202	Lining Canal	70 M	657	45,990.00	110	72,270 Extended
7203	Culvert	10 M	585	5,850.00	10	5,850
7204	Flume	9 M	1267	11,403.00	9	11,403
7205	Removal of existing Culvert	10 M	85	850.00	10	850
TOTAL				66,093.00		90,373

ITEM NO.	DESCRIPTION	ORIGINAL CONTRACT		ACCOMPLISHMENT		REMARKS
		QTY.	U. PRICE	QTY.	AMOUNT	
<u>Work (3) Farm Road Conc. Pavement</u>						
7301	Concrete Pavement	13 M	1,700	13	22,100	
	TOTAL				<u>22,100</u>	
<u>Work (4) Side Ditch Lining</u>						
7401	Side Ditch Lining	265 M	137	240	32,880	Shortened
	TOTAL				<u>32,880</u>	
<u>Work (5) Drainage Ditch Lining</u>						
7501	Ditch No. 1	320 M	433	318	137,694	Shortened
7502	Ditch No. 2	290 M	433	270	116,910	-do-
7503	Ditch No. 3	125 M	872	136	118,592	Extended
	TOTAL				<u>373,196</u>	
TOTAL FOR EXTRA WORKS					<u>706,078.00</u>	

Recommended by:

*S. Hosono*  
 SHUNICHI HOSONO  
 JICA Supervisor

APPROVED BY:

*Noriaki Niwa*  
 NORIAKI NIWA  
 Asst. Resident Representative  
 Philippine Office

Submitted by:  
*Ryohji Koyama*  
 RYOHJI KOYAMA  
 Project Manager  
 Summa Kumagai, Inc.

Japan International Cooperation Agency

( J I C A )

(一) 本項末尾添付資料

- 頁
- 資料 A. 義務請業者の選定見解評価と契約 ----- A-1 ~ A-26
  - ” B. 工事請負契約書類 ----- B-1 ~ B-101
  - ” C. 追加工事見解評価と契約書類 ----- C-1 ~ C-15
  - ” D. N/A 及びの書類等 2通 ----- D-1 ~ D-3
  - ” E. 施工管理業務中の発行受領書類 ----- E-1 ~ E-37
  - ” F. 業務通簿 2冊 ----- F-1 ~ F-27

資料 A.

業務請負業者の選定・見積り評価の契約

- 1) モデルインテグレーション整備事業の工事契約について
- 2) 河 上
- 3) 入札図書の内容通知について
- 4) 入札図書入札者審査報告書
- 5) Notice of Award

資料 A の 1)

S 62 年 12 月 14 日  
(OCIEP - CS - 002)国際協力事業団・フィリピン事務所  
所長 宮本守也 殿畑地かんがい技術開発計画 モデル  
インフラ整備事業チームリーダー 工事契約 施工管理担当  
森川正雄 守谷 卓 (印)件名：モデルインフラ整備事業の工事契約下記の理由により、日本の施工業者が資本参加する次の  
現地法人 3 社による指名競争入札を前提として、入札  
図書作成作業を進めたく、お伺い致します。

- (1) CCC Construction Corporation
- (2) Correa Zenitaka, Inc.
- (3) Summa Kumagai, Inc. (ABC 順)

- 1) 試験現場はその性格上、現場の区画形状、区画  
面積の均一性及び表土と礫層の処理の点で  
正確な施工が必要であり日本での現場整備以上の  
精度が要求される。
- 2) 現地コントラクターは現場整備の経験をほとんど  
持っていない。

- 3) ボホール農業開発計画でN/Aの直営工事が行われたが
- a. N/A内部で資金がスムーズに流れず現場で資材調達に資金不足がしばしば生じた。
  - b. 一般的にN/A所有の施工機械はメンテナンスが悪いため故障が多くさらに必要な機種をタイムリーに搬入できなかった。
  - c. N/Aのサイト・エンジニアを現場へ就任させるに施工管理者による業務遂行の障害となった。
- 等問題があった。

4) 施工中の技術指導と責任態勢の面で日本のコントラクターの参加が望ましい。(上記より)

5) 公開入札で資格審査を前提とするとならば新開公告の期間2週間を含み準備審査に少なくとも3週間の必要であり、来年6月には作付けが予定されているが試験現場では工期的に難しい。

6) コントラクター選定の対象として

- a) 現地コントラクター
- b) N/A
- c) 日本のコントラクター
- d) 日本と現地コントラクターのJV
- e) 日本のコントラクターが資本参加する現地法人

以上の考えられるが a) 現地コントラクター及び  
b) N/A は上記 1)~4) に記述の理由で不相当と  
思われる。 c) d) の日本の施工業者の場合  
フィリピン国での土木事業入札への外国企業参加は  
国際入札の一つの前提となっているので、上記 5) の  
理由で困難である。

現地法人会社の概要は添付の表の通りでございます。

以上

現地法人名  
 代表者  
 参加  
 日本企業名  
 資本金  
 (円)  
 日本企業  
 出資比率  
 (%)  
 昨年出来高  
 (円)  
 建設分野

1. CCE Construction Corporation Mr. Fiorello Estuar	東洋建設株	4 百万	25	38 百万	土木工事一般 建築
2. Correa Zenitaka, Inc. Mr. Atsushi Yamamoto	株 銭高組	0.3 百万	25	3 百万	— " —
3. Summa Kumagai, Inc. Capt. Orland B. Salientes	株 熊谷組	34 百万	25	64 百万	— " —

資料 A の 2)

5 62 年 12 月 16 日  
(DCIEP-03-004)

国際協力事業団フィリピン事務所  
所長 宮本守也様

畑地かんがい技術開発  
モデル・インフラ整備事業  
ケ-ム・リ-ダー 工事契約・施工管理担当  
森川正雄 守谷 昇 (密)

件名：モデル・インフラ整備事業の工事契約

標記契約の一般条件の内保証及び支払い条件については、指名のコントラクターは、日本企業に資本参加する法人であり、出資比率 25% 以下の現地法人であり、他のフィリピン国籍の企業と同様の営業活動を認められている法人であることから、当国の法令 PD. No. 1594 Implementing Rules and Regulations as Amended, 1982, に従い下記が適当であると判断いたします。

- ・ 入札保証 — 入札金額の 2.5%
- ・ 履行保証 — 契約金額の 5.0%
- ・ 前払い金 — 契約金額の 15.0% 以下
- ・ 保留金 — 工事出来高の 10.0%

支払い日は下記の通りです。

- ・ 前払い金： 契約及び履行保証提出後コントラクター

の支払い請求の日より15日以内に  
支払いものとする。

- 中間支払い: S 63年3月15日現在の出来高の75%。  
(前払い金15% 保留金10%の差引きのため)。  
エンジニアによる出来高確認後、20日  
以内に支払い。
- 最終支払い: S 63年3月15日以後、完工迄の出来高の  
85% (前払い金15% 差引き) 及び保留金  
を、完工証明発行後、20日以内に支払い。

註1) 上記フィリピン国法令 PD No. 1594 は、コントラクターが  
前払い金を請求する条件として同額の銀行信用状  
(L/C) の提出を義務付けております。しかし、L/C  
発行のために銀行は、一部の大手を除くコントラクター  
へ、L/C 金額に近いデポジットを条件とするために、  
ほとんどのコントラクターが前払い金請求を行えない  
のが現状です。前払い金の効果と必要性、また  
指名コントラクターが現地法人とほいえ、日本企業の  
資本参加を有する法人であり、本工事では日本企業の  
技術指導・責任態勢を期待するので、L/C にかわり  
同額の銀行保証書 (B/G) を、コントラクターから

3/3

提出させると条件で前払い金の支払いを行いたいと  
考えます。コントラクターが負担するB/G手数料は  
B/G金額の0.5%程です。

註② 下表は D/Dレポートの工程表及び見積りに基き  
S 63年1月上旬に工事がスタートした場合の各月の  
出来高を示します(単位:千円)

		Advance 495		
		Retention 330		
363	627	1,552	760	出来高
11%	19%	47%	23%	
1月	2月	3月	4月	

資料 A. 3)

S 62 年 12 月 23 日  
(DCIEP-CS-006)国際協力事業団 フィリピン事務所  
所長 宮本守也 殿畑地かんがい技術開発  
モラル・インフラ整備事業チームリーダー 工事契約・施工管理担当  
森川正雄 守谷 隼 (印)件名: 入札図書の補足通知について

- 1) 政府保険機関 Government Service Insurance System (GSIS) による Contractor's All Risks (CAR) 保険について

本工事の契約図書は NIA のものをベースとしていますが、NIA の場合、NIA が工事契約を行うコントラクターのすべてに上記保険を義務付けております。この保険のカバーする範囲は

A. 予知できない原因による下記の損失

- 仮設工事・本体工事を含む契約工事全体で本体の一部となる資機材を含む。
- 施工機械すべて。

B. 第三者責任保険 エントラクターの法的責任を

持つべき オ三者へ与えた損失の全額

- オ三者の傷害・病気（致命的なもの及びそうでないもの）
- 契約の工事実施に直接関連してオ三者の財産へ与えた事故による損害。

CAR 保険をコントラクターに附保させることにより NIA は 下記の原因の損害のクレームを受けけないこととしています。

- 火災、雷、爆発、飛行機・墜落、消火の水及び消火活動によるダメージ
- 洪水、浸水、雨
- あらゆる暴風雨
- 地震、地すべり、地盤沈下
- 盗難 強盗行為

保険料が契約金額の2%と大きく、また工期の乾期に終了すること、サイトの乾期に容易に上記自然災害を被ると思えないことから、CAR 保険の必要性を検討しましたが、弁入札図書に上記の場合に適用する条項がないことから、CAR 保険付保はコントラクターの判断にまかせるが、この保険がカバーする範囲をコントラクターの

責任とすること、コントラクターへ補足通知を出したいと考えます。

- 2) JICA 打合せの結果、入札をや切った後、JICA 予算上 受けられる範囲内の金額のオファーがなかった場合、BID FORMの頭紙(コピー添付)のみをその場でコントラクターへ配布して、二返。返入札金額総額のみを再入札を行い、それでも適当なオファーがなければ、今回の入札をキャンセルすることとした。その旨コントラクターへ補足通知を出したいと考えます。
- 3) 補足通知(案)は添付の通りです。

BID FORM

TO: The Resident Representative  
Japan International Cooperation Agency, Philippine Office  
c/o Embassy of Japan  
2nd Floor, L.C. Building, 375 San. Gil J. Puyat Ave., Ext.,  
Makati, Metro Manila, the Philippines

P-01 BILL OF QUANTITIES AND BID PRICES

The undersigned Bidder having carefully examined in their entirety of the Bid Documents for construction of a Trial Farm for the Diversified Crops Irrigation Engineering Project, hereby offers and proposes to perform all of the construction and services to furnish all equipment, materials, supplies, labor and other items described in the Bid Documents, all at for the unit or lump sum prices stated in words and figures in the following Bill of Quantities:

The total Bid Price proposed is \_\_\_\_\_  
\_\_\_\_\_  
Philippine Pesos ( ₱ \_\_\_\_\_ )

\_\_\_\_\_  
(Name in Print & Signature)

- Bill of Quantities to be attached herein -

---

Date

SUPPLEMENTAL NOTICE NO.1  
to the  
BID DOCUMENTS  
on  
TRIAL FARM  
for  
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT  
( D. C. I. E. P.)

A. The following articles are hereby made part of the above-captioned Bid Documents :

1. Contractor's all Risk (CAR) Insurance (Optional)

Contractor *can*, after receipt of the Notice to Proceed, obtain and maintain in effect for the duration of the Contract a Contractor's All Risk (CAR) Insurance for this Contract with the Government Service Insurance System (GSIS) to comply with the provisions of Republic Act No.656, as amended by Presidential Decree No. 245.

Such CAR Insurance for this Contract shall have the following scope of cover :

1. Insurance against any unforeseen loss or damage from any cause (other than those that may be reasonably and specifically excluded by the GSIS) for the following:
  - a) Entire contract work (Permanent and Temporary Works) including all materials and equipment already on the site to be incorporated into the works.
  - b) All construction plant and equipment.
2. Third Party Liability -Insurance against all sums which the Contractor shall become legally liable to pay as damages consequent upon.
  - a) Accidental bodily injury or illness (whether fatal or not) to third parties.
  - b) Accidental loss or damage to property belonging to third parties occurring in direct connection with the performance of the Contract.

The payment of the required premiums shall be borne by the Contractor, if this insurance is secured by him.

By virtue of this CAR Insurance, it is understood that any claim filed by Contractor against JICA due to losses and damages on all of the above mentioned coverages due to the following will not be entertained;

- a) Fire, lightning, explosion, crashing aircraft, extinguishing water or other fire-fighting measures.
- b) Flood, inundation and rain.
- c) Windstorm of any kind.
- d) Earthquakes, subsidence, landslide, and rockslide.
- e) Theft, burglary

Should the contract period be extended, as authorized, the validity of the CAR Insurance shall be correspondingly extended, if secured

Any amount not covered under this CAR Insurance by GSIS shall be shouldered by the Contractor and therefore will not be claimed against JICA.

However, if the Contractor opted not to secure the CAR Insurance, all incidents that may arise in connection with the implementation of their Contract for its duration which are supposed to be covered by such CAR Insurance, shall be the whole responsibility of the Contractor.

## 2. DELIVERY OF BIDS

Upon receiving Bid Documents from Bidders at the place and time designated in Invitation to Bid for closing of accepting, JICA will immediately study whether the proposed Bid Prices are within an acceptable extent in relation with JICA's cost estimate.

If JICA finds that all the Bid Prices are out of the acceptable extent, JICA may distribute a copy of the first page only of BID FORM to Bidders, and request them to propose a lower Bid Price and sign for the amount.

In case no Bidders propose Bid Prices acceptable to JICA after repeating the above procedure two times, JICA may cancel the Bidding itself.

- B. All Bids submitted shall also be in accordance with this Supplemental Notice. Receipt of this Notice must be acknowledged by Bidders by writing "Supplemental Notice No. 1 Received" in the Bid Form.
-



Summa Kumagai Inc.

Mr. Teodoro A. Legaspi, President

CCT Construction Corporation は公証の委任状を提出しました。他の2社からは会社の代表者が出席しました。

- 第1回の入札では、3社とも JICA 概算価格 ¥3,117,200 の 75% 増である JICA 予定価格 ¥3,584,780 を上回る価格を入札したため、Supplemental Notice No.1 の A-2 項に従い、その場で Bid Form の頭紙を3社代表へ配布し、合計金額のみの再入札を行いました。その結果 Summa Kumagai と CCT Construction の上記 JICA 予定価格以下の金額を入札しました。3社による第1回、第2回の入札価格は下記の通りです。最低入札価格は Summa Kumagai Inc. の ¥3,270,000 でした。

Summa Kumagai CCT Construction Correa Zenitaka

第1回入札	¥ 3,637,669	¥ 4,023,528	¥ 4,329,285
第2回	3,270,000	3,550,000	3,610,000

従って Summa Kumagai へ、この金額に相当する B/Q の提出を依頼して、同日 4:00 p.m. JICA 事務所にてこれを受取りました。Summa Kumagai の入札書類の審査を行った結果は下記の通りです。

- 入札指示書通り B/Q の他に 入札保証書及び組織図、技術者名簿、工程表、施工機械リスト、契約内容受け入れの誓約書を提出しました。
- Summa Kumagai は Pan-Malayan Insurance Corporation 発行の Bid Bond を提出しました。この保証金額は ¥120,000 です。入札指示書 1B-04 で保証金額を入札金額の 2.5% と規定しているの十分条件を満足しています。(入札金額 ¥3,270,000 < ¥120,000 ÷ 0.025 = ¥4,800,000)
- 組織図、技術者名簿に関し、社々も日本人技術者を全工期を通じ就任させるオファーをしておりますが Summa Kumagai はフィリピン国での工事の経験を有する土木技術者をプロポーすしております。
- 工程表については、入札図書 GC-32 によりコントラクターに着工命令の日付けから 7 日以内に詳細工程表の提出を義務づけられているので、入札段階の工程表としては Summa Kumagai の提出によるもので十分と考えます。
- Summa Kumagai は下記の施工機械をプロポーすしております。JICA D/O レポートの施工機械計画とほぼ一致しております。

機種	台数
7"ルト-サー D-85	1
9"ソフ° 6~11 ton	4
7"ルト-サー D-85	
E-9-7"V-9" 3.5 m	1
ローラー 10 ton	1
バックホー PC 100	1
クレーン 40 ton	1
発電機	2
ポンプ° 4"-8"	3
ウェルディングマシン	1

### 入札金額

添付の表 (Page 6-11) は JICA 概算価格と Summa Kumagai の入札価格の比較を示します。入札指示書 B-13 で入札価格を下記のように規定しています。

- 入札価格の下限は、JICA 概算価格または入札価格の平均金額の低い方のものより 25% 減とする。
- 入札価格の上限は JICA 概算価格の 15% 増とする。但し、入札金額の 20% 以上の金額を占める項目がある場合 (B/Q の item)、その金額は、JICA 概算価格の 25% 増以下とする。

上記 a) に関して、第 2 回目入札の平均金額は ¥ 3,476,667 であり、これは JICA 概算金額 ¥ 3,117,200 より大であるので、低い方の JICA 概算金額の 25% 減と

Summa Kumagai の入札価格 ¥3,270,000 を比較すると

$$¥3,270,000 > ¥3,117,200 \times 0.75$$

であり、Summa Kumagai の入札価格は (a) の条件を満足しています。

上記 b) に関し、Summa Kumagai の入札価格と JICA 概算価格の 15% 増を比較すると

$$¥3,270,000 < ¥3,117,200 \times 1.15 = ¥3,584,780$$

であり b) の条件を満足しています。

同じく上記 b) に関し、Summa Kumagai の入札価格の 20% は

$$¥3,270,000 \times 0.20 = ¥654,000$$

です。表に示す通り Section 2.5. Item 2503 Flow meters

(¥785,000) の項目のみが、入札価格の 20% 以上を占む

項目ですが、この金額は、この項目の JICA 概算金額

¥780,496 の 101% であり、(b) の条件を満足して

おります。

- 以上のまうに Summa Kumagai の入札価格は妥当なものと判断します。添付の表に示すまうに、入札価格が JICA 概算価格の 85% を切る項目は無く、低価格が原因となる施工あるいは資機材の品質低下はないものと判断します。

入札価格が、JICA 概算価格を上回る項目については  
施工管理担当者から Summa Kumagai と、工法・使用  
資機材等に関し 技術的すり合わせを行うことにより  
技術的かつ支払い上の管理を行えるものと考えます。

<u>JICA概算価格と最低入札価格の比較</u>			
<u>工事</u>	<u>JICA概算価格(A)</u>	<u>最低入札価格(B)</u>	<u>A/B</u> <u>A-B</u>
1. 準備工事	148,453.63	186,200.00	0.98    12,253.63
2. 用水路工事	11,553,002.09	1,613,335.00	1.04 ▲ 60,332.91
3. 排水路工事	379,255.06	372,061.00	0.98    7,194.06
4. 農道工事	186,987.86	208,740.00	1.11 ▲ 21,752.14
5. 作場造成工事	344,361.45	391,630.00	1.14 ▲ 47,268.55
6. その他施設工事	505,139.91	548,034.00	1.08 ▲ 42,894.09
<u>計</u>	<u>3,117,200.00</u>	<u>3,270,000.00</u>	<u>1.05 ▲ 152,800.00</u>

<u>Item</u>	<u>Description</u>	<u>JICA's Estimate (A)</u>	<u>Offer (B)</u>	<u>B/A</u>	<u>B-A</u>
<u>Div. 1. General</u>					
1001.	Survey Works	8,282.82	7,200	0.87	1,082.82
1002.	Common Temp. Works	140,170.81	129,000	0.92	11,170.81
	<u>Total (Div. 1)</u>	<u>148,453.63</u>	<u>136,200</u>	<u>0.92</u>	<u>12,253.63</u>
<u>Div. 2. Irrigation Facilities</u>					
<u>Section 2.1. Temp. Works</u>					
		<u>13,742.80</u>	<u>32,273</u>	<u>2.53</u>	<u>▲ 19,530.20</u>
<u>2101. Temp. Works</u>					
<u>Section 1.2. Civil Works for Pumping Station &amp; Elevated Tank</u>					
2201.	Excavation	642.24	924	1.44	▲ 281.76
2.	Fill & Backfil	722.52	651	0.90	71.52
3.	Reinforced Concrete	45,224.20	46,280	1.02	▲ 1,055.80
4.	Plain Concrete	50,805.55	51,000	1.00	▲ 194.45
5.	Leveling Concrete	337.68	324	0.96	13.68
6.	Form Works	27,620.02	28,050	1.02	▲ 429.98
7.	Reinforced Bar	9,509.95	11,414	1.20	▲ 1,904.05
8.	Grouted Riprap	11,239.15	11,070	0.98	169.15
9.	Riprap	7,008.54	7,480	1.07	▲ 471.46
10.	Wooden Manhole Cover	955.71	1,050	1.10	▲ 94.29
	<u>Sub-Total (Section 2.2.)</u>	<u>154,065.56</u>	<u>158,243</u>	<u>1.03</u>	<u>▲ 4,177.44</u>
<u>Section 2.3. Supply and Installation of Pump &amp; Pipes around Elevated Tank</u>					
2301.	Pump and Incidental	89,199.60	94,400	1.09	▲ 5,200.40
2.	Gal. Steel Pipe (φ150 mm)	10,105.04	10,038	1.19	▲ 1,932.96

Item	Description	JICA s	Bidde	B/A	A - B
		Estimate (A)	Offer (B)		
2303.	Gal. Steel Pipe (ø120 mm)	33,131.28	37,388	1.13	▲ 4,256.72
4.	Gal. Steel Pipe (ø50 mm)	3,631.70	9,762	1.04	▲ 130.30
5.	Gal. Steel Pipe (ø25 mm)	541.57	630	1.16	▲ 88.43
6.	PVC Pipe (ø150 mm)	10,793.15	11,880	1.10	▲ 1,086.85
7.	PVC Pipe (125 mm)	637.14	680	0.94	▲ 42.86
8.	Cast Iron Sluice Valve (ø125 mm)	1,911.43	2,247	1.18	▲ 335.57
9.	Cast Iron Sluice Valve (ø 50 mm)	726.34	800	1.10	▲ 73.66
10.	Bronze Valve (ø 25 mm)	407.77	430	1.05	▲ 22.23
11.	Strainer (ø125 mm)	4,905.98	4,500	0.92	▲ 405.98
12.	Flow Meter for ø 125 mm	50,971.30	53,000	1.04	▲ 2,028.80
13.	Coupling (ø125 mm)	764.57	800	1.05	▲ 35.43
	Sub-Total (Section 2.3.)	<u>207,726.77</u>	<u>222,555</u>	<u>1.07</u>	<u>▲ 14,828.33</u>
	Section 2.4. Pump House				
2401.	Pump House	<u>24,682.80</u>	<u>23,920</u>	<u>0.97</u>	<u>762.80</u>
	Section 2.5. Supply and Installation				
2501.	PVC Pipe (ø125 mm)	142,247.89	147,864	1.04	▲ 5,616.11
2.	PVC Pipe (ø65 mm)	28,900.67	28,080	0.97	820.67
3.	Flow Meters for ø65 mm	<u>780,496.55</u>	<u>785,000</u>	<u>1.01</u>	<u>▲ 4,503.45</u>
4.	Hydrant	89,199.61	90,000	1.01	▲ 800.39
5.	C. Iron Sluice Valve (ø125 mm)	3,822.84	3,780	0.99	42.84
6.	Coupling (ø65 mm)	7,964.25	7,650	0.96	314.25
7.	Flow Meter & Hydrant Box	52,245.48	56,250	1.08	▲ 4,004.52
8.	Valve Box (ø125 mm)	1,032.17	900	0.87	132.17

Item	Description	Bidder's		B/A	A - B
		Estimate (A)	Offer (B)		
2509.	Blow of Valve Box	331.31	360	1.09	28.69
<u>Sub-Total (Section 2.5.)</u>		<u>1,106,240.77</u>	<u>1,119,884</u>	<u>1.01</u>	<u>13,643.23</u>
Section 2.6. Miscellaneous Works					
2601.	Hand Rail	6,728.20	6,960	1.03	231.80
2.	Ladder (H = 3.35m)	5,759.74	5,400	0.93	359.74
3.	Ladder (H = 4.32m)	3,364.10	3,600	1.07	235.90
4.	Screen	31,691.35	40,500	1.28	8,808.65
<u>Sub-Total (Section 2.6.)</u>		<u>47,543.39</u>	<u>56,460</u>	<u>1.19</u>	<u>8,916.61</u>
<u>Total (Div. 2.)</u>		<u>1,553,002.09</u>	<u>1,613,335</u>	<u>1.04</u>	<u>60,332.91</u>
Div. 3. Drainage Facilities					
Section 3.1. Civil Works					
3101.	Drainage Ditch No. 1	24,529.89	28,000	1.14	3,470.11
2.	Drainage Ditch No. 2	40,764.22	42,044	1.03	1,279.78
3.	Drainage Ditch No. 3	14,048.94	14,553	1.04	504.06
<u>Sub-Total (Section 3.1.)</u>		<u>79,343.05</u>	<u>84,597</u>	<u>1.07</u>	<u>5,253.95</u>
Section 3.2. Structures					
3201.	Drop (A) Type	22,745.90	22,350	0.98	395.90
2.	Drop (B) Type	7,645.68	8,270	1.08	624.32
3.	Culvert (A) Type	11,876.29	13,850	1.16	1,973.71
4.	Culvert (B) Type	33,488.08	30,500	0.91	2,988.08
5.	Waste Way	18,477.06	18,900	1.02	422.94
6.	Measuring Weir	40,776.96	36,000	0.88	4,776.96

<u>Item</u>	<u>Description</u>	<u>JICA's Estimate (A)</u>	<u>Bidder's Offer</u>	<u>B/A</u>	<u>A - B</u>
3207.	Outlet	59,891.16	57,500	0.96	2,391.16
8.	Brick Drairage	12,671.44	12,204	0.98	467.44
9.	Brick Drainage with Cover	4,477.82	3,920	0.87	557.82
10.	Drainage Lining	77,985.94	74,970	0.96	3,015.94
11.	Groundwat r Holes	9,875.68	9,000	0.91	875.68
	Sub-Total (Section 3.2.)	<u>299,912.01</u>	<u>287,464</u>	<u>0.96</u>	<u>12,448.01</u>
	Total (Div. 3.)	<u>379,255.06</u>	<u>372,061</u>	<u>0.98</u>	<u>7,194.06</u>
Div. 4. Farm Road					
4101.	Farm Road	148,784.94	164,715	1.11	15,930.06
2.	Gravel Paving	36,316.98	41,325	1.14	5,008.02
3.	Farm Entrance (A)	662.63	1,080	1.62	417.37
4.	Farm Entrance ( B)	1,223.31	1,620	1.32	396.69
	Total (Div. 4)	<u>186,987.86</u>	<u>208,740</u>	<u>1.11</u>	<u>21,752.14</u>
Div. 5. Land Consolidation					
5101.	Cut & Embankment	114,537.38	122,125	1.07	7,587.62
2.	Top Soil Stripping	72,580.44	77,670	1.07	5,089.56
3.	Top Soil Moving	77,904.39	77,670	1.00	234.39
4.	Land Leveling (Foundation)	10,227.37	25,893	2.53	15,665.63
5.	Land Leveling (1st Stage)	15,176.68	25,893	1.71	10,716.32
6.	Land Leveling (2nd Stage)	21,116.10	25,893	1.23	4,776.90
7.	Plot Border	30,506.27	33,516	1.10	3,009.73

Item	Description	JICA's		Bidder's		A - B
		Estimate (A)	Offer (B)	B/A		
5108.	Slope Grading		2,970	1.28	▲	657.18
	Total (Div. 5.)	<u>344,361.45</u>	<u>391,630</u>	<u>1.14</u>	▲	<u>47,268.55</u>
Div 6. Other Facilities						
Section 6.1. Relocation of Existing Pipeline						
6101.	Removal	3,353.90	3,384	1.01	▲	30.10
2.	Pipe Laying	46,931.74	47,625	1.01	▲	693.26
3.	Irrigation Ditch	9,365.96	9,870	1.05	▲	504.04
	Sub-Total (Section 6.1.)	<u>59,651.60</u>	<u>60,879</u>	<u>1.02</u>	▲	<u>1,227.40</u>
Section 6.2. Fence Works						
6201.	Fence	139,915.96	143,655	1.03	▲	3,739.04
2.	Gate	76,456.80	75,000	0.98		1,456.80
	Sub-Total (Section 6.2.)	<u>216,372.76</u>	<u>218,655</u>	<u>1.01</u>	▲	<u>2,282.24</u>
Section 6.3. Buildings						
6301.	Garage & Warehouse	145,267.93	145,800	1.00	▲	532.07
2.	Compost Shed	42,815.81	50,800	1.37	▲	15,984.19
3.	Shelter	32,711.86	50,400	1.57	▲	18,288.14
4.	Septic Tank	8,919.95	13,500	1.51	▲	4,580.05
	Sub-Total (Section 6.3.)	<u>229,715.55</u>	<u>268,500</u>	<u>1.17</u>	▲	<u>39,384.45</u>
	Total (Div. 6.)	<u>505,139.91</u>	<u>548,034</u>	<u>1.08</u>	▲	<u>42,894.09</u>

資料 A 0 5)



JAPAN INTERNATIONAL COOPERATION AGENCY

L.C. Building, 375 Sen. Gil J. Puyat Avenue Extension  
Makati, Metro Manila, Philippines  
P.O. Box 1229, MCPO  
Makati, Metro Manila

Tels. 88-54 67  
85 82-91  
89 90-11

Ref. No. JP-88-998

07 January 1988

SUMMA KUMAGAI, INC.  
Ground Floor, Electra House  
Bldg., 115 Esteban St.,  
Legaspi Village, Makati, MM

Subject: Notice of Award

Gentlemen:

Please be informed that you have been awarded the contract for the construction of the Trial Farm for the Diversified Crops Irrigation Engineering Project in the total amount of Three Million, Two Hundred and Seventy Thousand Pesos (P3,270,000.00) only.

In this connection, you are requested to post your performance Security in Philippine Currency equivalent to not less than five percent (5%) of the total contract amount and enter into contract with JICA in accordance with the terms and conditions of the Bid Documents.

Very truly yours,

*fd*   
MORIYA MIYAMOTO  
Resident Representative

*Received Original*

*George*

*Jan 7 1988*

資料 B.

工事請負契約書類

REPUBLIC OF THE PHILIPPINES

CONTRACT  
FOR  
CONSTRUCTION OF A TRIAL FARM  
IN  
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT  
(D.C.I.E.P.)

January 1988

Between:

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
PHILIPPINE OFFICE

and

SUMMA KUMAGAI, INC.

## Contents of Contract

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CONTRACT

CONTRACT FOR CONSTRUCTION WORK OF A TRIAL FARM FOR THE DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT AT SAN RAFAEL, BULACAN PROVINCE, THE REPUBLIC OF PHILIPPINES

Summa Kumagai, Inc. (CONTRACTOR)  
By: TEODORO A. LEGASPI  
President

This Contract is executed and delivered this 8th day of January, 1988 A.D. at the Representative Office of Japan International Cooperation Agency, 2nd Floor, L.C. Building, 375 San. Gil J. Puyat Ave., Ext., Makati, Metro Manila, hereinafter referred to as the "JICA" represented herein by Mr. M. Miyamoto, Representative of said Office; and,

Summa Kumagai, Inc., Grd. Flr., Electra House Bldg., 115 Esteban St., Legaspi Village, Makati, Metro Manila

hereinafter referred to as "the Contractor", represented herein by Mr. Teodoro A. Legaspi of said firm, a national of the Philippines, and duly authorized to represent this firm in this Contract. -

JICA and the Contractor mutually agree as follows:

C-01 CONTRACT DOCUMENTS

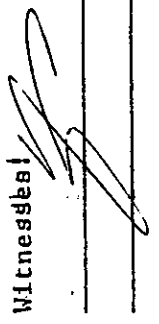
The following documents are hereby incorporated and made a part of this Contract, as though fully written out and set forth herein:

- a) Invitation to Bid
- b) Instructions to Bidders
- c) General Conditions
- d) Technical Specifications
- e) Drawings
- f) Performance Security
- g) Notice of Award
- h) Supplemental Notices

All codes, designations, standards, standard specifications and similar materials which are referred to in the General Conditions, Technical Specifications and Drawings are hereby made a part of this Contract.

All of the above documents are referred to herein as the Contract Documents.

The Bill of Quantities hereto annexed, which was submitted by the Contractor on December 28, 1987 and accepted by JICA, is an integrated part of this Contract.

Witnesses:  


Japan International Cooperation Agency, (JICA)  
By: NORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Summa Kumagai, Inc. (CONTRACTOR)

By:  TEODORO A. LEGASPI  
President

C-02

ACCEPTANCE OF BID


JICA has accepted the Bid of the Contractor for furnishing equipment, supplies, materials, tools, labor and other incidentals as well as construction for the Contract Works in conformity and in accordance with and subject to all terms and conditions of the Contract Documents. The Contractor shall furnish the Performance Security under this Contract as stipulated in the General Conditions of the Contract Documents.

C-03

AGREEMENT

The Contractor agrees to furnish equipment, supplies, materials, tools and labor and to perform the construction and the JICA agrees to pay for such, as described in the Contract Documents.

Witnesses: 


C-04

OBLIGATION OF CONTRACTOR


The Contractor agrees to perform well and faithfully and of the Contract Work and furnish all of the equipment and materials described in the Contract Documents and to supply and to provide all equipment, materials, supplies, labor and other facilities requisite for or incidental to the successful completion of the Works and the carrying out of all the duties and obligations imposed by the Contract documents within one hundred and fifteen calendar days (115 cd) after the receipt of the Notice to Proceed.

C-05

OBLIGATION OF JICA

JICA agrees, subject to the terms and conditions of the Contract Documents, to pay the Contractor the amount shown, at the rates and times and in the manner set forth in the Contract Documents.

Japan International Cooperation Agency (JICA)

By:  MORIYA MIYAMOTO  
Resident Representative, Philippine Office

C-06

MUTUAL OBLIGATIONS

JICA and the Contractor mutually agree to perform fulfill, abide by and submit to any and all of the provisions and requirements and all matters and things contained or expressed in or reasonably to be inferred from the Contract Documents.

C-07

NOTICES

All notices called for by the terms of this Contract shall be effective only at the time of receipt thereof and only when received by the parties to whom they are addressed at the following addresses:

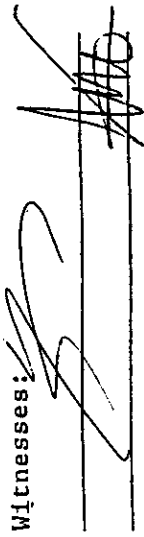
Summa Kumagai, Inc. (CONTRACTOR)

By: TEODORO A. LEGASPI  
President

JICA: The Representative  
JAPAN INTERNATIONAL COOPERATION AGENCY  
(Diversified Crops Irrigation Engineering  
Project), 2nd Floor, L.C. Building, 375  
San. Gil J. Puyat Ave., Ext., Makati, Metro  
Manila

Contractor: TEODORO A. LEGASPI, President  
Ground Floor, Electra House Bldg., 115  
Esteban St., Legaspi Vil., Makati, M.M.

Any change in address by either party shall be made known to the other who will acknowledge the change for purposes of this Paragraph. All notices called for by the terms of this Contract shall be in English language and shall be sent by messenger or registered mail, or telegram, or cable. However, telegram or cable shall be confirmed by a letter of the same day.

Witnesses: 

C-08

INTEGRATION

JICA and the Contractor agree that this Contract including the Contract Documents expresses and integrates all of the agreements, understanding, promises and covenants of the parties, and supersedes all prior and contemporaneous negotiations, understandings and agreements, whether written or oral and that no modification or alteration of this Contract shall be valid or binding on either party, unless expressed in writing and executed with the same formality as this Contract, except as may otherwise be specifically provided in this Contract.

Japan International Cooperation Agency (JICA)

By: MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

C-09

JURISDICTION

The proper law, applicable to this Contract shall be the laws in force in the Republic of the Philippines.

C-10

COUNTERPARTS

This Contract is executed seven (7) identical counterparts, five (5) copies for JICA, one (1) copy for the Contractor, and one (1) copy to be submitted to the National Irrigation Administration, the Philippines.

Summa Kumagai, Inc. (CONTRACTOR)  
By:

TEODORO A. LEGASPI  
President

B-6

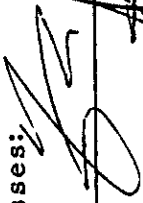
ACKNOWLEDGMENT


REPUBLIC OF THE PHILIPPINES )  
S.S.  
\_\_\_\_\_ )

Personally appeared before me this \_\_\_\_\_ day of January 1988, Mr. TEODORO A. LEGASPI, President of Summa Kumagai, Inc. with Residence Certificate No. 2009899G issued at Makati, Metro Manila on April 10, 1987 and Mr. MORIYA MIYAMOTO, Resident Representative Philippine Office of JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) with Passport No. MB 1107036 issued at Tokyo, Japan on March 11, 1986, known to me and to me known to be the same persons who executed the foregoing Contract and acknowledged to me that the same is their free and voluntary act and deed.

This Contract consist of one hundred thirty two (132) Notarial Acknowledgment, signed by the parties and their instrumental witnesses on each and every page. This refers to the construction work of a trial farm for the Diversified Crops Engineering project at San Rafael, Bulacan Province Philippines.

WITNESS MY HAND AND SEAL on the date and at the place first above written.

Witnesses:  
  
\_\_\_\_\_


Japan International Cooperation Agency, (JICA)  
By:   
MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

  
IGNACIO N. AURE JR.  
NOTARY PUBLIC

Until December 31, 1988  
IBP No. 211156 6/2/86  
PTR No. 425887 1/21/87  
PARANAQUE

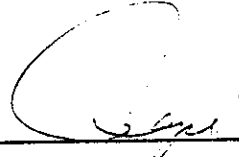
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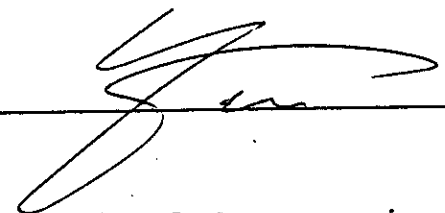
MORIYA MIYAMOTO, Resident Representative,  
Philippine Office, Japan International  
Cooperation Agency (JICA)

CONTRACTOR:

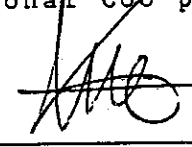
  
\_\_\_\_\_

TEODORO A. LEGASPI, President, Summa Kumagai  
Inc.

WITNESSES:

  
\_\_\_\_\_

Japan International Cooperation Agency (JICA)

  
\_\_\_\_\_

Summa Kumagai, Inc.

SUMMARY OF BILL OF QUANTITIES

		<u>Pesos</u>
Division 1.	General	P 136,200.00
Division 2.	Irrigation Facilities	1,613,335.00
Division 3.	Drainage Facilities	372,061.00
Division 4.	Farm Road	208,740.00
Division 5.	Land Consolidation	391,630.00
Division 6.	Other Facilities	548,034.00
<hr/>		
Total		P 3,270,000.00

*Ol*

*[Handwritten signature]*

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## Division 1. General

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
1001	Survey works	L.S.	1	7,200	7,200.00
1002	Common temporary works	L.S.	1	129,000	129,000.00
	<u>Total</u>			₱	<u>136,200.00</u>

## Division 2. Irrigation Facilities

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	
<u>Section 2.1. Temporary Works</u>						
2101	Temporary works	L.S.	1	₱	<u>32,273.00</u>	
<u>Section 2.2. Civil Works for Pumping Station &amp; Elevated Tank</u>						
2201	Excavation	m <sup>3</sup>	42	22	924.00	
2202	Fill & Backfill	m <sup>3</sup>	21	31	651.00	
2203	Reinforced concrete (Class - A)	m <sup>3</sup>	26	1,780	46,280.00	
2204	Plain concrete (Class - B)	m <sup>2</sup>	30	1,700	51,000.00	
2205	Leveling concrete (Class - C)	m <sup>2</sup>	0.2	1,620	324.00	
2206	Form work	m <sup>2</sup>	255	110	28,050.00	
2207	Reinforcing Bar	kg	878	13	11,414.00	
2208	Grouted Riprap	m <sup>3</sup>	18	615	11,070.00	
2209	Riprap	m <sup>3</sup>	22	340	7,480.00	
2210	Wooden manhole cover	No.	3	350	1,050.00	
Total for Section 2.2.					₱	<u>158,243.00</u>

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
<u>Section 2.3. Supply &amp; Installation of Pump &amp; Pipes around</u>					
<u>Elevated Tank</u>					
2301	Single suction volute pump ( $\phi$ 80mm, 0.56 m <sup>3</sup> /min) <sup>1/</sup> including suction pipe, foot valve, check valve, sluice valve & outlet pipe around pump	set	2	47,200	94,400.00
2302	Galvanized steel pipe ( $\phi$ 150 mm)	m	13	926	12,038.00
2303	Galvanized steel pipe ( $\phi$ 125 mm)	m	52	719	37,388.00
2304	Galvanized steel pipe ( $\phi$ 50 mm)	m	19	198	3,762.00
2305	Galvanized steel pipe ( $\phi$ 25 mm)	m	5	126	630.00
2306	PVC pipe ( $\phi$ 150 mm)	m	22	540	11,880.00
2307	PVC pipe ( $\phi$ 125 mm)	m	4	170	680.00
2308	Cast iron sluice valve ( $\phi$ 125 mm)	No.	1	2,247	2,247.00
2309	Cast iron sluice valve ( $\phi$ 50 mm)	No.	1	800	800.00
2310	Bronze valve( $\phi$ 25 mm)	No.	1	430	430.00
2311	Strainer ( $\phi$ 125 mm)	No.	1	4,500	4,500.00
2312	Flow meter with measuring function of both moment and accumulated discharge. ( $\phi$ 125 mm, one flange)	No.	1	53,000	53,000.00
2313	Coupling ( $\phi$ 125 mm)	No.	2	400	800.00
Total for Section 2.3.				P . .	<u>222,555.00</u>

<sup>1/</sup> With a diesel engine - type prime mover of 3.9 P.S.

