

**Section 007000 General Conditions & Infrastructure Fixed Price Unit Price  
Subcontract**

**Subcontract#:** Subk-WASH-2019- \_\_\_\_\_

**Sous-contrat # :** Subk-WASH-2019- \_\_\_\_\_

*CONDITIONS OF SUBCONTRACT*

*CONDITIONS DE SOUS-CONTRAT*

For

Pour

**Water System Improvement in Charpentier/Les Cayes.**

**Amélioration du Système d'eau à Charpentier/Les Cayes.**

May 2019

Mai 2019

**USAID/ Water and Sanitation Program**

**USAID/ Water and Sanitation Program**

Funded by the United States Agency for International Development / Haiti (USAID/H)

Financé par l'Agence des États-Unis pour le Développement International (USAID/Haïti / H)

Contract # OAA-I-14-00049/720521

Contract # OAA-I-14-00049/720521

**Activity Title:** Water System Improvement in Charpentier/Les Cayes

**Titre de l'activité:** Amélioration du Système d'eau à Charpentier/Les Cayes

**Subcontractor's DUNS # :** \_\_\_\_\_

**Period of Performance:** \_\_\_\_\_

**N° DUNS du sous-contractant #:** \_\_\_\_\_

**Type of Subcontract:** Fixed Unit Price Subcontract

**Délai d'exécution:** \_\_\_\_\_

**Total Subcontract Price:** USD \$ \_\_\_\_\_

**Type de sous-contrat :** Sous-contrat à Prix unitaire Fixe

**Current Total Obligation:** USD\$ \_\_\_\_\_

**Montant total du Sous-contrat:** USD \$ \_\_\_\_\_

**Contractor:**

**Obligation actuelle:** USD \$ \_\_\_\_\_

DAI Global LLC

**Le Sous-contractant:**

Name: TIGRAN YEGHYAN

Nom: \_\_\_\_\_

Title: Senior Contracts Manager

Titre: \_\_\_\_\_

Date:

Date :

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## 1. CONDITIONS OF SUBCONTRACT

### 1.1.SUBCONTRACT DATA

- 1) The Funding Agency is United States Agency for International Development (USAID) Mission in Haiti.
- 2) The Contractor is DAI Global LLC / USAID Water and Sanitation Program (USAID Water and Sanitation)
- 3) DAI's point of contact is The Chief of Party (COP), Mr. Daniel O'Neil
- 4) The Subcontract Administrator for DAI are designed as follows:
  - DAI/Washington Office of Contracts,  
Tigran Yeghyan.  
  
7600 Wisconsin Ave, Suite 200, Bethesda  
MD 20184  
  
Telephone: +1 301.771.7509  
  
E-mail: [Tigran.Yeghyan@DAI.com](mailto:Tigran.Yeghyan@DAI.com)
  - USAID Water and Sanitation Project Office in Haiti  
Daniel O'Neil, Chief of Party  
  
Telephone: +509 4600-3730  
  
Email: Doneil @Watsan-Haiti.com
- 5) The Activity Title is **Water System Improvement in Charpentier/Les Cayes**
- 6) The Technical Representatives are the Engineers and the Engineer's Representatives, as follows:  
Engineers:
  - Papa Diop

## 1. CONDITIONS DE SOUS-CONTRAT

### 1.1. LES DONNÉES DE SOUS-CONTRAT

- 1) L'organisme de financement est la Mission de l'Agence des États-Unis pour le Développement International (USAID) en Haïti.
- 2) Le contractant est DAI Global LLC / USAID Water and Sanitation Program (USAID Water and Sanitation)
- 3) La personne de contact de DAI est le Directeur du projet, M. Daniel O'Neil
- 4) Les administrateurs de Sous-contrat pour DAI sont les suivants :
  - Bureau des contrats de DAI/Washington,  
Tigran Yeghyan.  
  
7600 Wisconsin Ave, Suite 200, Bethesda  
MD 20184  
  
Telephone: +1 301.771.7509  
  
E-mail: [Tigran.Yeghyan@DAI.com](mailto:Tigran.Yeghyan@DAI.com)
  - Bureau USAID Water and Sanitation Project en Haiti  
Daniel O'Neil, Directeur du projet  
  
Telephone: +509 4600-3730  
  
Email: Doneil @Watsan-Haiti.com
- 5) Le Titre de l'activité est **Amélioration du Système d'eau à Charpentier/Les Cayes**
- 6) Les représentants techniques sont les ingénieurs et les représentants de l'ingénieur, présentés comme suit :  
Ingénieur :
  - Papa Diop
  - Fernand NZamurambaho

- Fernand NZamurambaho

Les représentants des ingénieurs :

Engineers representatives:

-

-

7) Les administrateurs du Sous-contractant autorisés à engager le Sous-contractant sont les suivants :

-

- 7) The Subcontractor's authorized subcontract administrators, who are authorized to bind the subcontractor are as follows:
- 
- 8) The Currency is the USD, payment to be made in USD.
- 9) The Subcontract Commencement Date: is the fully executed date of this Subcontract.
- 10) The Site Possession Date: is the date the notice to proceed was issued
- 11) The Retention Period for Defects Liability is 365 days.
- 12) The Subcontract is not subject to Price Adjustments for wage, material and/or equipment escalation modifying the unit prices.
- 13) The Subcontractor shall conform to all requirements under those required by local building codes in addition to those required by Section 7 of this subcontract agreement.
- 14) A Mobilization payment of up to the maximum of 10% of subcontract price will be paid to the Subcontractor upon complete and satisfactory receipt of deliverables and receipted materials outlined in Section 8 of this subcontract agreement.
- 15) A Performance Security (specifically a Bank Guarantee or performance bond issued by reputable Insurance Company) is required, in a form of

- 8) La devise est le dollar américain, les paiements seront faits en dollar américain.
- 9) La date de commencement du Sous-contrat est la date de signature du sous-contrat par les deux parties.
- 10) La date de l'établissement du chantier sera indiquée dans la note de remise du chantier.
- 11) La période de garantie pour la responsabilité en cas de défectuosité est de 365 jours.
- 12) Le Sous-contrat n'est pas assujéti à des ajustements de prix liés à une augmentation des salaires, et des matériels et/ou équipements modifiant les prix unitaires.
- 13) En plus des exigences mentionnées dans la section 7 du sou-contrat, le sous-contractant devrait se conformer à toutes les exigences du code local de construction national en plus de ceux requis par la Section 7 du Sous-contrat.
- 14) Un paiement pour la mobilisation jusqu'à maximum de 10% du montant du sous-contrat sera fait à l'ordre du Sous-contractant après la réception complète et satisfaisante des livrables et des matériaux mentionnés dans l'article 8 du présent Sous-contrat.
- 15) Une garantie de bonne exécution (plus précisément une caution bancaire ou une garantie d'exécution émise par une compagnie d'assurance de bonne réputation) est nécessaire, sous forme de caution acceptable par DAI Global LCC à la valeur de 15 % du montant de l'accord de Sous-contrat, comme il est indiqué dans les termes et conditions ci-après.

security acceptable to the DAI Global LCC to the value of 15% of the Subcontract Agreement, as outlined in the terms and conditions herein.

- 16) Liquidated damages shall be applied, as defined in the terms and conditions herein in Section 11. The daily rate of liquidated damages shall be 1.000 per day. The maximum value of liquidated damages is 10% the total value of the subcontract. Liquidated damages shall begin after 15 days of inexcusable delays.

- 17) The Subcontractor shall maintain the following insurance as per Section 12 of this subcontract agreement and the Defense Based Act (DBA) insurance requirement outlined in Special Provisions.

- a) General Liability insurance (personnel and equipment) as required by Government of Haiti and any other applicable law as prescribed.
- b) Equipment Insurance as required by Government of Haiti and any other applicable law as prescribe
- c) Workman's Compensation Insurance covering each employee to the extent required by the Government of Haiti;
- d) Insurance to cover any damages or destruction of works, for whatever cause;
- e) Insurance coverage for equipment and tools used under this Contract; and
- f) All social insurance as required by applicable laws for all employees.
- g) Defense Based Act (DBA) Insurance is required.

- 18) The Subcontractor's key personnel shall include the following:

-

- 16) Les dommages-intérêts seront appliqués comme définis dans les termes et conditions stipulés dans l'article 11. Le taux journalier des dommages-intérêts sera de 1,000 par jour. Le montant maximum des dommages-intérêts est de 10 % du montant total du Sous-contrat. L'application des dommages-intérêts commence après 15 jours de retards inexcusables.

- 17) Le Sous-contractant doit souscrire aux assurances suivantes, conformément à l'article 12 du présent sous-contrat et appliquer les exigences de l'assurance Defense Based Act (DBA) indiquées dans les Dispositions Spéciales.

- a) L'assurance-responsabilité civile générale (personnel et équipement) telle que requise par le gouvernement d'Haïti et toute autre loi applicable, telle que prescrite
- b) L'assurance des biens d'équipement requise par le gouvernement d'Haïti et toute autre loi applicable, telle que prescrite
- c) L'assurance d'indemnité pour accidents de travail pour chaque employé, au taux exigé par le gouvernement d'Haïti ;
- d) L'assurance pour couvrir les dommages ou la destruction des travaux, pour quelque cause que ce soit
- e) La couverture d'assurance pour l'équipement et les outils utilisés en vertu du présent contrat ; et
- f) Toutes les assurances sociales comme l'exigent les lois applicables pour tous les employés
- g) L'assurance DBA est obligatoire.