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
<u>Section 2.4. Pump House</u>					
2401	Pump house	m <sup>2</sup>	13	1,840	23,920.00
<u>Section 2.5. Supply &amp; Installation</u>					
2501	PVC pipe (ø125 mm)	m	366	404	147,864.00
2502	PVC pipe (ø 65 mm)	m	216	130	28,080.00
2503	Flow meter with measuring function of accumulated discharge (ø 65 mm, one flange)	No.	25	31,400	785,000.00
2504	Hydrant (ø 65 mm)	No.	25	3,600	90,000.00
2505	Cast iron sluice valve (ø125 mm)	No.	2	1,890	3,780.00
2506	Coupling (ø 65 mm)	No.	25	306	7,650.00
2507	Flow meter & hydrant box	No.	25	2,250	56,250.00
2508	Valve box (ø125 mm)	No.	1	900	900.00
2509	Blow of valve box	No.	1	360	360.00
	Total for Section 2.5.				<u>₱1,119,884.00</u>
<u>Section 2.6. Miscellaneous Works</u>					
2601	Hand rail	m	12	580	6,960.00
2602	Ladder (H=3.35 m)	No.	2	2,700	5,400.00
2603	Ladder (H=4.32 m)	No.	1	3,600	3,600.00
2604	Screen	No.	3	13,500	40,500.00
	Total for Section 2.6.				<u>56,460.00</u>
	Total for Division 2.				<u>₱ 1,613,335.00</u>

Division 3. Drainage Facilities

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
<u>Section 3.1. Civil Works</u>					
3101	Earth works Drainage ditch (No.1)	m	350	80	28,000.00
3102	Earth works Drainage ditch (No.2)	m	457	92	42,044.00
3103	Earth works Drainage ditch (No.3)	m	147	99	14,553.00
Total for Section 3.1.				₱	<u>84,597.00</u>
<u>Section 3.2. Structure</u>					
3201	Drops (A) type	No.	3	7,450	22,350.00
3202	Drops (B) type	No.	1	8,270	8,270.00
3203	Culvert (A) type	No.	1	13,850	13,850.00
3204	Culvert (B) type	No.	1	30,500	30,500.00
3205	Waste way	No.	1	18,900	18,900.00
3206	Measuring weir (Triangular weir)	No.	10	3,600	36,000.00
3207	Outlet	No.	25	2,300	57,500.00
3208	Brick drainage	m	113	108	12,204.00
3209	Brick drainage with cover	m	14	280	3,920.00
3210	Drainage lining	m	153	490	74,970.00
3211	Investigation hole of under groundwater	No.	50	180	9,000.00
Total for Section 3.2.				₱	<u>287,464.00</u>
Total for Division 3.				₱	<u>372,061.00</u>

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Division 4. Farm Road

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
4101	Farm road	m	417	395	164,715.00
4102	Gravel paving	m <sup>2</sup>	1,425	29	41,325.00
4103	Farm Entrance Type A	No.	2	540	1,080.00
4104	Farm Entrance Type B	No.	12	135	1,620.00
Total for Division 4.				₱	<u>208,740.00</u>

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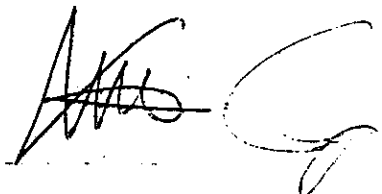
Division 5. Land Consolidation

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
5101	Cut and embankment	m <sup>3</sup>	4,885	25	122,125.00
5102	Top-soil stripping	m <sup>3</sup>	5,178	15	77,670.00
5103	Top-soil removing	m <sup>3</sup>	5,178	15	77,670.00
5104	Land leveling (Foundation)	m <sup>2</sup>	25,893	1	25,893.00
5105	Land leveling (1st stage)	m <sup>2</sup>	25,893	1	25,893.00
5106	Land leveling (2nd stage)	m <sup>2</sup>	25,893	1	25,893.00
5107	Plot border	m	2,394	14	33,516.00
5108	Slope grading	m <sup>2</sup>	165	18	2,970.00
Total for Division 5.				₱	<u>391,630.00</u>

## Division 6. Other Facilities

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>
<u>Section 6.1. Relocation of Existion Pipeline</u>					
6101	Removal of existing pipeline	m	94	36	3,384.00
6102	Pipeline	m	127	375	47,625.00
6103	Irrigation ditch	m	210	47	9,870.00
Total for Section 6.1.				₱	<u>60,879.00</u>
<u>Section 6.2. Fence Works</u>					
6201	Fence	m	915	157	143,655.00
6202	Gate	No.	2	37,500	75,000.00
Total for Section 6.2.				₱	<u>218,655.00</u>
<u>Section 6.3. Building</u>					
6301	Garage and warehouse	m <sup>2</sup>	60	2,430	145,800.00
6302	Compost shed	m <sup>2</sup>	28	2,100	58,800.00
6303	Shelter	m <sup>2</sup>	24	2,100	50,400.00
6304	Septic tank	No.	1	13,500	13,500.00
Total for Section 6.3.					<u>268,500.00</u>
Total for Division 6.				₱	<u>548,034.00</u>





III. GENERAL CONDITIONS

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GENERAL CONDITIONS

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GENERAL CONDITIONS

GC-01 DEFINITIONS

Wherever the following terms are used in the Contract Documents, they shall have the following meaning:

Philippines : The Republic of the Philippines

JICA : The Japan International Cooperation Agency

JICA's Representatives:

JICA Officers and persons authorized by JICA

Committee : The Committee of the Japan International Cooperation Agency, specially established for the Project.

Engineer (s) : An individual, partnership, corporation, association, firm or joint venture or syndicate which have been engaged by JICA to assist in engineering services and supervision of the work to be done under this Contract.

Bidder : An individual, partnership, corporation, association, firm or joint venture submitting a Bid to JICA for the performance of the Contract Work.

Contract : The legally executed agreement between the Contractor and JICA for the performance of the Contract Work covered by these Contract Documents.

Contractor : The individual, partnership, corporation, association, joint venture or syndicate having a direct contract with JICA for the implementation of the Contract Work under this Contract.

Sub-Contractor : The individual, partnership, corporation, association or syndicate having a direct contract with the Contractor for furnishing services or work under this Contract.

Contract Documents:

Collectively the Pre-qualification

Confidential Statements; Instruction to Bidders; General, Special and Local Conditions; Technical Specifications; Invitation for Bids; the Proposal; Drawings as defined; Supplemental Notices; Notice of Award; Performance Bond and Evidence of Working Capital; the Contract; and Notice to Proceed.

**Furnish** : All works done and all expenses, including labor, materials, plant and overhead incurred by the Contractor in providing and delivering to the geographical location designated in the specifications, a specified item, article, or piece of apparatus or equipment.

**Erect and Install:**

All works done and all expenses, including labor, materials and overhead incurred by the Contractor in receiving a specified item, article, or piece of apparatus or equipment at a geographical location designated in transporting it to and storing it at the site of work, and there erecting, placing or laying it as shown in the plans or as directed, to be by and at the expense of the Contractor unless otherwise specified.

**Furnish & Erect, Furnish & Install, Furnish & Place and Furnish & Lay**

: All works done and all expenses, including labor, materials, overhead in providing delivery, transporting, storing and erecting, placing, laying as specified item, a piece of apparatus or equipment shown on the plans or as directed by the Project Engineer at the expense of the Contractor, unless otherwise specified.

**Supplemental Notice**

: A written additional information, provisions and/or other documents as issued by the Administrator before the opening of Bids and are incorporated in the Contract Documents.

**Sureties** : Bank or banks and/or bonding company or companies which are joined and severally

bound with the Contractor's faithful performance of the Contract and the payment of all his obligations arising thereunder.

- Permanent Works: The permanent structures to be constructed and completed in accordance with the Contract Documents.
- Temporary Works: All temporary structures of every kind required for the execution and completion of the Permanent Works.
- Works : Refer to Permanent Works and/or Temporary Works.
- Construction Plant : All equipment, facilities, supplies, and other incidentals required for execution and completion of the work but exclusive of materials or other things intended to form or forming part of the Permanent Works.
- Drawings : All the Contract and Construction Drawings referred to in these Contract Documents and any modification of such drawings approved in writing by the Engineer and such other drawings as may from time to time be furnished or approved in writing by Engineer for construction of the Works.
- Site : The lands on which the Works are to be executed or carried out and any other lands or places provided by JICA for the purposes of the Contract.
- Approved : Means approved in writing by duly authorized persons.
- Contract Work : The furnishing of all labor, materials, supplies, equipment, necessary or convenient to the successful completion of the Work and the carrying out of all the duties and obligations imposed by the Contract.
- Extra Work : Such additional labor, materials, supplies, equipment, facilities, and other incidentals as are required to complete the Works for the purpose for which it was intended but not, originally covered or

called for in the Contract.

GC-02

CORRELATION AND INTERPRETATION OF CONTRACT DOCUMENTS

The Contract Documents are complementary and what is called for by one shall be as binding as if called for by all. In case of discrepancy, defective description, errors, omissions, or ambiguity between or in any of the Contract Documents, the following shall be the rules of interpretation.

The Drawings shall govern over the General conditions, and the Technical Specifications shall govern over the General Conditions and the Drawings.

The Detailed Drawings shall govern over General Drawings. Figures written on Drawings shall govern over the Drawings themselves.

If the Contractor, either before commencing the work or during its performance, discovers any conflict, discrepancy, error, or omissions between or in any of the Contract Documents or in case of any question concerning the meaning of the Contract, he shall promptly notify the Engineer thereof in writing. On receipt of such notice, the Engineer shall promptly investigate the matter and give appropriate orders or instructions to the Contractor. Until such orders or instructions are given, the Contractor's performance of any affected portion of the work, after his discovery of the conflict, discrepancy, error, omission, or question, shall be at his own risk and he shall bear any additional cost resulting therefrom.

Omissions from the Contract Documents or misdescription of details of work which are manifestly necessary to carry out the intent of the Contract, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of work but they shall perform as if fully and correctly set forth in the Contract Documents:

GC-03

JURISDICTION

The proper law of this Contract shall be the law in force in the Philippines. Any litigations between the parties that may arise out of or in connection with this Contract or the breach thereof or the performance of work thereunder shall be determined in the Courts in Manila except as may be otherwise specifically provided in these Contract Documents. At or before the time of execution of the Contract, the Contractor shall notify JICA in writing

GC-4

of the appointment of one or more agents satisfactory to JICA upon whom process may be served in connection with any litigations. The Courts shall be deemed to have obtained jurisdiction to render valid judgements upon the Contractor, by such service.

GC-04 STATUTORY REQUIREMENTS

The Contractor shall comply with all applicable laws, acts, codes and regulations of the Philippines and its political subdivisions or any public, municipal or other duly constituted authority which may affect the prosecution of the Contract Work.

GC-05 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees, and shall save harmless and indemnify JICA and the Engineer, their officers, agents and employees against liability, including cost and expenses, for infringement of any patent rights of other protected rights arising out of the performance of the Contract Work.

GC-06 ASSIGNMENT AND SUBCONTRACTS

The Contractor shall not assign, transfer, pledge, subcontract or make any other disposition of this Contract or any part thereof, or any interest therein except as provided for herein.

Should the Contractor desire to subcontract any service or item of the Contract Work within the provisions stated above, the Contractor shall notify JICA in writing within thirty (30) calendar days after the signing of the Contract, and shall submit complete information of the proposed subcontractor including his financial status, experience, organization, personnel and equipment available for the work and the specific service or item of works to be done or subcontracted. The Contractor shall not subcontract any part of the Contract without the prior written approval of JICA and such approval, if given, shall not relieve the Contractor from any liability or obligation under the Contract.

The Contractor agrees that he is as fully responsible to JICA for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him. Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and JICA.

The Contractor is fully responsible for payment to subcontractors; however, JICA reserves the right to withhold or deduct such payments from the Contractor's monthly progress payment, should the Contractor refuse or fail to make justifiable payments to any subcontractor in accordance with the subcontract.

JICA may by written notice require the Contractor to terminate a subcontract if a subcontractor fails to perform the work in accordance with the Contract. In such event, the subcontractor shall leave the site immediately and JICA will not be liable for such termination.

GC-07

FAMILIARITY WITH CONTRACT WORK

The Contractor shall be responsible for having taken steps necessary to satisfy himself as to the nature and locations as well as the time limit for completion of the Contract Work at the end of April, 1988, the type of equipment and facilities needed preliminary to and during the prosecution of the Contract Work, the general and local conditions, and all other matters which can in any way affect the Contract Work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the Contract Works without additional expense to JICA. JICA assumes no responsibility for any understanding or representations concerning conditions made by any of its representative prior to the execution of this Contract, unless such understanding or representation are expressly stated in the Contract Documents.

GC-8

LIABILITY FOR SPECIAL RISKS

JICA shall (1) hold the Contractor harmless from all liability for damages or destruction of the Works or property whether owned by JICA, or any other third parties and for injury or loss of life caused, directly or indirectly, by declared or undeclared war, invasion, insurrection, or usurped power in the Philippines, hereinafter referred to as "Special Risks", (2) compensate the Contractor when occasioned directly or indirectly by said special risks for (a) legitimate costs and expenses, and (b) loss or damages to property of the Contractor at the site including that in transit within the Philippines to the project site.

GC-09

RESPONSIBILITY FOR CONTRACT WORK

From the commencement of the Contract Work until its final or partial acceptance as specified herein, the

Contractor shall assume full responsibility for the Contract Work. The Contractor shall be responsible for any damage to or destruction of the Work, except for special risks as provided for in Clause GC-08 "Liability for Special Risks", to make no claims against JICA for damages to the works from any cause except for said special risks.

GC-10

SAFETY OF PERSONNEL AND THIRD PARTIES-PREVENTION OF ACCIDENTS-RESPONSIBILITY

Except for special risks as provided for in Clause GC-08 "Liability for Special Risks", the Contractor is solely responsible for the safety, protection and security of his personnel, third parties, the public at large, the works, equipment, installations, etc. Accordingly the Contractor shall comply faithfully with any and all pertinent laws, at his own expense, take all requisite protective measures to the end of eliminating the occurrence of accidents, loss or damage of any kind during the performance of the Contract Work and until their final acceptance. The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient warning lights, danger signals and other signs, and shall take all necessary precautions for the protection of the Work and the safety of this personnel and the public. Roads closed to traffic shall be protected by effective barricades and obstructions shall be illuminated at night in accordance with the existing pertinent ordinances and other regulations.

Provided the stipulations of the pertinent laws, decrees, regulations and other ordinances in force in the Philippines do not contain different provisions, the Contractor shall comply with the applicable provisions of the U.S. Bureau of Reclamation Publication, "Construction Safety Standard". The Contractor shall furthermore cooperate with JICA on all matters concerning the prevention of accidents. To this end, the Contractor shall fully acquaint himself with JICA's regulations and printed instructions, which JICA may, from time to time, issue during the performance of the Contract Work and the Contractor shall strictly observe and comply with all such regulations and instructions. The Contractor shall cooperate closely with JICA and the Engineer or related personnel to develop an effective safety program construction of the Works.

In the event the Contractor fails to observe his above obligations, JICA may, at the Contractor's expense, take whatsoever measure is deemed necessary by JICA for

the protection of JICA, Contractor's personnel and third parties and order the immediate interruption of dangerous work. The Contractor shall not be entitled to any indemnification or time extension on account of such interruption. It is understood that JICA's right referred to above shall in no way diminish the Contractor's responsibility hereunder.

The Contractor shall report in writing within twenty four (24) hours from their occurrence to JICA, the local Police and the Local Inspector, all accidents occurring on any of the Contract Work or in connection therewith. In the event of serious or fatal accidents, the Contractor shall leave unchanged the conditions existing at the site of the accident so that the authorities may proceed with their investigations ascertain the causes of the accident.

The Contractor shall be solely and exclusively responsible for any loss or damage, death or injuries, resulting from the performance of the Contract Work or in connection therewith, sustained by any person or party. The Contractor shall save harmless JICA from any and all claims or court actions raised or instigated against it by any person or party for any loss, damage or injuries caused by the Contractor, his personnel, his mechanical equipment, and materials or his work yard installations, and shall at his own expense indemnify such person or party for its loss, damage or injury.

GC-11

CONTRACTOR'S EMPLOYEES AND SUPERINTENDENCE

The Contractor shall give efficient superintendence to the works, using his best skill and attention, and shall during the execution of the Contract Work provide a competent full time Superintendent and necessary assistants.

The Superintendent shall be the authorized representative of the Contractor and shall receive on behalf of the Contractor directions and instructions from JICA. The designation of the Superintendent shall be approved in writing by JICA of which approval may at any time be withdrawn. If such approval is withdrawn, the Contractor shall, as soon as practicable after receiving written notice from JICA, remove the Superintendent from the Site and shall not thereafter employ him again on the Site in any capacity and shall promptly replace him by another Superintendent approved by JICA.

The Engineer shall be at liberty of object to and require the Contractor by written notice to remove

forthwith from the Site any other person employed by the Contractor in the execution of the Contract Work, who in the opinion of the Engineer misconducts himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the Engineer to be undesirable, and such person shall not be again employed without the written permission of the Engineer.

All expenses associated with removal of such Contractor's employees shall be paid by the Contractor who shall save harmless JICA and the Engineer from any claim arising from such actions.

GC-12

INSPECTION OF CONTRACT WORK

All the Contract Work shall be performed in a skillful and workmanlike manner. Inspection of all the Contract Work shall be made by JICA while such Contract Work is in progress to ascertain that the completed works will comply in all respects with the standards and requirements set forth in these Contract Documents. Notwithstanding such inspection, the Contractor shall be held responsible for the acceptability of the finished Works.

The Engineer shall assist JICA in the inspection of all the Contract Work.

JICA, the Engineer and their representatives shall at all times have access to the Works whenever it is in preparation or in progress, and the Contractor shall provided proper facilities for such access, and shall furnish promptly, without additional charge, all facilities, labor and supplies reasonably needed for safe and convenient inspection. The Contractor shall give JICA timely notice of readiness of the Works for inspection, and JICA shall perform said inspection in such a manner as not to delay the Contract Work unnecessarily.

If any works should be covered up without prior approval or consent of JICA, it must, if required by JICA, be uncovered for examination and properly restored at the Contractor's expense unless JICA has unreasonably delayed inspection after notice of readiness for inspection has been given.

Re-examination of any Works may be ordered by JICA and, if so ordered, the Works must be uncovered by the Contractor. If such works is found to be in accordance with the Contract Documents, JICA shall pay the

cost of re-examination and replacement plus fifteen percent (15%). If such works is not in accordance with the Contract Documents, the Contractor shall bear such re-examination and replacement costs and shall not be entitled to any extension of time on this account.

GC-13

CORRECTION OF WORKS

The Contractor shall promptly replace all materials and correct all the Works determined by JICA or the Engineer as failing to meet the Contract requirements. The Contractor shall promptly replace and correct the Works in accordance with the Contract without expense to JICA and shall bear the cost of damage done to other parties occasioned by such removal or replacement.

If the Contractor does not take action to replace and correct such condemned materials and damaged works within ten (10) calendar days after written notice, JICA may (1) by contract or otherwise, replace such materials or correct such Works and charge the cost thereof to the Contractor, or (2) terminate the Contractor's right to proceed as provided for in Clause GC-14 "JICA's Right To Take Over Contract Work".

Failure or negligence by JICA or its agents to condemn or reject bad or inferior Works or materials shall not be construed to imply acceptance of the same if such bad or inferior Works or materials were not discovered at any time prior to the final acceptance of the Contract Work by JICA.

If JICA deems it inexpedient to correct the Works that has been damaged or that was not done in accordance with the Contract, an equitable deduction from the Contract Amount shall be made therefor, unless the Contractor elects to correct the Works.

GC-14

JICA's RIGHT TO TAKE OVER CONTRACT WORK

(a) Right to take Over Should the Contractor

1. Be adjudged a bankrupt; or
2. Become insolvent or make a general assignment of his assets for the benefit of his creditors; and  
or
3. In the opinion of JICA be unreasonably or unnecessarily delayed in the performance of the Contract Work; or

4. Abandon the Contract Work; or
5. Assign the Contract or sublet the Contract Work other than permitted herein; or
6. Fail to complete the construction of the Work as herein specified; or
7. Violate any of the Conditions, covenants and agreement of this Contract;

then, in any of these cases, JICA shall have the right to terminate the employment of the Contractor and to take over the Contract Work, after giving the Contractor and his sureties fifteen (15) calendar days prior written notice to that effect. Such notice shall contain the reasons for such intention to take over, and then if within fifteen (15) calendar days after serving such notice the Contractor fails to overcome or extinguish the causes or reasons for such intention to take over or fails to make satisfactory arrangement for its correction, the right of the Contractor to prosecute the Contract Work by himself shall terminate.

(b) Completion of Contract Work by JICA

In such event JICA may take over the Contract Work and prosecute the same to completion, by contract or otherwise, and shall have the right at its option to take possession of and utilize in completing the Contract Work such materials, equipment, and construction plant as may be on the Sites and necessary therefor.

(c) Liability of Contractor and Sureties

It is expressly agreed that in the event JICA takes over the Contract Work from the Contractor, the latter and his Sureties shall continue to be liable under this Contract for any expense in the completion of the Contract Work in excess of the Contract Price and the bond filed by the Contractor and other monies due to the Contractor from JICA shall be answerable for such expense and, for any and all damages that JICA may suffer as a result of and in connection with take-over.

(d) Payments

If the Contract Work is taken over by JICA under Clause GC-14 "JICA's Right to Take Over Contract

Work", the Contractor shall not be entitled to receive any further payment until the Work is completed.

JICA shall ascertain and fix the value of the Works already completed by the Contractor but not paid for and all usable materials on the Sites. The cost of completing the Works shall be charged against the Contract Price of the remaining works and in case of insufficiency thereof, the excess cost shall be chargeable against the defaulting Contractor and his Sureties.

In the event that the total expenditures of JICA on completion of the Contract Work are not in excess of the Contract Price, the difference between said total expenditures and the Contract Price shall be applied to settle claims filed under Clause GC-26 "Payments By Contractor Unpaid Claims" and the balance, if any, shall be paid to the Contractor, provided, however, that no amount in excess of the combined value of the unpaid completed Work, retained percentages and usable materials at the time of taking over of the Work shall be so paid nor shall any claim for prospective profits for the work done after JICA shall have taken over be considered or allowed. The Contractor shall not stand to benefit from the portion of the Contract Work taken over by JICA.

GC-15

EXTENSION OF TIME DUE TO FORCE MAJEURE

The Contractor shall not be in default under this Contract because of any delays in the prosecution or completion of the Contract work or any separable part thereof, of which delays are caused by "force majeure", provided that the Contractor submits a claim in accordance with the provisions of Clause GC-16 "Claims For Extension of Time For Completion", and in the opinion of JICA the delays are caused by force majeure.

"Force Majeure" shall be defined as any event, the happening or pernicious results which could not be prevented even though a person against whom it happened or threatened to happen were to take such appropriate care or necessary precautionary measure as might be expected from him.

GC-16

CLAIMS FOR EXTENSION OF TIME FOR COMPLETION

Should the amount of Additional or Extra Work of any kind or other special circumstances of the Contractor lead to an extension of time for the completion of the Contract Work under this Contract, JICA shall determine the amount

of such extension; provided that JICA is not bound to take into account any claim for an extension of time unless the Contractor has, prior to the expiration of the Contract time and within twenty-eight (28) calendar days after such work has been commenced or after the circumstances leading to such claim have arisen, delivered to JICA a notice giving full and detailed particulars of any claim for an extension of time in order that it may be investigated at that time. Failure to provide such notice shall constitute a waiver by the Contractor of any claim. On receipt of full and detailed particulars, JICA's Representative shall extend the time for completing the Contract Work, when, in the JICA's opinion, the findings of fact justify an extension.

GC-17

CONTRACTOR'S RIGHT TO SUSPEND CONTRACT WORK OR TERMINATE CONTRACT

If the Contract Work should be completely stopped except due to normal seasonal rains, for a continuous period of more than ninety (90) calendar days, through no act or fault of the Contractor or of anyone employed by him or as a result of the occurrence of special risks as provided for in Clause GC-08 "Liability For Special Risks", then the Contractor, without prejudice to any other right or remedy, shall have the right to give JICA fifteen (15) calendar days written notice to stop the Contract Work or terminate this Contract and recover from JICA payment for any loss or damage to the Contractor arising out of or in connection with or by consequence of such termination and if the Contract Work is not resumed within fifteen (15) calendar days after receipt of such notice due to no fault of the Contractor, the Contractor may terminate the Contract.

GC-18

DISPUTE AND ARBITRATION

Any controversy or dispute arising out of or relating to this Contract which cannot be resolved by mutual agreement shall be decided by JICA within fifteen (15) calendar days from receipt of a written notice from the Contractor, and who shall furnish the Contractor a written copy of his decision. Such decision shall be final and conclusive unless within thirty (30) calendar days from the date of receipt thereof, the Contractor shall deliver to JICA a written notice that he disagrees with the decision and desires that the dispute be submitted to arbitration. Pending decision from arbitration the Contractor shall proceed diligently with the performance of the Contract and in accordance with the decision of JICA.

When formal arbitration is requested, an Arbitration Board shall be formed in the following manner: JICA and the Contractor shall each appoint a third member who shall act as chairman. If either of the parties, i.e., JICA or the Contractor fails to appoint a member to this Arbitration Board within thirty (30) calendar days subsequent to the date on which the Contractor requested arbitration, the appointment shall be made by the Judge of the court having jurisdiction. If the two first members of this board cannot agree upon a third member within fifteen (15) calendar days from the last date of their own appointment, the third member shall be appointed by the Judge of the court having jurisdiction. No one with a financial interest in the subject under arbitration will be permitted to serve on this board. This board may engage experts to act in an advisory capacity without vote on decisions. Minutes shall be kept of all meetings and shall be signed by all members of this Board. All decisions by this board shall require simple majority. All interested parties shall be informed of the decisions of this board in writing over the signature of the chairman. Expenses of this board shall be paid in accordance with the decision of the Arbitration Board. The decision of the Arbitration Board shall be binding on both parties.

JICA and Contractor shall have the right to institute suit against each other, as the case may be, in any court of competent jurisdiction, in the Philippines, to enforce any decision or award rendered in arbitration proceedings. JICA shall have same right as above to enforce a ruling of the Representatives in the event said ruling is final and conclusive as above described.

GC-19 LANGUAGE AND UNIT SYSTEM OF WEIGHTS AND MEASURES

All drawings, designs, specifications, manuals, name plates, markings, operating instructions, estimates, statements, charts, schedules, reports, notices, documents and all written communications between JICA or the Engineer and the Contractor, concerning this Contract, shall be in the English language and the metric system of weights and measures in principle may be used.

GC-20 COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that he has not employed or retained any person or selling agency to solicit or secure this Contract upon any agreement for a commission, percentage, brokerage, or contingent fee, excepting bonafide employees, or bonafide established selling or

commercial agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty, JICA shall have the right to terminate the Contract without liability, or in its discretion, to deduct from the value of the Contract, the full amount of such commission, percentage, brokerage, or contingent fees.

GC-21 WARRANTY AGAINST BENEFITS

The Contractor warrants that he has not given or promised to give any money or gift to any employees of JICA, or any Philippine Government instrumentality to secure this Contract.

GC-22 PUBLIC OFFICIALS AND ENGINEERS NOT PERSONALLY LIABLE

There shall be no personal liability upon JICA representatives, agents or employees or Engineers for any act performed in the discharge of any duty imposed, or the exercise of any power or authority conferred upon them by, or within the scope of the Contract, it being understood that in all matters they act solely as agents and representatives of JICA.

GC-23 NO WAIVER OF LEGAL RIGHTS

JICA shall not be precluded or estopped by any measurements, estimate or certificate made either before or after the completion and acceptance of Work and payment therefore from showing the true amount and character of the Work performed and materials furnished by the Contractor, nor from showing that any such measurements, estimate or certificate is untrue or is incorrectly made nor that the work or materials do not in fact conform with the Contract. JICA shall not be precluded or estopped notwithstanding any such measurement, estimate or certificate and payment in accordance therewith from recovering from the Contractor. Neither the Acceptance by JICA or by its representative, nor any extension of time, nor any possession taken by JICA shall operate as a waiver of any portion of the Contract or any other power herein reserved, or of any right to damages. A waiver of any breach of the Contract shall not be held to be waiver of any other or subsequent breach.

GC-24 PUBLICATION AND PICTURES

Publicizing the Works or any part thereof; without the prior written approval of JICA in the form of announcements or publications, either verbal or in

writing, or pictures, movies or in any other manner, is prohibited.

GC-25 ANTIQUES AND OBJECTS OF VALUE

All ruins, relics, coins and other artistic or antique objects of any nature and value discovered during the performance of the Contract Work belong to the Republic of the Philippines. The Contractor upon discovery of such objects shall immediately inform JICA, and pending such action on his part, shall take all indicated measures including suspension of any affected part of the Contract Work for preserving instant and guarding said objects. No rights whatsoever shall accrue to the Contractor and no compensation of any nature shall be due to him for the discovery of said objects and all rights accruing under the law to the discoverer shall devolve exclusively to the National Irrigation Administration.

GC-26 PAYMENTS BY CONTRACTOR-UNPAID CLAIMS

The Contractor shall pay punctually the workmen employed on the Contract Work and the persons furnishing materials and services therefor, and deliver the Works free from all claims of any description, and, if required, he shall furnish JICA with a statement sworn before an officer duly authorized to administer oaths that all persons who have done work or furnished materials or services under this Contract, and shall have filed any account of such claims with JICA have been fully paid and in case such evidence is not furnished as aforesaid, such amount as JICA may consider necessary to meet the lawful claims of the persons aforesaid shall be deducted from the money due to the Contractor, and shall not be allowed until the liabilities aforesaid shall have been fully discharged and the evidence thereof furnished JICA or until their lack of equity has been established. If such written evidence is not furnished before the final payment under this Contract falls due, JICA may pay such lawful claims in whole or in part to the person or persons, firms or corporations claiming the same, and charge the amount thus paid to the Contractor, who shall accept the same as payment from the amount due to this Contract.

GC-27 CHANGED CONDITIONS

The Contractor shall promptly, and before such conditions are disturbed, notify JICA in writing of: (a) sub-surface or latent physical conditions at the Site differing materially from those indicated in this

Contract Documents, or (b) unknown physical conditions at the Site or an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract. JICA shall investigate the conditions, and if it finds that such conditions do so materially differ and provided that the Contractor has submitted a claim in accordance with the Clause GC-16 "Claims For Extension Of Time For Completion" and Clause GC-29 "Claims For Extra Work", then JICA shall direct the Contractor to perform such Extra Work, as provided for in Clause GC-28 "Extra Work" as may be necessary in the opinion of JICA and he shall grant the Contractor such extension of time as may be justified.

GC-28

EXTRA WORK

JICA may, at any time by written order and without notice to the Sureties, direct the Contractor to perform extra work if such Extra is within the general scope of this Contract. No Extra Work shall be undertaken unless in pursuance of such written order by JICA, and no claim for payment shall be valid unless the Extra Work was so ordered. The Contractor shall promptly proceed with the Extra Work as directed by JICA and the amounts to be paid the Contractor for any such Extra Work shall be determined subsequently by one or more of the following methods:

- (a) By applicable unit prices contained in the Contractor's Proposal for like work.
- (b) By a supplemental Bill of Quantities and Schedule of proposed by the Contractor and approved by JICA.
- (c) By a reasonable lump sum proposal from the Contractor acceptable to JICA.
- (d) By cost-plus-percentage basis. The Contractor shall be reimbursed for all actual necessary cost, as determined by JICA; in doing the Extra Work which shall include the following:
  1. his direct labor costs, exclusive of those included in (4) below.
  2. all materials used on the Extra Work included in the Works.
  3. all supplies, fuel, lubricants, power and other incidentals, and

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4. an allowance for use of his Construction equipment as provided for in the Special Conditions, and

The Contractor shall receive an additional payment of fifteen (15) percent of all such cost to cover his indirect overhead costs plus five (5) percent of all costs including indirect overhead as his profit.

If the parties are unable to agree on any of the methods for payment to the Contractor specified in sub-paragraphs (a), (b), and (c) then such Extra Work shall be done on a cost-plus-percentage basis as described in sub-paragraph (d) above.

The cost of the Extra Work done shall be submitted at intervals to be determined by JICA in a satisfactory form and which shall be approved or adjusted at once by JICA. Request for payment by the Contractor for any Extra Work shall be accompanied by a statement, with the above approved supporting forms, giving a detailed accounting and record of the amount for which he claims payment. Said requests for payment shall be included with the Contractor's monthly statements for progress payments.

GC-29

CLAIMS FOR EXTRA WORK

If the Contractor claims that Construction Drawings or any instructions issued by JICA during the term of the Contract involve extra cost or should other special circumstances of any kind whatsoever occur such as to fairly entitle the Contractor to extra cost under this Contract, JICA shall determine the amount of such extra cost; provided that JICA is not bound to take into account any claim for any extra cost unless Contractor has within twenty-eight (28) calendar days after such work has been commenced or after the circumstances leading to such claim have arisen, delivered to JICA a notice giving full and detailed particulars of any claim for extra cost in order that it may be investigated at the time. Failure to provide such notice shall constitute a waiver by the Contractor of any claim. On receipt of full and detailed particulars the Administrator shall examine the facts and shall grant the Contractor extra cost when, in JICA's opinion, the findings of fact justify and extra cost.

GC-30

NIGHTS, SUNDAYS, HOLIDAYS AND OVERTIME

Work at night, on Sundays, on Holidays, as overtime shall be governed by the pertinent laws, regulations and acts and shall be the sole responsibility of the

Contractor. All costs and expenses associated with work at night, on Sundays, on Holidays as overtime shall be paid by the Contractor and shall be included in the Bid prices submitted by the Contractor for this Contract.

GC-31 NOTICE TO PROCEED

JICA, after approval of the Contract, will issue to the Contractor a Notice to Proceed with the Contract Work

GC-32 CONSTRUCTION PROGRAM

Within seven (7) calendar days after date of receipt of Notice to Proceed, the Contractor shall furnish JICA a complete construction program providing for the orderly performance of the Contract Work, showing in detail the proposed program shall be in such form and in such detail as to show properly the sequence of operations, the period of time required for completion of the Contract Work under each item or group of items in the Bill of Quantities. such construction programs shall be up-dated and submitted at intervals of not more than two (2) months; however, the Contractor shall immediately advise JICA of any proposed change in the construction program. Revised construction programs shall show construction operations for each item of the Contract Work from the starting date to the anticipated completion date, indicating the periods during which Contract Work was previously underway, as well as estimated future period of construction operations.

The Contractor will also submit a schedule of the Contract Work by the Critical Path Method (CPM), the Program Evaluation and Review Technique (PERT), or by a similar type of construction scheduling as a supplement to the program specified above.

JICA may withhold approval of progress payment estimates in case the Contractor fails to submit the Construction Program or its revision within the time herein specified until such time they are submitted.

GC-33 STATISTICAL REPORTS

The Contractor shall within seven (7) calendar days after the end of each month furnish JICA, without cost to JICA in a form and number of copies to be determined by the Engineer, the following:

- (a) Physical Progress Reports for the month and estimated

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progress for the succeeding month.

- (b) Completion Schedules (target and actual) based on the approved Construction Program as provided for in Clause GC-32 "Construction Program".
- (c) A Tabulation of Employees showing the supervisory staff and the numbers of the several classes of labor employed by the Contractor during the month.
- (d) A listing of equipment utilized for performance of the Contract Work during the month.

GC-34

CONSTRUCTION EQUIPMENT AND TOOLS

All the construction equipment and tools to be used for the Contract Work shall be furnished by the Contractor. As specifically mentioned in Clause IB-09 "Data to be Submitted with the Bid", the Contractor shall furnish JICA a complete list of all brand new and good running condition construction equipment that the requires in connection with this Contract Work. The Contractor shall prepare subsequently a schedule of delivery for the said equipment based on his construction schedule and operations program. No separate payment shall be made for the costs of construction equipment and tools and such cost shall be included in the Bid prices for various items in the Bill of Quantities.

GC-35

RIGHT TO CHANGE

JICA reserves the right to make changes in the work as are required for its proper completion, including, but not limited to design modifications which increase or decrease the quantities of unit price items of the work. JICA may also order the elimination of a portion of the work, even though required for proper completion if, due to JICA's right-of-way acquisition difficulties, the Contractor would be unduly delayed in performing that portion of the work.

All quantities stated in the Contract for unit price items of work are estimates only and actual measured quantities of such work will vary from such estimated quantities. Such variations are not changes within the scope and meaning of this Contract, and shall be adjusted for payment purposes in the monthly and final estimate of work.

JICA may grant the Contractor extension of time for the completion of the work or extra work for delays due to

the changes in the work and other specified causes, all to the extent provided for by Clause GC-15 "Extension Of Time Due To Force Majeure" and Clause GC-16 "Claims For Extension Of Time Of Completion".

All orders for changes will be given in writing. An order which provide for an adjustment or an extension of time will be given only by change order.

GC-36 SUSPENSION OF THE WORK

By written order to the Contractor, JICA may suspended the Work wholly or in part, for such period as JICA may deem necessary, for any of the following reasons:

- (a) Failure of the Contractor to carry out orders given or to perform any provisions of the Contract Documents; or
- (b) The convenience and benefit of JICA in which case the order will constitute an order for a change in the work pursuant to Clause GC-35 "Right to Change".

The Contractor shall immediately comply with such written order, and shall resume the suspended work only upon JICA's written order to do so.

A suspension ordered under (a) above shall not be cause for time extension or additional compensation.

A suspension ordered under (b) above will be considered a cause for time extension as provided for by Clause GC-16 "Claims for Extension of Time for Completion", and adjustment in compensation to the same extent as other changes in the work.

GC-37 PERFORMANCE SECURITY

The Contractor shall, at the time of executing the Contract, provide performance security deposited with and made payable to JICA in the amount equivalent to not less than five percent (5%) of the total Contract Amount in the form of surety bond, or bank guarantee or any combination thereof, issued by a bonding company acceptable to JICA. JICA will not accept Performance Security in cash.

Failure to deposit satisfactory performance security at the time of execution of the Contract or such extended time as may be allowed by JICA shall be a breach of this Contract, and JICA may, at its discretion, cancel the Contract and accept some other Bidders, or invites further

bidding.

Should any Surety upon the bond furnished under this paragraph shall become unacceptable to JICA, or, if any Surety shall fail to furnish reports as to its financial condition from time to time, as requested by JICA, the Contractor shall promptly furnish such replacement security as may be required from time to time to protect the interest of JICA; up to a sum equal to the amount of the original security.

JICA may require additional performance security if the Contract is increased appreciably.

The cost of the Performance Bond which is acceptable to JICA is enclosed herewith.

GC-38

PAYMENT IF CONTRACT TERMINATED

If the Contract shall be terminated as provided for in Clause GC-17 "Contractor's Right to Stop Contract Work or Terminate Contract", the Contractor shall be paid by JICA for:

- (a) All work executed prior to the date of termination at the rates and prices provided in the Contract.
- (b) The amount paid, as verified by JICA, for materials ordered for the Work which have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery, such materials becoming the property of JICA.
- (c) The amount actually incurred by the Contractor in the expectation of completing the whole of the Works insofar as such expenditure have not been covered by the payments in subparagraph (a) and (b) above.
- (d) The actual and reasonable cost of removal of the Contractor's Construction Plant and return thereof to the Contractor's place of registration.

Provided that against any payments due from JICA under this paragraph JICA shall be entitled to be credited with any outstanding amount due from the Contractor for sums previously paid by JICA to the Contractor in respect of the execution of the Contract Work.

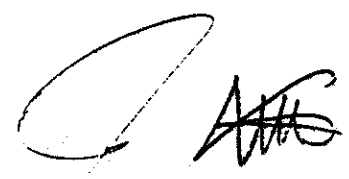
GC-39

PREPARATORY WORK

The Contractor shall furnish labor, materials,

GC-22

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supplies, equipment, and other facilities to install such Temporary works as described in Chapter I of the Technical Specifications.

Payment for furnishing all materials, equipment and labor for the preparation of the camp area and for constructing the Contractor's Temporary Works will be made at the lump sum price stated in the Bill of Quantities. This price is fixed by JICA and is not subject to change. Payment will be made on the basis of percentage of facilities installed as estimated by the Contractor and approved by JICA. Not included in these items is the cost of operation and maintenance of the Contractor's Temporary Works of which cost shall be included in the prices tendered in the various items of the Bill of Quantities.

GC-40

## Payment

JICA agrees to effect payments for the Construction Works in check to the Contractor in the following manner;

- a) Advance Payment, to be effected not later than fifteen (15) days after the Contractor's request for payment in writing provided that the Contractor has submitted to JICA a bank guarantee or a surety bond acceptable to JICA and equivalent to the amount of Advance Payment. The bank guarantee or surety bond will be released upon repayment of Advance Payment by the Contractor.
- b) The Second Payment, to be effected according to the progress of the Contract Works satisfactorily executed by the Contractor as of 15 March 1988 and accepted by the Engineer upon the request of the Contractor. Payment shall be deducted by twenty-five (25) percent to cover ten (10) percent of the Retention Money and fifteen (15) percent for repayment of above Advance Payment.
- c) Final Payment, to be effected upon the satisfactory completion of the Contract Works by the Contractor and final acceptance by the Engineer of JICA of the remaining amount of the Contract Price plus all Retention Money under b) above.

The payments under b) and c) shall be effected within twenty (20) days after the respective acceptance of the Contract Works by the Engineer.

It is expressly understood that the payments by JICA do not mean the acceptance of the Works by the Engineer nor relief of the Contractor from its responsibilities.

GC-23

under the Contract.

GC-41 Liquidated Damages

If the Contractor refuses or fails to satisfactorily complete the Contract Work covered by the Contract within the time specified herein plus any extension thereof, authorized by JICA, and is hereby in default under the Contract, the exact damages caused to JICA by such delay will be impossible to ascertain accurately. In lieu thereof, the Contractor agrees to pay JICA, as liquidated damages and not by way of penalty, the amount equivalent to 0.1 percent of the difference between the total Contract Price and the value of the completed portions of the Contract certified by the Engineer as usable as the expiration of the Contract duration for each calendar day of delay until the Work is completed and accepted by JICA. To be entitled to such liquidated damages, JICA does not have to prove that it had incurred actual damages. In case JICA becomes entitled to liquidated damages, JICA shall be authorized to deduct the amount of such liquidated damages from any money due or which may become due to the Contractor and/or to collect such liquidated damages from the Performance Security.

VI. TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS

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CHAPTER I. TEMPORARY WORKS AND MOBILIZATION  
OF CONSTRUCTION EQUIPMENT

101 Temporary works

The Contractor shall furnish all materials, labor, equipment and tool and install such temporary works as are necessary for the successful completion of the Contract Works.

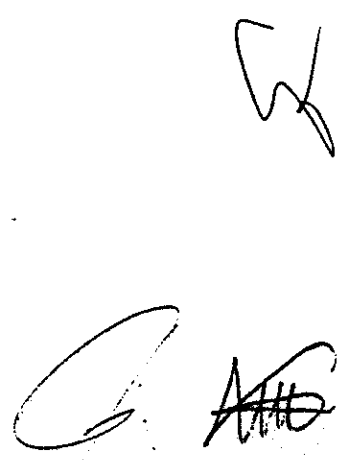
The Contractor shall submit to the Engineer for approval the Contractor's plan of the temporary works.

The temporary works consist of the following works.

- (1) Access roads and temporary detours in any places required in the Site for construction of the works.
- (2) Contractor's camps, offices, store houses, workshops labor's camps and other facilities in the site.
- (3) Temporary power and water supplies in the site for construction of the works.

102 Mobilization of equipment

The Contractor shall mobilize and move into the project site (in accordance with the approved Construction program and Equipment moving-in and Utilization schedule) the required construction equipment needed for the successful completion of the Contract work immediately after receipt of the approved Construction program.



## CHAPTER II. EARTHWORKS

## 201 Scope

This chapter covers stripping, excavation of farmland and structures, land leveling, fill and backfill for structures, surface soil handling and disposal of excavated materials.

## 202 Clearing and grubbing of site

The Contractor shall clear the ground on the site and around the structures to be constructed. Such clearing shall consist of the removal and disposal, in a manner approved by the Engineer, of all trees, stumps, stems, brush, roots, vegetation and other objectionable matters within the site.

Grubbing shall consist of the removal of the tree stumps, roots, brush and rubbish from the work area to be occupied by the embankment structures and from the surface of excavation, and elsewhere as directed by the Engineer. It shall include scraping of the natural ground surface at an adequate depth by effective means to remove all vegetation and other objectionable materials.

The holes resulting from the grubbing up shall be filled with approved material and well compacted.

All materials to be burned shall be piled neatly and in a suitable condition, and shall be burned completely. Special precautions shall be taken at all times to prevent fire from spreading and shall make available at all times at the burning site adequate and ready for use fire fighting equipment and supplies.

## 203 Stripping, Removal of Surface Soil

The stripped surface soil shall be removed and temporarily stored at a place provided by the Contractor for later reuse. Before commencing the works, the Contractor shall submit to the Engineer for approval his proposed place for store of the surface soil.

Thickness of stripping of the surface soil is 20 cm in depth, unless otherwise shown on the drawings or directed by the Engineer. The work includes stripping, collecting, loading, hauling, unloading and stocking at a place approved or directed by the Engineer.

## 204 Cutting and filling of trial farm

After stripping and removal of the surface soil, the surface of

farm foundation shall be as level as possible by cutting and filling in accordance with the designed elevation shown on the approved drawings. The cutting portions of foundation desirably shall be slightly lower than filling portions.

The filling works shall be performed from a layer to a layer by spreading the filling materials.

The levelling of surface shall be regulated within the tolerance  $\pm 7.5$  cm.

Until the enough bearing capacity for foundation is obtained, the foundation shall be compacted in order to avoid the differential settlement after the execution of cutting and filling by using of a compactor directed the Engineer.

204' Removal and disposal of gravel materials

The contractor shall remove and dispose to a designated area by the Engineer all the gravel materials existing within the depth of 50 cm. from the proposed plot elevation, and replace with suitable soil materials as approved the Engineer to a depth from 20 cm. to 50 cm. and with top soil to depth from 0 to 20 cm.

205 Land leveling work of trial farm

After completion of cutting and filling works, the stored soil described in Item 203 shall be hauled to the original place and refilled. The levelling of refilled surface shall be performed to avoid uneven land by means approved by the Engineer so as to make the surface within tolerance  $\pm 5.0$  cm. at 5 points on each farm plot.

206 Excavation of structures

Excavation shall mainly mean the excavation of earth material such as soil, sand and gravel other than rock.

Unless otherwise approved, no excavation shall be permitted under water. The site shall be kept well drained and free from inundation caused by rainfall or groundwater during construction.

- (a) Excavation of drainage canals, foundation of pipelines and structures shall be carried out in accordance with the lines, grades, slopes and dimensions as shown on the approval drawings or directed by the Engineer.
- (b) In case of the over excavation which is not approved or directed by the Engineer, the Contractor shall carried out, at the contractor's own expense, the filling and compaction works by the same materials.
- (c) If required bearing capacity for structures is not obtained at the excavation shown on the approved drawings, the excavation shall be continued until the allowed bearing capacity is obtained.

## (d) Disposition of excavated materials

The Contractor shall submit to the Engineer the necessary drawings and other specific information of the proposed spoil dump areas for obtaining the approval from the Engineer. The prior consent by the Engineer is quite essential for carrying out spoil dumping at any places excavated materials deemed unsuitable as fill materials shall be wasted to the approved spoil dump areas.

## (e) Demolition and removal

When indicated in the drawing or directed by the Engineer, ~~existing concrete and/or brick structures~~, such as culverts, brick wall, etc., shall be demolished and disposed accordingly.

## 207 Fill and Backfill

This item covers the specifications for fill and backfill works and as shown in the drawings or otherwise direction given by the Engineer, the Contractor shall furnish and place the earth materials for drainage canal embankment and related structures. Any work of fill and backfill shall not be commenced without prior approval of the Engineer. The slope of the embankment shall be made as the shaping of slope indicated on the drawings approved by the Engineer.

Backfill, as referred to herein, is defined as refill works. The materials for backfill works shall be made free from roots, stones of more than five (5) centimeters in diameter, and other objectionable materials and subject to the approval of the Engineer. The backfill materials shall be placed in layers, the each layer being not more than twenty (20) centimeters thick before compaction, thoroughly compacted by using of power tampers or by other method approved by the engineer. No backfill materials shall be placed on concrete structures before a period of fourteen days has elapsed after placing the concrete.

The fill works shall be carried out in conformity with the lines, grades and dimensions indicated on the drawings, unless otherwise directed by the Engineer. The Engineer may instruct to change a slope of the fill works in respect of soil conditions at the site. Such a change will be made according to the quantities of materials available. The changes prescribed by the Engineer should not cause any claims for increase in unit prices.

Any fill material, which are rendered unsuitable after being placed at the site, shall be replaced by the Contractor without

only payment thereto. The Contractor shall re-excavate and remove the filled materials which the Engineer considers objectionable and shall also dispose of such material to the spoil area directed by the Engineer, and refill the excavated area as directed without any additional cost.

Backfill for the construction of the pipeline shall be carried out after carrying out the leakage test of pipeline. The backfill until 60 cm above the top of the pipe shall be made soon after the inspection for the joint works. The heavy equipment including truck shall not be used for the spreading and the rolling compaction of the above-mentioned backfill works. The backfill of succeeding layers can be carried out by the method and equipment approved by the Engineer.

When sufficient materials for fill and backfill are not available from the ditch excavation, additional materials shall be obtained from sources as approved by the Engineer. The materials shall be quality satisfactory for the purpose.

#### 208 Measurement and payment

Measurement for payment of earth works shall be made by the drawings approved by the Engineer and the volume will be computed in cubic meters under the dimensions to be directed by the Engineer.

The accepted quantities of earth works, measured provided above, will be paid for at the contracted unit rate in the Bill of Quantities.

The rate shall include all the expenses for execution of earth works.

## CHAPTER III. CONCRETE WORKS

## 301 Scope

The specifications for the Concrete Works contained herein and as shown on the drawings or otherwise directed by the Engineer, the Contractor shall execute as the following works:

- (a) Furnish all materials, and mix, transport, place, finish, protect, and cure concrete;
- (b) Furnish, construct, erect, and remove forms;
- (c) Construct expansion and contract joints, and furnish and place for water stops, joint fillers, and sealing compound;
- (d) Prepare, clean, cut bend, and place steel reinforcement.

## 302 Cement

The cement for mortar and concrete works shall be of quality which conforms to the requirements of the Standard Specifications for Portland Cement.

The cement, in sealed bags unbreakable, shall be stored in weathertight and properly ventilated warehouse with adequate provisions for the prevention of absorption of moisture. All storage facilities shall be subject to approval and shall be such as to permit easy access for inspection and identification. The cement which has been stored for more than one month or which is suspected to be damp shall not be used unless otherwise approved by the Engineer.

## 303 Water

Water used in mixing concrete shall be fresh, clean and free from injurious amounts of oil, acid, alkali, salt, or organic matter.

## 304 Fine aggregate

The fine aggregate shall be natural sand not including organic materials and others foreign substances.

Fine aggregate shall consist of hard, tough, and durable particles. The shape of the particles shall be generally rounded or cubical and reasonable free from flat or elongated pieces. The quality of fine aggregate shall be subject to approval by the Engineer

305 Coarse aggregate

Coarse aggregate shall consist of gravel or crushed gravel, or a combination of gravel and crushed gravel.

Coarse aggregate shall consist of hard, tough, durable, and clean particles. All foreign materials and dust shall be removed by adequate processing. The particle shape of the smallest size of crushed coarse aggregate shall be generally rounded or cubical, and the coarse aggregate shall be reasonably free from flat and elongated particles in all sizes. The quality of coarse aggregate shall be also subject to approval of the Engineer.

306 Proportion of concrete

- (a) The Contractor shall design the mix proportion for every class of concrete placing for the approval by the Engineer.
- (b) Unless otherwise directed by the Supervisor, the maximum size of coarse aggregate to be used in the various parts of the work shall be 3/4 inch.
- (c) The designed mix proportion of concrete is indicated as follows;

<u>Class</u>	<u>Minimum 28 days compressive strength</u>	<u>Mixing proportion by volume cement: fine aggregates: coarse aggregates</u>
A. (Reinforced concrete)	210 kg/cm <sup>2</sup>	1 : 2 : 4
B. (Plain concrete)	180 "	1 : 3 : 6
C. (Level concrete)	135 "	1 : 4 : 6

Other proportions for mixed design may be directed by the Engineer at the site.

307 Mixing

- (a) Concrete shall be mixed in a power driven batch type machine approved by the Engineer.
- (b) The mixing time of concrete shall be more than two minutes but and less than five minutes. Overmixing, requiring the introduction of additional water to preserve the required consistency, will not be permitted. The mixer shall be

completely emptied before receiving the materials for the succeeding batch and shall be kept clean and washed out after stopping work at the end of each shift.

- (c) The aggregate shall be moistured by watering if it is drier than the condition known as saturated surface dry.
- (d) On commencing work, cement paste for the first batch shall contain sufficient cement mortar to coat the inside of the drum to avoid the reduction of the required mortar content of the mix.

308 Conveying

Concrete shall be conveyed from mixer to forms, as rapidly as practicable by methods which will prevent segregation or loss of ingredients.

309 Placing

- (a) Approval of the Engineer shall be obtained before starting any concrete pour.
- (b) Concrete shall be worked into the corners and angles of the forms and around all reinforcement and embedded without permitting the material to segregate.
- (c) All concrete shall be placed upon clean, damp surfaces free from standing or running water. Prior to placing concrete, the earth foundation shall be satisfactorily compacted in accordance with approved methods.
- (d) Surface upon or against which concrete is to be placed, shall be clean, free from oil, standing or running water, mud, objectionable coatings, debris, and loose, semi-detached or unsound fragments. To insure a firm and tight bond between fresh concrete and other concrete, concrete surfaces, where necessary, shall be chipped or roughened as directed by the Engineer. All surfaces shall be wetted throughly to keep them in a completely moist condition before placing concrete. All approximately horizontal surfaces shall be covered with a layer of mortar of the same cement-sand ratio as used in the concrete mix before the concrete is placed.
- (e) Concrete shall be placed and consolidated with the aid of mechanical vibrating equipment or of hand-spading and tamping.

310 Forms

- (a) Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete.
- (b) At the time concrete is placed in the forms, the surfaces of the forms shall be free from any objectionable materials and shall be oiled to prevent sticking.
- (c) Forms shall be removed as soon as practicable after the time instructed by the Engineer.

311 Curing and protection

- (a) All concrete shall be moist cured for a period of not less than seven (7) consecutive days by an approved method or combination of methods applicable to local conditions.
- (b) Concrete shall be kept wet by covering with water-saturated material or by other means approved by the Engineer.

312 Reinforcing bar

- (a) The Contractor shall furnish all steel reinforcement materials for concrete works as indicated on the drawings. The Contractor shall prepare, clean, cut, bend and place all reinforcements, as shown on the detailed drawings or directed by the Engineer. The Contractor shall furnish all chains, supports and ties. The reinforcement shall be reasonable free from loose, flaky rust and scale, and free from oil, grease and other coating which might destroy or reduce its bond with concrete.
- (b) The distance from the center of the main reinforcement to the concrete surface shall be 5 cm except such portions as shown in the drawings. The concrete covering the stirrups, spacer bars, and similar secondary reinforcement may be reduced by the diameter of such bars, unless otherwise indicated by the Engineer.
- (c) Lapping length at joints of the reinforcing bar shall be at least thirty times of the diameter of the bar and shall be bound by steel wire.
- (d) The reinforcements shall be secured in place by use of metal or concrete supports, spacers or ties. Such supports shall be of sufficient strength to maintain the

reinforcement in place throughout the concreting operation. The supports shall be used in such manner that they will not be exposed or contribute in any way to the discoloration or deterioration of the concrete.

313 Measurement and payment

- (a) Measurement for payment for concrete cast in site shall be made by volume in cubic meters of respective classes of concrete placed as computed from the dimensions shown on the drawings approved by the Engineer.
- (b) Measurement for payment for formwork for concrete Class-A and Class-B shall be the area shown on the Drawings, measured in square meters, of concrete surfaces formed.
- (c) Measurement for payment for reinforcing bar shall be the weight of reinforcing steels placed in the concrete in metric kilogram as computed from the approved detailed, bar bending schedule, using theoretical unit weights.
- (d) The accepted quantities of concrete formwork, reinforcing bar and other miscellaneous, will be paid for at the contract unit rate in the Bill of Quantities. The formwork for Class-C shall be deemed to be included in the rate of concrete works.

## CHAPTER IV. PIPE WORK

## 401. Scope

All pipe, fittings and appurtenances shall be furnished by the Contractor. In addition, the Contractor shall furnish all labor, materials, equipment and incidents required to install the piping, fittings and appurtenances as shown on the drawings.

Work to be done shall include hauling, laying, installing, jointing and all other work necessary to produce a completed facility. The Contractor shall furnish and install fittings, gaskets, flanges, bolts, nuts and all other materials necessary to properly install the work shown on the drawings and as specified.

For each work required for pipe embedding, the specifications for earth and foundation works shall be applied.

## 402 Shop drawings

The Contractor shall submit detailed working and shop drawings and schedules of all pipe, fittings and appurtenances. Shop drawings shall include but not be limited to the following;

1. Lists of materials
2. Schedules of pipe lengths
3. Details of proposed joints

## 403 Pipe and fittings

- (a) Joints of galvanized steel pipes shall be of flanged or screwed. All metal parts of joint shall be adequately protected with rustproof paint. Wall thickness of steel pipes shall be as follows.

<u>Diameter</u>	<u>Wall Thickness</u>
150 mm	5.0 mm
125 mm	4.5 mm
50 mm	3.8 mm
25 mm	3.2 mm

- (b) Polyvinyl chloride pipes (PVC pipes) shall be provided at one Taper Socket at the end of pipes in compliance with manufactures' standard. The connection's pipes and fittings shall be used suitable bonding agent which is approved by the Engineer.

Wall thickness of PVC pipes shall be more than followings.

<u>Diameter</u>	<u>Wall Thickness</u>
150 mm	6.5 mm
125 mm	5.4 mm
65 mm	3.5 mm

## 404 Installation

- (a) The installation of pipe and fittings shall be strictly in accordance with the manufacturer's technical instruction printed.
- (b) In making connections, clean dirt, moisture and oil from pipe and fittings. Particular care shall be taken not to overstress threaded connections at joint.
- (c) In case that the foundation is composed at gravel layer, the foundation shall be replaced by suitable soil material in thickness 10 cm. And also it shall be compacted sufficiently under the instruction of the Engineer.
- (d) After completion of pipe installation, backfill works shall be carefully executed in accordance with the drawings or the direction of the Engineer.
- (e) Cuttings of the pipe shall be kept to a minimum. when cuts are necessary, they shall be perpendicular to the axis of the pipe and smooth. cuts shall be made with tools in conformity with the pipe manufacturer's recommendations.
- (f) Precautions shall be given to avoid damages to the pipes and fittings. In handling and storing the pipes and fittings, every care shall be given to avoid distortion, flattening, scoring or other damages. The pipes and fittings shall not be allowed to drop or strike objects.

## 405 Sluice valve

- (a) The sluice valves shall be of vertical and flanged type conforming to JIS B2062 or equivalent.
- (b) The sluice valves shall be suitable for water services piping as the maximum operating pressure of static head up to 7.5 kg/sq.cm.

## 406 Check valve

- (a) The check valves shall be of flanged swing type in accordance with JIS B2074 or equivalent.



- (b) The check valves shall be suitable for water services piping at the maximum operating pressure of static head up to 7.5 kg/sq.cm.
- (c) Valve body and disc shall be made of cast iron conforming to class 3 (FC 20) of JIS G5501 or equivalent.

407 Foot valve

- (a) The foot valves shall be of flap valve type.
- (b) The maximum operating pressure of the foot valve of static head shall be 7.5 kg/sq.cm.
- (c) Valve body shall be made of cast iron.

408 Hydrant

- (a) The hydrants shall be of 360 degrees swing type and be screwed with the valve socket.
- (b) The maximum operating pressure of the hydrant of static head shall 7.5 kg/sq.cm.
- (c) Valve bodies and disc shall be made of aluminium alloy and/or gun metal. The Contractor shall submit the sample of the hydrant for approval of the Engineer.

409 Flow meter

The type of equipment shall be propeller meter type with one side flange and the flow meter shall have measuring function as follows.

Flow meter, dia. 125 mm ..... moment discharge and accumulated discharge

Flow meter, dia. 65 mm ..... accumulated discharge

410 Leakage tests

- (a) Before acceptance, pipelines shall be tested by the Contractor in the presence of the Engineer. The Contractor shall furnish all labor, fuel, oil and other equipment required to carry out tests at the Contractor's expense.
- (b) Leakage test, unless otherwise directed by the Engineer, shall be conducted for a continuous two hour period at the maximum operating pressure of the system, 2 kg/cm<sup>2</sup>.

(c) If any test shows the leakage of any joint, pipe or otherwise ruptures part of the system, the Contractor shall make the necessary repairs and repair the leakage tests. The method of leak-stoppage shall be subject to the approval of the Engineer.

411 Measurement and payment

Measurement for payment for supply and installation of pvc and galvanized steel pipe shall be the length in meters of pipes installed, as computed on centerline of the alignment of pipeline including the lengths for straight pipes, bend pipes, tees, flanges, joints, and earth works, but excluding the pipeline of pump house and suction sump.

The accepted quantities of pipelines, measured as provided above, will be paid for the contracted unit rate in the Bill of Quantities.

## CHAPTER V. INSTALLATION OF PUMPS

## 501 Scope

The pump with accessories shall be furnished by the Contractor. The Contractor shall submit to the Engineer the specifications and drawings in conditions assembled, disassembled and installed, which are prepared by the manufactures, in advance.

## 502 Pump

The capacity of the proposed pump shall satisfied the following specifications or equivalent:

Type	:	Single suction volute pump
Diameter	:	80 mm
Capacity	:	560 liter/min
Total head	:	12.5 m
Power	:	3.9 ps

The pumping unit to be furnished shall be in accordance with the latest applicable standards in the country of origin for the type of pump to be supplied, unless otherwise specified herein. The efficiency of the unit to be furnished shall be as high as practicable and consistent with the best modern design. The pump shall ensure equal or higher quality than the specified special standard or the indicated design requirements of these Contract Documents.

## 503 Installation

The pump shall be installed and incorporated with the structure as indicated in the drawings furnished by the manufacturer.

## 504 Servicing and operation test

After the pump is completely installed, the pump's accessories shall be cleaned and serviced by the Contractor.

The pump shall be tested before take-over and shall operate smoothly.

## 505 Guarantee of materials and workmanship

The Contractor shall submit testing records of the pump the test-run of which is to be made by the manufacturers.

The Contractor shall guarantee the quality of the equipment and be fully responsible for any defective equipment and parts found within one (1) year from the date of acceptance.

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506 Measurement and payment

Payment for the installation of pumps will be made on the basis of contracted lump sum prices after completion of the Engineer's examination.

CHAPTER VI. STONE WORKS

601 Scope

This chapter covers the materials to be used and the placing for the stone work.

Stones for riprap shall be the best of its kind, sound and durable, free from flaws and from soft, weathered or decomposed points. The sites for stone material shall be proposed by the Contractor to the Engineer for his approval. When required by the Engineer, samples of stone shall be submitted by the Contractor.

602 Riprap Material

The riprap material shall be either field stone or rough rock stone obtained from quarry. The average size of stone shall be 250 mm.

603 Foundation

Foundation to receive riprap shall be trimmed to the levels or slopes as shown in the drawings, rammed and compacted to provide firm foundation. All foreign materials such as lumps of earth, wooden pegs, wooden stumps, roots, other debris and water shall be thoroughly removed.

604 Riprap

Mortared riprap works and placed riprap works shall be carried out in accordance with the drawings or as directed by the Engineer.

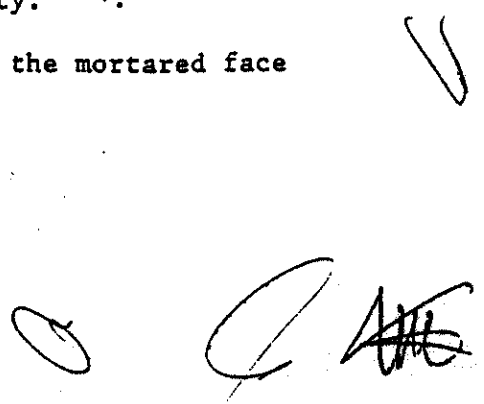
605 Mortared riprap

Riprap shall consists of hand placed stones giving on even exposed surface whose interstices and joints shall be filled with sand-cement mortar.

Stones shall be placed to form a layer of riprap 300 mm thick unless otherwise shown on the drawings, measured perpendicular to the slope.

The interstices and joints shall be filled with mortar consisting of one part cement of three parts sand or as otherwise approved by the Engineer. The materials to be mixed shall be accurately measured by volume. The water contents and consistency shall be suitable for workability.

Fifty (50) mm weep holes shall be formed in the mortared face



at 4 m spacing vertically and horizontally, unless otherwise shown on the Drawings. A minimum of two (2) weep holes shall be placed in each section of mortared rip-rap.

Within twenty four (24) hours of construction, the joints on all exposed faces shall be raked clear of loose mortar and pointed with the mortar specified.

Mortared rip-rap shall be protected from the sun and kept moist for at least three (3) days after pointing.

Any riprap which is damaged shall be removed and replaced.

The tolerances for finished surface shall be:

- protrusions or depressions not to exceed 10 mm above or below the average plane level in any one square meter of surface.
- the thickness of mortared riprap not to be less than the stated dimensions on the Drawings or these Specifications.

606 Placed Rip-rap

Rock shall be placed to form a layer of rip-rap slope and final placement, positioning and sorting shall be accomplished by manual labor.

607 Measurement and payment

Measurement for payment for riprap shall be made by the drawing approved by the Engineer and quantity will be computed in the cubic meter.

The accepted quantities for riprap, measured as provided above, will be paid for at the contracted unit rate in the Bill of Quantities.

## CHAPTER VII. FARM ROAD WORKS

## 701 Scope

The farm road works consists of setting out of alignment, clearing and grubbing, stripping and excavation, embankment and gravel pavement.

The location, type, longitudinal profiles, transversal sections and other details of the works shall be as indicated on the drawings.

## 702 Clearing and grubbing of site

This works shall be carried out in compliance with Section 202 at Chapter 2 Earthworks.

## 703 Stripping of top soil

This works shall be carried out in compliance with Section 203 at Chapter 2 Earthworks.

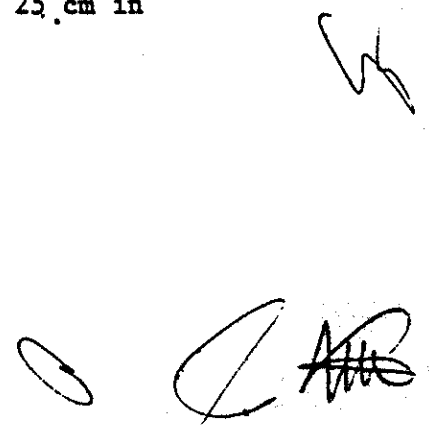
## 704 Excavation of road bed

Road bed shall be excavated to the elevation as specified by the drawings or directed by the Engineer. The excavated materials shall be placed on the other site for reuse under direction by the Engineer.

## 705 Embankment

The Contractor shall submit the plan of location of borrow area which has been developed by him on his responsibility and his own expense to the Engineer for approval.

- (a) The area of excavated foundations shall be compacted sufficiently by compactor or means directed by the Engineer.
- (b) Before placing the first of fill on such compacted foundation area, the surface shall be scarified to a depth not less than 50 mm, in order to roughen the surface and provide good bonding of the fill placed thereon.
- (c) The fill shall be placed and spread in continuous layers parallel to the major axis of the farm road.
- (d) The spread of each layers shall not exceed 25 cm in thickness.



- (e) Where the surface has dried too much for proper bonding, it shall be uniformly sprinkled with water, scarified, harrowed and mixed until the moisture content of the in place material is within the required limits. If the moisture content of the in place material is higher than the limited required, such fill shall be controlled until its moisture content is within required limit or it shall be removed from the site where directed by the Engineer.
- (f) The Contractor shall Control the moisture content of the fill material on the site or the place directed by the Engineer.

706 Compaction

Each layer of the fill material shall be compacted by an approved compactor so that the fill material shall form a single homogeneous mass. When so directed by the Engineer, hand operated heavy duty tampers and/or smooth faced vibrating rollers shall be used for the compaction of fill material placed in areas inaccessible to the compaction equipment selected for normal use. These tampers or rollers shall be air, gasoline or diesel powered. They shall be easily manoeuvrable and of sufficient capacity to obtain the specified density.

The dry density of the fill shall be not less than required degree of compaction 90%.

Note: Degree of compaction

$$= \frac{\text{Dry density of fill in site}}{\text{Max. dry density of standard compaction}} \times 100 (\%)$$

707 Testing of fill

The Engineer will perform tests on the fill material. Testing by the Engineer will be done as frequently as deemed necessary and the Contractor shall furnish labor and equipment to assist in obtaining the samples for testing.

- (a) The compaction test of fill material shall be conducted in accordance with JIS A1214 or equivalent standard.
- (b) The density of fill in place will be determined by using of sand cone method.

708 Gravel pavement

The gravel material shall be used for pavement of the farm

roads.

709 Measurement and payment

Measurement for payment for road embankment except for pipeline works shall be the volume of compacted materials placed and measured in cubic meters by the average and area method. The accepted quantities of road embankment and gravel for pavement, measured as provided above, will be paid for the Contracted unit rate in the Bill of Quantities.



## CHAPTER VIII. BUILDING WORK

## 801 Scope

The Contractor shall construct pump house, warehouse & garage, shelter for the works inclusive of comfort room, water supply pipeline to comfort room, sewage pipeline to septic tank and drainage pipeline, and compost shed required in the contract in accordance with the specifications and as shown on the drawings.

Shelter for works shall be built by wood as shown on drawings.

Details of the building work not fully indicated on the drawings shall be designed by the Contractor in accordance with the standard architectural and engineering practice. The Contractor shall submit to the Engineer which shall be complete and shall contain all required detailed information.

## 802 Materials

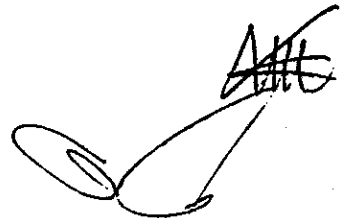
All materials used in the building construction shall be subject to the Engineer's approval. The Contractor shall submit to the Engineer samples of the said materials prior to the commencement of relative works for the approval.

## 803 Earthworks

- (a) The ground for buildings shall be levelled before commencement of the works.
- (b) The earthwork required for foundations and other parts of the buildings shall be carried out to the lines and levels as shown on Drawings and/or directed by the Engineer, in accordance with Chapter II Earthworks.
- (c) The portions around the foundations or other portions requiring backfill shall be filled with good materials and sufficiently compacted.

## 804 Concrete works

The concrete works shall be performed in accordance with the applicable requirements of Chapter III CONCRETE WORKS. Providing no other kind of concrete is specified in the drawings, Class A shall be used for the floors and low thickness parts and Class A shall be used for the reinforced concrete.



## 805 Block works

- (a) Concrete block shall be of hollow Type.
- (b) Concrete block shall be as manufactured by manufacturers in the mass production of concrete blocks of good quality and design, and shall be subject to approval by the Engineer. The Engineer shall reserve the right to subject the concrete block to whatever tests he deems necessary in order to assure the soundness of the product at the Contractor's expense.
- (c) Block shall be finished in stretcher, regular shape, half size, corner lintel and any other regular manufactured type and shape required to ensure a satisfactory arrangement of block installation.
- (d) Block shall be free from substances that will cause staining or pip-outs, and shall be of fine, even texture with straight and true edges. All blocks shall be moist cured for at least 24 hr and then air cured in covered storage for not less than 14 days before delivery.
- (e) Block shall be of modular type as required for nominal wall thickness of 100 mm or 150 mm. Blocks shall be uniform in size, texture and color. Blocks shall be saw cut where fitted to non-modular space. The unit block shall have a regular rectangular shape and perpendicular aligned holes.

## 806 Carpentry

## (a) Materials

The wood used shall be dried to 24 percent or less in moisture content. And the wood shall be hard.

## (b) Preservative treatment and insecticide treatment

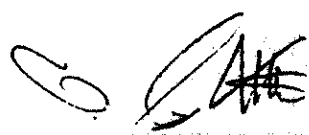
All the surfaces of wood in contact with concrete, mortar, etc. shall be coated twice with phenol preservative.

Lauan not treated with insecticide shall not be used.

All metallic parts shall be coated with rust preventives, except the portions embedded in concrete.

## (c) Protection

The portions which may be spoiled or damaged during working shall be protected by the covering of paper,



board, or any other suitable materials.

807 Roofing

(a) Material

The roof materials except shelter for works shall be No. 26 corrugated galvanized iron sheets. The overlapped portions shall extend more than 2.1/2 crests in crosswise direction and more than 30 cm in lengthwise direction. The roof material of shelter for works shall be nippa.

808 Joiner's work

(a) Window

The windows shall be of wooden sashes.

(b) Door

The doors shall be wooden flush doors.

(c) Hardwares

All the locks for fittings and other accessory hardwares shall be of first class quality, and their samples shall be submitted and approved by the Engineer.

Door locks : Cylinder locks with master keys  
Knobs to be made of stainless steel

Door closers : With floor hinge stops

Hinges : Stainless steel  
Hinges in office shall be pivot hinges

809 Glazing works

(a) Materials

The sheet glass shall be polished sheet glass.

(b) Fitting materials

For edge keeping portions, Thiokol sealing agent shall be used.

## 810 Painting

## (a) General

All the facings of woods and steels in the buildings shall be painted in accordance with the Engineer's instruction.

## (b) Painting schedule

The painting schedule shall be as shown in the following tables.

Alkyd resin paint

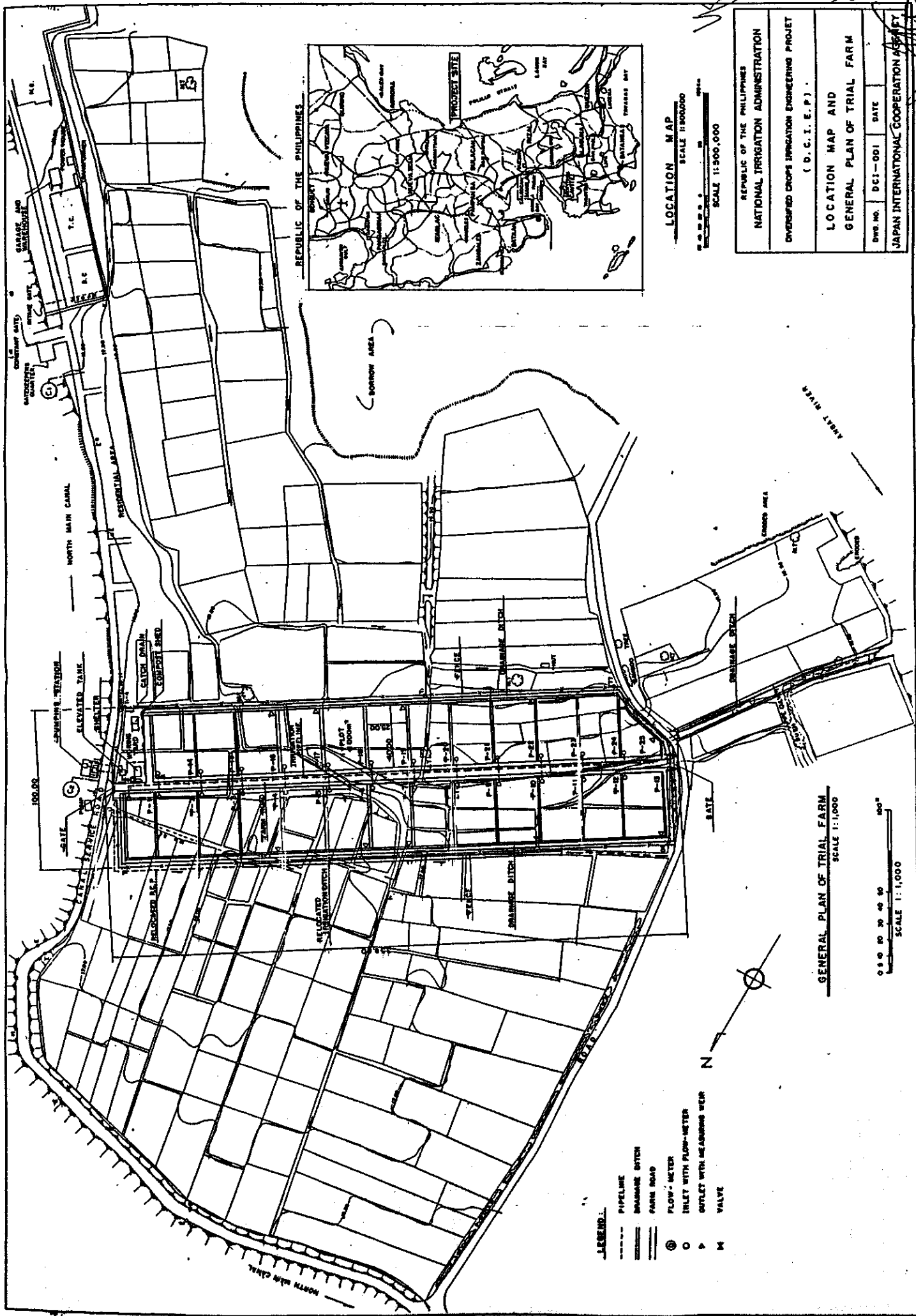
<u>Ferrous portions</u>		<u>Wooden portions</u>	
<u>Painting schedule</u>	<u>No. of coats</u>	<u>Painting schedule</u>	<u>No. of coats</u>
Unticorrosive coat	1	Surface preparation	1
Intermediate coat	1	First coat	1
Finish coat	2	Intermediate coat	1
		Finish coat	2

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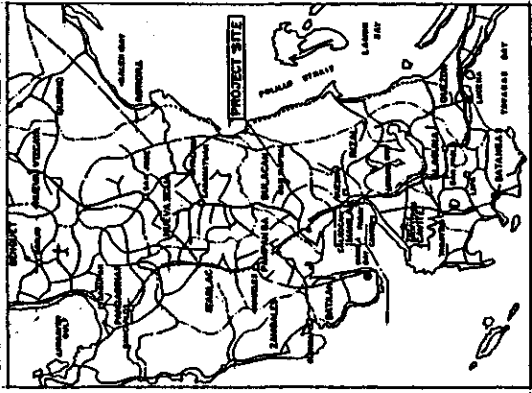
VIII. DRAWINGS

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REPUBLIC OF THE PHILIPPINES



LOCATION MAP  
SCALE 1:500,000

REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P. )	
LOCATION MAP AND GENERAL PLAN OF TRIAL FARM	
DWG. NO. DCI-001	DATE
JAPAN INTERNATIONAL COOPERATION AGENCY	

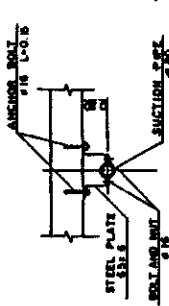
LEGEND:

- PIPELINE
- DRAINAGE DITCH
- FARM ROAD
- FLOW-METER
- INLET WITH FLOW-METER
- OUTLET WITH MEASURING WEIR
- ⊕ VALVE

GENERAL PLAN OF TRIAL FARM  
SCALE 1:1,000

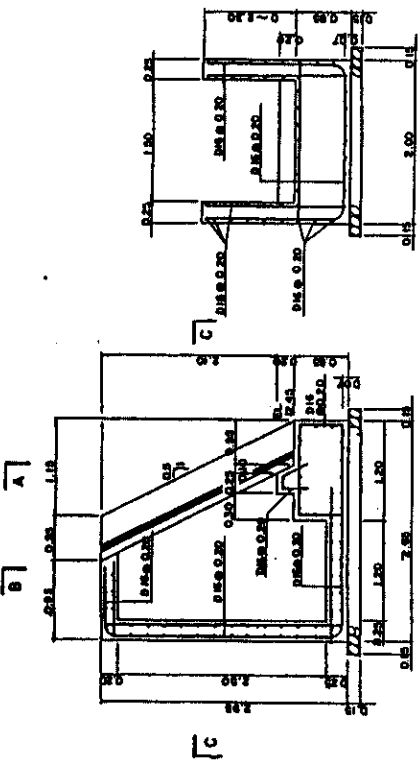
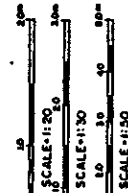


REPUBLIC OF THE PHILIPPINES NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P )	
PUMPING STATION FACILITIES ( I )	
DWG. NO.	DCI - 002
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	

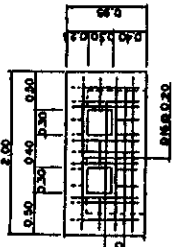


NOTES

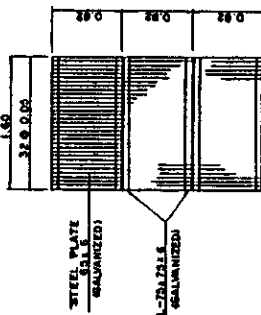
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT FOR METAL WORKS.
2. ALL REINFORCING BAR AND METAL WORKS ARE SHOWN IN MILLIMETERS.
3. ARRANGEMENT OF PIPES AROUND THE PUMPS SHALL BE PROPOSED BY THE CONTRACTOR FOR ENGINEER'S APPROVAL.
4. COVERING THICKNESS OF REINFORCING BAR IS 5CM EXCEPT OTHERWISE SHOWN.
5. EXHAUST PIPE OF PUMP SHALL BE PROVIDED.