- 18) Le personnel principal du Sous-contractant doit être composé de la façon suivante :

-

- 19) Les principaux équipements du Sous-contractant doivent inclure les éléments suivants :

-



19) The Subcontractor's key equipment shall include the following:

-

20) Performance period: \_\_\_\_\_ days

21) Subcontract value: \$ \_\_\_\_\_ USD

These Contract Data are further defined in the terms and conditions below, have been read and fully understood by the Subcontractor, as indicated by the signature affixed above.

This is a Subcontract issued under a United States Federal Government contract. The Subcontractor agrees to comply with all statutes and regulations, including the Federal Acquisition Regulations, applicable to the Contractor's prime contract with the Funding Agency.

Unless set forth herein, the Subcontractor agrees that: (1) the Subcontractor shall perform all acts necessary to assist and allow the Contractor to comply with all obligations under the USAID Water and Sanitation Program including the clauses and provisions incorporated herein by reference; (2) the Subcontractor will refrain from any act that would cause the Subcontractor or the Contractor to be in violation of the USAID Water and Sanitation contract, or any of the clauses incorporated herein by reference, or any other applicable law or regulation; (3) any provisions or obligations required by DAI that are deemed to be included herein; (4) the Subcontractor shall perform its obligations under the Subcontract in compliance with the clauses incorporated herein by reference, as well as any other provisions of applicable law or regulation.

20) Période de performance : \_\_\_\_\_ jours

21) Montant du Sous-contrat: \$ \_\_\_\_\_ USD

Ces données contractuelles sont par ailleurs précisées dans les termes et conditions ci-dessous, elles ont été lues et comprises par le Sous-contractant, comme le prouve la signature apposée plus haut.

Ce Sous-contrat est émis dans le cadre d'un contrat du gouvernement fédéral des États-Unis. Le Sous-contractant s'engage à se conformer à toutes les lois et règlements, y compris les Règlements du Gouvernement Fédéral des États-Unis sur les acquisitions applicables au contrat principal du Contractant avec l'Organisme de Financement.

À moins qu'il ne soit établi dans le présent document, le Sous-contractant accepte que : (1) le Sous-contractant doit accomplir tous les actes nécessaires pour faciliter et permettre que le contractant se conforme à toutes les obligations au titre du Programme USAID Water and Sanitation, y compris les clauses et dispositions intégrées dans le présent document par renvoi ; (2) le Sous-contractant s'abstiendra de tout acte susceptible de causer la violation, par le Sous-contractant ou le contractant, du contrat de USAID Water and Sanitation, ou d'une quelconque clause intégrée dans le présent document par renvoi, ou de toute autre loi ou réglementation applicable ; (3) toutes les dispositions ou obligations que DAI juge nécessaires de figurer dans le présent document ; (4) le Sous-contractant doit s'acquitter de ses obligations au titre du Sous-contrat conformément aux clauses intégrées dans le présent document par renvoi, ainsi que toute autre disposition de la loi ou du règlement applicable.

## 2. GENERAL CONDITIONS

### 2.1. Definitions

- Architect and Engineer: also referred to as Design Architect or Engineer means the individual or organization who furnished the design, which includes but not limited to the construction drawings and technical specifications,
- Bid/Tender: The Bid and Tender refer to the actual (1) Technical and, (2) Price offer made by the Contractor to carry out the work encompassed by the Contract and all Contract Documents;
- The Contractor means DAI Global, LLC. (DAI) of, a corporation organized and existing under the laws of the State of Delaware, with its headquarters office located at 7600 Wisconsin Avenue, Suite 200, Bethesda, MD 20814 (hereinafter referred to as “Contractor” or “DAI”), with local representative as stated in the Contract Data.
- The “Commencement Date” is the date provided in the Contract Data of the Subcontract for the intended start of the work.
- The “Construction Drawings” are the graphical or pictorial portions of the subcontract agreement showing the design, location and dimensions of the work, generally including plans, elevations, sections, details, schedules and diagrams.
- FAR: United States Government Federal Acquisition Regulations
- The “Funding Agency” means the organization, entity, or persons who have entered into a contract or agreement with DAI to achieve a development objective. DAI is responsible to manage the funding provided by the Funding Agency. The Funding Agency is provided in the Subcontract Data.
- The “Engineer”, means the person whose services have been engaged by DAI to technically monitor and administer the Subcontract as provided therein, as will be notified in writing to the Subcontractor or stated in the Subcontract Data.
- The “Obligation Value” means the sum agreed

## 2. CONDITIONS GÉNÉRALES

### 2.1. Définitions

- Architecte et ingénieur : également appelé architecte ou ingénieur de conception signifie la personne ou l'entreprise qui a fourni le design, c'est-à-dire, mais sans s'y limiter, les plans et les cahiers des charges spécifications techniques de la construction ;
- Soumission/Appel d'Offres : Par soumission et Appel d'Offres, on entend (1) l'offre technique et (2) l'offre des prix réelles faites par le contractant pour effectuer les travaux couverts par le contrat et tous les documents contractuels
- Le contractant c'est DAI Global, LLC. (DAI), une société constituée et en vigueur en vertu des lois de l'État du Delaware, dont le siège social est situé au 7600 Wisconsin Avenue, Suite 200, Bethesda, MD 20814 (ci-après dénommé "entrepreneur" ou "DAI"), avec un représentant local, comme indiqué dans les données du Contrat ;
- La « Date d'entrée en vigueur » est la date indiquée dans les Données du Sous-contrat pour le démarrage prévu des travaux.
- Les « Plans de Construction » constituent les portions graphiques ou illustrées de l'accord du Sous-contrat montrant la structure, l'emplacement et les dimensions des travaux, comprenant généralement les schémas, élévations, sections, détails, chronogrammes et diagrammes ;
- FAR: United States Government Federal Acquisition Regulations ou les règles d'acquisition du Gouvernement Américain.
- « L'Agence de Financement » désigne l'organisation, l'entité, ou des personnes qui ont conclu un contrat ou un accord avec DAI pour atteindre un objectif de développement. DAI est responsable de gérer le financement fourni par l'Agence de Financement. L'Agence de Financement figure dans les données du marché.
- « L'Ingénieur », est la personne dont les services ont été retenus par DAI pour suivre et gérer, sur le plan technique, le Sous-contrat qui y est prévu, comme il sera notifié par écrit au Sous-contractant ou indiqué dans les Données du Sous-contrat.

in the subcontract as the maximum amount of funding available towards the subcontract value. The Obligation Value may be increased to the total subcontract value as funding from the Funding Agency becomes available, or the subcontractor continues to perform satisfactorily.

- The “Owner” means the individual or organization that will own, use and be responsible for operations and maintenance of the completed Work. The Owner in this Subcontract is the Centre technique d’Exploitation in les Cayes – CTE Cayes
- The “Period of Performance” is the period stated in the Subcontract Data.
- The Program: The Construction Schedule provided by the Subcontractor to USAID Water and Sanitation for review and then approved by Water and Sanitation. The Program shall be updated monthly by the Sub-contractor and provided to the Engineer prior to each monthly meeting;
- “Site” means the land and other places on, under, in or through which the Work or Temporary Work are to be constructed.
- The Engineer’s Representative is the person on-site so designated in writing to the Subcontractor along with the Engineer’s specific delegated responsibilities;
- “Subcontract” means the written agreement between the Contractor (DAI) and the Subcontractor, to which these Conditions are annexed, and includes any written modifications signed by both parties. Unless specifically stated in the agreement, the subcontract agreement does not include the advertisement or initiation to bid, instructions to bidders, sample formats or other information furnished by the Owner in anticipation of receive bids or proposals, the subcontractor’s bid or proposal, or portions of any addenda related to bidding requirements.
- The “Subcontractor” means the person or corporate body whose bid to carry out the Work has been accepted by the Contractor who in this case is DAI Global LLC. Any subcontractors that the Subcontractor hires to perform a portion of work are referred to as “2nd-tier subcontractors”
- “Subcontract Price” means the total price agreed in the Subcontract as payable to the

- « L'obligation » signifie la somme convenue dans le Sous-contrat comme étant le montant maximal du financement offert pour la valeur du Sous-contrat. L'obligation peut être augmentée jusqu'à la valeur totale du Sous-contrat à mesure que le financement par l'agence de financement devient disponible, ou que le Sous-contractant continue de fonctionner de façon satisfaisante.
- « Le Propriétaire » signifie l'individu ou l'organisation à qui reviendra la possession, l'utilisation et la responsabilité de l'exploitation et l'entretien du travail achevé. Le Propriétaire dans ce Sous-contrat est le Centre Technique d'Exploitation aux Cayes – CTE Cayes
- La « Période de prestation » est la période indiquée dans les données du Sous-Contrat.
- Le Programme: Le Calendrier de Construction soumis par le Sous-contractant à USAID Water and Sanitation pour révision et ensuite approuvé par USAID Water and Sanitation. Le programme doit être mis à jour tous les mois par le contractant et présenté à l'Ingénieur avant chaque réunion mensuelle ;
- « Le Chantier » désigne le terrain et d'autres endroits sur, sous, dans ou à travers lequel le Travail ou le Travail Temporaire doit être réalisé.
- Le Représentant de l'Ingénieur est la personne basée sur le chantier ainsi nommé par écrit auprès du Sous-contractant, avec des responsabilités déléguées spécifiques d'ingénieur;
- « Le Sous-contrat » désigne l'accord écrit entre le contractant (DAI) et le Sous-contractant, auquel sont annexées ces conditions et qui comprend les modifications faites par écrit, signées par les deux parties. À moins qu'il y soit fait une mention spécifique, l'accord de Sous-contrat ne contient pas de publicité ou d'instigation à soumissionner, ni d'instructions aux soumissionnaires, de modèle de présentations, ni d'autres renseignements fournis par le Propriétaire dans l'attente de recevoir des offres ou des propositions, une offre ou une proposition du Sous-contractant, ou des parties de tout addenda lié aux exigences de soumission.
- Le « Sous-contractant » signifie la personne physique ou morale dont l'offre pour réaliser les travaux a été acceptée par le contractant qui, dans ce cas, est DAI Global LLC. Les Sous-contractants que le Sous-contractant embauche

Subcontractor for the execution and completion of the Work and for remedying of any defects therein in accordance with the Subcontract. This is calculated by multiplying the quantities of work by the unit price for each work item.