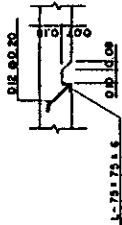
SECTION A-A



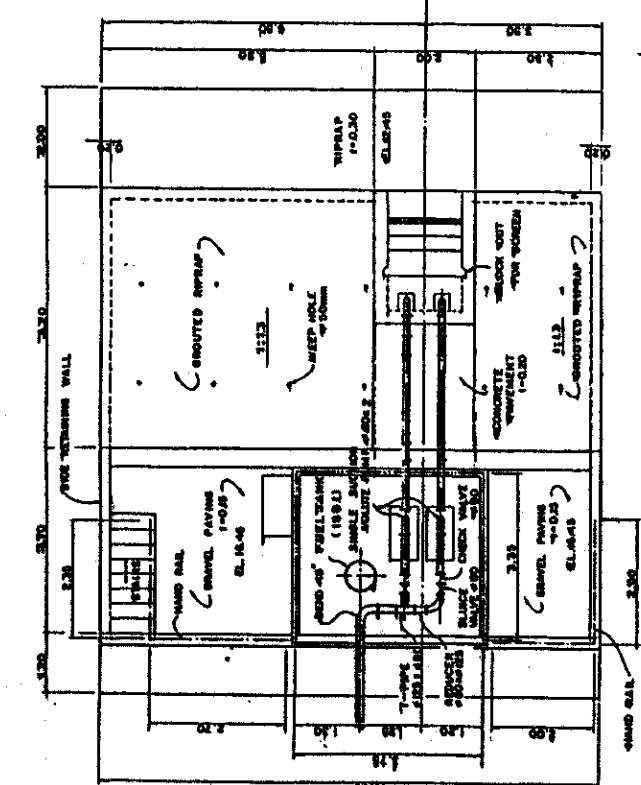
PLAN OF TOP SLAB



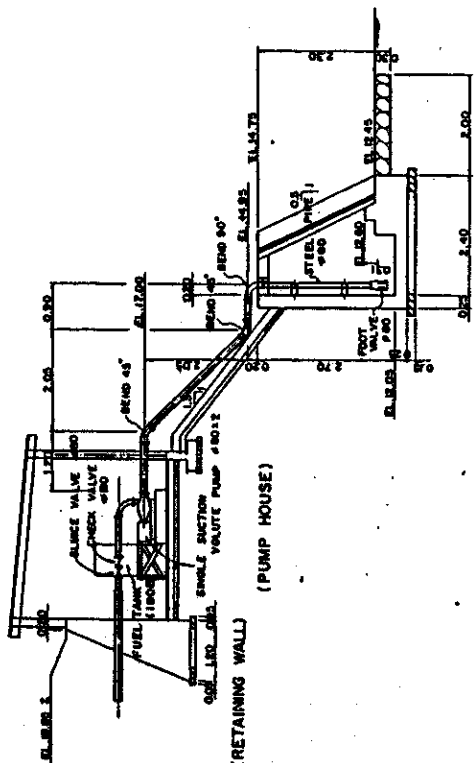
DETAIL OF SCREEN



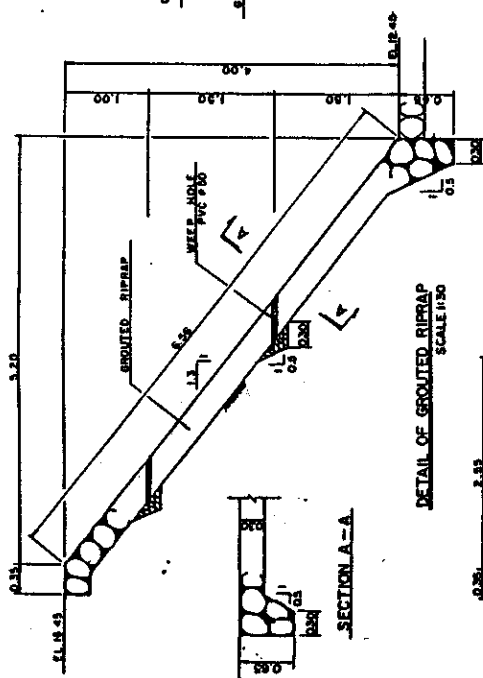
DETAIL OF BLOCK OUT



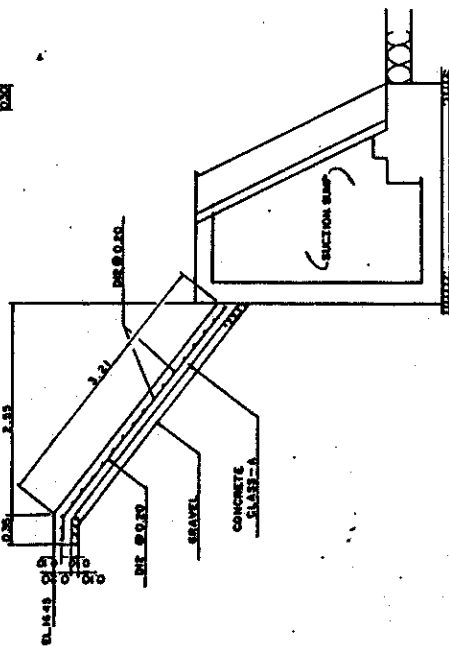
GENERAL PLAN OF PUMPING STATION



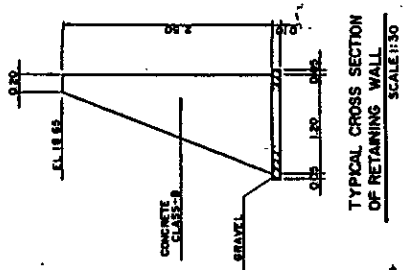
PROFILE OF PUMPING STATION



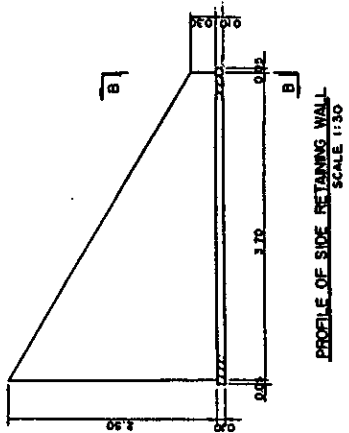
DETAIL OF GROUTED RIPRAP  
SCALE 1:30



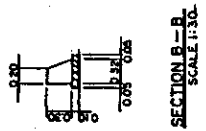
DETAIL OF CONCRETE PAVING  
SCALE 1:30



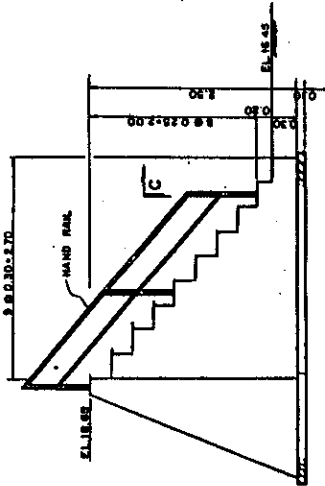
TYPICAL CROSS SECTION  
OF RETAINING WALL  
SCALE 1:30



PROFILE OF SIDE RETAINING WALL  
SCALE 1:30

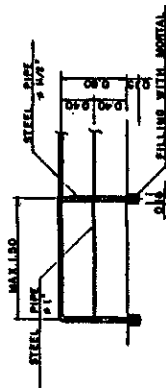


SECTION B-B  
SCALE 1:30

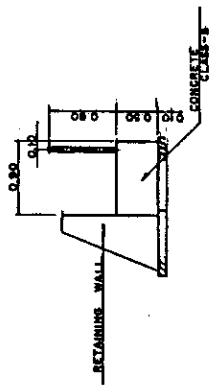


PROFILE

STAIRS  
SCALE 1:30



HAND RAIL  
SCALE 1:30



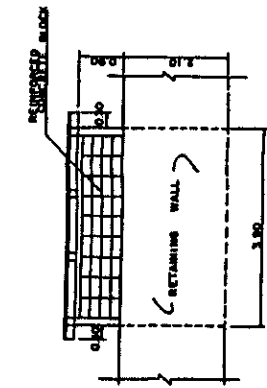
SECTION C-C

NOTES

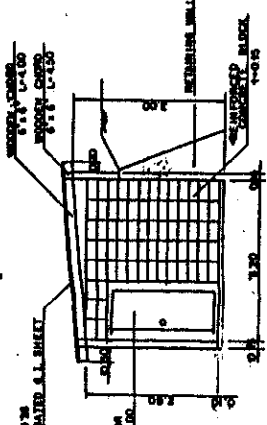
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT FOR REINFORCING BAR.
2. ALL REINFORCING BAR ARE SHOWN IN MILLIMETERS.



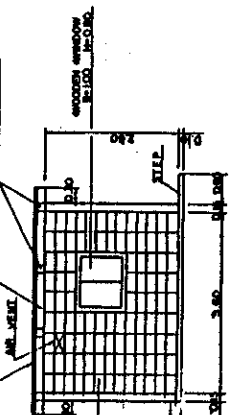
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P )	
PUMPING STATION FACILITIES ( 2 )	
DWC NO.	DATE
D.I. - 063	
JAPAN INTERNATIONAL COOPERATION AGENCY	



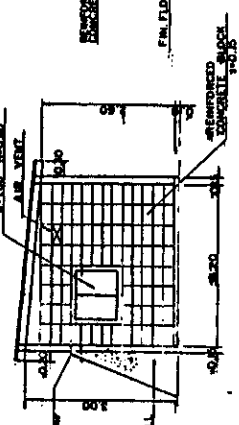
RIGHT SIDE ELEVATION  
SCALE 1:50



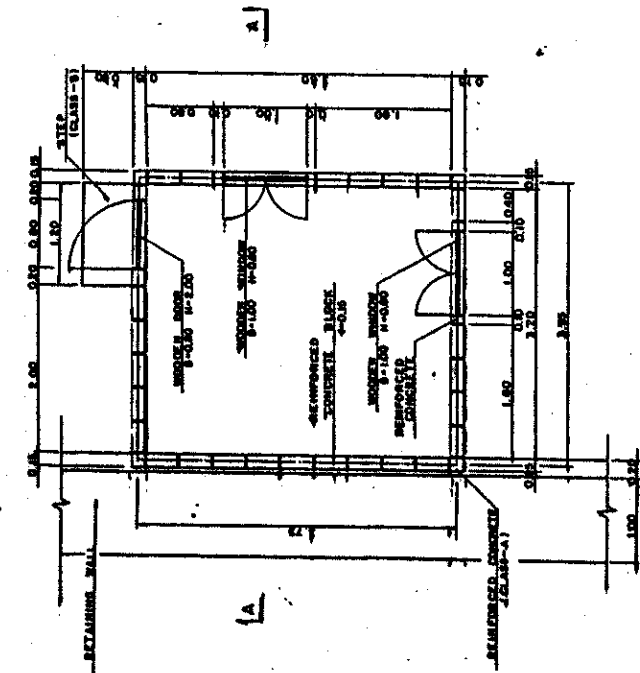
FRONT ELEVATION  
SCALE 1:50



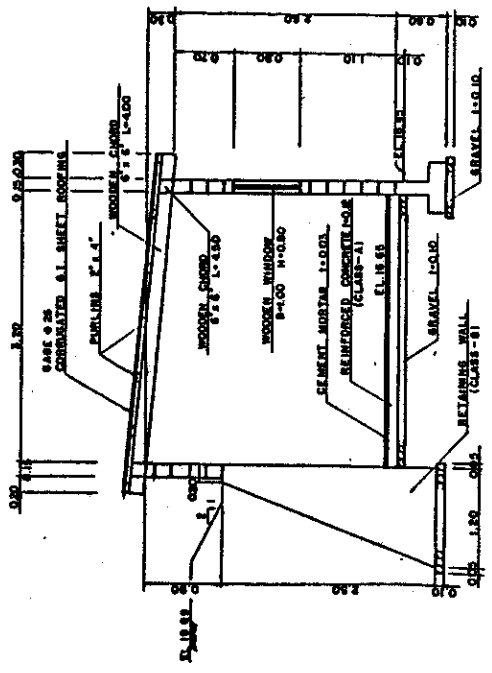
LEFT SIDE ELEVATION  
SCALE 1:50



REAR ELEVATION  
SCALE 1:50



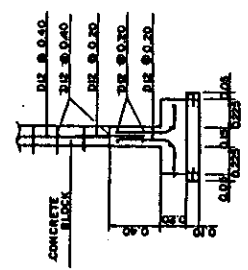
PLAN OF PUMP HOUSE  
SCALE 1:30



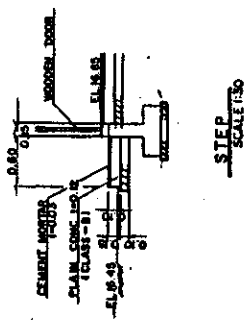
SECTION A-A  
SCALE 1:30

NOTES.

1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT OTHERWISE SHOWN.
2. ALL REINFORCING BARS ARE SHOWN IN MILLIMETERS.



CONTINUOUS FOOTING AND REINFORCED CONCRETE BLOCK  
SCALE 1:20

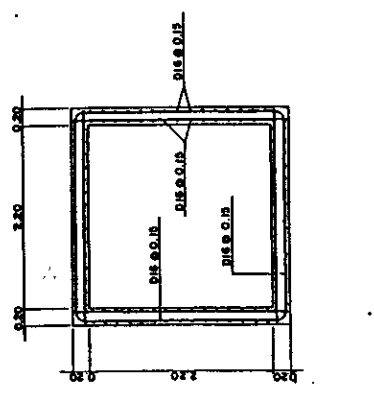


STEP  
SCALE 1:30

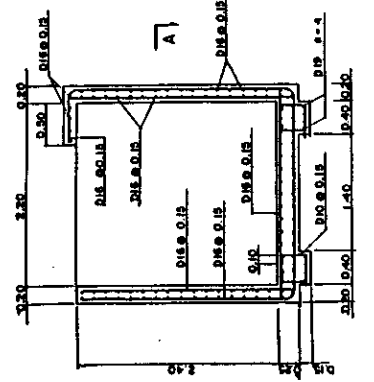


FLOOR CONCRETE  
SCALE 1:30

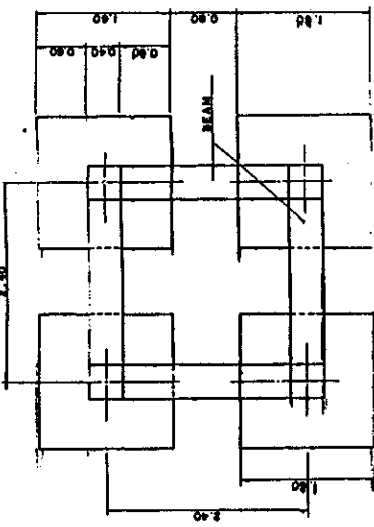
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT	
( D. C. I. E. P. )	
PUMPING STATION FACILITIES (3)	
DWG. NO.	DCI - 001 - DATE
JAPAN INTERNATIONAL COOPERATION AGENCY	



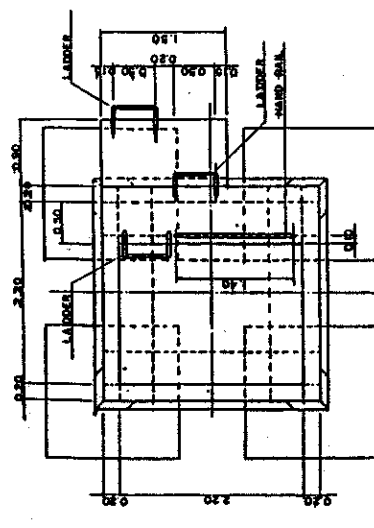
SECTION A-A  
SCALE 1:30



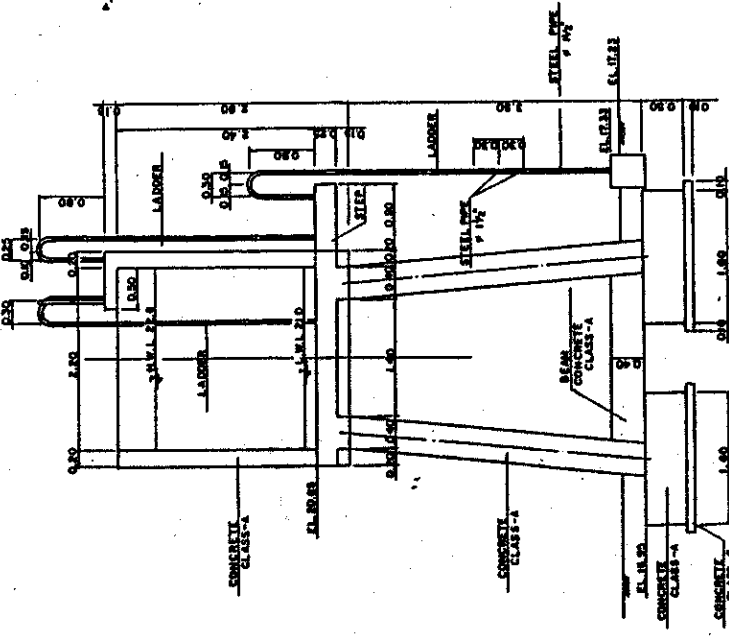
PROFILE OF TANK  
SCALE 1:30



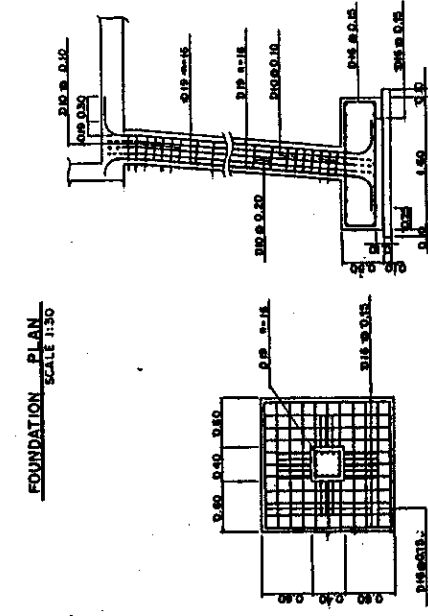
FOUNDATION PLAN  
SCALE 1:30



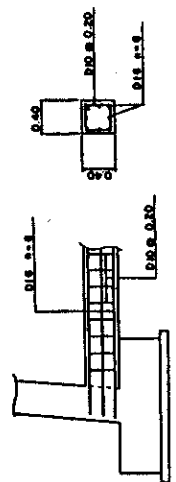
PLAN OF ELEVATED TANK  
SCALE 1:30



PROFILE  
SCALE 1:30

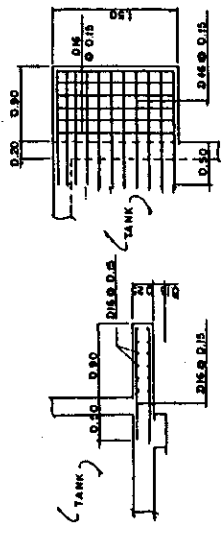


DET. PLAN OF FOUNDATION AND COLUMN  
SCALE 1:30

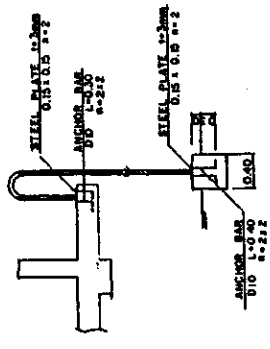


DET. PLAN OF BEAM  
SCALE 1:30

REINFORCING BAR OF FOUNDATION AND COLUMN ARE NOT SHOWN.



PLAN OF STEP  
SCALE 1:30

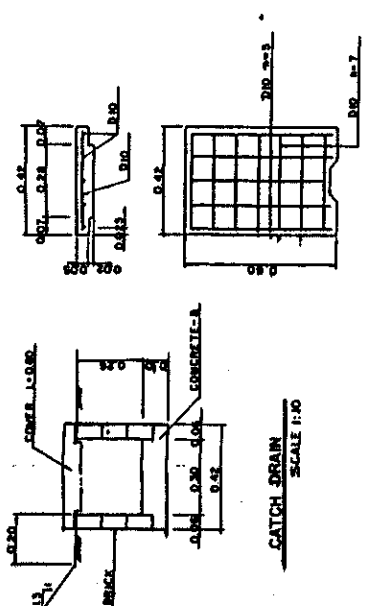
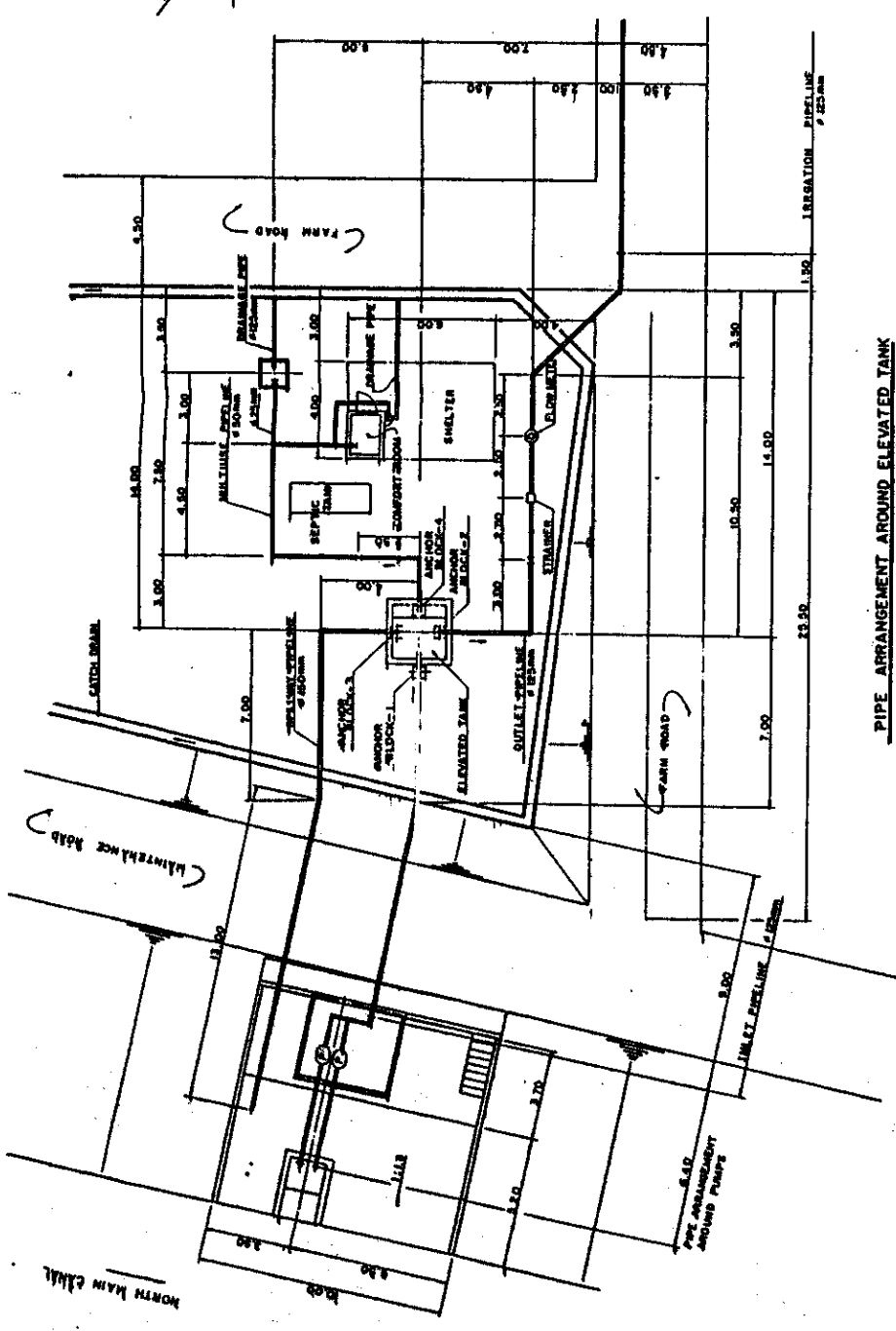


INSTALLATION OF LADDER  
SCALE 1:30

- NOTES:
1. PIPE INSTALLATION WORKS, INLET PIPE, OUTLET PIPE, SPILLWAY AND ETC., ARE NOT SHOWN.
  2. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT OTHERWISE SHOWN.
  3. ALL REINFORCING BAR ARE SHOWN IN MILLIMETERS.
  4. WATER TANK SHOULD BE WATER-TIGHT.

REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P )	
ELEVATED TANK	
DWG. NO.	D.C.I.-005
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	

REINFORCING BAR OF FOUNDATION AND COLUMN ARE NOT SHOWN.

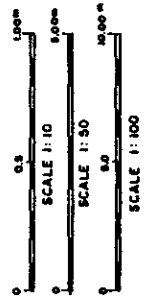


DETAIL OF COVER  
SCALE 1:10

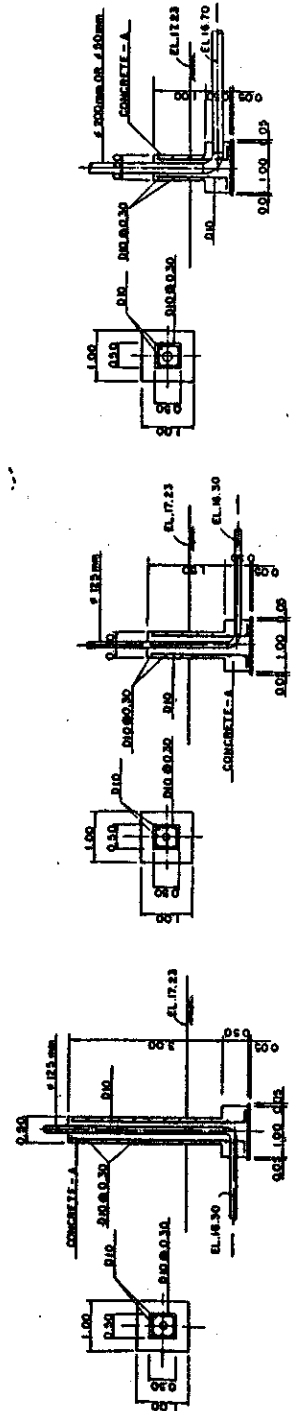
LOCATION OF COVER	
LOCATION	NUMBER OF COVER
SHELTER	3 P.C.S.
WORMS YARD	2 P.C.S.
COMFORT SHED	13 P.C.S.

CATCH DRAIN  
SCALE 1:30

NOTES:  
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT OTHERWISE SHOWN.  
2. REINFORCING BAR IS SHOWN IN MILLIMETERS.



PIPE ARRANGEMENT AROUND ELEVATED TANK  
SCALE 1:100

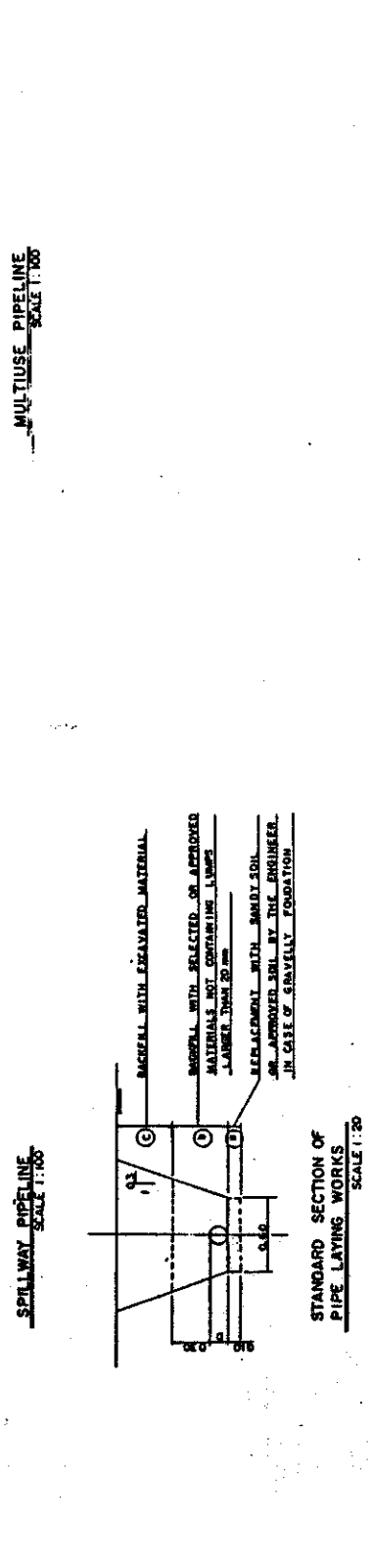
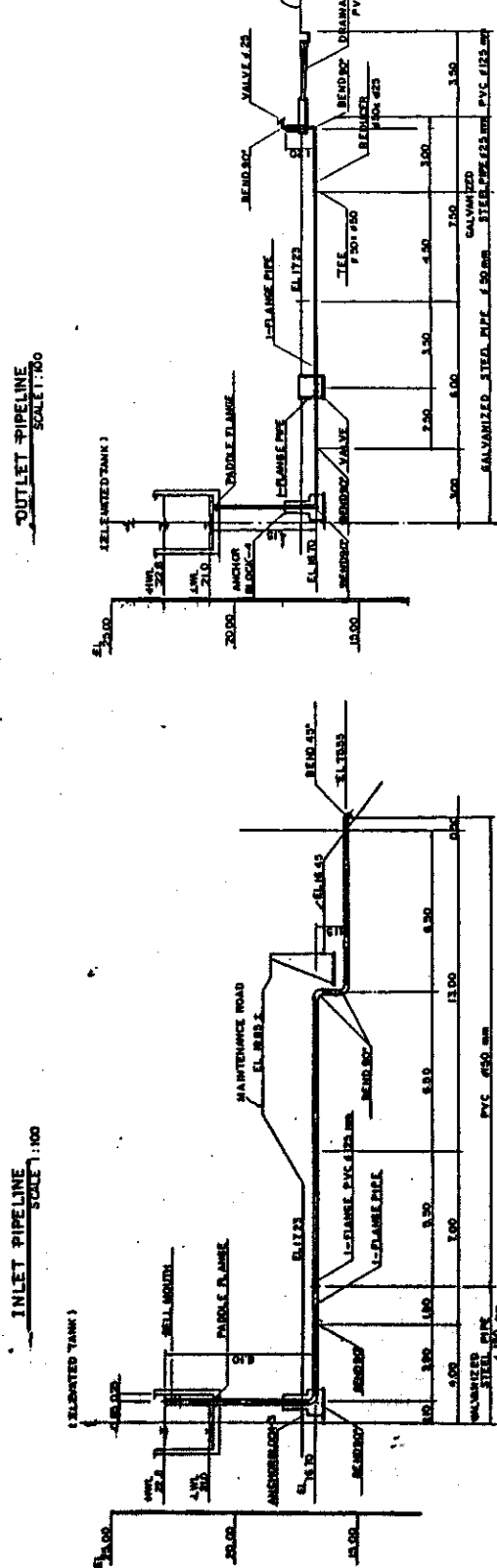
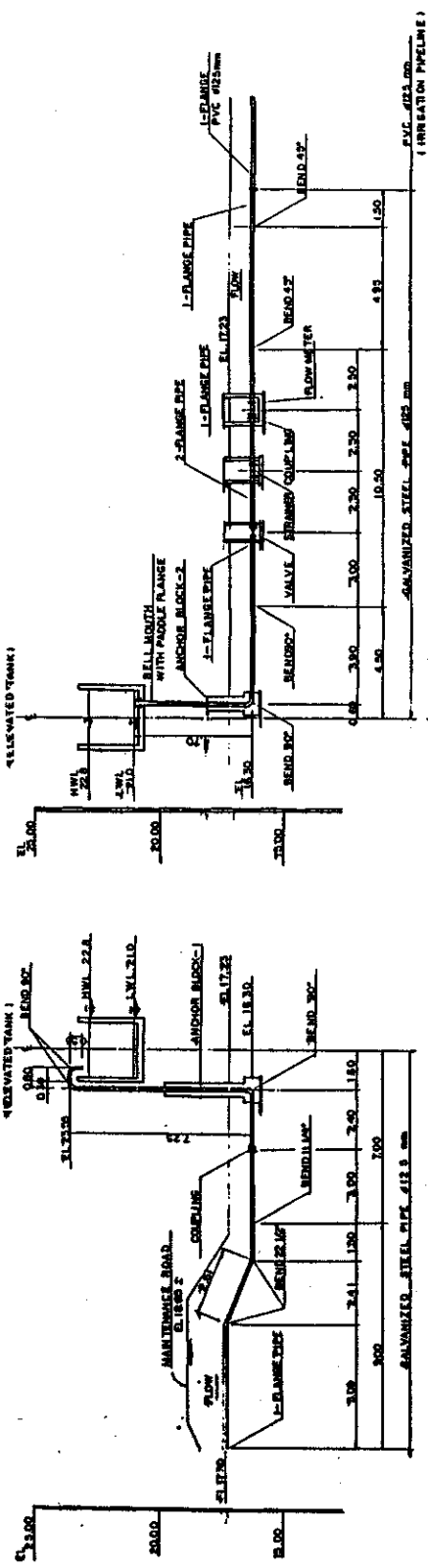


ANCHOR BLOCK - 1  
SCALE 1:50

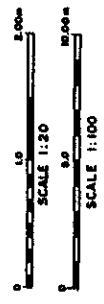
ANCHOR BLOCK - 2  
SCALE 1:50

ANCHOR BLOCK - 3 & 4  
SCALE 1:50

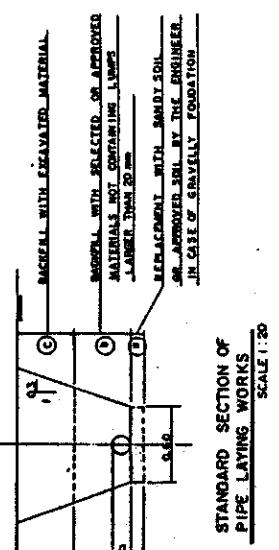
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P )	
PIPE ARRANGEMENT AROUND ELEVATED TANK ( I )	
DWG. NO.	D C I - 006
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	



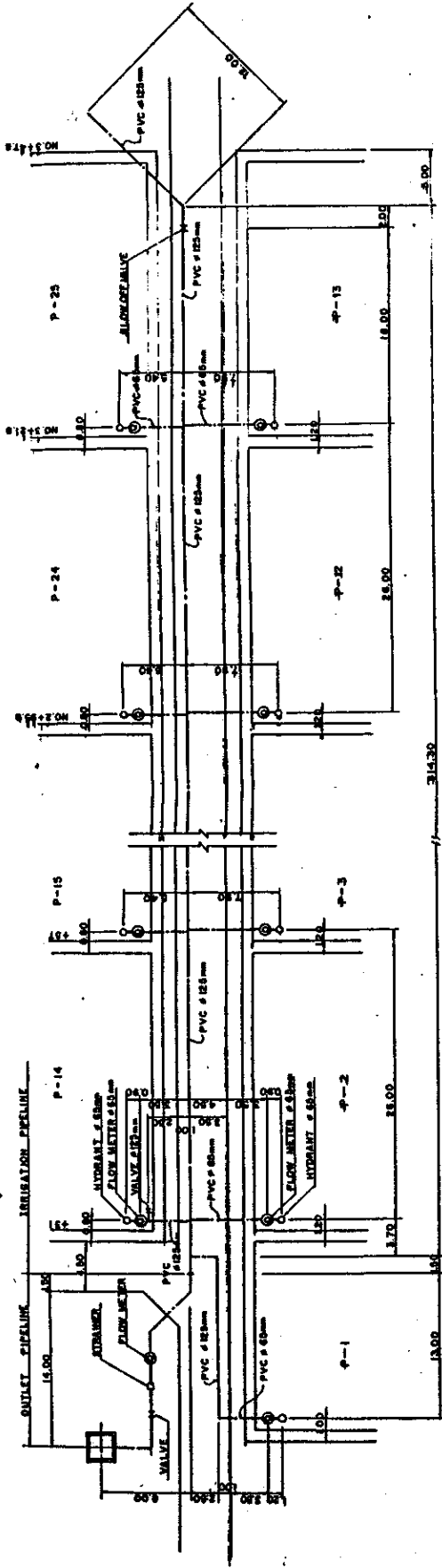
NOTES:  
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT OTHERWISE SHOWN



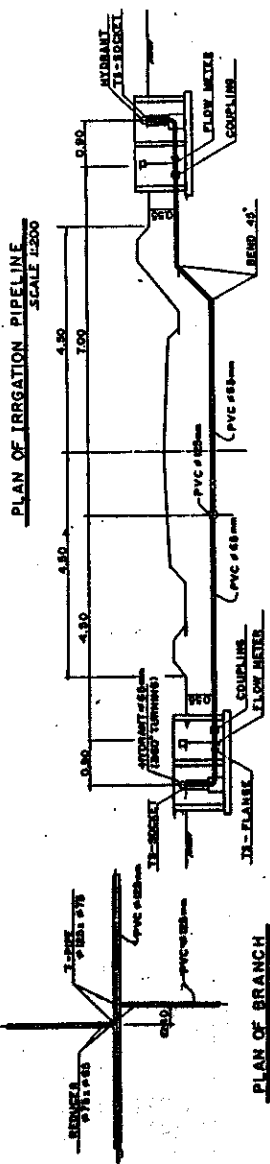
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
OVERSICR CROPS IRRIGATION ENGINEERING PROJECT	
( D. C. I. E. P )	
PIPE ARRANGEMENT AROUND ELEVATED TANK ( 2 )	
DWG. NO. DCI - 667	DATE
JAPAN INTERNATIONAL COOPERATION AGENCY	



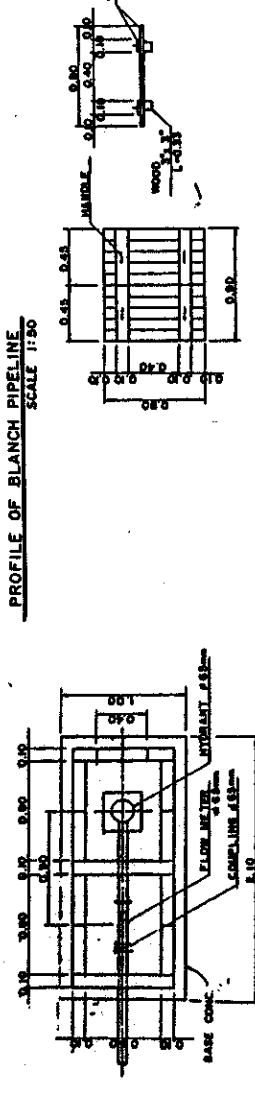




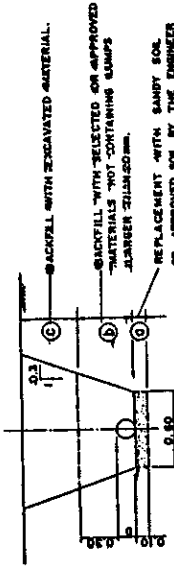
PLAN OF IRRIGATION PIPELINE  
SCALE 1:200



PLAN OF BRANCH  
SCALE 1:50



PROFILE OF BRANCH PIPELINE  
SCALE 1:50

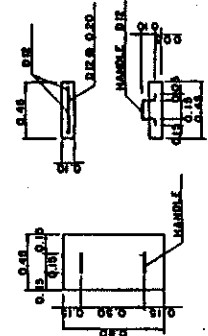


STANDARD SECTION OF  
PIPE LAYING WORKS  
SCALE 1:20

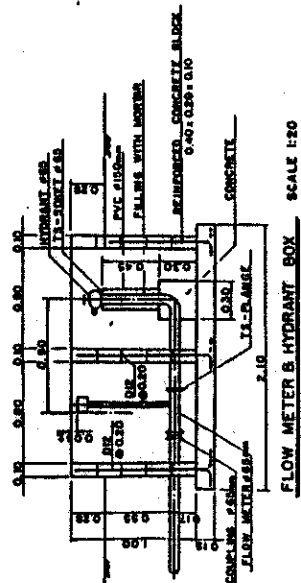


NOTES.  
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT FOR REINFORCING BAR.  
2. ALL REINFORCING AND METAL ARE SHOWN IN MILLIMETERS.

COVER FOR FLOW METER BOX  
SCALE 1:20



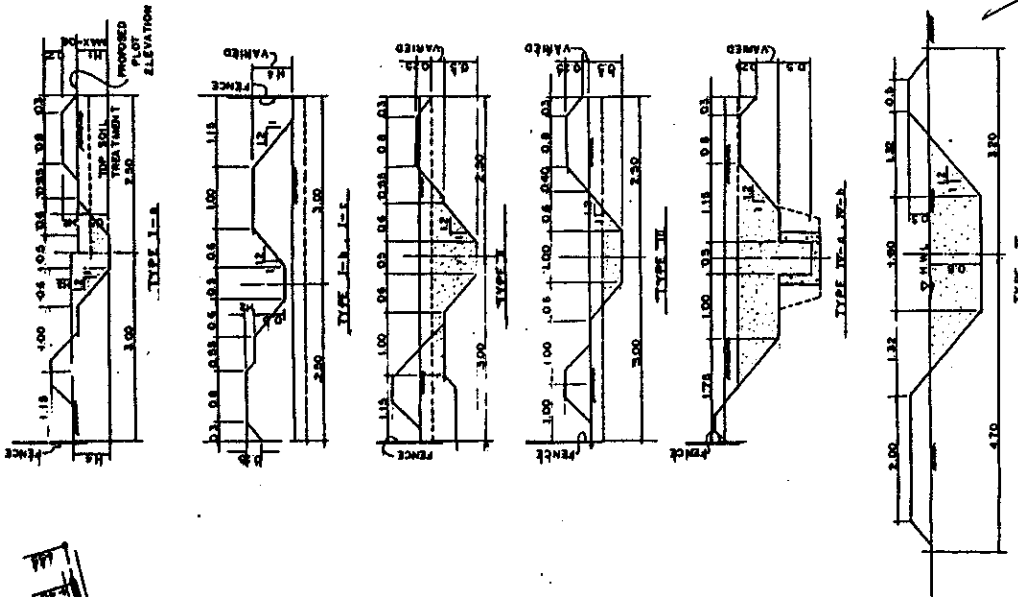
COVER FOR HYDRANT BOX  
SCALE 1:20



FLOW METER & HYDRANT BOX  
SCALE 1:50

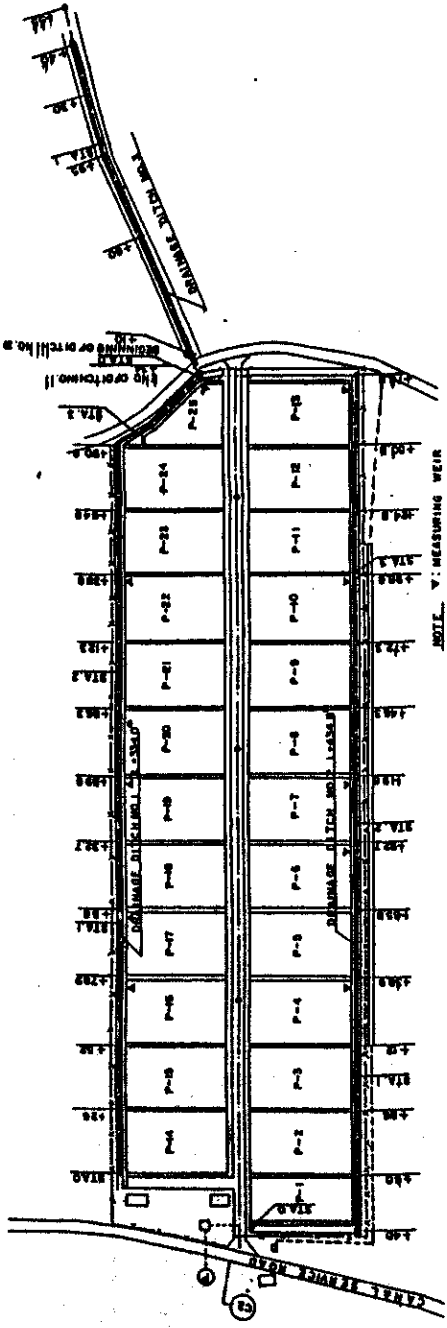
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (D. C. I. E. P.)	
IRRIGATION PIPELINE AND FLOW METER & HYDRANT BOX	DATE
DWG. NO. DCI-009	

JAPAN INTERNATIONAL COOPERATION AGENCY

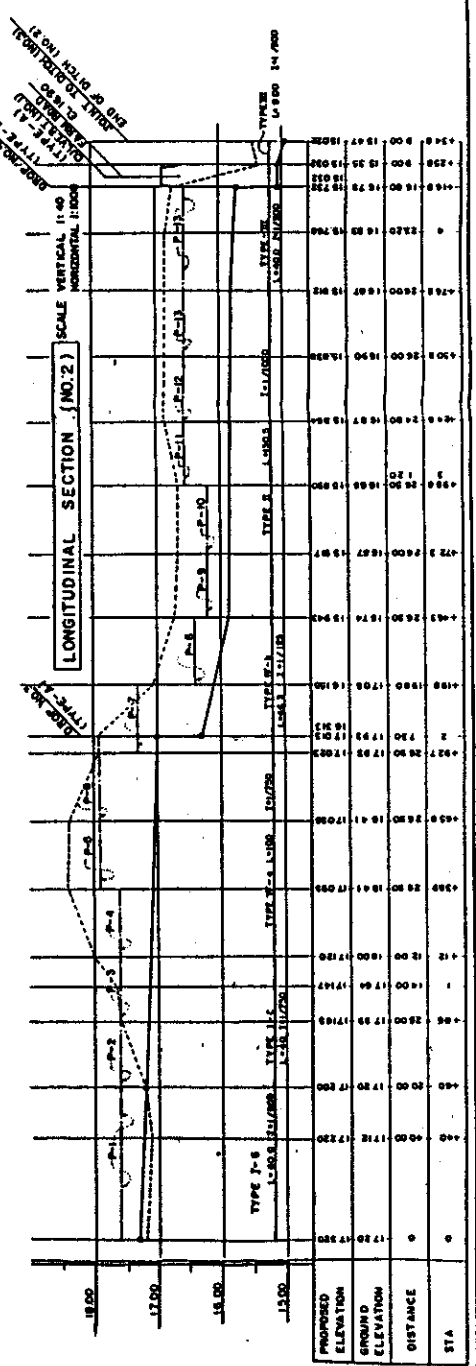
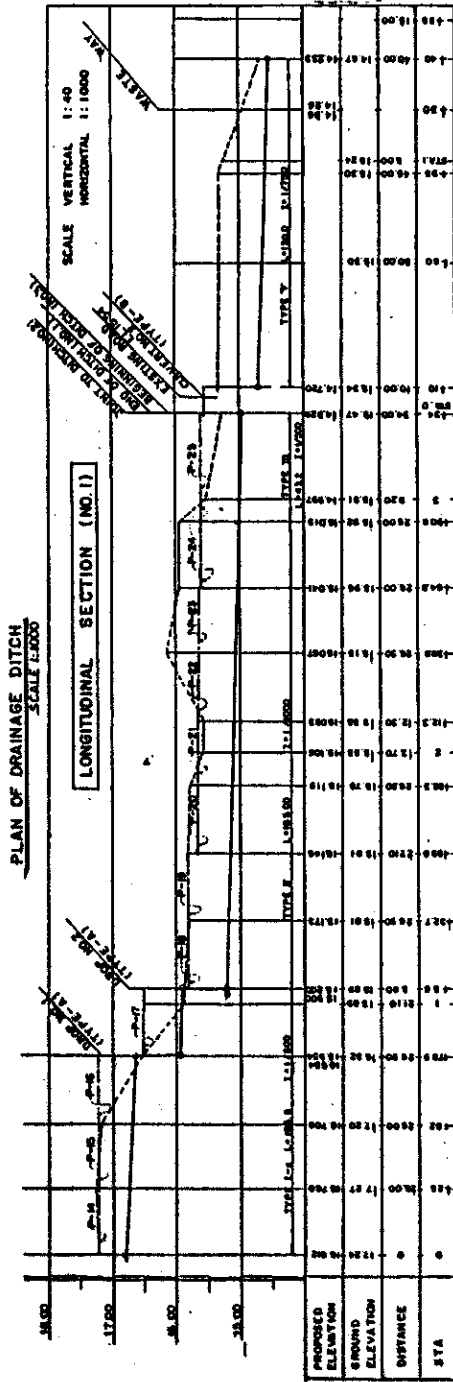


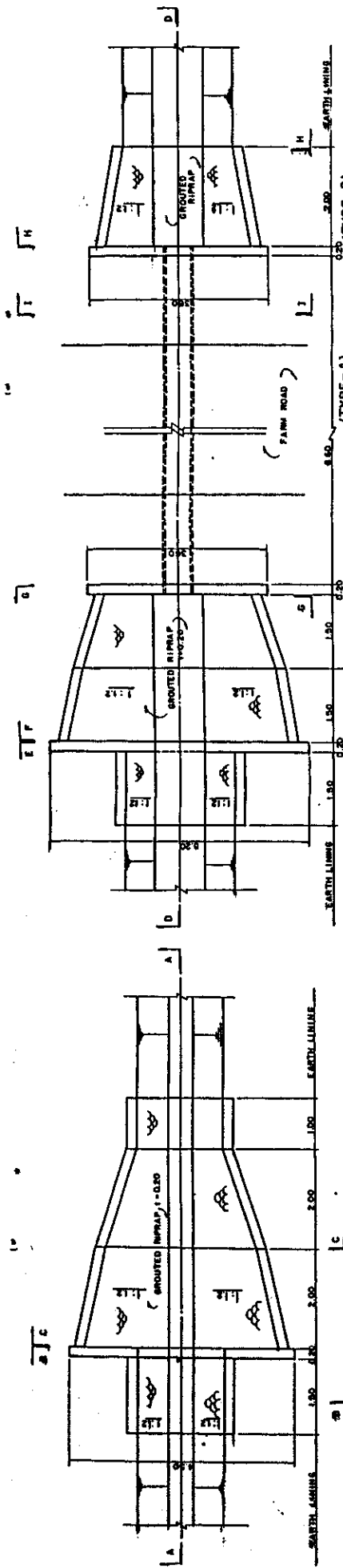
TYPICAL CROSS SECTION  
SCALE 1:40

REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P )	
PLAN OF DRAINAGE DITCH	
DWG. NO.	DCI - 010
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	

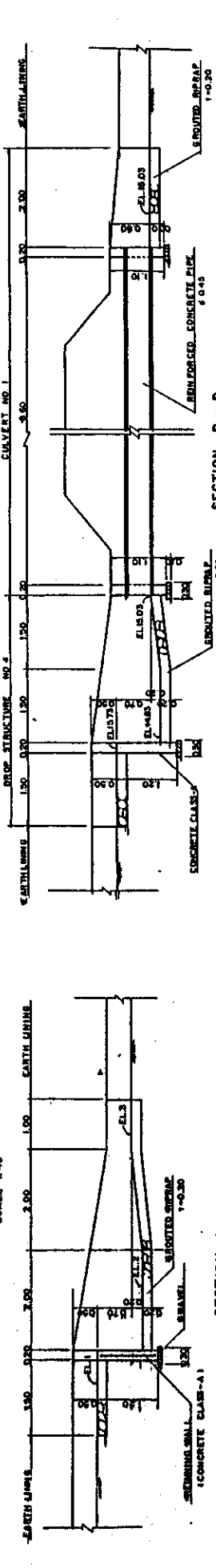


PLAN OF DRAINAGE DITCH  
SCALE 1:2000

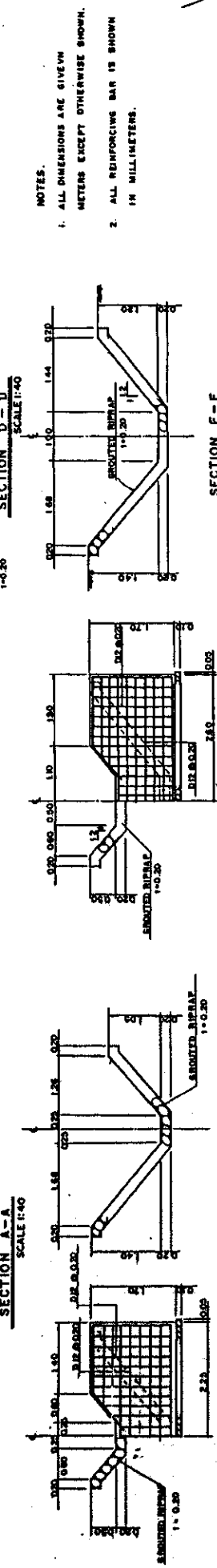




PLAN OF DROP STRUCTURE (TYPE-A)  
SCALE 1:40



PLAN OF CULVERT NO. 1 & DROP STRUCTURE NO. 4  
SCALE 1:40



SECTION A-A  
SCALE 1:40

SECTION B-B  
SCALE 1:40

SECTION C-C  
SCALE 1:40

SECTION D-D  
SCALE 1:40

SECTION E-E  
SCALE 1:40

SECTION F-F  
SCALE 1:40

SECTION G-G  
SCALE 1:40

SECTION H-H  
SCALE 1:40

SECTION I-I  
SCALE 1:40

SECTION J-J  
SCALE 1:40

SECTION K-K  
SCALE 1:40

SECTION L-L  
SCALE 1:40

SECTION M-M  
SCALE 1:40

SECTION N-N  
SCALE 1:40

SECTION O-O  
SCALE 1:40

SECTION P-P  
SCALE 1:40

SECTION Q-Q  
SCALE 1:40

SECTION R-R  
SCALE 1:40

SECTION S-S  
SCALE 1:40

SECTION T-T  
SCALE 1:40

SECTION U-U  
SCALE 1:40

SECTION V-V  
SCALE 1:40

SECTION W-W  
SCALE 1:40

SECTION X-X  
SCALE 1:40

SECTION Y-Y  
SCALE 1:40

SECTION Z-Z  
SCALE 1:40

- NOTES.
1. ALL DIMENSIONS ARE GIVEN METERS EXCEPT OTHERWISE SHOWN.
  2. ALL REINFORCING BAR IS SHOWN IN MILLIMETERS.



DIMENSION TABLE

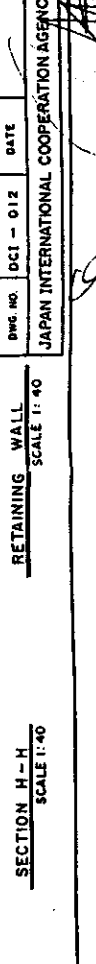
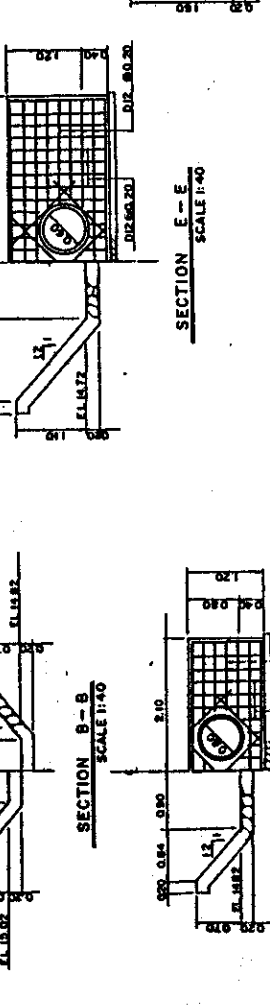
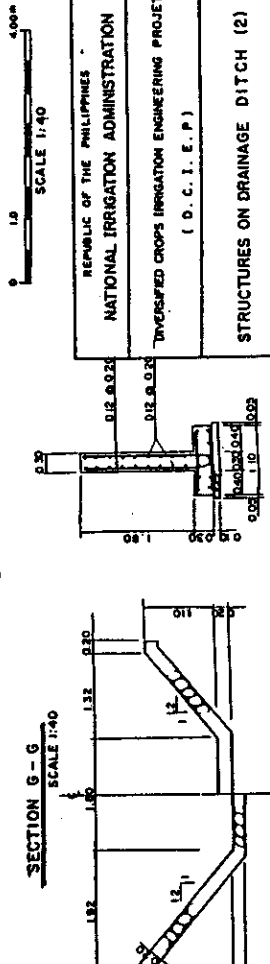
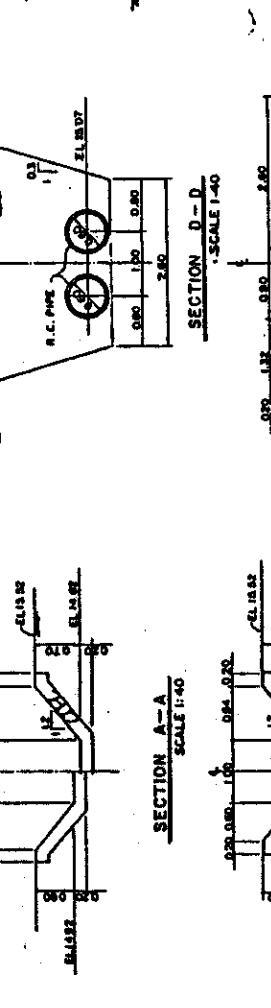
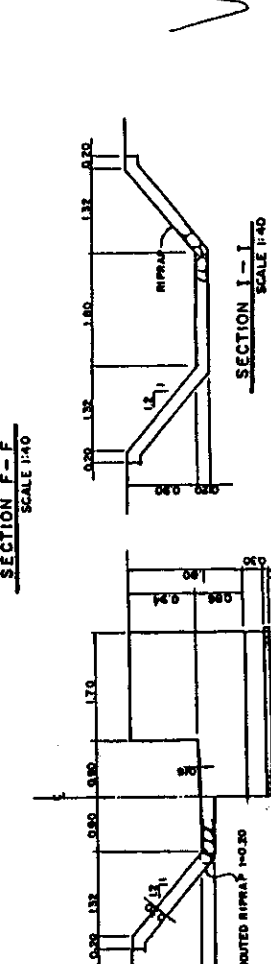
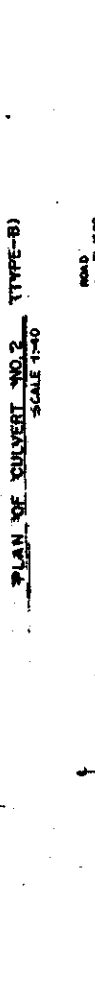
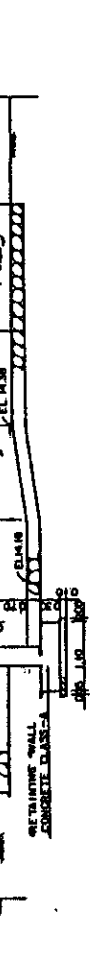
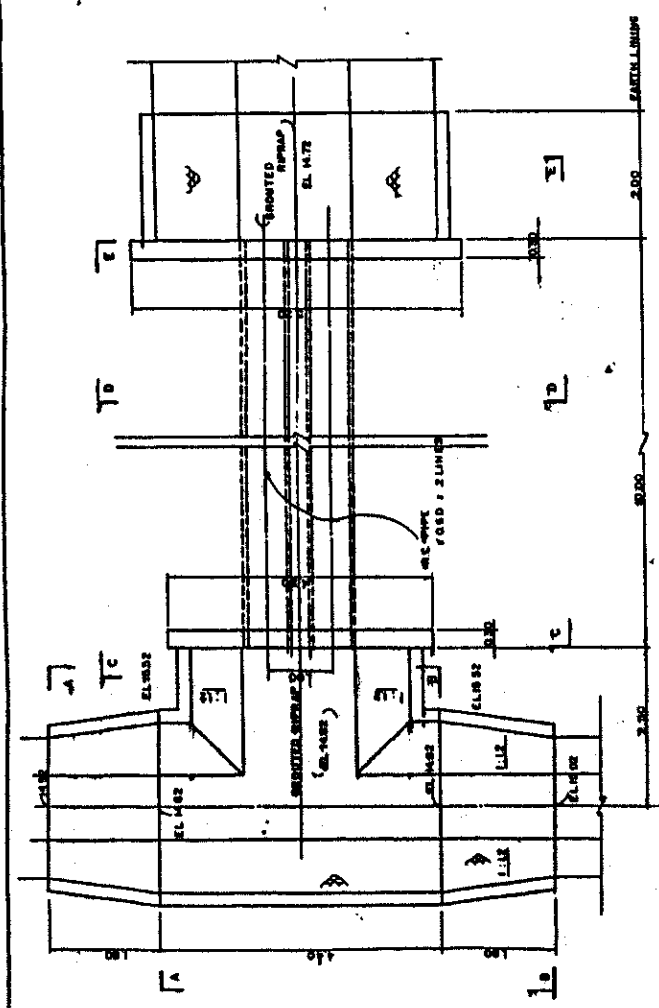
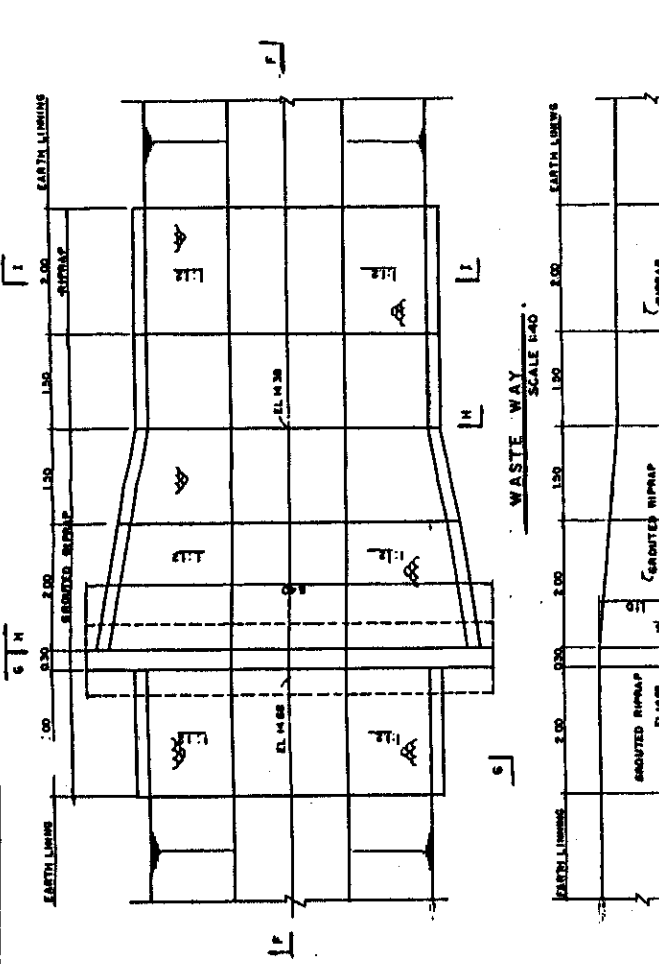
NO.	EL. 1	EL. 2	EL. 3
1	18.85	19.75	19.95
2	19.90	19.00	19.20
3	17.01	16.11	16.31

REPUBLIC OF THE PHILIPPINES  
NATIONAL IRRIGATION ADMINISTRATION  
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT  
( D. C. I. E. P )

STRUCTURES ON DRAINAGE DITCH ( I )

DWG. NO. DCI-011 DATE

JAPAN INTERNATIONAL COOPERATION AGENCY



REPUBLIC OF THE PHILIPPINES  
 NATIONAL IRRIGATION ADMINISTRATION  
 DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT  
 (D.C.I.E.P.)  
 STRUCTURES ON DRAINAGE DITCH (2)

DWG. NO. DCI - 012 DATE  
 JAPAN INTERNATIONAL COOPERATION AGENCY

RETAINING WALL SCALE 1:40

SECTION H-H SCALE 1:40

SECTION E-E SCALE 1:40

SECTION D-D SCALE 1:40

SECTION B-B SCALE 1:40

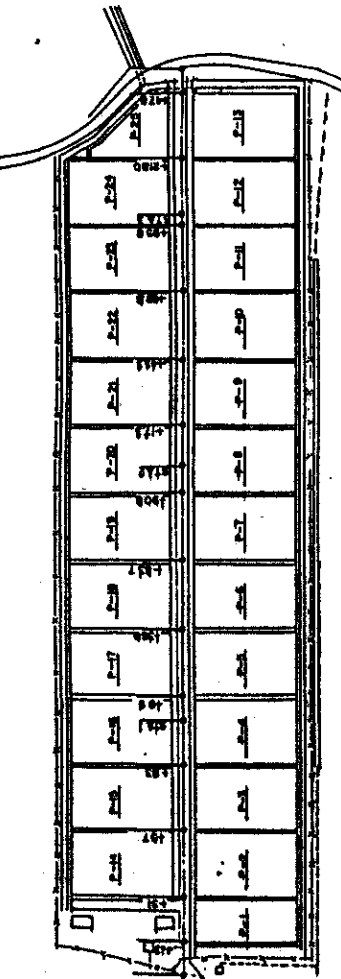
SECTION C-C SCALE 1:40

SECTION A-A SCALE 1:40

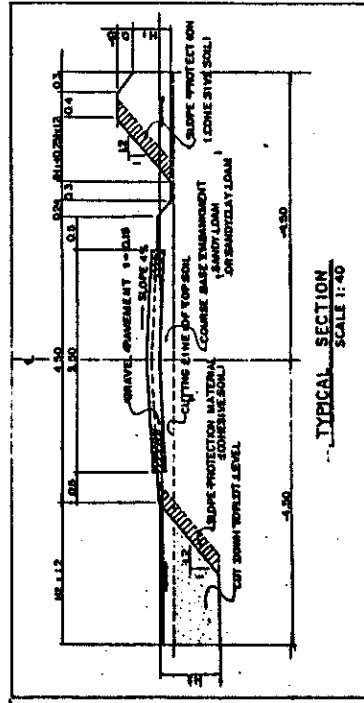
SECTION G-G SCALE 1:40

SECTION F-F SCALE 1:40

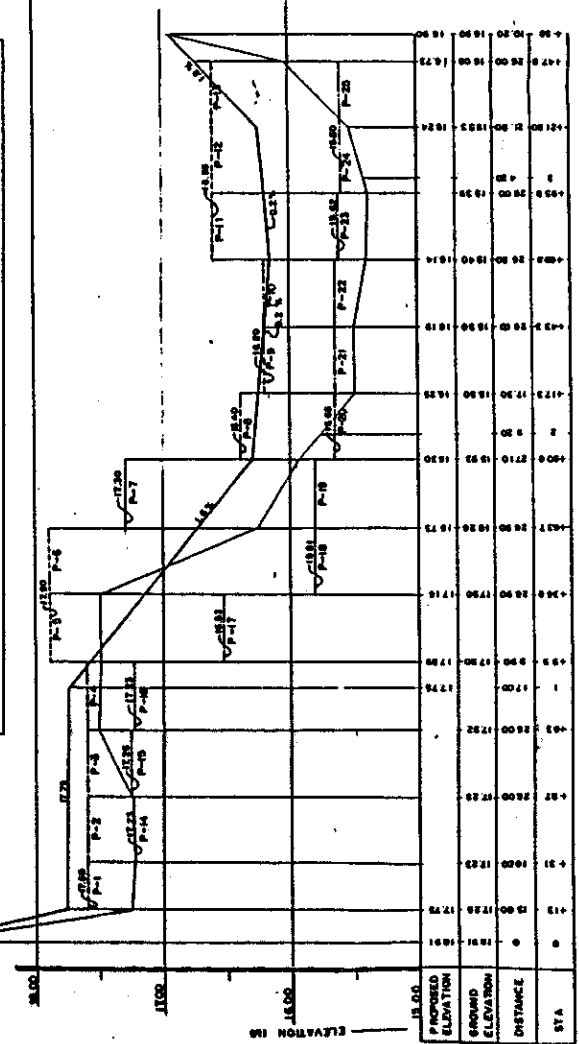




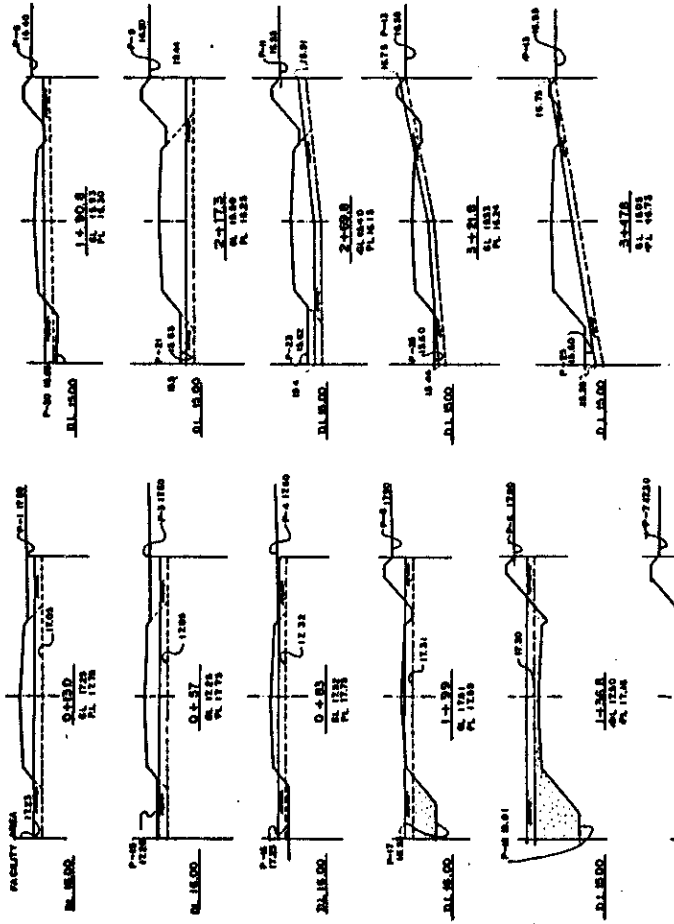
PLAN OF FARM ROAD SCALE 1:1000



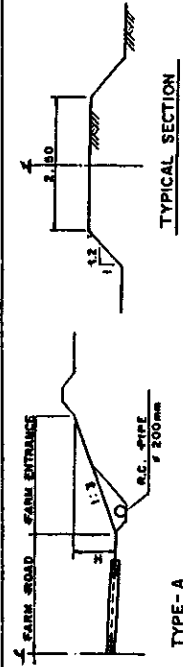
TYPICAL SECTION SCALE 1:40



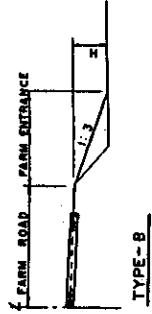
PROFILE OF FARM ROAD SCALE VERTICAL 1:20 HORIZONTAL 1:1000



CROSS SECTION SCALE 1:80



TYPICAL SECTION



FARM ENTRANCE

FARM ENTRANCE SHALL BE REQUIRED WHERE N.O.D.M

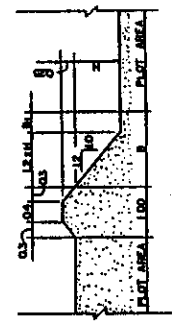
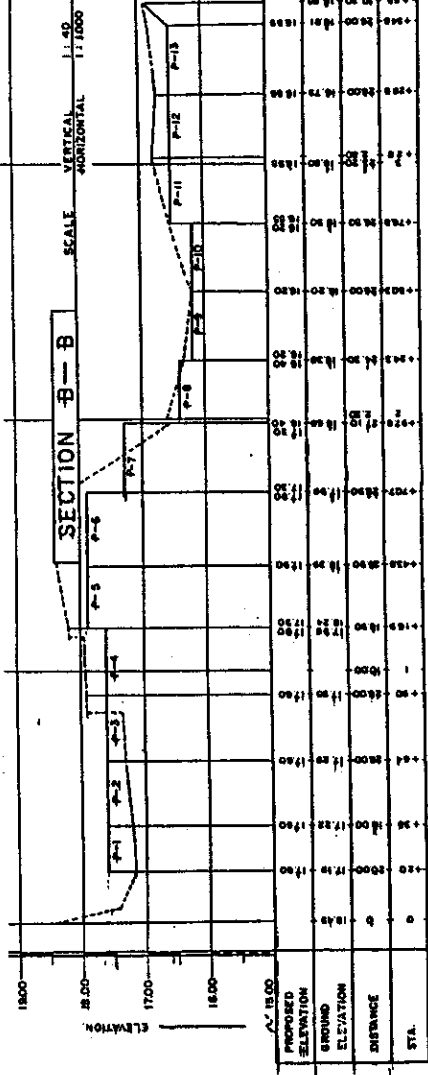
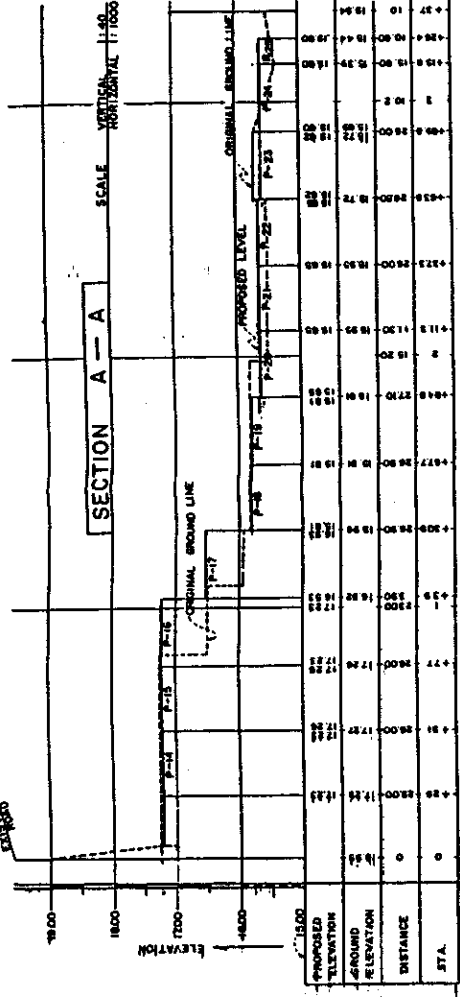
REPUBLIC OF THE PHILIPPINES
NATIONAL IRRIGATION ADMINISTRATION
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D . C . I . E . P )
PLAN OF FARM ROAD
DWG. NO. DC1 - 014 DATE
JAPAN INTERNATIONAL COOPERATION AGENCY

REPUBLIC OF THE PHILIPPINES  
 NATIONAL IRRIGATION ADMINISTRATION  
 DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT  
 (D. C. I. E. P.)

EARTH WORK OF TRIAL FARM

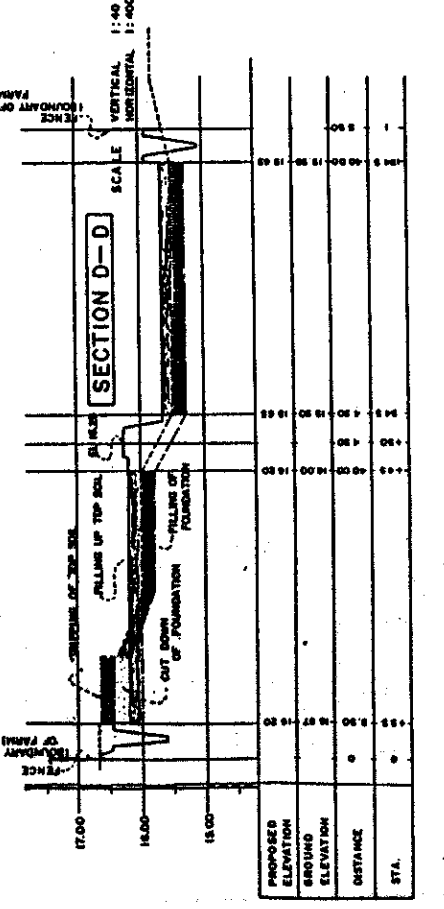
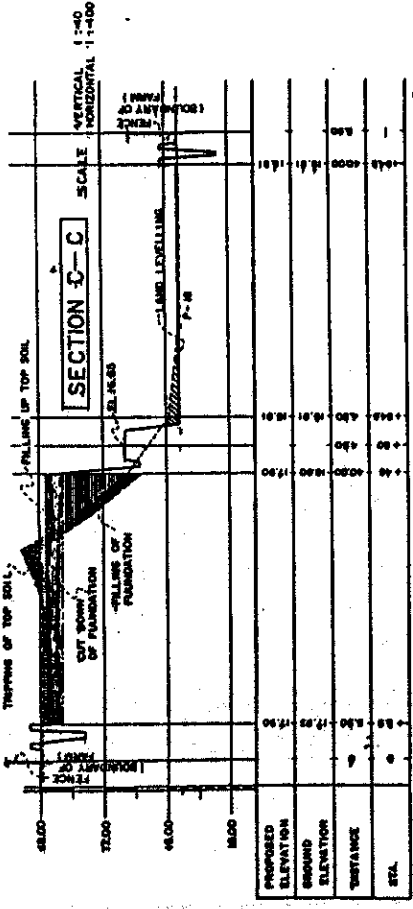
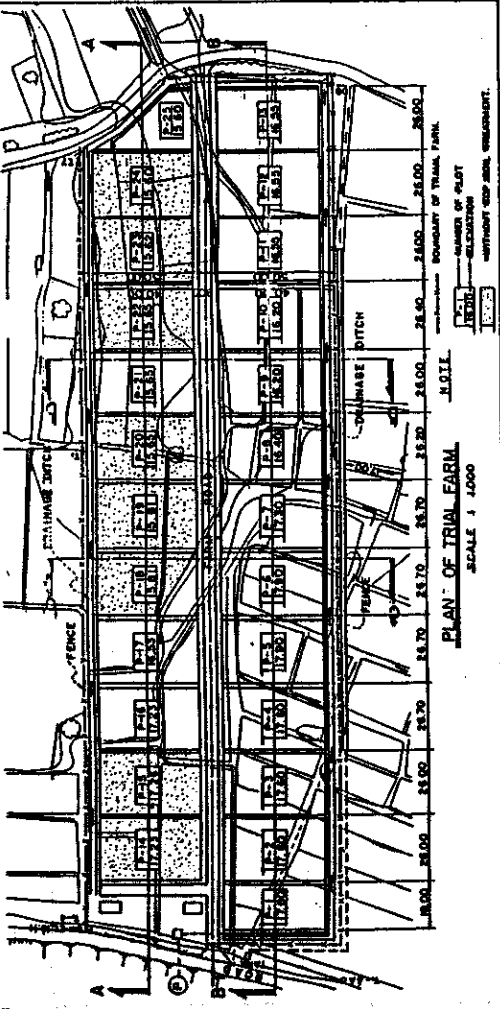
DWG. NO. DCI - 015      DATE

JAPAN INTERNATIONAL COOPERATION AGENCY



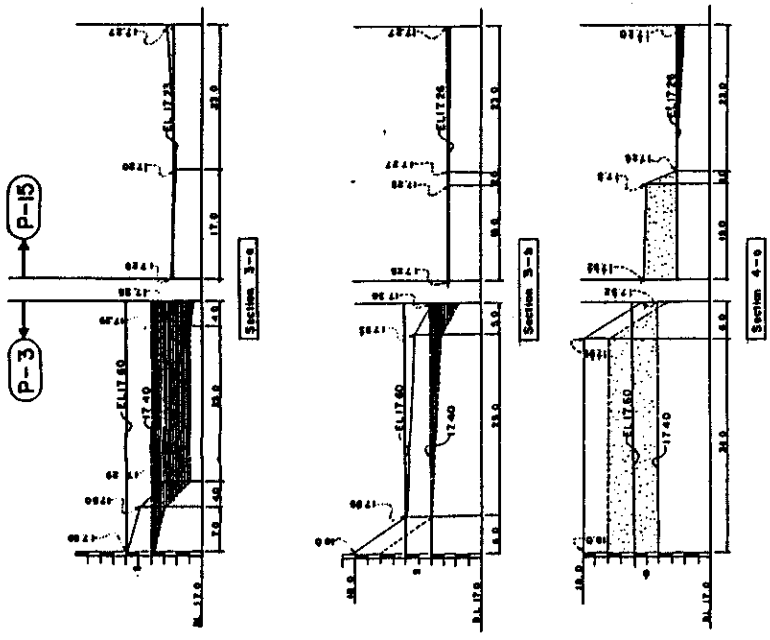
BORDER & SLOPE

TYPE	H	B	12 H	B1	NOTE
A	0.9	1.10	1.08	0.02	TO P-5
B	0.72	0.90	0.86	0.04	TO P-18
C	0.38	0.50	0.43	0.07	TO P-11
D	—	—	—	—	—

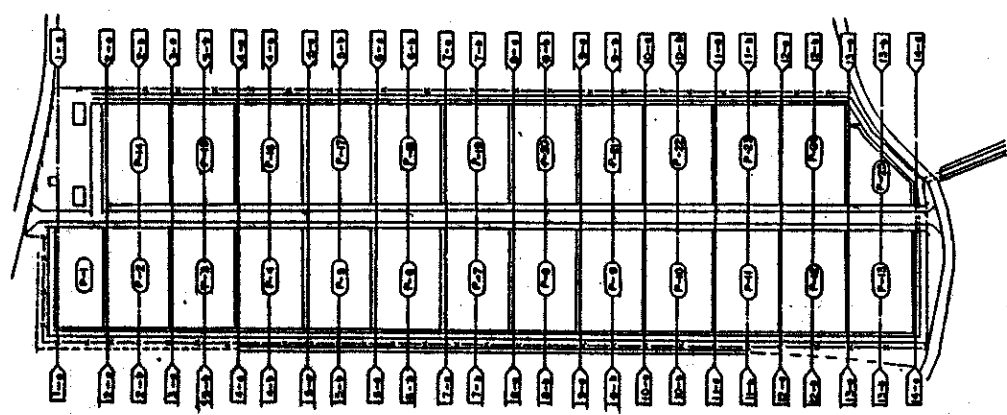
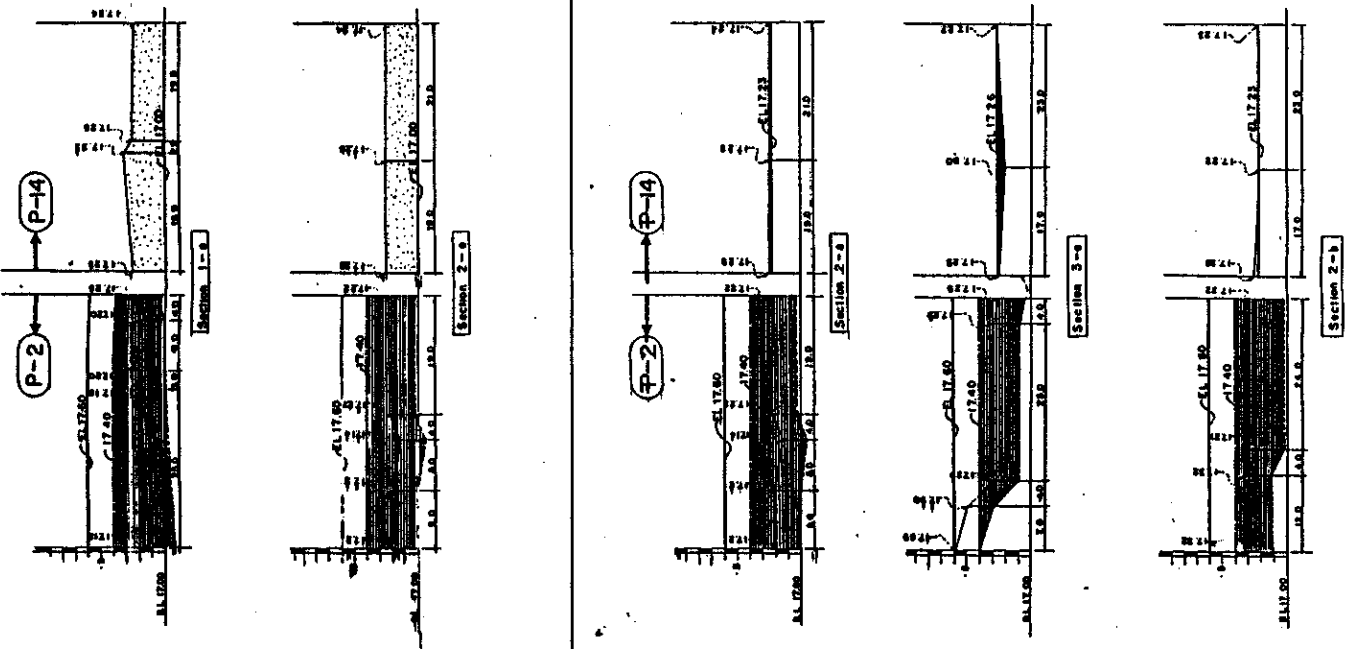


*MB*

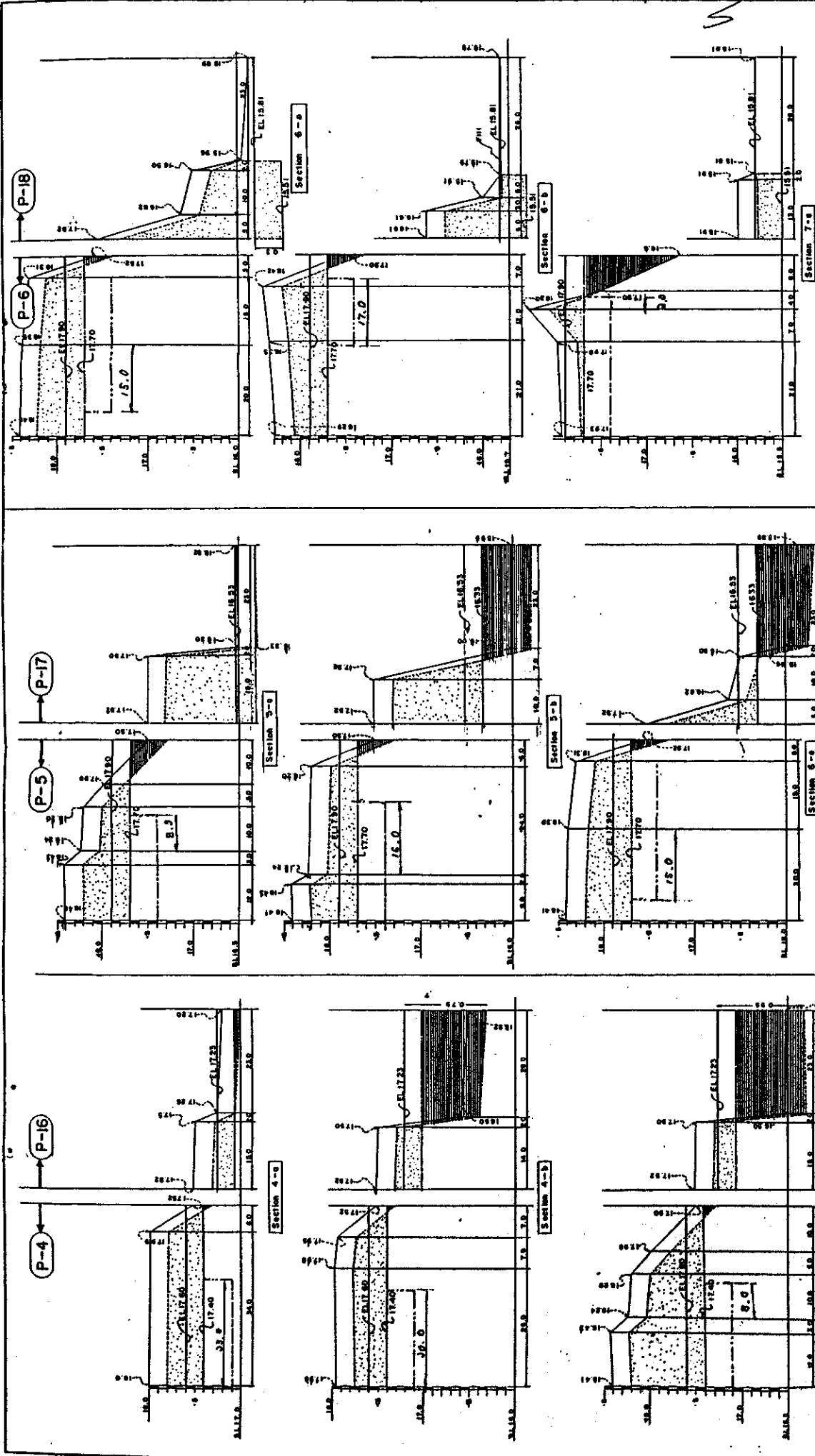
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT	
( O. C. I. E. P )	
EARTH WORK OF TRIAL FARM (2)	
DWG. NO.	DCI - 018
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	