- The “Subcontracts Administrator(s)” are the only authorized individuals designated by DAI as authorized to bind DAI and Subcontractor contractually. These individuals are the only authorized individuals who may authorize funding, change orders, subcontract modifications, or be a signatory to the subcontract agreement. A list of the Subcontract Administrators can be found in the Subcontract Data.
- “Subcontract Documents” are those documents that form the Agreement between DAI as the Contractor, and the Subcontractor. These documents consist of the Conditions of Contract, all clauses outlined in this document, Special Provisions, General Provisions, and all Appendices and documents incorporated by reference or attachment.
- “Submittals” are those documents or samples that are submitted for approval to demonstrate the way the Subcontractor proposed to conform to the information given and the design concept expressed in the Drawings and Specifications. Submittals include, but are not limited to, shop drawings, product data sheets, and material or application samples.
- The “Technical Specifications” or “Specifications” are that portion of the subcontract agreement consisting of the written requirements for materials, equipment, systems, standards, and workmanship for the work, and performance of related services.
- “Temporary Work” shall include items to be constructed which are not intended to be permanent part of the Work.
- “Unit Price” is a specified quantity of materials or work that bears a specific price. The unit price includes all of the subcontractor’s costs included in completing one unit.
- USAID: United States Agency for International Development / Haiti (USAID/Haiti);
- “The Work” means the Work defined in the “Statement of Work” to be executed and completed under the Subcontract, whether completed or partially completed, and includes

pour effectuer une partie du travail sont appelés « Sous-contractants de 2ème niveau. »

- « Le montant du Sous-contrat » réfère au montant total convenu dans le Sous-contrat comme payable au Sous-contractant pour l'exécution et l'achèvement des travaux et pour la réparation de toute défaillance conformément au Sous-contrat. Il est calculé en multipliant les quantités de travail par le prix unitaire de chaque élément de travail.
- Les « Administrateurs de Sous-contrat » sont les seules personnes autorisées désignées par DAI avec compétence de lier contractuellement DAI et le Sous-contractant. Ces personnes sont les seules habilitées à autoriser le financement, les ordres de modification, les modifications dans le Sous-contrat, ou à être signataires de l'accord de Sous-contrat. La liste des administrateurs du Sous-Contrat peut être trouvé dans les données du Sous-contrat
- « Documents du Sous-contrat » sont ces documents qui constituent l'accord entre DAI comme le Contractant et le Sous-contractant. Ces documents comprennent des conditions de contrat, toutes les clauses énoncées dans le présent document, les dispositions particulières, les dispositions générales, toutes les annexes et tous les documents intégrés par renvoi ou comme pièces jointes.
- « Soumissions ». Ce terme désigne les documents ou les échantillons qui sont soumis pour approbation en vue de démontrer la façon dont le Sous-contractant entend se conformer aux renseignements fournis. Elles comprennent aussi le projet architectural présenté à travers les plans et les cahiers des charges. Les soumissions incluent, mais sans s’y limiter, les plans d’atelier, les fiches des données sur les produits, ainsi que les échantillons des matériaux ou des applications.
- Les « Spécifications techniques » ou « Cahiers des charges » sont la partie de l'accord de Sous-contrat composée des exigences écrites sur les matériaux, les équipements, systèmes, normes et l'exécution pour le travail, et la performance des services connexes.
- « Le travail temporaire » comprend les lots de travaux à réaliser, lesquels ne sont pas destinés à être une partie intégrante du travail.
- « Le Prix unitaire » est une quantité spécifique

all other labor, materials, equipment, and services provided or to be provided by the Subcontractor to fulfill the Subcontractor's obligations. The Work may constitute the whole or part of the Project.

## **2.2.The Subcontract**

The Subcontract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Subcontract may be amended or modified only by a modification. The Subcontract shall not be construed to create a contractual relationship of any kind (1) between the Subcontractor and the Architect or Engineer hired for the design of the Work, (2) between the Owner and the Subcontractor or any of his or her subcontractors, (3) between the Owner and the Design Architect or Engineer, (4) between any persons and entities other than DAI and the Subcontractor, or (5) between the Funding Agency and the Subcontractor. The Design Architect or Engineer shall, however, be entitled to performance and enforcement of obligations under the Subcontract intended to facilitate the performance of the Design Architect or Engineer's duties.

## **2.3. Documents and Precedence**

The documents listed below, together with any modifications issued under this Agreement, constitute the Subcontract Documents of this agreement. For the purposes of establishing obligations and the resolution

de matériaux ou du travail qui porte un prix spécifique. Le prix unitaire comprend tous les coûts du Sous-contractant compris dans la réalisation d'une unité.

- USAID : L'Agence des États-Unis pour le développement international / Haïti (USAID/Haïti) ;
- « Le Travail » signifie les travaux tels que définis dans le « Cahier des charges » et qui doivent être exécutés et achevés en vertu du Sous-contrat, complètement ou partiellement terminés, et incluent toute la main-d'œuvre, les matériaux, les équipements et les services fournis ou à fournir par le Sous-contractant afin de remplir les obligations. Le travail peut constituer le projet tout entier ou une partie.

## **2.2. Le Sous-contrat**

Le Sous-contrat représente l'accord entier et intégré entre les parties au présent document et supprime les négociations, représentations ou accords préalables, soit écrits ou oraux. Le Sous-contrat ne peut être amendé ou modifié que par un amendement. Il ne doit pas être interprété comme l'établissement d'une quelconque relation contractuelle (1) entre le Sous-contractant et l'architecte ou l'ingénieur retenu pour la conception du travail, (2) entre le propriétaire et le Sous-contractant ou un de ses Sous-contractants, (3) entre le propriétaire et l'architecte ou l'ingénieur de conception, (4) entre des personnes et entités autres que DAI et le Sous-contractant, ou (5) entre l'Organisme de Financement et le Sous-contractant. L'architecte ou l'ingénieur de conception a néanmoins droit de faire exécuter et faire respecter les obligations découlant du Sous-contrat visant à faciliter l'exercice des fonctions de l'architecte ou de l'ingénieur de conception.

## **2.3. Documents et préséance**

Les documents énumérés ci-dessous, avec toute modification émise en vertu de cet accord, constituent les documents du Sous-contrat du présent accord. Aux fins de l'établissement d'obligations et de la résolution des

of ambiguities in the Subcontract Documents, the following order of precedence shall prevail:

- (1) Subcontract Agreement
- (2) Appendix A, Special Provisions
- (3) Appendix B, General Provisions
- (4) Appendix C, Scope of Work
- (5) Appendix D, Technical Specifications
- (6) Appendix E, Construction Drawings
- (7) Appendix F, Schedule of Deliverables
- (8) Appendix G, Priced Bill of Quantities
- (10). Appendix H, General Specifications and General Conditions
- (11). Appendix I, Suproject Specific Environmental Management and Mitigation Plan

## **2.4. Specifications and Drawings for Construction**

(SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997) ALTERNATE I (APR 1984), 52.236-21)

- (1) The Subcontractor shall keep on the worksite a copy of the drawings and specifications and shall at all times give the Engineer or Engineer's Representative access thereto. Additionally, the subcontractor will have at site photographs for at least past seven days; the seven days are to include holidays or other non-working days. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to Engineer, who shall promptly make a determination in writing. Any adjustment by the Subcontractor without such a determination shall be at its own risk and expense. The Engineer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.
- (2) Wherever in the specifications or upon the drawings the words "directed," "required,"

ambiguïtés dans les documents du Sous-contrat, l'ordre de priorité suivant doit prévaloir :

- (1) Le Sous-contrat
- (2) Annexe A, Dispositions spéciales
- (3) Annexe B - Dispositions générales
- (4) Annexe C, Cahier des charges
- (5) Annexe D, Spécifications techniques
- (6) Annexe E, Plans de la construction
- (7) Annexe F, Échéancier des livrables
- (8) Annexe G, Bordereau des prix et quantités
- (10). Annexe H, Specifications Générales et Conditions Générales
- (11). Annexe I, La conformité aux exigences environnementales

## **2.4. Les spécifications et les dessins pour la construction**

(Les SPÉCIFICATIONS ET DESSINS POUR LA CONSTRUCTION (FEB 1997) VARIANTE I (avril 1984), 52.236-21)

- (1) Le Sous-contractant doit conserver sur le site une copie des plans et des spécifications et doit, en tout temps, y donner accès à l'ingénieur ou au représentant de l'ingénieur. En outre, le Sous-contractant aura des photographies sur le site pendant au moins sept jours; les sept jours doivent inclure les jours fériés ou autres jours non ouvrables. Toute chose mentionnée dans les spécifications et non sur les plans, ou indiquée sur les plans et non dans les spécifications, doit avoir le même effet que si elle était indiquée ou mentionnée dans les deux. En cas de différence entre les plans et les cahiers des charges, ces derniers doivent prévaloir. En cas de divergence des chiffres dans les dessins ou dans les spécifications, la question doit être immédiatement soumise à l'ingénieur, qui doit promptement statuer par écrit. Tout ajustement par le Sous-contractant sans une telle détermination est à ses risques et frais. L'ingénieur doit de temps à autre fournir de tels plans détaillés et d'autres renseignements jugés nécessaires, sauf disposition contraire.
- (2) Là où, dans les spécifications ou sur les plans, il est fait usage des mots « dirigé », « requis », « commandé », « désigné », « prescrit », ou des

- "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the "direction," "requirement," "order," "designation," or "prescription," of the Project Manager is intended and similarly the words "approved," "acceptable," "satisfactory," or words of like import shall mean "approved by," or "acceptable to," or "satisfactory to" the Engineer, unless otherwise expressly stated.
- (3) Where "as shown," "as indicated," "as detailed," or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this subcontract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed."
- (4) Shop drawings means drawings, submitted to DAI by the Subcontractor, Subcontractor, or any lower tier Subcontractor pursuant to a construction subcontract, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Subcontractor to explain in detail specific portions of the Work required by the subcontract. DAI may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this subcontract.
- (5) If this subcontract requires shop drawings, the Subcontractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with subcontract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Engineer without evidence of the Subcontractor's approval may be returned for resubmission. The Engineer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate DAI's reasons therefore. Any Work done before such approval shall be at the Subcontractor's risk. Approval by the Engineer shall not relieve the Subcontractor from responsibility for any errors or omissions in such drawings, nor from
- mots de même portée, il faut comprendre qu'il s'agit de la « direction », « l'exigence », « la commande », « la désignation », ou « la prescription » par le Directeur du projet, et pareillement les mots « approuvé », « acceptable », « satisfaisant », ou des mots de portée similaire doivent signifier « approuvé par », ou « acceptable pour » l'ingénieur, sauf disposition expresse contraire.
- (3) Lorsque des expressions telles que « comme illustré », « tel qu'indiqué », « tel que détaillé », ou d'autres expressions d'importance similaire sont utilisées, il faut comprendre qu'il est fait référence aux plans assortis à ce Sous-contrat, sauf indication contraire. Dans le présent document, l'usage du mot « fourni » doit être compris comme signifiant « apprêter le projet », ce qui veut dire « fourni et installé ».
- (4) Les plans d'atelier renvoient aux plans, soumis à DAI par le Sous-contractant, ou tout Sous-contractant de niveau inférieur conformément à un Sous-contrat de construction, montrant en détail (1) la fabrication et le montage envisagés des éléments structurels et (2) l'installation (c.-à-d., les détails de la forme, l'ajustement et l'attachement) des matériaux de l'équipement. Ils comprennent les plans, les graphiques, les topologies, les schémas, les documents descriptifs, les illustrations, les chronogrammes, les données sur la performance et les tests, et les matériels similaires fournis par le Sous-contractant pour expliquer en détail les sections des travaux requises par le Sous-contrat. DAI peut reproduire, utiliser et divulguer d'une façon ou pour une raison quelconques les plans d'atelier fournis en vertu de ce Sous-contrat.
- (5) Si ce Sous-contrat exige des plans d'atelier, le Sous-contractant doit coordonner tous ces plans, et les examiner pour en déterminer l'exactitude, l'exhaustivité et la conformité aux exigences du Sous-contrat et indiquer son approbation à ce sujet comme preuve de ces actes de coordination et d'examen. Les plans d'atelier soumis à l'ingénieur sans preuve de l'approbation du Sous-contractant peuvent être renvoyés pour être soumis à nouveau. L'ingénieur indiquera une approbation ou une désapprobation des plans d'atelier, et s'il ne les approuve pas tels quels, il doit indiquer les motifs de DAI en conséquence. Tout travail effectué avant cette approbation est

responsibility for complying with the requirements of this subcontract, except with respect to variations described and approved in accordance with (f) below.

- (6) If shop drawings show variations from the subcontract requirements, the Subcontractor shall describe such variations in writing, separate from the drawings, at the time of submission.
- (7) The Subcontractor shall submit to the Engineer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Engineer and one set will be returned to the Subcontractor. Upon completing the Work under this subcontract, the Subcontractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

The terms "approved by," "acceptable to," or "satisfactory to" the Engineer indicate a general evaluation for compliance with the requirements of and information in the subcontract, including Appendices, and for conformance with the design concept; however, the use of these terms do not relieve the Subcontractor of any responsibility to supervise or direct the performance of the Work, nor do they assign any duty or authority to the Engineer to supervise or direct the performance of the Work.

The organization of the Specifications into divisions, sections and articles, and arrangements of the Drawings shall not control the Subcontractor in dividing the Work among subcontractors nor in establishing the extent of the Work to be performed by a trade.

The Design Architect or Engineer shall be deemed the authors and owners of their respective Construction Drawings and Specifications, and will retain all common law, statutory or other reserved rights, including copyrights. The Subcontractor and his or her subcontractor shall not own or claim a copyright in the Specifications or Drawings. Submittal or distribution to meet official regulatory or Funding Agency

au risque du Sous-contractant. L'approbation de l'ingénieur ne dégage pas le Sous-contractant de la responsabilité de toute erreur ou omission dans ces plans, ni de la responsabilité de se conformer aux exigences du présent Sous-contrat, sauf en ce qui concerne les variantes décrites et approuvées conformément à (f) ci-dessous.

- (6) Si les plans d'atelier montrent des variations par rapport aux exigences de Sous-contrat, le Sous-contractant doit les décrire par écrit, à l'écart des plans, au moment de la soumission.
- (7) Le Sous-contractant doit soumettre à l'ingénieur pour approbation quatre copies (sauf indication contraire) de tous les plans d'atelier comme le prévoient les différentes rubriques de ces cahiers des charges. Trois ensembles (sauf indication contraire) de tous les plans d'atelier, seront conservés par l'ingénieur et le quatrième sera retourné au Sous-contractant. Après l'exécution des travaux en vertu de ce Sous-contrat, le Sous-contractant doit fournir un ensemble complet de tous les plans d'atelier tels qu'ils ont été définitivement approuvés. Ces plans doivent montrer tous les changements et modifications apportés jusqu'au moment où l'installation est achevée et acceptée.

Les termes « approuvé par », « acceptable pour » ou « satisfaisant pour » l'ingénieur indiquent une évaluation générale pour la conformité aux exigences et renseignements contenus dans le Sous-contrat, y compris les annexes, et pour la conformité au concept du design ; cependant, l'usage de ces termes ne dégage pas le Sous-contractant de toute la responsabilité de superviser ou diriger l'exécution des travaux, ils n'attribuent pas non plus de devoir ou d'autorité quelconque à l'ingénieur de superviser ou diriger l'exécution des travaux.

L'organisation des cahiers des charges en divisions, sections et articles, et les dispositions des plans ne commandent pas le Sous-contractant dans la division du travail entre les Sous-contractants, ni dans l'établissement de l'étendue des travaux à exécuter par métier.

L'architecte ou l'ingénieur de conception sont considérés comme les auteurs et les propriétaires de leurs plans de construction et leurs cahiers des charges respectifs et conserveront leurs droits de droit commun, statutaires ou d'autres droits réservés, y compris les droits d'auteur. Le Sous-contractant et son Sous-contractant n'ont pas ou ne



requirements or for other purposes in connection with this project is not to be construed as publication in derogation of the design Architect or Engineer's reserved rights. The Subcontractor may not use the Drawings or Specifications on other projects without the specific written consent of the Owner and the Design Architect or Engineer.

The Subcontractor shall maintain a full set of the Drawings, Specifications, Addenda, Change Orders, and subcontract modifications, in good order, and marked currently to indicate field changes and selection made during construction. The Subcontractor shall also maintain approved Shop Drawings, Product Data, and samples on site, as required as Submittals. These shall be available at all times to the Contractor or the Funding Agency.

The Subcontractor shall perform no portion of the Work for which the Drawings or Specifications require submittals, until the respective submittal has been approved by the Engineer. Review and approval of these submittals by the Engineer is not conducted for the purpose of determining the accuracy or completeness of other details such as the dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remains the responsibility of the Subcontractor.

## **2.5. Interpretation**

In interpreting the conditions of subcontract, headings and cross-cross references between clauses have no significance. Words have their normal meaning under the language of the Subcontract unless specifically defined.

doivent pas revendiquer de droit d'auteur dans les cahiers des charges ou les plans. La soumission ou la distribution qui consiste à répondre aux exigences réglementaires officielles ou celles de l'organisme de financement, ou pour d'autres raisons en rapport avec ce projet, ne doit pas être interprétée comme une publication par dérogation des droits réservés de l'architecte ou l'ingénieur de conception. Le Sous-contractant ne peut pas utiliser les plans et les cahiers des charges sur d'autres projets sans l'accord spécifique écrit du propriétaire et de l'architecte ou l'ingénieur de conception.

Le Sous-contractant doit maintenir un ensemble complet de plans, cahiers des charges, addenda, avenants, les modifications de Sous-contrat en bon ordre, et marqués couramment pour indiquer les changements et sélections de terrain opérés durant la construction. Le Sous-contractant doit également maintenir approuvés les plans d'atelier, les données sur les produits et les échantillons sur le site, tels qu'exigés comme soumissions. Ces éléments doivent à tout moment être disponibles au contractant ou l'organisme de financement.

Le Sous-contractant ne doit effectuer aucune partie des travaux dont les soumissions sont exigées dans les plans ou les cahiers des charges tant que les soumissions respectives n'ont pas été approuvées par l'ingénieur. La révision et l'approbation de ces soumissions par l'ingénieur ne sont pas effectuées dans le but de déterminer l'exactitude ou l'intégralité des autres détails, tels que les dimensions et les quantités, ou bien pour étayer les instructions concernant l'installation ou la performance des équipements ou des systèmes, lesquels relèvent de la responsabilité du Sous-contractant.