NOTE  
 - EL. 17.00  
 PROPOSED ELEVATION  
 - - - - - CUT LINE  
 [Hatched Area] CUTTING AREA  
 [Solid Area] EMBANKMENT AREA  
 - - - - - CUT LINE OF TOP SOIL



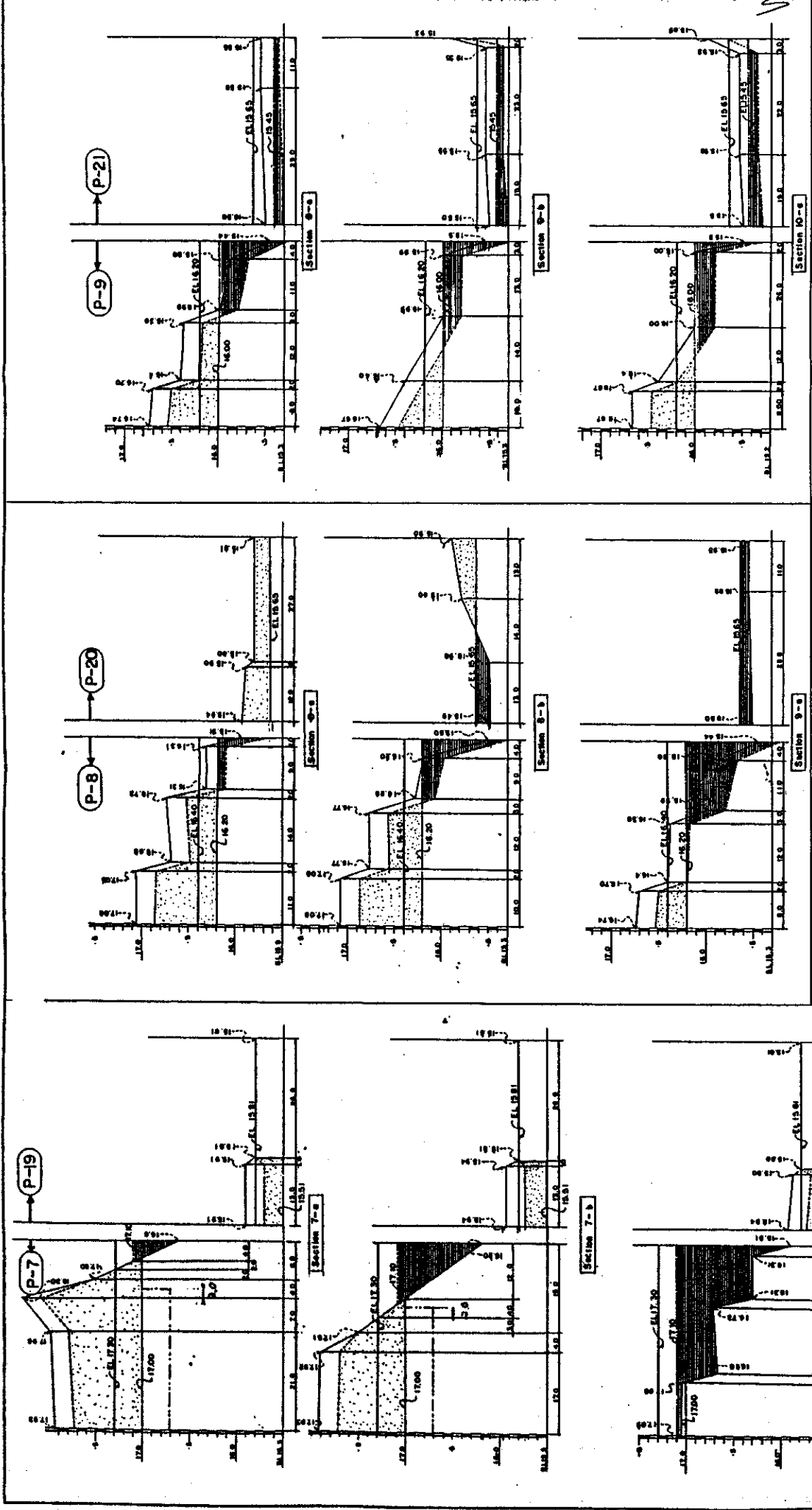
PLAN SCALE 1:1000



REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P )	
EARTH WORK OF TRIAL FARM (3)	
DWG. NO.	DCI - 017
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	

NOTE

- EL. 17.00 - PROPOSED ELEVATION
- CUT LINE
- [Stippled Area] CUTTING AREA
- [Hatched Area] EMBANKMENT AREA
- CUT LINE OF TOP SOIL
- CUT LINE FOR REPLACEMENT

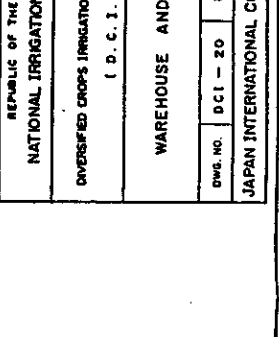
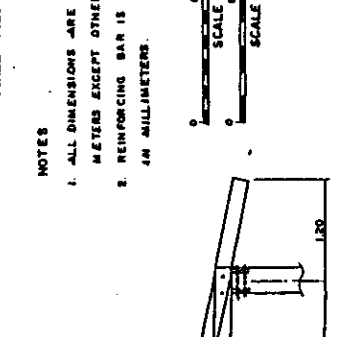
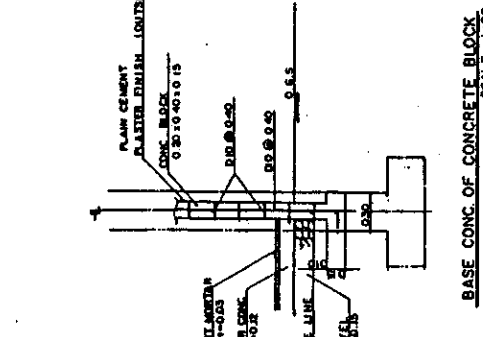
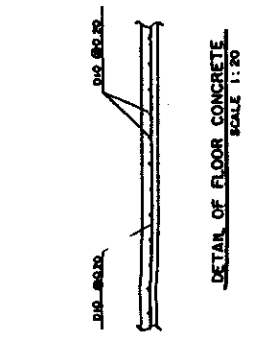
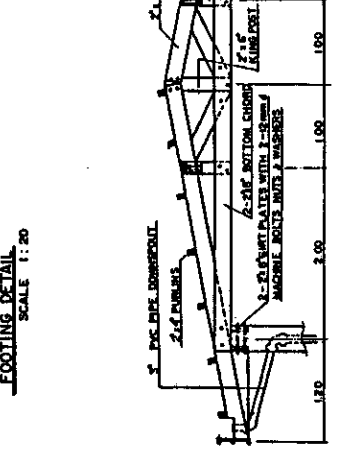
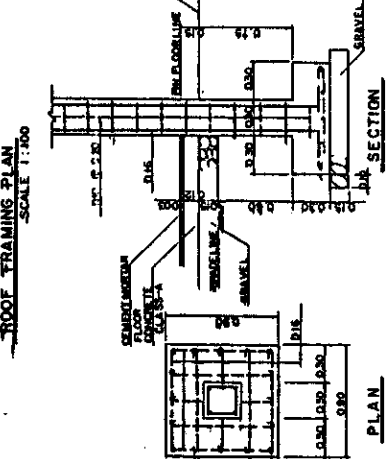
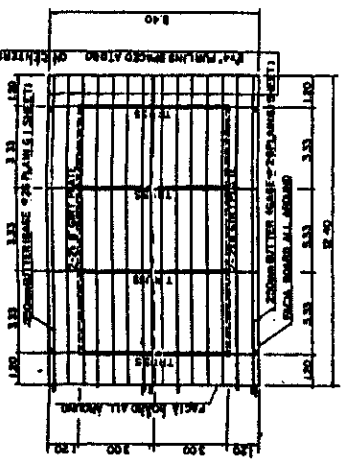
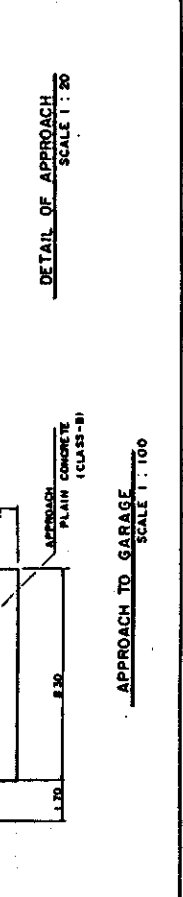
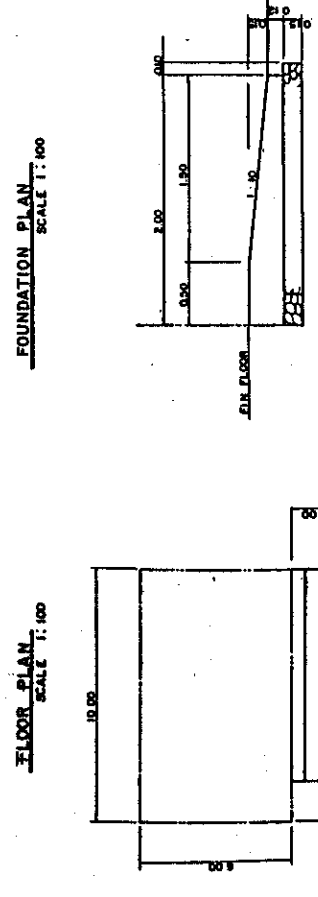
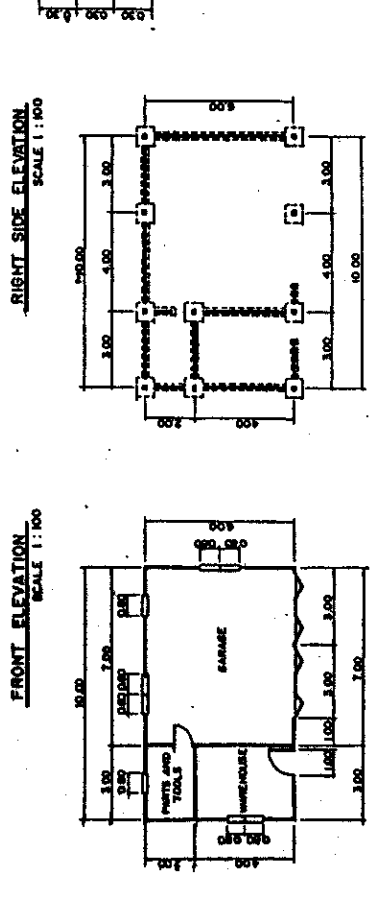
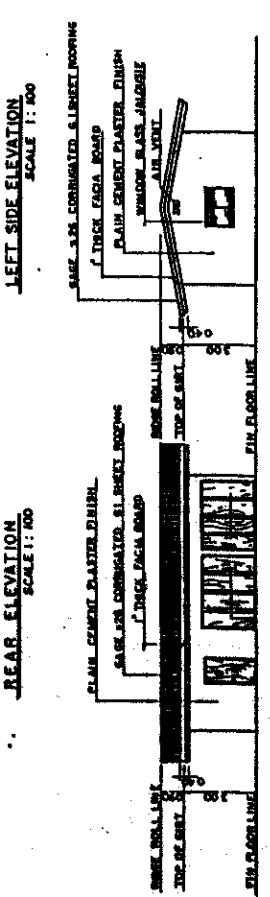
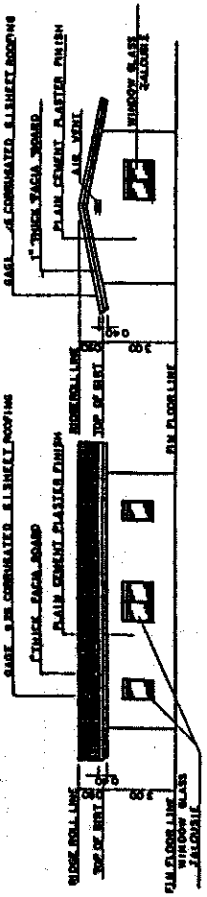


**NOTE**

- PROPOSED ELEVATION
- - - CUT LINE
- ▨ CUTTING AREA
- ▩ EMBANKMENT AREA
- - - CUT LINE OF TOP SOIL
- CUT LINE FOR REPLACEMENT

REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT	
( D. C. I. E. P )	
EARTH WORK OF TRIAL FARM (4)	
DWG. NO.	DCI - 018
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	





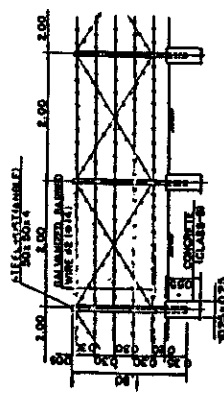
NOTES  
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT OTHERWISE SHOWN  
2. REINFORCING BAR IS SHOWN 4M MILLIMETERS.



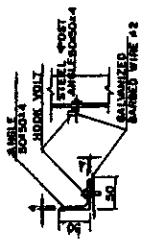
REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DAVIDEF CROPS IRRIGATION ENGINEERING PROJECT (D. C. I. E. P.)	
WAREHOUSE AND GARAGE	
DWG. NO.	DCI - 20
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	



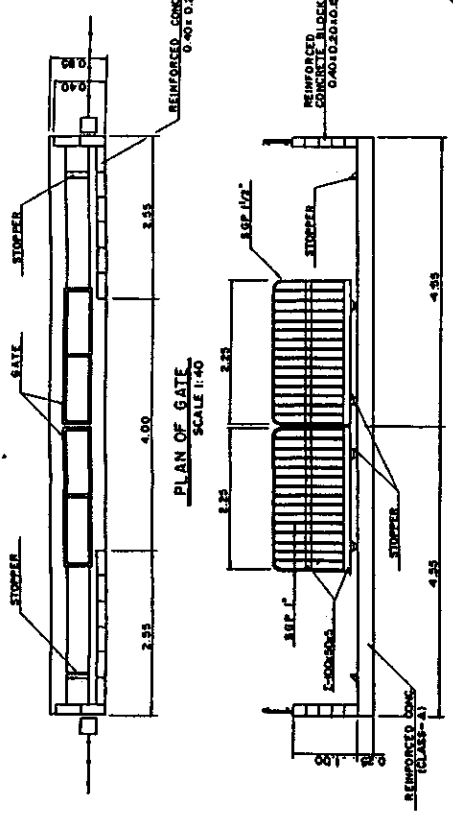




FENCE SCALE 1:40

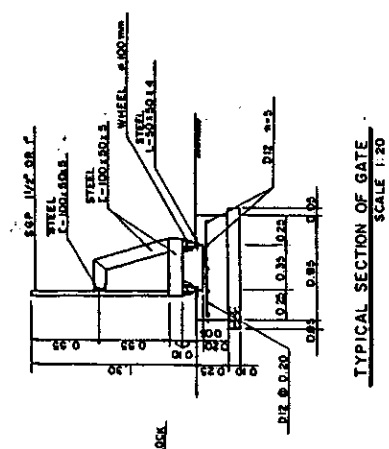


CONNECTION OF BARBED WIRE SCALE 1:2

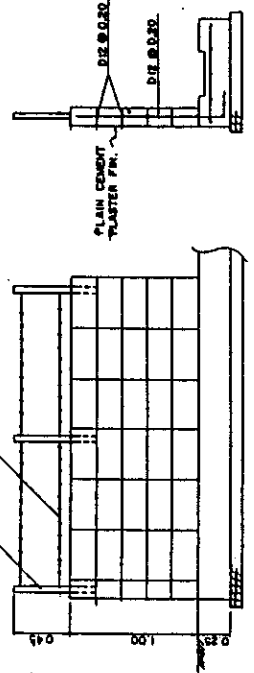


PLAN OF GATE SCALE 1:40

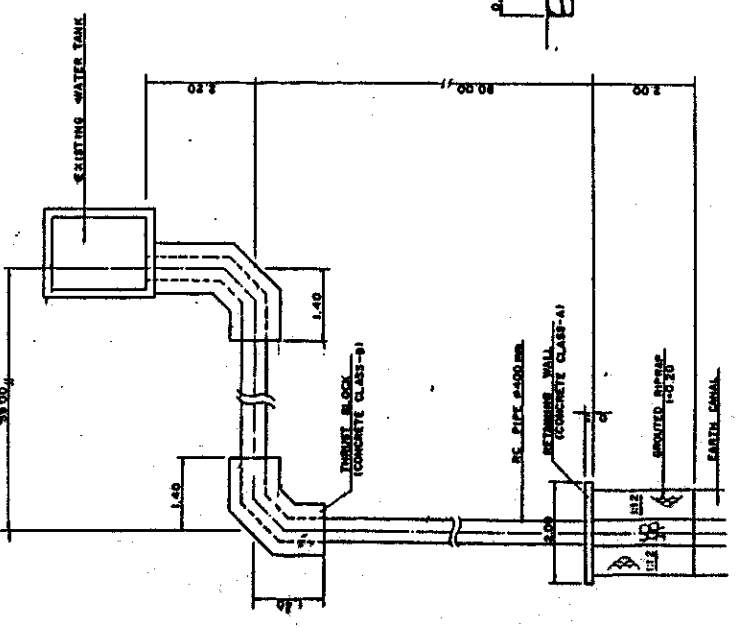
FRONT VIEW OF GATE SCALE 1:40



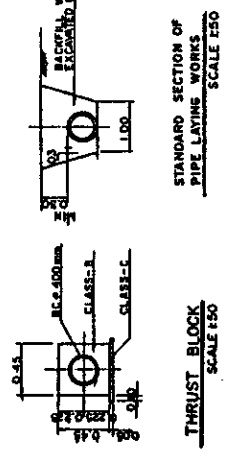
TYPICAL SECTION OF GATE SCALE 1:20



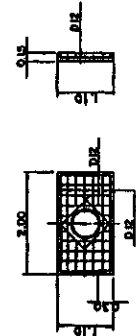
DETAIL OF REINFORCED CONC. BLOCK SCALE 1:20



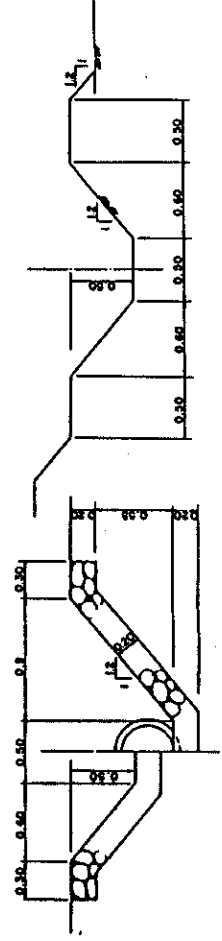
RELOCATION OF EXISTING PIPELINE SCALE 1:50



STANDARD SECTION OF PIPE LAYING WORKS SCALE 1:50

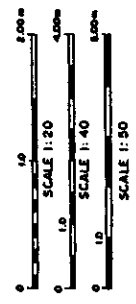


RETAINING WALL SCALE 1:50



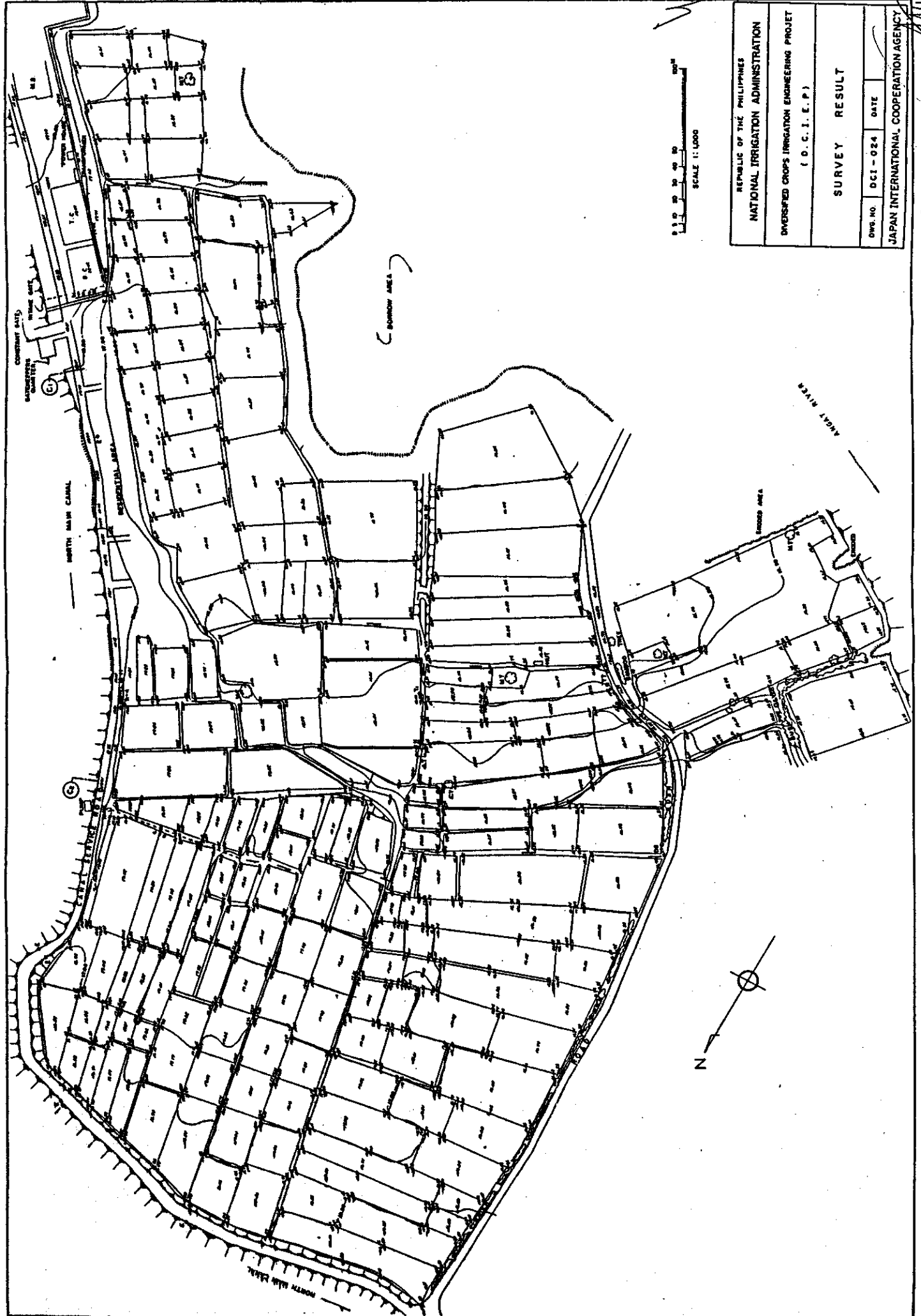
STANDARD SECTION OF EARTH CANAL SCALE 1:20

- NOTES.
1. ALL DIMENSIONS ARE GIVEN IN METERS EXCEPT FOR REINFORCING BAR.
  2. ALL REINFORCING BAR AND METAL ARE SHOWN IN MILLIMETERS.



REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (D. C. I. E. P.)	
GATE, FENCE AND RELOCATION OF EXISTING PIPELINE	DATE
DWG. NO. DCI - 023	DATE
JAPAN INTERNATIONAL CO-OPERATION AGENCY	

B-98

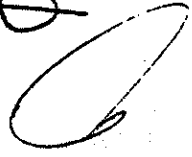


1 1/2 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

SCALE 1:1000

REPUBLIC OF THE PHILIPPINES	
NATIONAL IRRIGATION ADMINISTRATION	
DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT	
( D. C. I. E. P. )	
SURVEY RESULT	
OWS. NO.	DCI - 024
DATE	
JAPAN INTERNATIONAL COOPERATION AGENCY	

IX. SUPPLEMENTAL NOTICE NO. 1

① ~~AMS~~ 

4

January 24, 1987

Date

## SUPPLEMENTAL NOTICE NO.1

to the  
BID DOCUMENTS

on

TRIAL FARM

for

DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT

( D. C. I. E. P.)

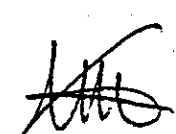
A. The following articles are hereby made part of the above-captioned Bid Documents :

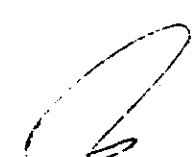
1. Contractor's all Risk (CAR) Insurance (Optional)

Contractor ~~CAR~~ after receipt of the Notice to Proceed, obtain and maintain in effect for the duration of the Contract a Contractor's All Risk (CAR) Insurance for this Contract with the Government Service Insurance System (GSIS) to comply with the provisions of Republic Act No. 656, as amended by Presidential Decree No. 245.

Such CAR Insurance for this Contract shall have the following scope of cover :

1. Insurance against any unforeseen loss or damage from any cause (other than those that may be reasonably and specifically excluded by the GSIS) for the following:
  - a) Entire contract work (Permanent and Temporary Works) including all materials and equipment already on the site to be incorporated into the works.
  - b) All construction plant and equipment.
2. Third Party Liability -Insurance against all sums which the Contractor shall become legally liable to pay as damages consequent upon.
  - a) Accidental bodily injury or illness (whether fatal or not) to third parties.
  - b) Accidental loss or damage to property belonging to third parties occurring in direct connection with the performance of the Contract.





The payment of the required premiums shall be borne by the Contractor, if this insurance is secured by him.

By virtue of this CAR Insurance, it is understood that any claim filed by Contractor against JICA due to losses and damages on all of the above mentioned coverages due to the following will not be entertained;

- a) Fire, lightning, explosion, crashing aircraft, extinguishing water or other fire-fighting measures.
- b) Flood, inundation and rain.
- c) Windstorm of any kind.
- d) Earthquakes, subsidence, landslide, and rockslide.
- e) Theft, burglary

Should the contract period be extended, as authorized, the validity of the CAR Insurance shall be correspondingly extended, if secured

Any amount not covered under this CAR Insurance by GSIS shall be shouldered by the Contractor and therefore will not be claimed against JICA.

However, if the Contractor opted not to secure the CAR Insurance, all incidents that may arise in connection with the implementation of their Contract for its duration which are supposed to be covered by such CAR Insurance, shall be the whole responsibility of the Contractor.

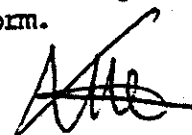
## 2. DELIVERY OF BIDS

Upon receiving Bid Documents from Bidders at the place and time designated in Invitation to Bid for closing of accepting, JICA will immediately study whether the proposed Bid Prices are within an acceptable extent in relation with JICA's cost estimate.

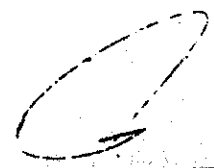
If JICA finds that all the Bid Prices are out of the acceptable extent, JICA may distribute a copy of the first page only of BID FORM to Bidders, and request them to propose a lower Bid Price and sign for the amount.

In case no Bidders propose Bid Prices acceptable to JICA after repeating the above procedure two times, JICA may cancel the Bidding itself.

B. All Bids submitted shall also be in accordance with this Supplemental Notice. Receipt of this Notice must be acknowledged by Bidders by writing "Supplemental Notice No. 1 Received" in the Bid Form.







資料 C

追加工事見積書、見積評価及び契約書類

- 1) SUPPLEMENTARY AGREEMENT
- 2) 追加工事に関する要領書
- 3) 追加工事に関する実施設計報告書の提出
- 4) 追加工事に関する見積依頼書
- 5) 追加工事に関する見積書
- 6) 追加工事見積書審査報告

SUPPLEMENTARY AGREEMENT

Concerning the Contract for the construction of Trial Farm for Diversified Crops Irrigation Engineering Project, signed on the 8th of January 1988, between Mr. Moriya Miyamoto, Resident Representative of Japan International Cooperation Agency (JICA) in the Philippines and Mr. Teodoro A. Legaspi, President of Summa Kumagai, Inc. (Contractor), both sides agree as follows:

1. The contractor shall perform the Extra Work as described in the construction drawings.
2. The amount for the Extra Work shall be as shown in the attachment 1) "Bill of Quality for Extra Work".
3. Payment for the Extra Work shall be made in the following manner;
  - a) Advance Payment - fifteen (15) percent of total amount for the Extra Work shall be made according to the clause GC-40 a) "Advance Payment".
  - b) Final Payment - remaining amount of the contract price for the Extra Work shall be made upon the satisfactory completion of the Extra Work by the Contractor.
4. The Contractor shall commence the Extra Work immediately after signing the Supplementary Agreement, and shall complete the Extra Work by the ~~2nd~~<sup>1st</sup> of May 1988.

*[Handwritten signature]*

Attachment:

1. Bill of Quantity for Extra Work
2. Construction Drawings

March~~23~~, 1988

*[Handwritten signature]*  
 MORIYA MIYAMOTO  
 Resident Representative  
 Japan International  
 Cooperation Agency (JICA)  
 Philippine Office

*[Handwritten signature]*  
 TEODORO A. LEGASPI  
 President  
 SUMMA KUMAGAI, INC.

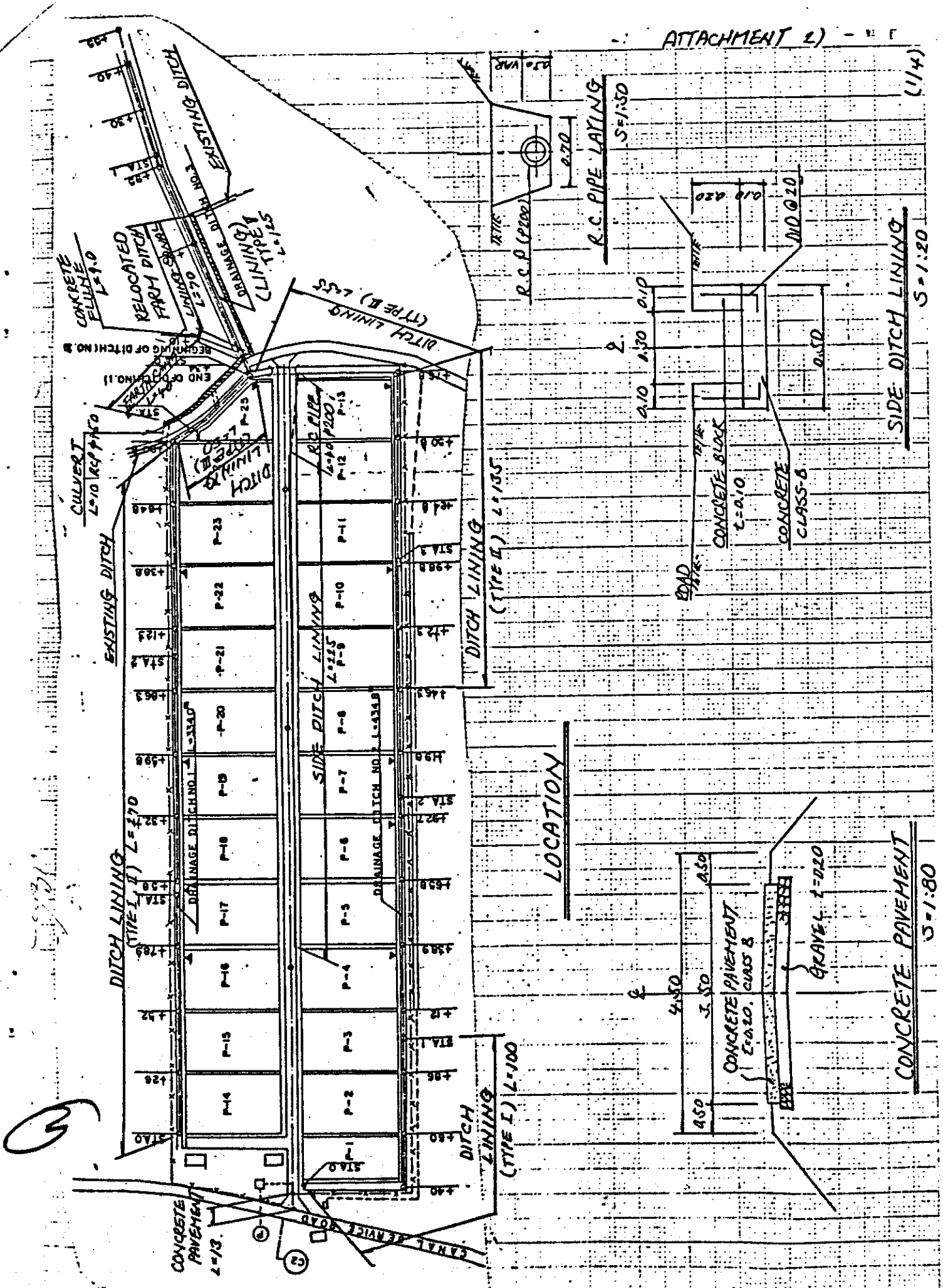
## ATTACHMENT 1)

BILL OF QUANTITY FOR EXTRA WORKS

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
<u>WORK (1) Construction of Garage</u>					
7101	Building	m <sup>2</sup>	42	2,430	102,060
7102	Front Concrete Pavement	m <sup>2</sup>	170	477	81,090
7103	Water Supply/Drainage Pipeline	m	110	230	25,300
	Total for WORK (1)				<u>208,450</u>
<u>WORK (2) Relocated Farm Ditch</u>					
7201	Earth Canal	m	40	50	2,000
7202	Lining Canal	m	70	657	45,990
7203	Culvert	m	10	585	5,850
7204	Flume	m	9	1,267	11,403
7205	Removal of Existing Culvert	m	10	85	850
	Total for WORK (2)				<u>66,093</u>
<u>WORK (3) Farm Road Concrete Pavement</u>					
7301	Concrete Pavement	m	13	1,700	22,100
	Total for WORK (3)				<u>22,100</u>
<u>WORK (4) Side Ditch Lining</u>					
7401	Side Ditch Lining	m	265	137	36,305
	Total for WORK (4)				<u>36,305</u>
<u>WORK (5) Drainage Ditch Lining</u>					
7501	Ditch No. 1	m	320	433	138,560
7502	Ditch No. 2	m	290	433	125,570
7503	Ditch No. 3	m	125	872	109,000
	Total for WORK (5)				<u>373,130</u>
	Total for EXTRA WORKS				<u>706,078</u>

ATTACHMENT 2)

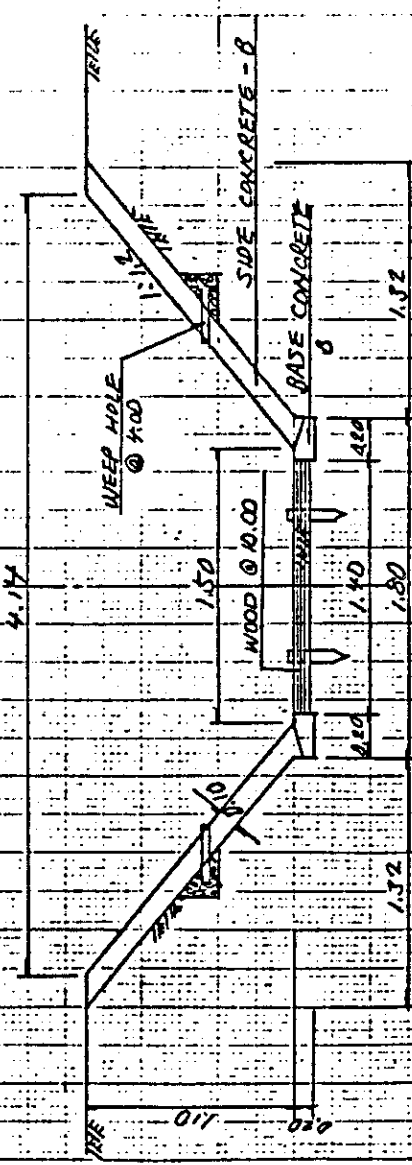
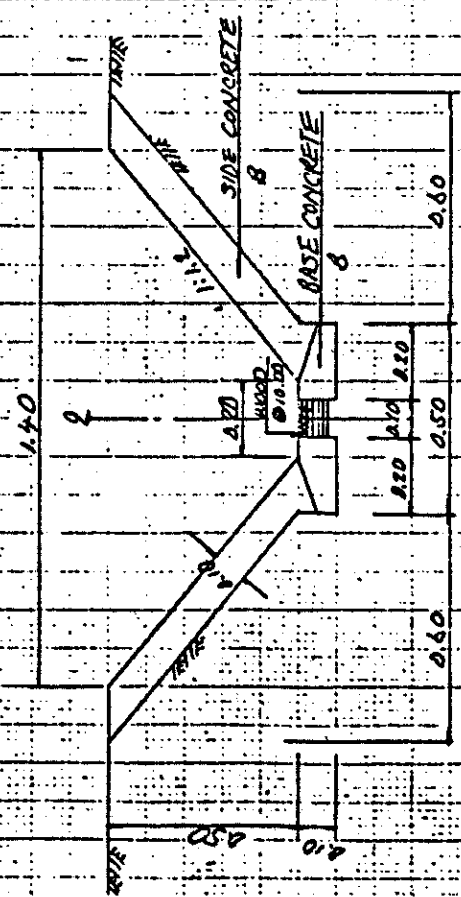
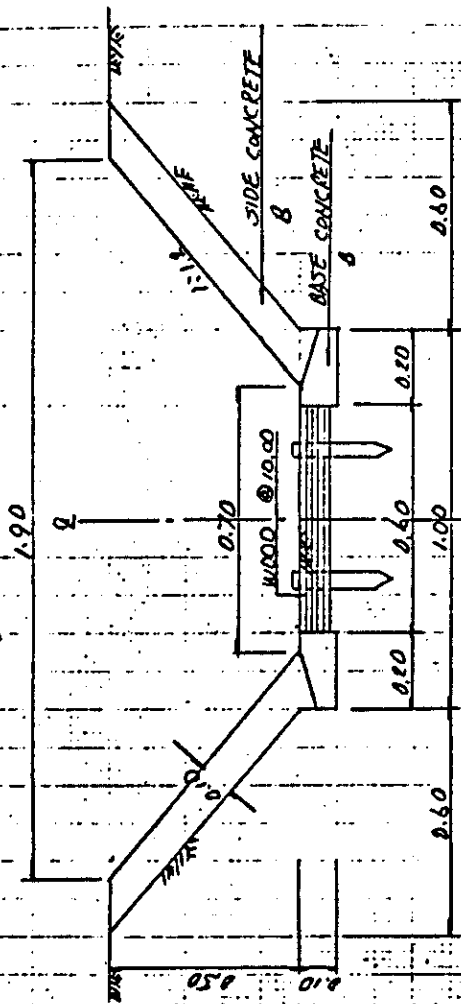
(114)







1:513



SECTION OF  
DRAINAGE DITCH LINING  
(4/4)

*Handwritten signature*

資料 C の 2)

委任状

昭和63年3月

畑地かんがい技術開発計画

専門家 畑野俊一殿

畑地かんがい技術開発計画モデルインフラ整備事業

に關し NIA の 要請、および追加工事トクマ要

な実施設計、施工管理業務を委任します。

国際協力事業団スリレンス事務所


契約担当役 宮本 亨也



昭和 63 年 3 月 7 日

DCIEP-05-025

国際協力事業団 フリボン事務所  
所長、宮本 守也 殿

畑地かんがい技術開発計画  
モデルインフラ整備事業  
施工管理担当者  
畑野 俊 

件名：追加工事に関する良施設設計報告書の提出

畑地かんがい技術開発計画モデルインフラ整備事業に対し、  
追加工事に係る良施設設計報告書を下記の通り提出  
致します。

1. 追加工事良施設設計報告書

資料 C n 4)

Ref. No. JP-88-1294

14 March 1988

Mr. TEODORO A. LEGASPI  
Summa Kumagai Inc.  
Ground Floor, Electra House  
Bldg., 115 Esteban Street,  
Legaspi Village, Makati, MM

Subject: Extra Works on the Construction of Trial  
Farm for DCIEP

Sir;

In accordance with the clause GC-28 of the Contract, we, JICA intend to carry out the extra works on the construction of the trial farm for DCIEP.

We therefore would request you to submit your offer for the extra works on the basis of the supplemental Bill of Quantities and drawings as attached herewith, not later than March 18, 1988.

Your prompt response would be highly appreciated.

Very truly yours,

  
MORIYA MIYAMOTO  
Resident Representative

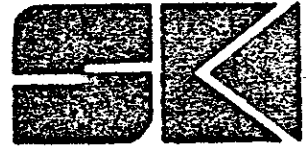
Attachment:

1. Bill of Quantity for Extra Works
2. Construction Drawings

## ATTACHMENT 1)

BILL OF QUANTITY FOR EXTRA WORKS

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
<u>WORK (1) Construction of Garage</u>					
7101	Building	m <sup>2</sup>	42	:	:
7102	Front Concrete Pavement	m <sup>2</sup>	170	:	:
7103	Water Supply/Drainage Pipeline	m	110	:	:
	Total for WORK (1)			:	_____
<u>WORK (2) Relocated Farm Ditch</u>					
7201	Earth Canal	m	40	:	:
7202	Lining Canal	m	70	:	:
7203	Culvert	m	10	:	:
7204	Flume	m	9	:	:
7205	Removal of Existing Culvert	m	10	:	:
	Total for WORK (2)			:	_____
<u>WORK (3) Farm Road Concrete Pavement</u>					
7301	Concrete Pavement	m	13	:	:
	Total for WORK (3)			:	_____
<u>WORK (4) Side Ditch Lining</u>					
7401	Side Ditch Lining	m	265	:	:
	Total for WORK (4)			:	_____
<u>WORK (5) Drainage Ditch Lining</u>					
7501	Ditch No. 1	m	320	:	:
7502	Ditch No. 2	m	290	:	:
7503	Ditch No. 3	m	125	:	:
	Total for WORK (5)			:	_____
	Total for EXTRA WORKS			:	_____

**SUMMA KUMAGAI, INC.**

L-88-751

18 March 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative

Subject : EXTRA WORK ON THE CONSTRUCTION  
OF TRIAL FARM FOR D.C.I.E.P.

Gentlemen :

As per our request contained in your letter Ref. No. JP-88-1294, dated 14 March 1988, we are submitting herewith our proposal for the Extra Work to be undertaken on the above subject project in the amount of PESOS: SEVEN HUNDRED SIX THOUSAND SEVENTY EIGHT (P706,078.00) ONLY with a corresponding request of fifteen (15) calendar days contract time extension and advance payment of thirty (30%) percent equivalent to P211,823.40 to finance major materials requirement of these additional works.

Attached is the filled-up forms of Bill of Quantities you furnished us wherein cost proposal of these Extra Works are reflected for your approval.

We hope you find our offer acceptable to you.

Very truly yours,

SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

/dam

BILL OF QUANTITY FOR EXTRA WORKS

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	AMOUNT
<u>WORK (1) Construction of Garage</u>					
7101	Building	m <sup>2</sup>	42	2430	102,060
7102	Front Concrete Pavement	m <sup>2</sup>	170	477	81,090
7103	Water Supply/Drainage Pipeline	m	110	230	25,300
	Total for WORK (1)				<u>208,450 /</u>
<u>WORK (2) Relocated Farm Ditch</u>					
7201	Earth Canal	m	40	50	2,000
7202	Lining Canal	m	70	657	45,990
7203	Culvert	m	10	585	5,850
7204	Flume	m	9	1,267	11,403
7205	Removal of Existing Culvert	m	10	85	850
	Total for WORK (2)				<u>66,093 /</u>
<u>WORK (3) Farm Road Concrete Pavement</u>					
7301	Concrete Pavement	m	13	1,700	22,100 /
	Total for WORK (3)				<u>22,100 /</u>
<u>WORK (4) Side Ditch Lining</u>					
7401	Side Ditch Lining	m	265	137	36,305 /
	Total for WORK (4)				<u>36,305 /</u>
<u>WORK (5) Drainage Ditch Lining</u>					
7501	Ditch No. 1	m	320	433	138,560 /
7502	Ditch No. 2	m	290	433	125,570 /
7503	Ditch No. 3	m	125	872	109,000
	Total for WORK (5)				<u>373,130 /</u>
	Total for EXTRA WORKS				<u>706,078 /</u>

資料 C の 6)

1/3

昭和63年3月21日

(DCIEP-C5-029)

国際協力事業団フイリピン事務所  
所長 宮本 亨也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊

F-4-11-9-

森川 正下 様

件名: 追加工事見積書審査報告

標記の件につき、コントラクターから提出された追加工事に対する見積書を審査致しましたので下記のとおり報告致します。

- ① 工事見積価格; 別紙の「見積価格比較表」に示すとおり、Item別では高いもので +13%、低いもので  $\Delta$ 5%、合計金額では、JICA 見積価格の  $\Delta$ 1% となっており、SK1 見積り価格は妥当なものとして判断致します。
- ② Time Extension; SK1 見積条件として、15日間の工期延長のリクエストしておりますが、元契約の残工事におけるクリティカルな重複工事は少なく、人員増加等により元契約と同工期にて完了可能と判断致します。
- ③ Advance Payment; 元契約書の GC-28 "EXTRA WORK" に於ては追加工事に対する規定はありませんが、追加工事の円滑な進捗を考慮すべし前払金の支払いは財政的事項が許す限り、

莫施する事が良いと判断致します。但し、前払金の金額は SKI ロジック 1200 万の追加工事金額の 30% ではなく、元契約同様 15% が妥当と思います。また、前払金の支払い条件は、元契約 GC-40, a) "Advance Payment" に述べられていると同様、前払金と同額に相当する Bank guarantee / Surety bond 提出を条件とする事が妥当と思います。

(以上)

是價西格比較表

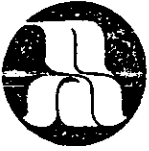
ITEM	DESCRIPTION	TICA 是價 (A)	SKI OFFER (B)	P/A	摘要
		¥	¥		
WORK(1) Construction of Garage					
7101 Building	107,100	102,060	0.953		
7102 Front Concrete Pavement	85,000	81,090	0.954		
7103 Water Supply/Drainage Pipeline	23,100	25,300	1.095		
Total for Work(1)	215,200	208,450	0.969		
WORK(2) Relocated Farm Ditch					
7201 Earth Canal	2,000	2,000	1.000		
7202 Lining Canal	47,600	45,990	0.966		
7203 Culvert	5,700	5,850	1.026		
7204 Flume	11,700	11,400	0.975		
7205 Removal of Existing Culvert	750	850	1.133		
Total for Work(2)	67,750	66,090	0.976		
WORK(3) Farm Road Concrete Pavement					
7301 Concrete Pavement	20,900	22,100	1.056		
Total for Work(3)	20,900	22,100	1.056		
WORK(4) Side Ditch Lining					
7401 Side Ditch Lining	37,100	36,300	0.979		
Total for Work(4)	37,100	36,300	0.979		
WORK(5) Drainage Ditch Lining					
7501 Ditch No. 1	137,600	138,560	1.007		
7502 Ditch No. 2	124,700	125,570	1.007		
7503 Ditch No. 3	106,250	109,000	1.026		
Total for Work(5)	368,550	373,130	1.012		
Total for Extra Works	709,530	706,078	0.996		

C-15

3/3

資料 D

N/A の要請書 2通



Republika ng Pilipinas  
**Pambansang Pangasiwaan ng Patubig**  
 (NATIONAL IRRIGATION ADMINISTRATION)  
 Lungsod ng Quezon

OFFICE ADDRESS: NATIONAL GOVERNMENT CENTER  
 E. DE LOS SANTOS AVENUE  
 QUEZON CITY PHILIPPINES

TELEPHONE NOS.: 97-60-71 to 78  
 CABLE NIAPHIL  
 TELEX 42802 NIA PM

OUR REFERENCE:

25 January 1988

MR. MORIYA MIYAMOTO  
 Resident Representative  
 Japan International Cooperation Agency (JICA)  
 L. C. Bldg., 375 Sen. Gil J. Puyat Avenue  
 Makati, Metro Manila

Dear Mr. Miyamoto,

This refers to the construction of the proposed Diversified Crops Irrigation Engineering Project (DCIEP) Trial Farm in San Rafael, Bulacan, under contract with Summa Kumagai, Inc.

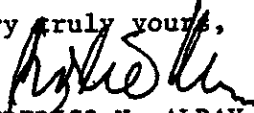
Please be informed that as a result of a thorough evaluation and assessment of the proposed function of the warehouse and garage at the trial farm, it was agreed that additional floor area will be needed. The additional area of about 42 square meters will be used for garage and repair shop of a farm tractor. Likewise, an open concrete pavement of about ten (10) meters wide in front of the building and a water system connection is deemed necessary.

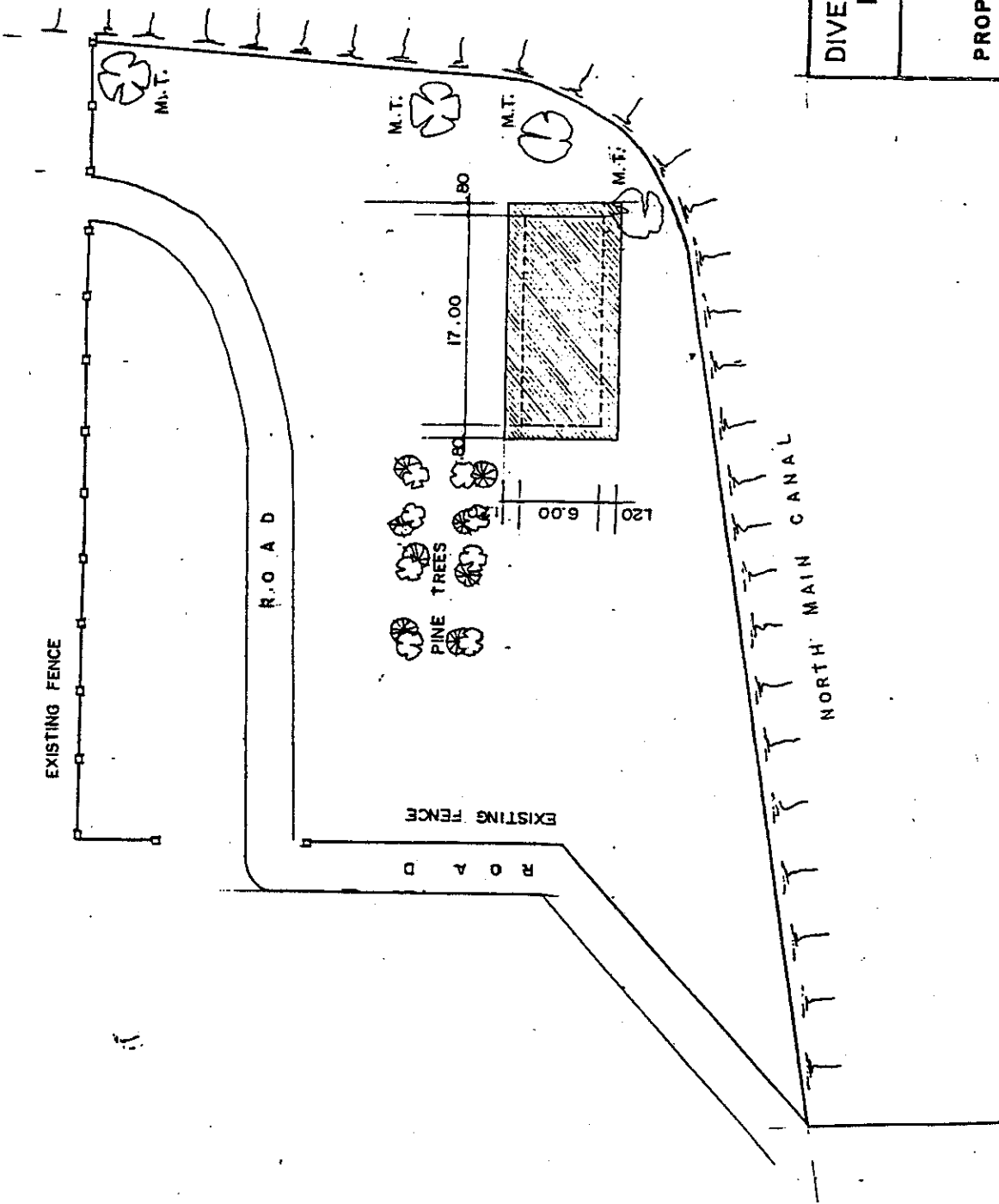
Considering therefore the expansion of the floor area and the unnecessary interruption caused by frequent movement of vehicles and equipment especially during training sessions, it was decided to relocate the said building to another area. Annex I shows the proposed location.

In this connection, may we request additional cost allocation for the expansion of the floor area and the construction of a water system for the building.

Once again, we thank you for the assistance accorded to us.

Very truly yours,

  
 FEDERICO N. ALDAY, JR.  
 Administrator



DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT

TRIAL FARM

PROPOSED SITE OF WAREHOUSE AND  
GARAGE

SUBMITTED:

APPROVED:

*S.A.P.*  
SERAFIN A. PALTENG  
PROJECT MANAGER

*S.J.*  
SEBASTIAN I. JONES  
ASST. ADMINISTRATOR  
S.O. E. M.

D-3

Republika ng Pilipinas  
**PAMBANSANG PANGASIWAAN NG PATUBIG**  
(NATIONAL IRRIGATION ADMINISTRATION)  
Tanggapan ng Tagapangasiwa  
Lungsod ng Quezon

Ⓢ Feb 19 88

Tel. Nos. 97-60-71 to 78

Cable Address: NIAPHIL

9 February 1988

MR. MORIYA MIYAMOTO  
Resident Representative  
Japan International Cooperation Agency (JICA)  
L. C. Bldg., 375 Sen. Gil J. Puyat Avenue  
Makati, Metro Manila

Dear Mr. Miyamoto,

This has reference to the on-going construction of the Diversified Crops Irrigation Engineering Project (DCIEP) Trial Farm in San Rafael, Bulacan under contract with Summa-Kumagai, Inc.

We wish to express our appreciation on the progress of the construction work for the Trial Farm. We noticed that all the major activities were already started, especially the land consolidation and leveling works. At this stage, however, there are some additional works identified which are deemed necessary to minimize NIA's maintenance cost during operation of the Trial Farm as follows:

1. Concreting of farm road approach to protect the main canal embankment from eroding;
2. Provision of concrete lining for drainage ditch including road-side ditches which will serve as protection from soil erosion; and
3. Relocation of an existing farm ditch beside the proposed main drain.

In view of the foregoing, NIA is again requesting JICA for additional cost allocation needed for the implementation of the above-cited additional works.

Thank you very much and we hope this will merit your kind consideration.

Very truly yours,

  
FEDERICO N. ALDAY, JR.  
Administrator

資料 E

施工管理業務中の発行・受領文書コピー

## 施工管理業務中の飛行文書

日付	番号	タイトル. 内容
1987. 12. 17	DCIEP-CS-002	モビルインフラ整備事業の工事契約 (資料1.に収録)
12. 16	" -004	モビルインフラ整備事業の工事契約 ( 同 上 )
12. 23	" -006	入札図書への補正通知に付 ( 同 上 )
1988. 1. 5	" -009	入札図書への入札書審査報告書 ( 同 上 )
1. 7	SP-88-998	NOTICE OF AWARD ( 同 上 )
1. 8	" -997	NOTICE TO PROCEED
1. 15	DCIEP-CS-010	Deputy Project Managerの委任承認
1. 14	" -011	工事契約の前払金支払
1. 16	" -012	入札保証書の返却
1. 19	" -013	モビルインフラ整備事業 Deputy Proj. Managerの委任願に付
1. 28	" -014	工事契約に付建設資材の輸入に付
3. 3	" -023	Request of Acceleration and Proper Execution of Works
3. 7	" -025	追加工事に関する実施設計報告書の提出 (資料5.に収録)
3. 14	SP-88-1294	Extra Workに関する見積依頼 (資料5.に収録)
3. 18	DCIEP-CS-027	前払金支払の旨の請求高帳票結果及び前払金支払の依頼
3. 21	" -029	追加工事見積書審査報告 (資料3.に収録)
3. 23	" -030	追加工事契約の前払金支払
4. 19	" -035	Request of Acceleration of Works
5. 3	" -038	CERTIFICATE FOR THE FINAL PAYMENT (工事完了証明書に収録)
5. 5	—	CERTIFICATE: Completion of the Works ( 同 上 )

注: 施工管理業務進捗は除く、

## 施工管理業務中の受領文書

日付	番号	タイトル・内容
1988. 1. 12	L-88-694	搬入予定の建設機械リストの提出
1. 12	" - 695	Deputy Project Manager の変更願
1. 12	" - 696	前払金の請求書
1. 22	—	Construction & Earth Moving Schedule の提出
1. 26	L-88-708	日本ビラの購入資材リストの提出
1. 26	" - 710	Organization Chart の提出
1. 25	—	倉庫の位置変更及び拡張要請書 (資料4.に収録)
2. 6	—	1月のプログレスレポート提出
2. 9	—	追加工事要請書 (資料4.に収録)
2. 29	L-88-734	日本調達格附ハンドリングに関するレター
3. 2	" - 737	同 上
3. 7	—	2月のプログレスレポート提出
3. 11	—	中前払金のための出来高段階要請書
3. 18	L-88-751	追加工事に関する見積書提出
3. 23	" - 756	追加工事に対する前払金の請求書
3. 24	" - 765	改訂工程表の提出
4. 7	—	3月のプログレスレポート提出
5. 1	L-88-789	工事完了后・検査願書 (6) 完工証明書に収録)
5. 6	—	携行機材受領書

E-3



JAPAN INTERNATIONAL COOPERATION AGENCY

L.C. Building, 375 Sen. Gil J. Puyat Avenue Extension  
Makati, Metro Manila, Philippines  
P.O. Box 1229, MCPO  
Makati, Metro Manila

Tels. 88-54-67  
85-82-91  
89-90-11

Ref. No. JP-88-997

08 January 1988

SUMMA KUMAGAI, INC.  
Ground Floor, Electra  
House Bldg., 115 Esteban St.,  
Legaspi Village, Makati, MM

Subject: Notice to Proceed

Gentlemen:

You are hereby officially notified that your contract with JICA for the construction of the Trial Farm of the Diversified Crops Irrigation Engineering Project in the amount of ₱3,270,000.00 has been approved and is now valid and binding.

You are, therefore, directed to perform your obligations called for in the Contract.

Attached hereto is your copy of the Contract.

Very truly yours,

*Moriya Miyamoto*  
for   
MORIYA MIYAMOTO  
Resident Representative

*Summa Kumagai*

*[Handwritten signature]*  
1988

JICA Diversified Crops Irrigation Engineering Project  
Office

E-4

Date: 15 January 1988  
Our Ref. No. DCIEP-CS-010

Mr. Takeo Isono,  
Director,  
Summa Kumagai, Inc.  
Ground Floor, Electra House Building,  
115-117 Estaban Street, Legaspi Village,  
Makati, M.M.

Subject: Construction of Trial Farm for Diversified  
Crops Irrigation Engineering Project (DCIEP)

Dear Sir;

In reference with your letter No. L-88-695 dated 12 January 1988, we are herewith informing you that JICA has approved your request to assign Arch. Raymundo M. Eusebio, Sr., as Deputy Project Manager for the captioned works in place of Engineer Julian Losanez.

We like to make note that this approval of JICA has been obtained premising that you will mobilize all your key staff, specially Project Manager, to the works throughout the construction period as per your proposal.

Yours very truly,

JICA DCIEP Team

  
Shunichi HOSONO  
Supervisor

c.c. JICA Philippine Office  
DCIEP Team Leader

Received by:  
R. M. Eusebio Sr.  
1/22/88

563年1月14日  
(DCIEP-CS-011)

国際協力事業団フィリピン事務所  
所長 宮本守也殿

畑地かんがい技術開発  
モデル・インフラ整備事業  
チーム・リーダー 工事契約・施工管理担当  
森川正徳 守谷 昇 細野俊

件名: 工事契約の前払い金支払い

本日コントラクター・スヌマクマカイから下記書類を受取りましたので 標記 前払い金の支払いがたお願いいたします。  
(オリジナルをこゝに添付します。)

1. 前払い金請求書 (契約金額の15% : ¥ 490,500.00)
2. 履行保証書 (契約金額の5% ¥ 163,500.00)
3. 前払い金に対する保証書 (前払い金と同額 ¥ 490,500.00)
4. 工事資金手当ての証明
5. 施工機械のアベラビリティの誓約書

契約書における支払い条件をすべて満足しております。  
なお 支払いの期限は、コントラクターが上記書類を提出した  
本日から15日以内と規定しています。

以上

563年1月16日  
(DCIEP-CS-012)

国際協力事業団フィリピン事務所  
所長 宮本守也殿

畑地かんがい技術開発  
モテル・インフラ整備事業  
工事契約・施工管理担当

サム・リター  
森川正雄

守谷 昇  細野 俊 

件名: 入札保証書の返却(ご報告)

Summa Kumagai Inc. が 1月8日に本工事契約に調印し  
さらに1月14日に履行保証書及び工事資金手当の証明  
を JICA へ提出しました。従って入札指示書 IB-04 により  
本日 標記保証書を関係者社へ返却いたしましたので  
ご報告いたします。(3社の受取り書のコピー 1部を  
こゝに添付します。)

以上

S 63 年 1 月 19 日  
 (DEIEP-CS-013)

国際協力事業団フィリピン事務所  
 所長 宮本守也殿

畑地かんがい技術開発  
 モテルインフラ整備事業  
 工事契約 施工管理担当  
 守谷昇(印) 細野俊(印)

4-ムリ-ター  
 森川正雄

件名: スマクマガイの現場 Deputy Proj. Manager  
交替願いについて(ご報告)

1月12日付けで標記交替願いを受取り、検討した結果  
 下記の理由でこれを承認しましたのでご報告いたします。

- 1) 経年数は新旧とも変わらない。
- 2) 土木技術者から建築家への交替であるが、建築家の  
 現場管理組織への参加は下記の点で望ましい。
  - Proj. Managerが土木技術者である。またその他の  
 現場技術者の多くが土木技術者である。
  - 工事はポンゴ機场上屋他 Building Worksを含む。

以上

S 63 年 / 月 28 日  
(DCIEP-05-014)

国際協力事業団 フォイヒン事務所  
所長 宮本 守也 殿

火地かんがい技術開発  
モデルインフラ整備事業  
チームリーダー 工事契約・施工管理担当  
森川 正雄 守谷 昇 細野 俊

件名: コントラクターによる建設資材の輸入に  
ついて (お願ひ)

添付のマスター・リストは DCIEP 試験ほ場建設のために、  
コントラクターが日本からの輸入を予定している資材です。

このマスター・リストを検討した結果、これらの資材は

- 1) 試験ほ場建設に必要な資材であり、不必要なものは項目・数量上とも含んでいません。
- 2) またコントラクターの添付文書に記述の 75 mm 流量計を含み (65 mm から 75 mm へ変更) ほ場建設に品質上、機能上の問題は無いものと考えます。
- 3) 限られた工期と、資材の品質を考慮して、日本から輸入した方がベターな資材であると考えます。  
(現地市場にあっても数量的に揃わない等の理由)

用水パイプ関係施設の敷設は 3 月中旬に開始の

工程で工事が進行中ですが、コントラクターは資材の船積みを2月末、マニラでの船おろしを3月上旬に予定しており、通関のための日数は約10日間と限られています。コントラクターを荷受け人として、通関でトラブルが生じると、今後の施工がタイトになりますので、通関をスムーズに行うために、JICAフィリピン事務所が荷受け人となることを、ご検討して頂くようお願いいたします。

以上

ITEM NO.	DESCRIPTION	SPECIFICATION	UNIT	Q'TY.	UNIT PRICE ( ¥ )	AMOUNT ( ¥ )	PORT OF DESTINATION	COUNTRY OF ORIGIN	REMARKS
1.	Diesel Engine Pump	80 mm w/ Accessories	2	Sets	350,000	700,000.			
2.	Flow Meter KIL	125 A	1	Unit	295,000	295,000			
3.	Flow Meter KIL	75	25	Units	180,000	4,500,000			
4.	FC Outside Screwed Valve	125	3	"	40,000	120,000			
5.	FC Outside Screwed Valve	80	2	"	20,200	40,400			
6.	FC Chuck 10K	80	2	"	17,900	35,800			
7.	Hydrant 360°	65	25	"	25,000	625,000			
8.	Y Strainers FC 10 K	125	1	Unit	30,000	30,000			
9.	White Nipple Socket	80	5	Units	4,700	23,500			
10.	Metal Reinforced Vinyl (TS-VS)	65	26	Units	3,300	85,800			
11.	BC Gate Valve	25	1	Unit	3,600	3,600			
12.	Vinyl TS Flange	75	60	Units	1,300	78,000			
13.	White Cast Iron Flange	80	10	"	1,500	15,000			
14.	-000 -	125	14	"	3,100	43,400			
15.	-000-	65	2	"	1,300	2,600			
16.	-000-	125	2	"	2,500	5,000			
17.	Asbestos 3mm Packing	125	15	Units	700	10,500			
18.	Asbestos 3mm Packing	80	10	Units	470	4,700			
19.	Asbestos 3mm Packing	75	70	Units	370	25,900			
20.	Asbestos 3mm Packing	50	4	Units	310	1,240			
21.	Volt & Nut for Flange FOR 125 A	3/4 x 70	130	Units	140	18,200			
22.	Volt & Nut for Flange	5/8 x 65	90	Units	80	7,200			

ITEM NO.	DESCRIPTION	SPECIFICATION	UNIT	Q'TY.	UNIT PRICE ( ¥ )	AMOUNT ( ¥ )	PORT OF DESTINATION	COUNTRY OF ORIGIN	REMARKS
23.	Volt & Nut for Flange for 75 A	5/8 x 65	260	Units	80	20,800			
24.	Volt & Nut for Flange for 50 A	5/8 x 60	20	"	75	1,500			
25.	TS Flange Washer for 125 A	3/4	100	"	15	1,500			
26.	TS Flange Washer for 75 A	5/8	110	"	12	1,320			
27.	PVC Pipe VP	125 A	100	"	4,285	428,500			
28.	PVC DV Socket	125 A	105	"	412	43,260			
29.	PVC DV Cheese	125 x 75 A	27	"	1,063	28,701			
30.	PVC DV Socket	75 x 65 A	27	"	122	3,294			
31.	PVC DV Bend	125 A	5	"	1,013	5,065			
32.	PVC DV Bend 45°	125 A	6	"	644	3,864			
33.	Adhesives	500 g	35	"	500	17,500			
34.	PVC DV Cheese	125	1	"	1,300	1,300			
35.	PVC DV Reducer	125 x 100	1	"	400	400			
36.	-000-	100 x 75	1	"	220	220			
37.	PVC Pipe VP	75	8	"	2,500	20,000			
38.	" "	65	60	"	1,500	90,000			
39.	PVC DV Increaser	75 x 65	55	"	140	7,700			
40.	PVC Elbow	65 x 45°	60	"	120	7,200			
41.	PVC DV Elbow	65 x 90°	10	"	140	1,400			
42.	PVC DV Socket	65	66	"	85	5,610			
43.	Misc. Materials		1	Lot		200,000			
						7,559,974			

JICA INTERNATIONAL COOPERATION AGENCY (JICA)

SUMMA KUMAGAI INC.  
Ground Floor, Electra House Bldg.  
115 Esteban St., Legaspi Village,  
Makati, Metro Manila

Ref. No. DCIEP-CS-023  
Date 3 March 1988

Subject : Request of Acceleration and Proper  
Execution of Works on the Construction  
of Trial Farm for DCIEP

Sir :

This is a letter of request to accelerate and to execute all contract works with proper manner as described in the technical specification or as directed by the supervisor during the meeting.

The construction works have slowed down in last two weeks that resulted behind the schedule as of the end of February, 1988. We understand that the number of labors was increased on 26 February according to our request. However, we would still think that the number of labors is to be increased more to catch up delay of the works. In addition to the above, it is with regret that instructions given by the supervisor during the regular meeting or at the site have not been followed in the most essentially important manner of the construction works.

We therefore would strongly request you to carry out proper management and manner in the contract works as follows:

1. Acceleration of Works

- 1) Increase of 20 ordinally laborers at least particularly for earth work to be done by manpower.
- 2) To purchase and carry necessary construction material into the site timely to avoid any interruption of the works.
- 3) Regular/everyday maintenance and checking up of all construction machinery and equipment.

- 4) Preparation of the short-term work schedule with every details of the works, maybe for one or two weeks, in order to control/observe the work accomplishment by yourselves to achieve the target progress.

2. Proper execution of works

1) Concrete Placing

Any concrete placing is strictly prohibited without approval of the supervisor. Forms shall not be removed within 24 hours after placing concrete, and backfilling can only start after approval of the supervisor.

2) Construction of bank and slope

Soil to be used for bank and plot border shall be properly wetted. Bank and plot border shall be compacted by mechanical type compactor and bank slope shall be by manual wooden compactor.

3) Setting of plot boundary sticks

Boundary sticks shall be set accurately at four corners of each plot prior to commencement of the construction of plot border.

3. Revised construction program

Original construction program submitted by you on 22 January is to be revised/updated and submitted to JICA at intervals of not more than two months, in accordance with the clause GC-32 of the Contract.

Wishing your prompt attention to the matter, we remain.

Yours very truly,



SHUNICHI HOSONO  
Supervisor, JICA

昭和63年3月18日  
(DCIEP-CS-027)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一

チームリーダー  
林 正雄

件名：お2回支払いのための出来高検査結果  
及び中間金支払いのお願い

コントラクター(SUMMA KUMAGA) INC) から要請のあったお2回  
支払いのための出来高検査が 昭和63年3月17日 JICA 検査  
職員により実施され、別紙のとおり出来高が確認されました。  
つきましては、工事請負契約書 GC-40 項に従って  
SUMMA KUMAGA) INC) に対する お2回中間金の支払いの旨にお  
願い致します。


3月15日現在の出来高金額	¥ 1,341,174.00
前払金(15%)、留保金(10%)控除△	335,293.50
<u>今回支払い金額</u>	<u>¥ 1,005,880.50</u>

以上

昭和63年3月23日

(DCIEP-CS-030)

国際協力事業団フィリピン事務所  
 所長 宮本守也殿

畑地かんがい技術開発  
 エデュインテリ整備事業  
 施工管理担当者  
 細野俊 

チームリーダー  
 森川正雄

件名: 追加工事契約の前払金支払い

標記の件につき、コントラクター (Summa Kumagai Inc) から下記書類が提出されましたので、追加工事契約書に基づき、前払金の支払いが宜しくお願い致します。

① 前払金請求書 (追加工事契約金額の15%)

$¥706,078 \times 15\% = ¥105,911.70 -$

② 前払金に対する保証書

前払金を上回る  $¥106,000.00$  の Surety Bond

追加工事契約書における前払金の支払い条件を満足しております。  
 なお、支払い期限はコントラクターが上記書類を提出した本日から15日以内と規定されています。

以上

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Ref. No. DCIEP -cs- 035  
Date 19 April, 1988

SUMMA KUMAGAI, INC.  
Ground Floor, Electra House Bldg.  
115 Esteban St., Legaspi Village,  
Makati, Metro Manila

SUBJECT : REQUEST OF ACCELERATION OF WORKS ON  
THE CONSTRUCTION OF TRIAL FARM FOR DCIEP

S i r :

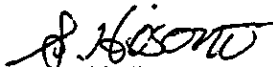
Basing on the joint work progress evaluation made on 16 April, 1988 at the construction site, we would call your strong attention to acceleration of all remaining contract works that are to be completed by 1st May 1988.

As the results of the joint evaluation, following measures shall be taken to accelerate and complete the works within the completion time.

- 1) Increase the number of laborers particularly for the earthwork and equipment for 2nd stage levelling work.
- 2) Three shift work for PVC pipe laying until completion.
- 3) To complete most major works by 24 April, one week before the completion time, so as to handle last one week for remaining small works, some correction works if needed, final site cleaning, and so on.

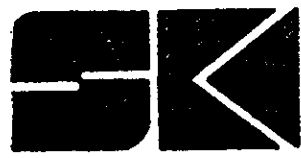
Wishing your prompt attention to the matter, we remain.

Yours very truly,



SHUNICHI HOSONO  
Supervisor, JICA

# SUMIDA KUNAGAI, INC.



L-88-694

12 January 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
375 Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P)

Gentlemen :

As per your requirement, we are furnishing your office the list of Construction Equipments to be used for the above subject project as follows:

- |  |        |
|--|--------|
| 1. One (1) Unit Bulldozer, D-85                | Owned  |
| 2. One (1) Unit Backhoe, PC-100                | Owned  |
| 3. One (1) Unit Generator, 50-125 KVA          | Owned  |
| 4. One (1) Unit Generator, 150 KVA             | Owned  |
| 5. Three (3) Units Water Pump, 4" - 8"         | Owned  |
| 6. Four (4) Units Dump Truck, 6 ton - 11 ton   | "      |
| 7. One (1) Unit Concrete Mixer, 5 cu.m./m.     | "      |
| 8. One (1) Unit Roller, 10 ton                 | "      |
| 9. One (1) Unit Motor Grader, 3.5 m.           | Rental |
| 10. One (1) Unit Crane w/ Vibro Hammer, 40 ton | "      |
| 11. One (1) Unit Welding Machine               | Owned  |
| 12. Other Minors                               |        |

Please be informed that all these equipments are guaranteed in good running condition and shall be available at the job site upon mobilization.

Very truly yours,

SUMIDA KUNAGAI, INC.

TAKAO ISONO  
Director

/s/

# SUMITA KUMAGAI, INC.



L-88-695

12 January 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P.)

Gentlemen :

With regards to the Organization Chart submitted by our office together with our bid for subject project, we wish to inform you that the proposed Deputy Project Manager, Engr. Julian Losañez will be replaced by Arch. Raymundo M. Eusebio, Sr., our new recruit from a local consulting A & E Firm.

Arch. Eusebio, Sr. has 15 years experience as indicated in his resume as herein attached.

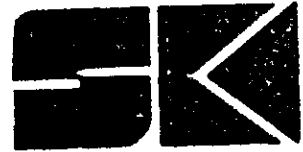
Very truly yours,

SUMITA KUMAGAI, INC.

TAKAO ISONO  
Director

/dam

**SUMMA KUMAGAI, INC.**



L-88-696

12 January 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P)

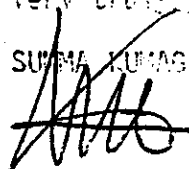
Gentlemen :

We would like to request advance payment in the amount of  
PESOS: FOUR HUNDRED NINETY THOUSAND FIVE HUNDRED (P490,500.00)  
ONLY equivalent to fifteen (15%) percent of our total contract  
price on the subject project. As such we are attaching here-  
with corresponding Performance and Surety Bond issued by Pan-  
Malayan Insurance Corp. as per your requirement.

Thank you.

Very truly yours.

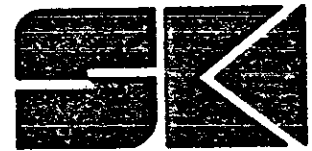
SUMMA KUMAGAI, INC.

  
TAKAO ISONO  
Director

/dam

SK1  
Revised E-20

# SUMMA KUMAGAI, INC.



22 January 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P.)

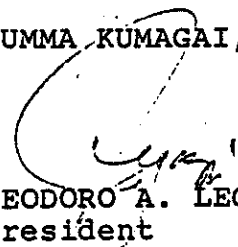
Gentlemen :

We are pleased to submit herewith our proposed construction and earthmoving schedule for the above subject project.

We hope you will find the proposed scheduled acceptable.

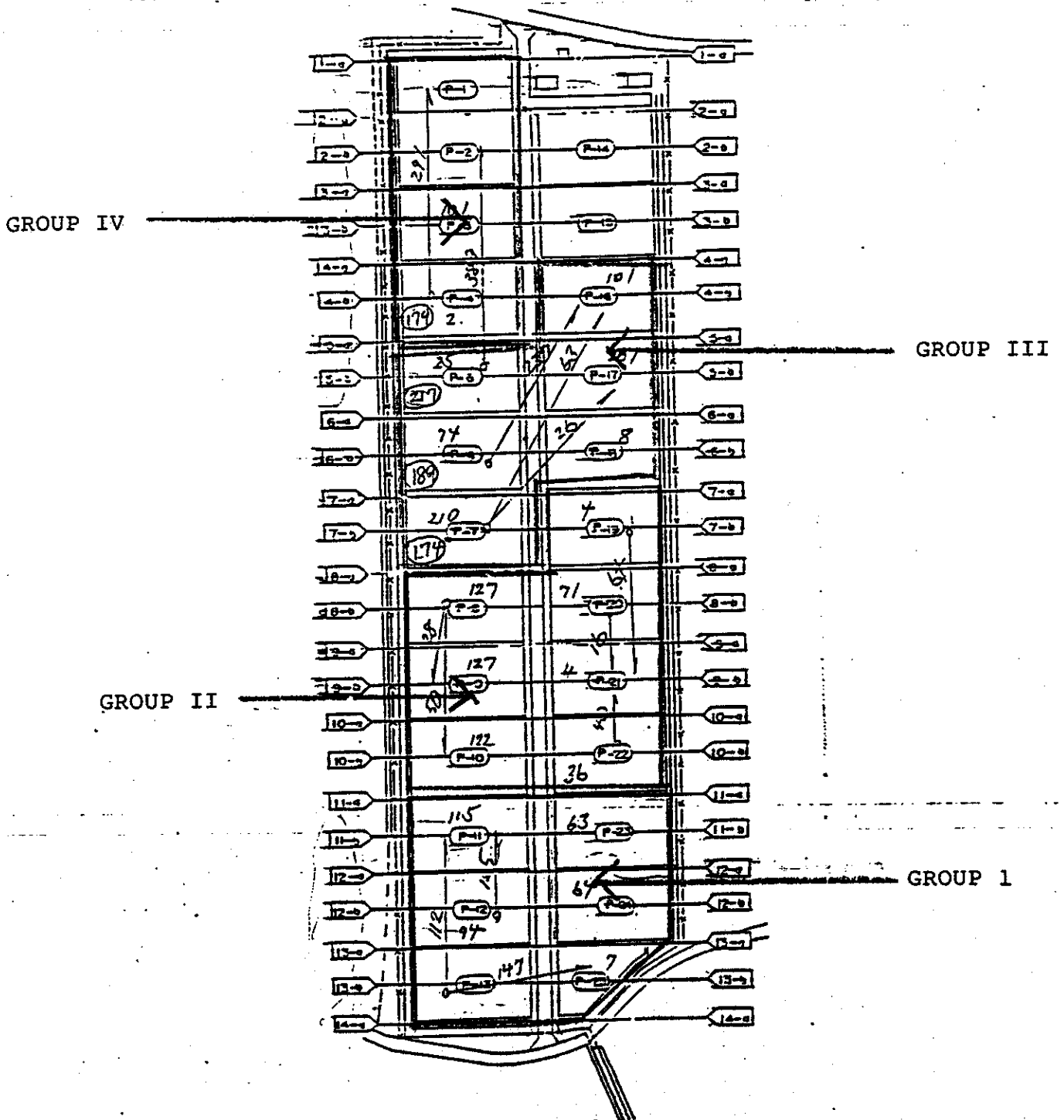
Very truly yours,

SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

PROJECT : CONSTRUCTION OF A TRIAL FARM FOR DIVERSIFIED CROPS  
 IRRIGATION ENGINEERING PROJECT ( D. C. I. E. P. )  
 SAN RAFAEL, BULACAN

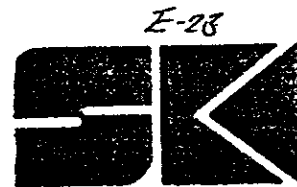
SUBJECT : EARTH MOVING SCHEDULE



TOTAL VOLUME OF EARTH MOVING = 1,588 m<sup>3</sup>  
 TOTAL VOLUME OF CUT & EMBANKMENT IN PLOT = 1,622 m<sup>3</sup>  
 TOTAL VOLUME OF EARTH REPLACEMENT = 759 m<sup>3</sup>



**SUMMA KUMAGAI, INC.**



L-88-708

26 January 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P)

Gentlemen :

We are pleased to submit herewith the revised masterlist of Irrigation Construction Materials we are going to purchase from Japan on the above subject project. The change from 65 Ø mm flowmeter to 75 Ø mm flowmeter was made due to non-availability of total requirement of 65 Ø mm flowmeter in the market and to fabricate these will take about more than two (2) months. These will hamper our construction activities and will delay the target completion date on April 1988. As a result, we would like to purchase the next available commercial size of 75 Ø mm. The expected arrival will be on the fourth week of February or early March 1988.

In this regard, we are requesting your office as consignee of the shipment to save us time in processing volume of paper works for the release of these materials from the Custom's warehouse and also assist us to avail tax exemption from the Philippine Government.

Thank you and we hope you find our request acceptable to you.