## **2.5. Interprétation**

Dans l'interprétation des conditions du Sous-contrat, les titres et les références croisées entre les clauses n'ont pas signification. Les mots ont leur sens habituel selon le langage du Sous-contrat, à moins qu'ils ne soient spécifiquement définis.

## **2.6. Language Requirement**

All designs, work plans, reports and other deliverables shall be provided in French.

The communications between parties which are referred to in this Subcontract are fully effective only when confirmed in writing. A notice is effective only when it is received. All communications shall be in English or French language. "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

All communications shall be addressed to the DAI Chief of Party. A copy may be provided to the Project Engineer or Subcontract Administrators.

Whenever the subcontract requires giving or issuing approvals, certificates, consents, requests for change orders, modifications, and these communications shall be in writing and delivered by hand or sent by courier, or transmitted using any of the agreed systems of electronic transmission, i.e. via email. Approvals, certificates, consents, and modifications shall not be unreasonably withheld or delayed.

All written communications shall be entitled with the Project Title, as outlined in the Subcontract Data.

## **3. TYPE OF SUBCONTRACT**

### **3.1. Fixed Unit Prices and Subcontract Price**

In consideration for undertaking this Work, the Contractor shall pay the Subcontractor for the Work satisfactorily performed and approved calculated by multiplying the actual completed quantities, as certified by DAI's Engineer by the fixed unit price stated in Appendix G, Priced Bill of Quantities. The total subcontract value is stated in the Subcontract Data and

## **2.6. Exigences linguistiques**

Toutes les conceptions, plans de travail, rapports et autres produits livrables doivent être fournis, présenté en Français.

Les communications entre les parties mentionnées dans le présent Sous-contrat ne sont pleinement effectives que lorsqu'elles sont confirmées par écrit. Un avis n'est effectif que lorsqu'il est reçu. Toutes communications doivent être en anglais ou en français. « Écrit » ou « par écrit » désigne ce qui est écrit à la main, dactylographié, imprimé ou électroniquement, et débouche sur un document permanent.

Toutes les communications doivent être adressées au Directeur du projet de DAI. Une copie peut être fournie à l'ingénieur de projet ou aux administrateurs du Sous-contrat.

Chaque fois que le Sous-contrat exige de donner ou délivrer des approbations, certificats, autorisations, des demandes d'avenants, des modifications, ces communications doivent être par écrit et remises en mains propres ou envoyées par courrier, ou transmises à travers l'un des systèmes convenus de transmission électronique, c.-à-d. par courriel. Les approbations, certificats, autorisations et modifications ne doivent pas être bloqués ou retardés sans motif valable.

Toutes les communications écrites doivent porter le titre du projet, comme indiqué dans les données du Sous-contrat.

## **3. DE SOUS-CONTRAT**

### **3.1. Les prix unitaires fixes et le montant du Sous-contrat**

En contrepartie de l'exécution de ces travaux, le contractant doit payer le Sous-contractant pour les travaux effectués de manière satisfaisante et approuvés, le montant, calculé en multipliant les quantités réelles achevées que l'ingénieur de DAI aura certifiées, par le

total payments to the Subcontractor shall not exceed the Subcontract Price and current obligation/committed amount without a written modification to the Subcontract.

The subcontractor shall bear the financial responsibility for any fines, fees, penalties, or corrective costs that result as a consequence of the subcontractor's failure to meet the national, regional, local, or other city regulations that results in penalties or fines. Any fines, fees, penalties, or corrective costs that are not paid by the Subcontractor directly, shall be deducted from the final Subcontract Price.

### **3.2. Unit Prices**

The Unit Prices shall include, but not limited to, furnishing of all labor, supervision, transportation, materials, tools, equipment, quality control, facilities, crews, housing, meals, repair parts, fuel, loading and offloading, handling, maintenance, testing, security, waste removal, taxes, import duties, insurance, overhead, profit, and other elements required to perform the work units defined in the Statement of Work and the Bill of Quantities, unless one of these items are listed separately in the Bill of Quantities

This Subcontract is not subject to unit price adjustment. The Unit Prices quoted in the Bill of Quantities shall be firm and fixed and not subject to adjustment for the entire period of execution, completion, remedying any parts of the work and until handing over of the work. No revision to prices or any escalation shall be allowed on account of any increase in prices of materials, labor, plant, equipment and overheads, etc. or any other statutory increase during the entire contract period or extended contract period. No additional sums will be payable for any escalation in the cost of materials, equipment or labor, or because of the Contractor's failure to properly estimate or accurately predict the cost or difficulty of achieving the results required.

prix unitaire fixe indiqué dans l'annexe G, Devis quantitatifs tarifés. La valeur totale de Sous-contrat est indiquée dans les données du contrat et le total des paiements au Sous-contractant ne doivent pas dépasser le prix du Sous-contrat et l'obligation actuelle/Montant engagé, sans une modification écrite à la Sous-contrat.

Le Sous-contractant doit assumer la responsabilité financière de toutes les amendes, tous les frais, les pénalités, ou les coûts de réparation entraînés par l'incapacité du Sous-contractant de respecter les règlements nationaux, régionaux, locaux, ou d'autres villes et qui ont pour conséquences des pénalités ou des amendes. Les amendes, frais, pénalités, ou coûts de réparation que le Sous-contractant ne paie pas directement doivent être déduits du prix définitif du Sous-contrat.

### **3.2. Les prix unitaires**

Les prix unitaires comprennent notamment, sans s'y limiter, l'ameublement fourniture de toute la main-d'œuvre, la supervision, le transport, les matériels, outils, équipements, le contrôle de qualité, les installations, les équipages, le logement, les repas, des pièces de rechange, le carburant, le chargement et déchargement, la manutention, l'entretien, les tests, la sécurité, l'évacuation des déchets, les taxes, les taxes à l'importation, l'assurance, les frais généraux, les bénéfices, et d'autres éléments nécessaires pour effectuer les unités de travail définies dans le cahier des charges et les devis quantitatifs, à moins que l'un de ces éléments ne soit indiqué séparément dans le devis quantitatif.

Ce Sous-contrat n'est pas assujetti à l'ajustement des prix unitaires. Les prix unitaires indiqués dans le devis quantitatif doivent être fermes et fixes et non faire pas l'objet d'ajustement pour l'ensemble de la période de prestation, l'achèvement, la réparation à des quelconques parties des travaux et jusqu'au transfert du projet. Aucune révision ou hausse de prix n'est admise en raison d'une augmentation des prix des matériaux, de la main-d'œuvre, des installations, de l'équipement et des frais généraux, etc. ou toute autre augmentation statutaire pendant toute la durée du contrat ou l'extension de la durée du contrat. Aucune somme supplémentaire ne sera

Any modifications to unit prices shall be done strictly based on an adequately justifiable and approved subcontract modification, approved by the Project Engineer, Chief of Party, and signed by an authorized Subcontract Administrator, and done in compliance with the terms and conditions for a Change Order stated below. The final decision regarding the sufficiency of the evidence is entirely the right of DAI. DAI will not adjust the subcontract price due to fluctuations in currency exchange rates, or due to taxes and duties imposed

### **3.3. Bill of Quantities**

The quantities in the Bill of Quantities Items are estimated quantities and are not to be taken as a guarantee that the quantities will be carried out in their entirety or that they will not be exceeded.

The Bill of Quantities is used to calculate the total Subcontract Price. The Subcontractor is paid based on the actual quantity of work completed.

### **3.4. Adjustments to Quantities**

The quantities of individual work items may be adjusted based on the actual work carried out but in no circumstances, shall the total amount for payment exceed the Subcontract Price without a written modification to the Subcontract. Modifications that would exceed ten percent (10%) of an individual line item or that would result in changes that would exceed the Subcontract Price also require the written approval of the DAI Chief of Party and a formal subcontract modification. DAI will not adjust the Subcontract Price due to fluctuations or escalations in currency exchange rates, changes in material or labor unit costs, or due to taxes and duties.

due pour une hausse du prix des matériaux, de l'équipement ou de la main-d'œuvre, ou à cause de l'incapacité du contractant d'estimer correctement ou de prévoir avec précision le coût ou les difficultés d'atteindre les résultats nécessaires.

Tout changement dans les prix à l'unitéunitaires doit être fait strictement en fonction d'une modification dans la Sous-contrat suffisamment justifiée et approuvée, avec l'approbation de l'ingénieur du projet, le Directeur du projet, et signée par un administrateur habilité du Sous-contrat, et fait conformément aux termes et conditions pour l'avenant énoncés ci-dessous. La décision finale sur la suffisance de la preuve revient entièrement à DAI. DAI n'ajustera pas le prix du contrat en raison des fluctuations des taux de change, ou en raison de taxes et de droits imposés.

### **3.3. Le devis quantitatif**

Les quantités inscrites dans le devis quantitatif sont des estimations et ne doivent pas être considérées comme une garantie que les quantités seront réalisées entièrement ou qu'elles ne seront pas dépassées.

Le devis sert à calculer le prix total du Sous-contrat totale. Le Sous-contractant est payé en fonction de la quantité réelle de travail accompli.

### **3.4. Les ajustements des quantités**

Les quantités d'éléments individuels de travail peuvent être ajustées en fonction du travail réalisé, mais le montant total du paiement du prix du Sous-contrat ne doit, en aucun cas, dépasser le prix montant du contrat sans une modification écrite à la Sous-contrat. Les modifications de plus de dix pour cent (10%) d'une rubrique ou qui donneraient lieu à des changements dépassant le montant du Sous-contrat nécessitent également l'approbation écrite du directeur du projet de DAI et une modification formelle du Sous-contrat. DAI n'ajustera pas le prix du sous-contrat en raison des fluctuations ou des hausses dans les taux de change, des

changements dans les coûts unitaires du matériel ou de la main-d'œuvre, ou en raison des impôts et des obligations.

## **4. THE WORK REQUIREMENTS**

### **4.1. The Work Requirements**

The Subcontractor shall, during the period specified in the Subcontract, and within the Subcontract Price set forth, execute, and complete all the Work. The Work under this Subcontract shall entail but not be limited to the scope in the Statement of Work outlined in Appendices C.

The Work shall be carried out in a diligent and professional manner utilizing duly qualified personnel. No pleas of ignorance or negligence on the part of the Subcontractor in obtaining clarification shall relieve them of his or her full responsibility in carrying out the Work.

The Subcontractor shall not be relieved of obligations to perform the Work in accordance with the subcontract agreement either by the activities or duties of the design Architect or Engineer in the administration or supervision of the Subcontract, or by tests, inspections or approvals required or performed by persons or entities other than the Subcontractor.

By executing this subcontract agreement, the Subcontractor represents and confirms that the Subcontractor has visited the site, has become familiar with all local conditions under which the Work is to be performed, and has documented in writing any questions, observations, or concerns about the site conditions prior to the execution of this subcontract, and its requirements.

## **5. PRICING AND PAYMENTS**

### **5.1. Mobilization Payment**

The Subcontractor shall be paid an amount not to exceed the designated percentage of the Potential Subcontract, as stated in the Subcontract Data, to enable him or her to mobilize and start the Work, once the deliverables as

## **4. LES EXIGENCES DU TRAVAIL**

### **4.1. Les exigences de travail**

Au cours de la période spécifiée dans le Sous-contrat, et dans le prix déterminé, le Sous-contractant doit exécuter et terminer tout le travail. Les travaux relevant de cette Sous-contrat comportent, sans s'y limiter, l'étendue établie dans les cahiers des charges exposés à l'annexes C.

Les travaux devront être effectués de manière diligente et professionnelle en utilisant du personnel dûment qualifié. Toute ignorance ou négligence de la part du Sous-contractant dans l'obtention de clarification ne doit aucunement le dégager de son entière responsabilité de mener les travaux.

Le Sous-contractant n'est pas exempté des obligations de réaliser les travaux conformément à l'accord du Sous-contrat, soit par des activités, soit par des tâches de l'architecte ou l'ingénieur de conception dans l'administration ou la supervision du Sous-contrat, ou par des tests, inspections ou des autorisations nécessaires ou effectuées par des personnes ou des entités autres que le Sous-contractant.

En signant cet accord de Sous-contrat, le Sous-contractant déclare et confirme qu'il s'est rendu sur le chantier, s'est familiarisé avec toutes les conditions locales dans lesquelles les travaux doivent être exécutés, et a consigné des questions, observations, ou préoccupations au sujet de l'état du lieu avant l'exécution de cette Sous-contrat, et de ses exigences.

## **5. FACTURATION ET PAIEMENTS**

### **5.1. Le paiement pour la mobilisation**

Le Sous-contractant recevra un montant qui ne dépassera pas le pourcentage du Sous-contrat comme indiqué dans les données du Sous-contrat pour lui permettre de

outlined in appendix F have been received, are acceptable and complete.

The Subcontractor is to use the mobilization payment for key equipment, key personnel and installation expenses required specifically for mobilizing to the work site.

## **5.2. Progress Payments**

Monthly progress payments shall be made on the basis of the quantity of Work satisfactorily performed, as proposed by the Subcontractor's bid, negotiated, and agreed to, as per Appendix G.

No payments will be made to the Subcontractor for materials on site. Any scrap or unused raw materials are not considered in the actual completed quantity calculations.

## **5.3. Measurement of Work**

The purpose of measuring is to ascertain the work satisfactorily executed by the Subcontractor and therefore determine the amount of the monthly progress payments.

Unless otherwise mentioned in the Bill of Quantities the measurements of works shall be done as specified in the Construction Drawings and Technical Specification.

The Engineer, or Engineer's Representative, shall only measure work satisfactorily executed or which has been certified as complying with quality standards. The Engineer or Engineer's Representative shall not measure non-conforming work.

The Subcontractor shall submit to the Engineer, or Engineer's Representative, monthly statements of the estimated quantities and corresponding values of completed work for the period in formats approved by

mobiliser et de demarrer les travaux, une que les livrables décrits dans l'Annexe F sont reçus, sont acceptables et complets.

Le Sous-contractant doit utiliser le paiement pour la mobilisation pour les équipements clés, personnel clé et les frais d'installation requis spécicalement pour la mibilisation sur le le site.

## **5.2. Les acomptes**

Des paiements mensuels seront faits au Sous-contractant sur la base des quantités de travaux réalisés de manière satisfaisante, conformément l'offre négocié et conclu du Sous-contractant à l'Annexe G.

Aucun paiement ne sera fait au Sous-contractant pour les matériels rendus seulement sur le site et non incorporés dans les travaux. Les déchets et matières premiers non utilisés ne sont pas considérés dans le calcul des quantités des travaux réalisés.

## **5.3. La mesure du travail**

L'objectif de la mesure est de vérifier le travail exécuté de façon satisfaisante par le Sous-contractant et, par conséquent, déterminer le montant des acomptes mensuels.

Sauf mention contraire dans le devis quantitatifs, les mesures de travaux devront être effectuées suivant les indications des plans de construction et des spécifications techniques.

L'ingénieur, ou le représentant de l'ingénieur, doit seulement mesurer le travail effectué de façon satisfaisante ou celui qui a été certifié conforme aux normes de qualité. L'ingénieur ou le représentant de l'ingénieur ne doit pas mesurer le travail non conforme.

Le Sous-contractant doit soumettre à l'ingénieur, ou au représentant de l'ingénieur, les relevés mensuels des quantités estimées et les valeurs correspondantes des

the Contractor. The DAI Engineer shall inspect and certify these quantities of completed work.

The Subcontractor or the Subcontractor's authorized representative who shall forthwith attend or send a qualified person to assist the Engineer, or Engineer's Representative, in making such measurement and shall furnish all particulars required by either of them. Should the Subcontractor not attend or neglect to send such agent, or if there is any disagreement in the measurement, the measurement made by the Engineer, or the Engineer's Representative, approved by him or her shall be accepted as accurate.

#### **5.4. Retention Payment**

Ten percent (10%) of all approved payment amounts, including mobilization payments, shall be withheld from each progress payment as a retention amount. 50% of the the retention shall be released at the substantial completion and the remaining 50% will be released after the completion of the Defects and Liabilities period, and all requests for defects and liabilities repairs or replacements have been satisfactorily resolved, as mutually agreed by DAI and the Subcontractor.

Any uncompensated liquidated damages, if applicable, for inexcusable delays (as defined in Section 11) in the Subcontractor's performance will be deducted from the final payment. Any performance bonuses, if applicable, (as defined in Section 11) will be added to the final payment.

#### **5.5. Change Orders and Subcontract Modifications**

A request for a time or price (both total price and unit prices) subcontract modification is called a potential change order until both parties agree upon the reasonable change(s) and a change order is approved by a Subcontractor Administrator or until the potential change order is rejected. Approved change orders become effective subcontract modifications and shall be

travaux exécutés pour la période dans des formats approuvés par le contractant. L'ingénieur de DAI doit inspecter et certifier ces quantités de travail terminé.

Le Sous-contractant ou la personne habilitée à le représenter doit immédiatement assister ou envoyer une personne qualifiée pour aider l'ingénieur, ou le représentant de l'ingénieur, à prendre cette mesure et doit fournir toutes les indications requises par l'un d'eux. Si le Sous-contractant n'assiste pas ou omet d'envoyer un agent, ou s'il y a un désaccord dans la mesure, celle faite par l'ingénieur ou le représentant de l'ingénieur, et qui bénéficie de son approbation, doit être acceptée comme exacte.

#### **5.4 Paiement de maintienRetenue de garantie**

Dix pour cent (10 %) de tous les paiements approuvés, y compris les paiements de mobilisation, doivent être prélevés sur chaque paiement comme une quantité retenue de garantie, 50% des retenues doivent être libérés à la réception provisoire et les 50% restant à la fin de la période de garantie et après que toutes les réclamations pour les réparations des défauts et responsabilités aient été résolues avec satisfaction, suivant ce qui est convenu mutuellement par DAI et le Sous-contractant.

Les dommages-intérêts sans compensation, le cas échéant, pour retards inexcusables (définis dans la Section 11) dans la performance du Sous-contractant seront déduits du paiement final. Les primes de rendement, le cas échéant, (tel que défini dans la Section 11) seront ajoutées au paiement final.

#### **5.5 Les avenants et les modifications du Sous-contrat**

Une demande de modification en temps ou prix (prix total et prix unitaires) du Sous-contrat s'appelle un avenant potentiel jusqu'à ce que les deux parties s'accordent sur le(s) changement(s) raisonnable(s) et que l'avenant soit approuvé par un administrateur du Sous-contractant, ou jusqu'à ce que l'avenant potentiel soit

subject to all subcontract terms and conditions herein. Verbal or written instructions provided by the Engineer, the Engineer's Representative, the Owner, or client, do not constitute modifications, only modifications to the subcontract, signed by a Subcontracts Administrator, constitute modifications.

Change orders shall not be approved for situations when the Subcontractor failed to price the work adequately, when actual construction costs are expected to exceed the fixed price, when the Subcontractor is unable to complete the work per the contract conditions or within the Period of Performance, or other items for which the construction subcontractor is contractually responsible.