Very truly yours,

SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

/dam

Encls. 2/s

ITEM NO.	DESCRIPTION	SPECIFICATION	UNIT	Q'TY.	UNIT PRICE ( ¥ )	AMOUNT ( ¥ )	PORT OF DESTINATION	COUNTRY OF ORIGIN	REMARKS
1.	Diesel Engine Pump	80 mm w/ Accessories	2	Sets	350,000	700,000.			
2.	Flow Meter KIL	125 A	1	Unit	295,000	295,000			
3.	Flow Meter KIL	75	25	Units	180,000	4,500,000			
4.	FC Outside Screwed Valve	125	3	"	40,000	120,000			
5.	FC Outside Screwed Valve	80	2	"	20,200	40,400			
6.	FC Chuck 10K	80	2	"	17,900	35,800			
7.	Hydrant 360°	65	25	"	25,000	625,000			
8.	Y Strainers FC 10 K	125	1	Unit	30,000	30,000			
9.	White Nipple Socket	80	5	Units	4,700	23,500			
10.	Metal Reinforced Vinyl (TS-VS)	65	26	Units	3,300	85,800			
11.	BC Gate Valve	25	1	Unit	3,600	3,600			
12.	Vinyl TS Flange	75	60	Units	1,300	78,000			
13.	White Cast Iron Flange	80	10	"	1,500	15,000			
14.	-000 -	125	14	"	3,100	43,400			
15.	-000-	65	2	"	1,300	2,600			
16.	-000-	125	2	"	2,500	5,000			
17.	Asbestos 3mm Packing	125	15	Units	700	10,500			
18.	Asbestos 3mm Packing	80	10	Units	470	4,700			
19.	Asbestos 3mm Packing	75	70	Units	370	25,900			
20.	Asbestos 3mm Packing	50	4	Units	310	1,240			
21.	Volt & Nut for Flange FOR 125 A	3/4 x 70	130	Units	140	18,200			
22.	Volt & Nut for Flange	5/8 x 65	90	Units	80	7,200			

ITEM NO.	DESCRIPTION	SPECIFICATION	UNIT	Q'TY.	UNIT PRICE ( ¥ )	AMOUNT ( ¥ )	PORT OF DESTINATION	COUNTRY OF ORIGIN	REMARKS
23.	Volt & Nut for Flange for 75 A	5/8 x 65	260	Units	80	20,800			
24.	Volt & Nut for Flange for 50 A	5/8 x 60	20	"	75	1,500			
25.	TS Flange Washer for 125 A	3/4	100	"	15	1,500			
26.	TS Flange Washer for 75 A	5/8	110	"	12	1,320			
27.	PVC Pipe VP	125 A	100	"	4,285	428,500			
28.	PVC DV Socket	125 A	105	"	412	43,260			
29.	PVC DV Cheese	125 x 75 A	27	"	1,063	28,701			
30.	PVC DV Socket	75 x 65 A	27	"	122	3,294			
31.	PVC DV Bend	125 A	5	"	1,013	5,065			
32.	PVC DV Bend 45°	125 A	6	"	644	3,864			
33.	ADHESIVES	500 g	35	"	500	17,500			
34.	PVC DV Cheese	125	1	"	1,300	1,300			
35.	PVC DV Reducer	125 x 100	1	"	400	400			
36.	-000-	100 x 75	1	"	220	220			
37.	PVC Pipe VP	75	8	"	2,500	20,000			
38.	" "	65	60	"	1,500	90,000			
39.	PVC DV Increaser	75 x 65	55	"	140	7,700			
40.	PVC Elbow	65 x 45°	60	"	120	7,200			
41.	PVC DV Elbow	65 x 90°	10	"	140	1,400			
42.	PVC DV Socket	65	66	"	85	5,610			
43.	Misc. Materials		1	Lot		200,000			
						<u>7,559,974</u>			

**SUMMA KUMAGAI, INC.**



1-88-710

26 January 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P)

Gentlemen :

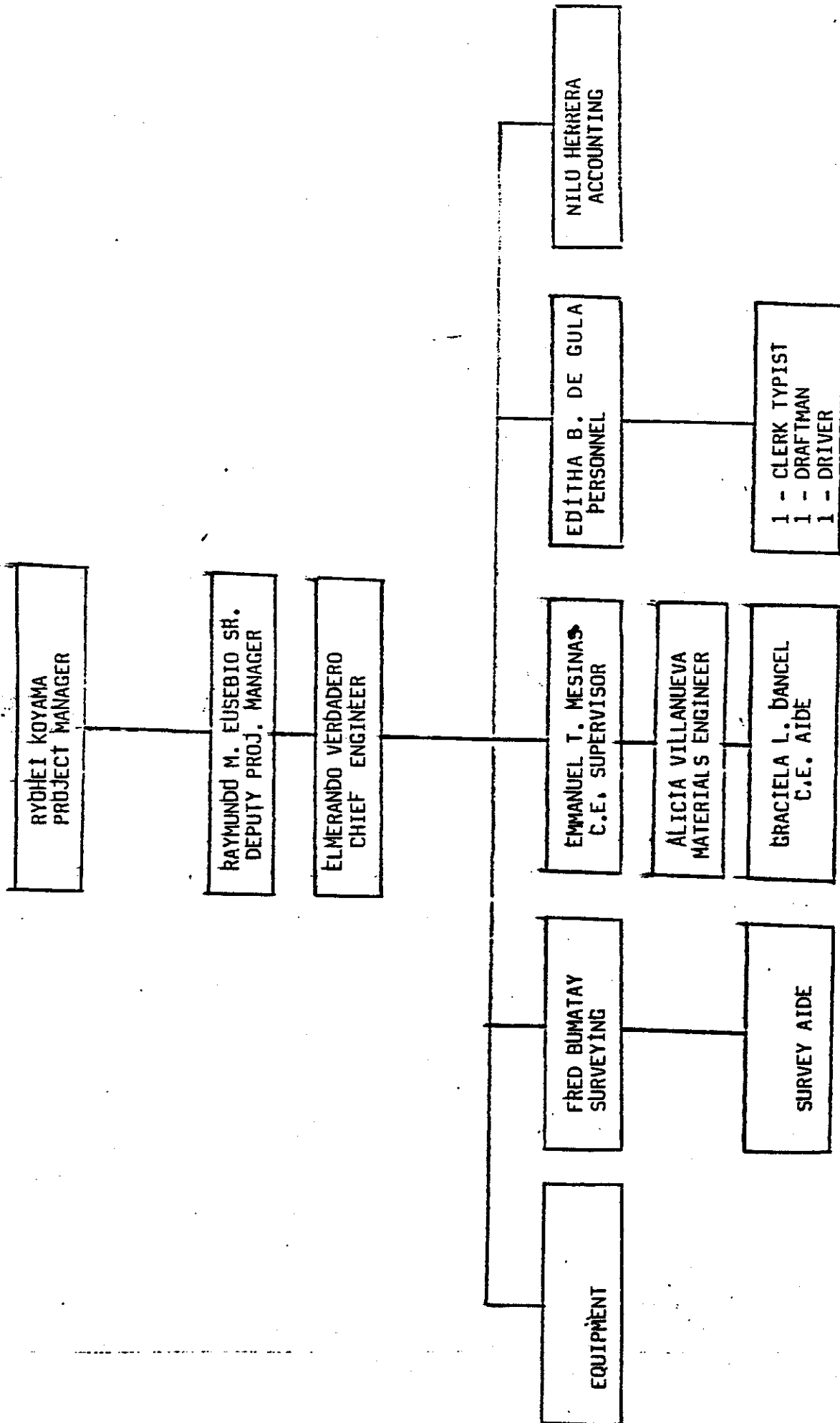
We are pleased to submit herewith our proposed Organization Chart for the above subject project. The Bio-Data of the Key Staff are enclosed herewith for your final review.

Very truly yours,

SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

/dam



ORGANIZATIONAL CHART

# SUMMA KUMAGAI, INC.



Feb 6, 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P.)

Gentlemen :

We are transmitting herewith three (3) copies  
of Monthly Progress Report ending January 31,  
1988 for the above subject project as per your  
requirement.

Hope you find our report in order.

Very truly yours,

  
TEODORO A. LEGASPI  
President

RME SR./ebg

# SUMMA KUMAGAI, INC.



L-88-734

29 February 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : AUTHORIZED FORWARDING AGENT  
D.C.I.E.P. PROJECT

Gentlemen :

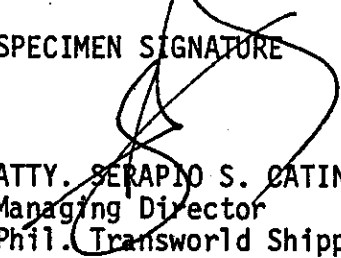
This is to inform your goodselves that ATTY. SERAPIO S. CATINDIG, Managing Director of Philippine Transworld Shipping Corporation with office address at Suite 900 Ermita Center Building, 1350 Roxas Boulevard, Ermita, Metro Manila, whose specimen signature appears below, is our authorized forwarding agent to expedite necessary customs documentation and delivery of all imported equipment and materials for the establishment of the above-mentioned project.

For your information and ready reference.

Very truly yours,  
SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

SPECIMEN SIGNATURE

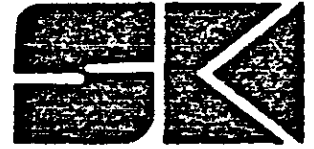
  
ATTY. SERAPIO S. CATINDIG  
Managing Director  
Phil. Transworld Shipping Corp.

APPROVED BY:

  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Ground Floor, Electra House Bldg., 115-117 Esteban St., Legaspi Village, Makati, M.M.  
Telephone Nos. 818-9783, 817-8493, 817-8549, 818-1023

**SUMMA KUMAGAI, INC.**

L-88-737

2 March 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P)

Gentlemen :


We would like to request from your office a certification stating that the above-captioned project is a Grant-Aid project of the Japanese Government and as such is exempted from custom duties and taxes under certain agreement between the JICA and the Philippine Government.

As the materials to be used for this project are expected to arrived on or before March 10, 1988 from Japan, it is necessary that we can have your certification as soon as possible so that we can secure the approval of the Dept. of Finance and the Central Bank for the "No Dollar Importation" of these materials.

Thank you and we look forward for your preferential attention to this matter.

Very truly yours,

SUMMA KUMAGAI, INC.



TEODORO A. LEGASPI  
President

/dam

# SUMMA KUNAGAI, INC.



March 07, 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building  
Sen. Gil Puyat, Avenue Extension  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

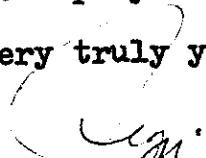
Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P.)

Gentlemen :

We are transmitting herewith three (3) copies of Monthly Progress Report ending February 29, 1988 for the above subject Project as per your requirement.

We hope you find our report in order.

Very truly yours,

  
TEODORO A. LEGASPI  
President

# SUMMA KUNAGAI, INC.



March 11, 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building  
Sen. Gil Puyat Avenue Extension  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P.)

Gentlemen :

With regards to our billing for March 15, 1988,  
we would like to request from your office to  
conduct site inspection at your convenient time  
so that value of the project accomplishment from  
January 8, 1988 to March 15, 1988 will be evaluated.

Thank you.

Very truly yours,

  
TEODORO A. LEGASPI  
President

# SUMMA KUMAGAI, INC.



L-88-756

23 March 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Ave., Extension  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED  
CROPS IRRIGATION ENGINEERING PROJECT (D.C.I.E.P)

Gentlemen :

We would like to request payment in the amount of PESOS: ONE HUNDRED FIVE THOUSAND NINE HUNDRED ELEVEN & 70/100 (P105,911.70) representing fifteen (15%) percent downpayment for Additional Works at the above-mentioned project.

Your kind attention on our request shall be greatly appreciated.

Very truly yours,

SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

/dam

**SUMMA KUMAGAI, INC.**



L-88-765

24 March 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building,  
Sen. Gil J. Puyat Avenue Extension,  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative

Subject : CONSTRUCTION OF TRIAL FARM FOR  
DIVERSIFIED CROPS IRRIGATION  
ENGINEERING PROJECT (D.C.I.E.P.)

Gentlemen :

We are pleased to submit herewith our revised construction schedule for the above subject project. Please be informed also that the construction activities of various Extra Work were also incorporated for your approval.

We hope you find the attached revised construction schedule acceptable.

Thank you.

Very truly yours,

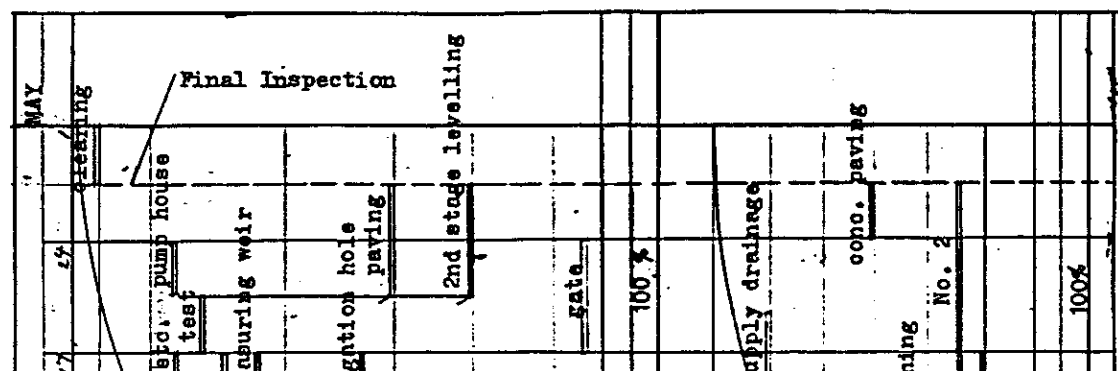
SUMMA KUMAGAI, INC.

  
TEODORO A. LEGASPI  
President

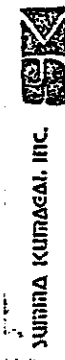
/dam

PROJECT : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (DCIEP)  
 LOCATION : SAN RAFAEL, BULACAN  
 FUNDING AGENCY : JAPAN INTERNATIONAL COOPERATION AGENCY  
 SUBJECT : REVISED CONSTRUCTION SCHEDULE

ITEM	DESCRIPTION	AMOUNT	JAN. 8 TO MAR. 15	MARCH	APRIL	MAY
ORIGINAL CONTRACT						
Div. 1	General	136,200.00				
Div. 2	Irrigation Facilities	1,612,335.00				
		372,061.00				
Div. 3	Drainage Facilities	1,612,335.00				
Div. 4	Farm Road	208,740.00				
Div. 5	Land Consolidation	391,630.00				
Div. 6	Other Facilities	548,034.00				
	TOTAL	3,270,000.00				
	Actual Accomplishment		1,341,174.00	65.00%	1,144,500	100%
	Target Accomplishment					
	Extra Work					
	1. Garage	208,450.00				
	2. Relocated Ditch	66,093.00				
	3. Road Pavement	22,100.00				
	4. Side Ditch Lining	36,305.00				
	5. Drainage Ditch Lining	373,130.00				
	TOTAL	706,078.00				
	Actual Accomplishment					
	Target Accomplishment		361,764	51.24%	344,314	100%
	Revised Contract Price	3,976,078.00				



Approved by:



NIPPON KURAGAI, INC.

# SUMMA KUNAGAI, INC.



7 April 1988

JAPAN INTERNATIONAL COOPERATION AGENCY  
2nd Floor, L.C. Building  
Sen. Gil Puyat, Avenue Extension  
Makati, Metro Manila

Attention : MR. MORIYA MIYAMOTO  
Resident Representative  
Philippine Office

Subject : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED  
CROPS IRRIGATION ENGINEERING PROJECT

Gentlemen :

We are transmitting herewith three (3) copies of  
Monthly Progress Report ending March 31, 1988  
for the above subject project as per your requirement.

We hope you find our report in order.

Very truly yours,

  
TEODORO A. LEGASPI  
PRESIDENT

## 携行器材受領書

昭和63年5月6日

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
畑野俊一 殿

畑地かんがい技術開発計画  
フェリター 森川正雄

フィリピン国畑地かんがい技術開発計画 モデルインフラ整備事業の施工管理のため昭和63年1月11日貴専庁長により携行した。施工管理業務期間中使用した下記の器材を、本日、貴専庁長より受領致しました。

### 受領器材

1. エンバネトロメーター 1式

資料 F.

業務通報 370

昭和 62 年 12 月 14 日  
(DLIEP-LS-001)

国際協力事業団：フィリピン事務所  
所長 宮本守也 展覧

火田地かんがい技術開発計画  
モデルインフラ整備事業  
工事契約・施工管理担当  
守谷 昇 (昇)

チーム  
リーダー  
森川 正確

件名：工事契約・施工管理業務週報  
(昭和 62 年 12 月 2 日 - 6 日)

標記につき下記ご報告致します。

1. 報告期間の行動と問題点

1-1. 主な行動：

月日(曜)	行動
12. 2 (水)	東京発マニラ着、JICA 事務所挨拶
3 (木)	NIA 挨拶、サイト・チェック
4 (金)	JICA マニラ事務所 11/24 発 Facsimile AD (FAX) 807 の設計変更 4 項目の内 3 項目についての入札図書修正部分について、森川リーダー及び山下専内家へ報告
5 (土)	入札図書検討
6 (日)	休み

昭和62年12月14日

(DCIEP-ES-003)

国際協力事業団 フィリピン事務所

所長 宮本守也殿

畑地かんがい技術開発計画

モデルインフラ整備事業

工事契約施工管理担当

チームリーダー

森川正雄

守谷 卓 (印)

件名: 工事契約施工管理業務1週報

(昭和62年12月7日-13日)

標記について、下記の通りご報告いたします。

## 1. 報告期間の行動と進捗・問題点

## 1-1. 主な行動

月日(曜)	行動
12. 7 (月)	礫層についての入札図書修正
8 (火)	NIA Counterpart と契約業務工程打合せ 入札図書チェック
9 (水)	JICA マニラ事務所報告資料作成 打合せ
10 (木)	日本のインテラクターの現地法人調査 JICA マニラ事務所打合せ
11 (金)	フィリピン国工事入札に関する法令 スタディー・JICA マニラ事務所打合せ
12 (土)	インテラクター指名の伺い書作成

562年12月21日  
(DCIEP-CS-005)

国際協力事業団、フィリピン事務所  
所長 宮本守也 殿

畑地かんがい技術開発  
モデルインフラ整備事業  
工事契約施工管理担当

チムリター  
中川正雄

守谷 昇 (印)

件名: 工事契約・施工管理業務週報  
(昭和62年12月14日～19日)

標記について、下記の通りご報告いたします。

I. 報告期間の主な行動と進捗・問題点

I-1. 主な行動

月日(曜日)

行動

12.14(月) 指名競争入札前提の入札図書作成に  
ついで同書とJICAへ提出。  
入札図書の一般条件の内、保証及び  
支払い条項の資料作成。

12.15(火) 上記条項についてJICA打合せ。前払い  
金に対する保証について情報収集。

12.16(水) 上記につき報告書作成(DCIEP-CS-004)。

フィリピン国政府保険機関による工事  
保険について情報収集。

12. 17 (木) 入札図書最終チェック、製本。  
入札図書配布についてコントラクターへ通知、  
日程についてJICA打合せ。入札図書  
成果品JICA提出。
12. 18 (金) 指名コントラクターへ入札図書配布、及び  
説明会。
12. 19 (土) 週報等の作成。

## I-2. 進捗・問題点

- 12月18日 10:00 a.m. JICA事務所にて入札図書を  
指名のコントラクターへ配布しました。3社からの  
出席者は下記の通りでした。

CCC Construction Corp	タケルナ 幸雄氏
Correa Zenitaka, Inc.	ハクトール・コリア氏
Summa Kumagai, Inc.	磯野貴雄氏

入札図書配布の会場では、以正を期して説明は  
英語に限り、DCIEPの背景と目的、試験現場  
の性格と役割、工事の内容、工期、入札の日程  
について説明し、今回日本のコントラクターが  
参加する現地法人を指名した理由、すなわち、  
試験現場の性格上、日本の技術指導と責任  
態勢に期待することに言及しました。

- NIAの場合、NIAが工事契約を締結するコントラクター  
すべてに、政府の保険機関である Government

S 62 年 12 月 26 日  
(DCIEP-CS-007)

国際協力事業団 フィリピン事務所  
所長 宮本守也殿

畑地かんがい技術開発  
モデル・インフラ整備事業  
工事契約 施工管理担当  
守谷 昇 (印)

ターム・リター  
森川 正雄

件名: 工事契約・施工管理業務週報  
(S 62 年 12 月 21 日 ~ 26 日)

標記について、下記の通りご報告いたします。

I. 報告期間の主な行動と進捗・問題点

I-1. 主な行動

月日(曜)	行動
12. 21 (月)	指名施工業者 3 社のグループ・サイト・ビジットの案内。入札図書的一般条件の内 CAR 保険と、スペシャルリスクについて検討。
12. 22 (火)	D/O レポートの工事費のレビュー。物価指数資料 NYA へ依頼。施工管理業務担当 細野 (S 63 年 1 月 11 日就任予定) との国際電話による打合せ。
12. 23 (水)	D/O レポートの工事費積算資料入手 (東京より送付)。入札図書の補足通知 No. 1 (案) の作成, JICA 提出, JICA 承認。

月日(曜日)	行動
12. 24 (木)	上記補足通知 No.1 を指名施工業者へ配布。 12/28 (月) 入札受け付けの方法について JICA 打合せ。
12. 25 (金)	国民休暇日
12. 26 (土)	工事諸費からの支出見積り。 週報作成。
I-2. 進捗・問題点	
<p>○ 12月21日(月) 指名3社による7"W-7" サイト・ビジットの案内を行いました。 JICA 側から、フィリピン事務所の新井氏、DCIEP 森川チームリーダー、山下専門家、NIA からカウンターパート、コントラクターからの3社5名の出席がありました。</p>	
<p>週報 DCIEP-ES-005 へ添付の日程通り、NIA Region III オフィスに集合。 NIA Training Center で、サイト・ビジットの工程説明及びサイトの一般 状況説明、サイト・ビジット、再び NIA Training Center へ戻り 質疑応答の順序で進行させました。 コントラクターからの出席者は全員が約15分遅刻して NIA Region III オフィスの到着しました。 サイト・ビジットに先立ち、Region III オフィスへ依頼して、現場のセンター及び境界を示す旗を用意しました。</p>	
<p>サイトの一般状況説明は下記の通りです。</p>	
<p>1) 用水の水源</p>	
<p>ポンプ機場を設置する North Main Canal の水位は EL 19.00 m と想定している。</p>	

S63年 1月 2日  
(DCEP-CS-008)

国際協力事業団フィリピン事務所  
所長 宮本守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
工事契約・施工管理担当  
守谷 昇 (印)

4-6-11-9-1  
森川正雄

件名: 工事契約・施工管理業務週報  
(S62年12月28日~S63年1月2日)

標記について下記の通り、ご報告いたします。

I. 報告期間の主な行動と進捗・問題点

I-1. 主な行動

月日(日)	行動
12.28(月)	JICA事務所へ入札
29(火)	NIAで資料収集。カウンターパート打合せ。
30(水) ~ 31(木)	入札結果の分析
1.1(金)	休日
2(土)	入札結果の分析

I-2. 進捗・問題点

「入札及び入札書審査報告書」で後程ご報告いたします。

昭和63年 2月 1日  
(DCIEP-OS-015)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
工事契約・施工管理担当  
子谷 卓夫 (印)

チームリーダー  
森川 正雄

件名: 工事契約・施工管理業務週報  
(昭和63年1月4日～昭和63年1月10日)

標記に於いて下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点及び対応策

1-1 主要行動

月日(曜)	天候	行 動
1. 4 (月)	晴	日入事務所・NIAスタッフ全体会議
1. 5 (火)	〃	入札審査資料にコメントを打合せ、JICA打合せ
1. 6 (水)	〃	入札審査資料 JICA 説明・報告、契約書類作成
1. 7 (木)	〃	インフラに送付通知、契約書類作成
1. 8 (金)	〃	JICA-スマタガイン工事契約書調印、着工命令書手渡し
1. 9 (土)	〃	入札・契約関係書類整理
1. 10 (日)	〃	(休日)

昭和63年 2月 3日  
(DCIEP-OS-016)



国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地改良の技術開発  
モデルインフラ整備事業  
施工管理担当者

チームリーダー

森川 正雄

細野 俊一

平谷 卓  

件名: 施工管理業務週報

(昭和63年1月1日 ~ 昭和63年1月7日)

標記に於て下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点と対応策

1-1 主要行動

月日(曜)	天候	行 動
1.11(月)	晴	(細野)東京出発、 $\approx$ 到着13:40, JICAフィリピン事務所表敬打合せ。
1.12(火)	"	NIA表敬打合せ、DCIEP事務所にて森川リーダー打合せ。
1.13(水)	"	農場サイトにてJoint Survey開始
1.14(木)	"	DCIEP事務所にて打合せ・書類整理、NIA打合せ
1.15(金)	"	(午前) JICA打合せ、(午後) サイトにてインフラ打合せ。
1.16(土)	"	工事工程表、搬入建設機械リスト検討。
1.17(日)	"	(休日)

昭和63年 2月3日  
(DCIEP-OS-017)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者

チームリーダー

森川 正徳

細野 俊一 (印) 守谷 卓 (印)

件名: 施工管理業務週報

(昭和63年1月18日 ~ 昭和63年1月24日)

標記に於いて下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点と対応策

1-1 主要行動

月日(曜)	天候	行 動
1.18(月)	晴	(統一地方選挙に付休日). 書類整理, 今後の全体業務計画検討
1.19(火)	曇	駐在所の購入器材の検討, JICA打合せ.
1.20(水)	〃	(土) 搬入建設器材等あり, 工事工程打合せ, 倉庫撤前開始.
1.21(木)	晴	サットにて Ground Breaking Ceremony 実施.
1.22(金)	〃	(午前) リーダー打合せ, JICA打合せ報告, (午後) サット, 風場造成工程打合せ.
1.23(土)	〃	サット, 風場の clearing, 排水根張り, 表土上げ開始.
1.24(日)	〃	追加工事に関する資料整理

1/5

昭和63年2月3日  
(DCIEP-OS-018)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

チームリーダー  
森川 正太夫

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者

細野 俊一 (豊) 守谷 泉代 (3)

件名: 施工管理業務週報

(昭和63年1月25日～昭和63年1月31日)

様記に於いて下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点と対応策

1-1 主要行動

月日(曜)	天候	行 動
1.25 (月)	晴	(午前) NIA JICA打合せ。(午後) 計付、NIA Region III打合せ
1.26 (火)	"	計付、扇形造成A Group I 差盤切替開始、建物基礎掘削
1.27 (水)	"	計付、NIA Region III打合せ、差盤切替終了、倉庫基礎コンクリート
1.28 (木)	"	(細野) 計付、表土搬入建物工事終了。(守谷) DCIEP 書類整理
1.29 (金)	"	(細野) 計付、表土バッキング作業終了。(守谷) DCIEP 書類整理
1.30 (土)	"	(守谷) 14:20 帰国、東京帰着、週報作成
1.31 (日)	"	North Main Canal 低管切替計画検討、追加工事資料整理

ANNEX 工事進捗状況

563.1.31現在

PROJECT: CONSTRUCTION OF A TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (D.C.I.E.P.), SAN RAFAEL, BULACAN		YEAR 1988							MARCH							APRIL				MAY	
		JANUARY		FEBRUARY		MARCH			APRIL				MAY								
ITEMS	DESCRIPTION	AMOUNT	%	10	17	24	31	7	14	21	28	5	12	19	26	3	10	17	24	31	
1	GENERAL	136,200.00	4.165	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	W-12	W-13	W-14	W-15	W-16	W-17	W-18
				SURVEYING		MOBILIZATION		TEMPORARY WORK, EQUIPMENT		TEMPORARY WORK, EQUIPMENT		TEMPORARY WORK		TEMPORARY WORK		PUMP HOUSE		VALVE HOUSE		VALVE HOUSE	
2	IRRIGATION FACILITIES	1,613,335.00	49.339	EXCAVATION		EXCAVATION		LEVELING CONCRETE		LEVELING CONCRETE		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID	
				EXCAVATION		EXCAVATION		LEVELING CONCRETE		LEVELING CONCRETE		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID		SUNCON PUMP, BROUGHT IRID	
3	DRAINAGE FACILITIES	372,061.00	11.379	ROAD		ROAD		ROAD		ROAD		ROAD		ROAD		ROAD		ROAD		ROAD	
4	FARM ROAD	208,740.00	6.384	ROAD		ROAD		ROAD		ROAD		ROAD		ROAD		ROAD		ROAD		ROAD	
5	LAND CONSOLIDATION	391,630.00	11.976	TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING	
				TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING		TOP SOIL STRIPPING	
6	OTHER FACILITIES	548,034.00	16.759	CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT	
				CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT		CUT & EMBANKMENT	
TOTAL	ACCOMPLISHMENT	3,270,000.00	100.00	10.23		10.23		10.23		10.23		10.23		10.23		10.23		10.23		10.23	
TARGET	ACCOMPLISHMENT	328,234.50	10%	757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00	
				757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00		757,006.00	
				1,148,295.50		1,148,295.50		1,148,295.50		1,148,295.50		1,148,295.50		1,148,295.50		1,148,295.50		1,148,295.50		1,148,295.50	
				1,036,284.00		1,036,284.00		1,036,284.00		1,036,284.00		1,036,284.00		1,036,284.00		1,036,284.00		1,036,284.00		1,036,284.00	
				35%		35%		35%		35%		35%		35%		35%		35%		35%	
				32%		32%		32%		32%		32%		32%		32%		32%		32%	



SUBMITTED BY: SUMITOMO KUMAGAI, INC.



APPROVED BY: JAPAN INTERNATIONAL COOPERATION AGENCY

--- Target Progress  
 - - - - - Actual Progress

1/4

昭和63年2月8日  
(DCIEP-05-019)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一 (印)

フェムリーダー  
森川 正雄

件名: 施工管理業務週報

(昭和63年2月1日～昭和63年2月7日)

標記に於いて下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点の対応策

1-1 主要行動

月日(曜)	天候	行 動
2.1(月)	晴	(午前)DCIEP事務所(午後)サト。月間の状況調査、サト三行の
2.2(火)	"	(午前)JICA打合せ(午後)サト。現場の養土産物のレベル測量。
2.3(水)	"	NIA打合せ。サト。高架タンク架設物のレベル測量
2.4(木)	"	DCIEP打合せ報告、サト。排水路No.2のR29-4247。掘削開始。
2.5(金)	"	(午前)JICA打合せ報告、(午後)サト。付替パイプラインR29-4247。R29-4247の
2.6(土)	"	サト。付替パイプライン布設開始。高架タンク基礎ピロコンクリート打設
2.7(日)	"	週報作成

昭和63年 2月 15日  
(DCIEP-ES-020)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

旭地ロビン 技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一 (印)

ホームリーダー  
森川 正雄

件名: 施工管理業務週報

(昭和63年 2月 8日 ~ 昭和63年 2月 14日)

標記について下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点の対応策

1-1 主要行動

月日(曜)	天候	行 動
2. 8 (月)	晴	NIA定例会議 JICA報告打合せ。(ヤシ) 赤場ババル測量
2. 9 (火)	☽	NIA, DCIEP 打合せ, ヤシ三ヶ所へ大型ババルマシン搬入要請
2. 10 (水)	☽	DCIEP事務所, ヤシ 赤場ババル測量, 砂中層の確認終了
2. 11 (木)	☽	ヤシ, 砂中層掘削搬出, 赤場掘削, 鋪層根材取付
2. 12 (金)	☽	DCIEP打合せ, NIA Regional Office 打合せ, 赤場ババル測量
2. 13 (土)	☽	ヤシ, 赤場掘削マシン1台打設, 排水路 1ヶ所掘削 赤場造成終了
2. 14 (日)	☽	週報作成, 追加工事計画作成

1/4

昭和63年 2月 22日  
(DCIEP-ES-021)国際協力事業団フィリピン事務所  
所長 宮本 守也殿畑地改良の技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊チームリーダー  
森川 正彦件名: 施工管理業務週報

(昭和63年2月15日～昭和63年2月21日)

標記に於て下記のとおりご報告致します。

## 1. 報告期間中の主要行動と進捗・問題点と対応策

## 1-1 主要行動

月日(曜)	天候	行 動
2 15 (月)	曇	JICA打合せ、サト・ポンプ場の壁コンクリート打設
2 16 (火)	"	NIA・DCIEP打合せ、サト定例ミーティング、ポンプ場盛土検査
2 17 (水)	"	Ditch NO.3測量作業、P-3～P-6バルブ作業
2 18 (木)	晴	P-4～P-6土工作業、NIAリ-ジョイント打合せ
2 19 (金)	"	工事進捗停滞に際しては注意、落石工掘削(No.1)付帯施設工事終了
2 20 (土)	曇	ポンプ場の壁コンクリート打設、高架橋型枠検査
2 21 (日)	"	週報作成

昭和63年 2月 29日  
(DCIEP-OS-022)

国際協力事業団フィリピン事務所  
所長 宮本 宇也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一

チームリーダー  
森川 正雄

件名: 施工管理業務週報  
(昭和63年2月22日~昭和63年2月28日)

標記について下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点及び対応策

1-1 主要行動

月日(曜)	天候	行 動
2. 22 (月)	晴	(坂持切符画) N/A リーゾナル事務所合設 外. 排水路レベル測量, JICA 打合せ
2. 23 (火)	"	外. 定例ミーティング, 落差工. カムフラ型枠検査, JICA 打合せ(追加時)
2. 24 (水)	"	外. ポンプ揚水機コンクリート打設, 17kmのシクリン後 Clearing
2. 25 (木)	"	(革命記念日, 休日) Ditch No.3 の横断図作成
2. 26 (金)	曇	DCIEP, 外. N/A 打合せ (Ditch No.7 の用紙), 排水路掘削 整形
2. 27 (土)	晴	外. 農道舗装土. カムフラ型枠コンクリート. ポンプ揚水機. 排水路
2. 28 (日)	"	週報作成

昭和63年3月7日  
(DCIEP-05-024)

国際協力事業団フィリピン事務所  
所長 宮本 宇也殿

畑地改良の技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊 (印)

チームリーダー  
森川 正雄

件名: 施工管理業務週報  
(昭和63年2月29日 ~ 昭和63年3月6日)

標記について下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点の対応策

1-1 主要行動

月日(曜)	天候	行 動
2 29 (月)	晴	サト、排水路整形、落着工No.3、ボンプ地上屋 SICA打合せ報告
3 1 (火)	〃	サト新築三ヶ所、サト境界杭打ち、ポンプ設置開始
3 2 (水)	〃	NIAI-231V7打合せ、地研工事開始、排水路法面整形
3 3 (木)	〃	環状道9.9-発着、DCIEP打合せ、高梁水槽型保水管検査
3 4 (金)	〃	サト、ボンプパイプ測量、高梁水槽の1-1打設、ボンプ排水開始、SICA打合せ
3 5 (土)	〃	ボンプ境界杭打ち、放流堰掘削開始、Catch Drain掘削開始
3 6 (日)	〃	週報作成、進捗工事書類作成

ANNEX. 工事進捗状況  
563.2.29現在

PROJECT: CONSTRUCTION OF A TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (D.C.I.E.P.), SAN RAFAEL, BULACAN

C O N S T R U C T I O N S C H E D U L E

YEAR 1968	JANUARY							FEBRUARY							MARCH							APRIL							MAY																							
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	GENERAL		AMOUNT	%																																																
			36,200.00	4.165																																																
2	IRRIGATION FACILITIES		1,613,335.00	49.359																																																
3	DRAINAGE FACILITIES		372,061.00	11.379																																																
4	FARM ROAD		209,740.00	6.384																																																
5	LAND CONSOLIDATION		391,650.00	11.976																																																
6	OTHER FACILITIES		548,034.00	16.759																																																
TOTAL			3,270,000.00	100.00																																																
ACTUAL ACCOMPLISHMENT			328,234.50	10%																																																
TARGET ACCOMPLISHMENT			1,148,295.50	35%																																																
			1,036,284.00	32%																																																

--- Target Progress  
- - - Actual Progress



SUBMITTED BY: SUMITOMO KINOKUNIYA, INC.



APPROVED BY:

JAPAN INTERNATIONAL COOPERATION AGENCY

昭和63年3月14日  
(DCIEP-25-026)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一 (細野)

チームリーダー  
森川 正雄

件名： 施工管理業務週報

(昭和63年3月7日～昭和63年3月10日)

標記に於て下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点及び対応策

1-1 主要行動

月日(曜)	天候	行 動
3.7 (月)	晴	サト. NIAリポーター打ち合せ. 付け替りサト. JICA報告打ち合せ
3.8 (火)	曇	サト. 定例ミーティング. Waste Way 差込コンクリート. JICA打ち合せ.
3.9 (水)	〃	DCIEP打ち合せ. サト. かん"十No.2パイプ布設. JICA打ち合せ.
3.10 (木)	〃	サト. 高層タンク工事コンクリート打設. 畦畔排水口工事.
3.11 (金)	晴	サト. NIAリポーター打ち合せ. Waste Way Wallコンクリート. JICA打ち合せ.
3.12 (土)	〃	サト. ポンプ場サクリンメント工事.
3.13 (日)	〃	サト. ポンプ場サクリンメント・ソフトラップ工事 週報作成

昭和63年3月21日  
(DCIEP-05-028)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊

チームリーダー  
森川 正雄

件名： 施工管理業務週報

(昭和63年3月14日～昭和63年3月20日)

標記に於いて下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点及び対応策

1-1 主要行動

月日(曜)	天候	行 動
3.14(月)	晴	ヤセ 排水路No.2 放流工、排水計No.2の計上、JICA報告
3.15(火)	〃	ヤセ 広原三ヶ分、排水高検査 測量
3.16(水)	〃	ヤセ 排水高検査 測量 排水路末端排水口工事
3.17(木)	〃	中国私道の排水高検査 付け替のインフラシナシ
3.18(金)	〃	ヤセ 高梁シナシ掘削、NIA 1-201V 7762 打合せ
3.19(土)	曇	ヤセ 排水路No.3 掘削シナシ
3.20(日)	晴	週報作成、排水工事関係者会議

1/4

昭和63年3月28日  
(DCIEP-OS-31)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地改良の技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊

チームリーダー  
森川 正雄

件名: 施工管理業務週報  
(昭和63年3月21日～昭和63年3月27日)

標記について下記のとおりご報告致します。


1. 報告期間中の主要行動と進捗・問題点と対応策

1-1 主要行動

月日(曜)	天候	行 動
3.21(月)	晴	JICA報告打ち合わせ、排水路No.3、No.2の掘削、 <sup>(P.1)</sup> <sub>(P.2)</sub>
3.22(火)	"	排水路No.1の掘削、パイプの取付、 <sup>(P.1)</sup> <sub>(P.2)</sub>
3.23(水)	"	JICA打ち合わせ、 <sup>(P.1)</sup> <sub>(P.2)</sub>
3.24(木)	"	JICA打ち合わせ、 <sup>(P.1)</sup> <sub>(P.2)</sub>
3.25(金)	"	排水路No.1の掘削、 <sup>(P.1)</sup> <sub>(P.2)</sub>
3.26(土)	"	排水路No.2、No.3の掘削、 <sup>(P.1)</sup> <sub>(P.2)</sub>
3.27(日)	"	週報作成

昭和63年4月4日  
(DCIEP-ES-032)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊 

チームリーダー  
森川 正雄

件名: 施工管理業務週報

(昭和63年3月28日 ~ 昭和63年4月3日)

標記に於いて下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点の対応策

1-1 主要行動

月日(曜)	天候	行 動
3.28 (月)	晴	サハ 排水路 No.1, No.3 2771+51=29' 47' 掘り配管, JICA報告
3.29 (火)	ク	サハ 定例ミーティング, 畦畔工, 排水路 No.2 掘削, 谷端測量
3.30 (水)	ク	サハ 排水路 No.1 掘削測量, Hydrant Box 工事, 702R, No.1 2771+51=29'
3.31 (木)	ク	(休日)
4.1 (金)	ク	(休日) 工事員整理
4.2 (土)	ク	(休日) 工事員整理
4.3 (日)	ク	(休日) 週報作成

PROJECT : CONSTRUCTION OF TRIAL FARM FOR DIVERSIFIED CROPS IRRIGATION ENGINEERING PROJECT (DCIEP)  
 LOCATION : SAN RAFAEL, BULACAN  
 FUNDING AGENCY : JAPAN INTERNATIONAL COOPERATION AGENCY  
 SUBJECT : REVISED CONSTRUCTION SCHEDULE

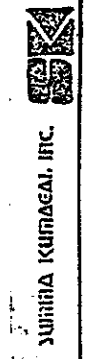
ANNEX  
 工事進捗状況  
 563.3.31現在

ITEM	DESCRIPTION	AMOUNT	JAN. 8 TO MAR. 15		MARCH		APRIL		MAY
Div. 1	General	136,200.00							
Div. 2	Irrigation Facilities	1,612,315.00							
		1,643,335.00							
Div. 3	Drainage Facilities	372,061.00							
		1,643,335.00							
Div. 4	Farm Road	208,740.00							
Div. 5	Land Consolidation	391,630.00							
Div. 6	Other Facilities	548,034.00							
	TOTAL	3,270,000.00							
	Actual Accomplishment								
	Target Accomplishment		1,341,174.00	41.1%					
	Extra Work								
	1. Garage	208,450.00							
	2. Relocated Ditch	66,093.00							
	3. Road Pavement	22,100.00							
	4. Side Ditch Lining	36,305.00							
	5. Drainage Ditch Lining	373,130.00							
	TOTAL	706,078.00							
	Actual Accomplishment								
	Target Accomplishment		361,764	51.0%					
	Revised Contract Price	3,976,078.00							

March 15, 1988

Garage (Actual)  
 (Actual)  
 No. 1  
 No. 2  
 No. 3

Approved by:



SUMITOMO KUMAGAI, INC.

昭和63年4月11日  
(DCIEP-PS-033)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一 (印)

チームリーダー  
森川 正雄

件名: 施工管理業務週報  
(昭和63年4月4日 ~ 昭和63年4月10日)

標記に於いて下記のとおりご報告致します。


1. 報告期間中の主要行動と進捗・問題点の対応策

1-1) 主要行動

月日(曜)	天候	行 動
4.4(月)	晴	JICA報告打ち合わせ、サット、排水路コンクリートラッシング、畦畔工
4.5(火)	"	サット、バルブ取り付け、流量計・給水栓ボンス、タンク張り配管
4.6(水)	"	サット、逆側ミッシング、2nd Stage Levelling工程検討
4.7(木)	"	サット、地下水調査孔 付け管用水路、コンクリートラッシング
4.8(金)	"	NIA打ち合わせ、サット、農道側溝ミッシング、畦畔工
4.9(土)	"	サット、雨水パイプ材搬入、流量計・給水栓ボンス
4.10(日)	"	週報作成

昭和63年 4月 18日  
(DCIEP-05-034)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊 

チームリーダー  
森川 正太郎

件名: 施工管理業務週報  
(昭和63年4月1日 ~ 昭和63年4月7日)

標記に於て下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点の対応策

1-1 主要行動

月日(曜)	天候	行 動
4. 11 (月)	晴	サ外. 2nd Stage Levelling開始, 排水路工(2)サ, JICA報告(打合せ)
4. 12 (火)	〃	サ外. 遊歩道工(1)サ, 環境進捗報告, 排水路工(2)サ, 流量計取付配管
4. 13 (水)	〃	サ外. ポンプ運搬(1)サ, 排水路工(2)サ, ポンプ配管設計, JICA報告
4. 14 (木)	〃	サ外. ポンプ運搬(2)サ, 排水路工(2)サ, 排水路工(2)サ, 排水路工(2)サ
4. 15 (金)	〃	サ外. 排水路工(2)サ, 排水路工(2)サ, 排水路工(2)サ, 排水路工(2)サ
4. 16 (土)	〃	サ外. 排水路工(2)サ, 排水路工(2)サ, Catch Drain
4. 17 (日)	〃	週報作成

昭和63年4月25日  
(DCIEP-25-036)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊 (細野)

チームリーダー  
森川 正雄

件名: 施工管理業務週報

(昭和63年4月18日 ~ 昭和63年4月24日)

標記に於て下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点の対応策

1-1 主要行動

月日(曜)	天候	行 動
4.18(月)	晴	ササ. 4ヶ所のパイプライン布設 既研工 JICA 報告 打合せ
4.19(火)	〃	ササ. 急傾斜地対策工事促進の為に 地盤体の進捗確認
4.20(水)	〃	ササ. ポンプ設置の5. ポンプ配管 4ヶ所のパイプライン布設
4.21(木)	〃	ササ. ポンプ配管 4ヶ所のパイプライン布設完了 No.1のポンプ設置
4.22(金)	〃	ササ. 2nd Levelling. 農道入口のコンクリート舗装 ポンプ配管
4.23(土)	〃	ササ. 1ヶ所のポンプ配管 4ヶ所のポンプ配管 2nd Levelling
4.24(日)	〃	週報作成

昭和63年5月2日  
(DCIEP-05-037)

国際協力事業団フィリピン事務所  
所長 宮本 守也殿

畑地かんがい技術開発  
モデルインフラ整備事業  
施工管理担当者  
細野 俊一

チームリーダー  
森川 正彦

件名: 施工管理業務週報

(昭和63年4月26日～昭和63年5月1日)

標記について下記のとおりご報告致します。

1. 報告期間中の主要行動と進捗・問題点と対応策

1-1 主要行動

月日(曜)	天候	行 動
4.25(月)	晴	サ外. 2nd Levelling. 農道工 畦畔工.
4.26(火)	"	JICA報告 打合せ. サ外 逆側ミ-リング 農道工
4.27(水)	"	サ外. 2nd Levelling. 農道工. 補修工事.
4.28(木)	"	サ外. 110°ラジアン通水試験 農道工 各補修. 出来高測量
4.29(金)	"	サ外. 農道工 畦畔工. 出来高測量. サ外 クリーニング
4.30(土)	"	サ外. 農道工. 畦畔工. 出来高測量. サ外 クリーニング
5.1(日)	"	サ外. 農道工. 法面仕上 出来高測量. サ外 クリーニング