Requests for Change Orders shall be submitted in writing, entitled "Notification of Potential Change Order," and shall include a detailed description, justification, supporting evidence and documents, impact on period of performance, and the proposed price of the potential change order conditions.

The Subcontractor shall submit a Notification of Potential Change Order within a maximum of 20 days of the discovery of Differing Site Conditions or the receipt of instructions from DAI. Failure to notify DAI within these 20 days waives the right of the Subcontractor to be compensated for this work.

The Subcontractor shall notify DAI in writing within 20 days of discovering defective contract documents and within 10 days of incurring costs as a result of defective contract documents. Failure to notify DAI within these time periods waives the right of the Subcontractor to be compensated for this work.

The Contractor may prepare and issue Change Orders or Construction Directives and may authorize minor changes in the work, which do not involve adjustments to the Firm Fixed Price or Period of Performance and are consistent with the intent of the Drawings and Specifications.

rejeté. Les avenants approuvés entre en vigueur comme des modifications du Sous-contrat et doivent être assujettis au présent Règlement régissant le Sous-contrat. Les instructions verbales ou écrites fournies par l'ingénieur, le représentant de l'ingénieur, le propriétaire, ou un client, ne constituent pas des modifications. Seules les modifications au Sous-contrat signées par un administrateur du Sous-contrat constituent des modifications.

Les avenants ne sont pas approuvés pour les situations où le Sous-contractant n'a pas évalué correctement le coût du travail, où les coûts réels de construction devraient dépasser le prix fixé, où le Sous-contractant est incapable de terminer le travail selon les conditions du contrat ou dans la période de prestation, ou d'autres éléments dont le Sous-contractant de la construction est contractuellement responsable.

Les demandes concernant les avenants doivent être soumises par écrit, intitulées « Notification d'un avenant potentiel », et doivent inclure une description et une justification détaillées, avec preuves à l'appui et des documents, l'impact sur la période de prestation, et le prix proposé des conditions des avenants potentiels.

Le Sous-contractant doit soumettre une Notification d'avenant potentiel au plus tard dans un délai de 20 jours après la découverte de différentes conditions du site ou la réception d'instructions de la part de DAI. Le manquement à notifier DAI dans ces 20 jours conduit le Sous-contractant à renoncer au droit d'être rémunérés pour ce travail.

Le Sous-contractant doit notifier par écrit DAI dans les 20 jours de la découverte de documents contractuels et défectueux dans les 10 jours de assumer des coûts résultant d'un vice de documents contractuels. L'absence de notification dans ces délais DAI renonce au droit du Sous-contractant d'être rémunérés pour ce travail.

Le contractant peut préparer et émettre des avenants or des directives de construction et peut autoriser des changements mineurs dans le travail, qui n'impliquent pas d'ajustements au prix ferme fixé au délai d'exécution et sont conformes à l'intention des plans et des spécifications.



## 5.6. Claims

If the Subcontractor considers himself or herself to be entitled to any additional payment, under any Clause of this Subcontract Agreement or otherwise in conjunction with this Subcontract, as a matter of dispute or controversy (as outlined in Section 12 of this subcontract), and the Subcontractor has already received a response to a Notification of Potential Change Order, the Subcontractor shall give written notice to the DAI Chief of Party, with a copy to the Subcontracts Administrator, of its intention to submit a Claim under the Disputes Clause of this Subcontract. The Subcontractor shall describe the event or circumstances giving rise to the Claim. The notice shall be given as soon as is practicable, and not later than 20 days after the Subcontractor becomes aware, or should be aware, of the event or circumstances.

If the Subcontractor fails to give notice within 20 days, the Period of Performance shall not be extended, nor shall the Subcontractor be entitled to any additional payment, and DAI shall be discharged from all liability in connection with the claim.

The following conditions apply to any and all claims submitted by the Subcontractor:

(1) The Subcontractor shall submit any other notices required by the Subcontract, and supporting particulars for the claim, all as relevant to such event or circumstances

(2) The Subcontractor must keep such contemporary records, evidence, photographs, etc. as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer, or Engineer's Representative. Without admitting DAIs liability, the Engineer may, after receiving notice of a claim, monitor the record-keeping and/or instruct the Subcontractor to keep further contemporary records. The Subcontractor shall permit the Engineer to inspect these records, and shall (if instructed) submit copies to the Engineer.

## 5.6 Réclamations

Si le Sous-contractant se considère avoir droit à un paiement supplémentaire, en vertu d'une quelconque clause de l'accord de ce Sous-contrat ou d'une autre façon conforme à ce contrat, au regard d'un litige ou d'une polémique (tel que c'est décrit à l'article 12 de ce Sous-contrat), et le Sous-contractant a déjà reçu une réponse à une notification d'avenant potentiel, il/elle doit présenter un préavis écrit au directeur du projet de DAI, avec copie à l'administrateur de Sous-contrat, de son intention de soumettre une réclamation en vertu de la clause des litiges de ce Sous-contrat. Le Sous-contractant doit décrire l'événement ou les circonstances donnant lieu à la réclamation. Le préavis doit être présenté dès que possible, et au plus tard 20 jours après que le Sous-contractant prend connaissance, ou devrait être au courant, de l'événement ou des circonstances.

Si le Sous-contractant ne présente pas de préavis dans les 20 jours, le délai d'exécution de doit pas être prolongé, et le Sous-contractant n'a non plus droit à aucun paiement supplémentaire, et DAI est dégagé de toute responsabilité en rapport avec la réclamation.

Les conditions suivantes s'appliquent à toutes les réclamations présentées par le Sous-contractant :

- (1) Le Sous-contractant doit présenter tout autre préavis exigé par le Sous-contrat, avec les détails à l'appui pour la réclamation, tous aussi pertinents pour la situation ou circonstance.
- (2) Le Sous-contractant doit maintenir d'actualité ces documents, évidences, photographies, etc. dans la mesure du nécessaire pour justifier une quelconque réclamation, soit sur le chantier, soit à un autre endroit acceptable pour l'ingénieur ou son représentant. Sans pour autant admettre la responsabilité de DAI, l'ingénieur peut, après avoir reçu le préavis de la réclamation, vérifier la tenue des dossiers et/ou demander au Sous-contractant de conserver davantage de documents contemporains. Le Sous-contractant doit permettre à l'ingénieur d'inspecter ces documents, et doit (sur instruction) soumettre des copies à l'ingénieur.

## **6. TIME CONTROL**

### **6.1.Calendar Days**

All period of time referred to in this Agreement shall be measured in calendar days, unless otherwise specified.

### **6.2.Period of Performance**

The period of performance for this Subcontract shall begin on the date on the title page and listed in the Subcontract Data and continue through to its Final Completion listed on the title page, unless terminated earlier by or extended by DAI as provided herein.

### **6.3.Defects and Liabilities Period**

The Subcontractor shall be held responsible for a Defects and Liabilities period, also known as the Warranty Period, in the amount of time stated in the Subcontract Data. The "Defects Liabilities Period," begins when the Subcontractor receives the Certificate of Substantial Completion and expires in accordance with the time period specified in the Subcontract Data. The Defects and Liabilities period extends beyond the Period of Performance listed on the cover page of this subcontract agreement. The period is intended to cover any latent defects (workmanship, materials, components, parts, etc., and does not include normal wear and tear) that may be found to exist in the complete Work, and a period during which the Subcontractor is expect to maintain, repair, remedy defects discovered after Substantial Completion.

### **6.4. Commencement, Prosecution, and Completion of Work (FAR 52.211-10 (APR 1984) Alternate)**

The Subcontractor shall be required to (a) commence the Work under this subcontract immediately upon receiving the Notice to Proceed (b) prosecute the Work diligently, and (c) complete the entire Work ready for

## **6 CONTROLE DE TEMPS**

### **6.1 Jours calendaires**

Tous les délais auxquels il est fait référence dans le présent accord doivent être mesurés en jours civils, sauf indication contraire.

### **6.2 Période de prestation**

La période de prestation pour ce Sous-contrat commence à la date marquée à la page de garde et mentionnée dans les données du contrat jusqu'à son achèvement final figurant sur la page de garde, à moins qu'il ne soit résilié plus tôt par, ou prolongé par DAI, tel que prévu ci-après.

### **6.3 Période des défauts et responsabilités**

Le Sous-contractant doit être tenu pour responsable de la période de défauts et responsabilités, également connue sous le nom de la période de garantie, dans le délai indiqué dans les données du Sous-contrat. La « Période de défauts et responsabilités » commence lorsque le Sous-contractant reçoit le certificat d'achèvement substantiel et expire conformément à la période de temps indiquée dans les données du contrat. La période des défauts et responsabilités s'étend au-delà de la période de prestation figurant sur la page de couverture du présent accord de Sous-contrat. La période est destinée à couvrir les défauts latents (fabrication, matériaux, composants, pièces, etc., et ne comprend pas l'usure normale) susceptibles d'être découverts dans les travaux achevés, et une période au cours de laquelle le Sous-contractant est supposé gérer, réparer, corriger les défauts découverts après l'achèvement substantiel des travaux.

### **6.4 Ouverture, poursuite, et achèvement du travail (FAR 52.211-10 (avril 1984), suppléant)**

Le Sous-contractant est tenu de: (a) commencer le travail en vertu de ce Sous-contrat immédiatement après avoir reçu l'avis de commencer, (b) poursuivre les travaux avec

use not later than total “Period of Performance” after the commencement of the Work. The time stated for completion shall include mobilization period and final clean-up of the premises.

### **6.5. Notice to Proceed**

The completion date is based on the assumption that the Subcontractor will receive the Notice to Proceed shortly, or immediately, after receipt of an executed Subcontract. The Period of Performance will not be extended by the number of calendar days after the above date that the Subcontractor receives the Notice to Proceed.

The deliverables that are required to be submitted prior to the Notice to Proceed being issued are listed in Appendix F: Schedule of Deliverables.

Any work completed prior to receipt of the Notice to Proceed is done at the subcontractor’s own risk.

Contact information for the DAI Engineer and Engineer’s Representative shall be provided by the DAI COP in the Notice to Proceed.

### **6.6. Mobilization**

Upon receipt of a Notification to Proceed, the Subcontractor shall mobilize all the required personnel (i.e. experienced project manager, supervisors, project engineers, surveyors, foremen, equipment operators and workmen), (minor) equipment, materials, tools and implements in such numbers as will be required to initiate and complete the construction Work.

Five days prior to mobilization, the Subcontractor shall with the engineer, meet with and schedule mobilization with the Comité Technique de l’Eau - CTE. This includes informing them of arrival and work dates, seeking their permission for access, seeking their permission for Material and Equipment Lay-Down yards, permission for use local water and electricity

diligence, et (c) d’achever complètement les travaux et les apprêter pour l’utilisation au plus tard pendant la « période de prestation » après le début des travaux. Le moment indiqué pour l’achèvement doit inclure la période de mobilisation et de nettoyage final des locaux.

### **6.5 Avis de commencer**

La date d’achèvement est basée sur l’hypothèse que le Sous-contractant recevra l’avis de commencer sous peu, ou immédiatement, après la réception d’un Sous-contrat établi. La période de prestation ne sera pas prolongée du nombre de jours civils après la date indiquée ci-dessus à laquelle le Sous-contractant reçoit l’avis de procéder.

Les produits livrables qui doivent être soumis avant que l’avis de procéder ne soit émis sont énumérés à l’Annexe F : Calendrier des produits livrables.

Tout travail achevé avant la réception de l’avis de procéder est fait aux propres risques du Sous-contractant.

Les coordonnées de l’ingénieur de DAI et du représentant de l’ingénieur sont fournies par le directeur du projet de DAI dans l’avis de procéder.

### **6.6 Mobilisation**

En recevant un avis l’invitant à commencer, le Sous-contractant doit mobiliser tout le personnel nécessaire (c.-à-d. du personnel ayant de l’expérience comme directeur de projet, superviseurs, ingénieurs de projet, arpenteurs, contremaîtres, opérateurs d’équipement et ouvriers), de l’équipement (mineur), des matériels, des outils et des instruments en nombres nécessaires pour lancer et achever les travaux de construction.

Cinq jours avant la mobilisation, le Sous-contractant et l’ingénieur doivent rencontrer et programmer la mobilisation avec le Comité Technique de l’Eau - CTE. Il s’agit de les renseigner sur les dates d’arrivée et des

resources, agreed upon payments for housing space, security staff (guards), etc.

## **6.7. Suspension or Stop Work**

(Subpart 42.13—Suspension of Work, Stop-Work Orders)

DAI Global LLC retains the right to issue a Suspension or Stop-Work Order at any time to the Subcontractor for work that is being performed in a grossly unsatisfactory manner, work that is pending a decision by DAI Global LLC, Owner, or Client, or work methods that are identified as negligent. Suspension or Stop-work orders shall include—

- (1) A description of the work to be suspended;
- (2) Instructions concerning DAI's issuance of further orders for materials or services;
- (3) Guidance to the Subcontractor on action to be taken; and
- (4) Other suggestions.

Promptly after issuing the stop-work order, the Subcontract Administrator shall discuss the stop-work order with the Subcontractor and modify the order, if necessary, in light of the discussion. As soon as feasible after a stop-work order is issued, but before its expiration, the Subcontract Administrator shall take appropriate action to:

- (1) Terminate the subcontract;
- (2) Cancel the stop-work order (any cancellation of a stop-work order shall be subject to the same approvals as were required for its issuance); or
- (3) Extend the period of the stop-work order if it is necessary and if the Subcontractor agrees, issue an extension of the stop-work order through a supplemental order.

travaux, obtenir leur autorisation d'accès, obtenir leur autorisation pour les aires de dépôt des matériels et équipements, autorisation pour l'utilisation des ressources locales en eau et électricité, les paiements convenus pour l'espace de logement, le personnel de sécurité (gardes), etc.

## **6.7 Suspension ou arrêt de travail**

(Sous-section 42,13—Ordres de suspension, d'arrêt de travail)

DAI Global LLC se réserve le droit d'émettre au Sous-contractant un ordre de suspension ou s'arrêt de travail à tout moment pour un travail effectué de façon manifestement insatisfaisante, un travail qui est dans l'attente d'une décision par DAI Global LLC, le propriétaire ou le Client, ou des méthodes de travail considérées comme négligentes. Les ordres de suspension ou d'arrêt des travaux doivent comprendre :

- (1) une description des travaux à suspendre ;
- (2) Instructions sur la publication par DAI d'autres commandes de matériels ou de services ;
- (3) Directives à l'intention du Sous-contractant sur les mesures à prendre ; et
- (4) d'autres suggestions.

Aussitôt après que l'ordre d'arrêt des travaux ait été émis, l'administrateur de Sous-contrat doit l'examiner avec le Sous-contractant et, si nécessaire, le modifier, au vu de la discussion. Dès que possible après que l'ordre ait été émis, avant son expiration, l'administrateur de Sous-contrat doit prendre les mesures appropriées pour :

- (1) Mettre fin au Sous-contrat ;
- (2) annuler l'ordre d'arrêt de travail (toute annulation d'un ordre d'arrêt de travail doit être soumise aux mêmes approbations qui étaient nécessaires pour son émission) ; ou
- (3) Prolonger la période de l'ordre d'arrêt des travaux si c'est nécessaire et si le Sous-contractant est d'accord,

## 6.8. Schedule of Work/Program

The Subcontractor shall submit a Schedule of Work or Program showing the general methods, arrangements, order and timing for all the activities in the Work, with specific emphasis on equipment utilization, labor requirements, and production. The schedule shall be in the form of a Gant Chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. The schedule shall be submitted in accordance with the timeline outlined in Appendix F, Schedule of Deliverables.

Lists of equipment and personnel to be brought on site during and following mobilization are to be given by stage and segment of the Work.

Anticipated quantities of work to be performed each month are to be indicated in the Work Schedule including a bar chart. Technical and management manpower, construction equipment and other resources are to be shown by activity.

If, during the progress of the Work, the quantities of work performed each month fall more than ten (10) percent below those shown in the program, or if the sequence of operations is altered, the Subcontractor shall submit a revised written program within a week of the occurrence.

These schedules shall include the time by which construction drawings, product data, samples and other submittals required by the subcontract will be submitted for approval.

The Subcontractor shall revise such schedules (1) to account for the actual progress of the Work, (2) to reflect approved adjustments in the performance schedule, and (3) as required by the Engineer to achieve coordination with the Work by DAI and any separate

émettre une extension de l'ordre d'arrêt des travaux par un ordre complémentaire.

## 6.8 Calendrier des travaux/programme

Le Sous-contractant doit présenter un échéancier des travaux ou programme montrant de façon globale les méthodes, les arrangements, l'ordre et le chronométrage de toutes les activités dans les travaux, en mettant l'accent spécifique sur l'utilisation de l'équipement, les besoins en main-d'œuvre, et la production. L'échéancier doit être sous la forme d'un diagramme de Gantt d'une échelle appropriée pour indiquer convenablement le pourcentage de travail à achever pour une date donnée au cours de la période. L'échéancier doit être soumis conformément à la chronologie figurant à l'annexe F, Échéancier des Livrables.

Les listes de matériel et du personnel qui doivent d'être sur le chantier pendant et après la mobilisation doivent être remises par étape et segment des travaux.

Les quantités de travaux à exécuter prévues chaque mois doivent être indiquées dans l'échéancier des travaux contenant un graphique à barres. Le personnel technique et de gestion, l'équipement de construction et les autres ressources doivent être indiqués par activité.

Si, au cours de l'avancement des travaux, les quantités de travail effectué chaque mois se situent à moins de dix (10) pour cent de celles indiquées dans le programme, ou si la séquence des opérations est modifiée, le Sous-contractant doit soumettre par écrit un programme révisé écrit dans la semaine qui suit le cas.

Ces calendriers doivent inclure le temps auquel les plans de construction, les données sur les produits, les échantillons et autres documents requis par le Sous-contrat seront soumis pour approbation.

Le Sous-contractant doit réviser ces horaires (1) pour tenir compte de l'avancement réel des travaux, (2) pour refléter les ajustements approuvés dans le programme

subcontractors hired by DAI. The Subcontractor shall submit a schedule which sequences the Work so as to minimize disruption at the job site.

All schedules shall be in the English or French language and any system of dimensions (English or metric) shown shall be consistent with that used in the subcontract. No extension of time shall be allowed due to a delay by DAI in approving such deliverables if the Subcontractor has failed to act promptly and responsively in submitting its deliverables. The Subcontractor shall identify each deliverable as required by the subcontract.

An update of the schedule shall be provided, at intervals defined in Appendix F, Schedule of Deliverables, showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. The Subcontractor shall submit to the Engineer or the Engineer's Representative for approval an updated schedule.

The Engineer's approval of the schedule shall not alter the Subcontractor's obligations to perform within the Period of Performance. The Subcontractor may revise the schedule and submit it to the Engineer again at any time. A revised schedule shall show the effect of Change Orders, where applicable.

## **6.9. Acceptance of Schedule of Work**

The Period of Performance is defined on the Cover Sheet of this subcontract agreement. The Subcontractor shall schedule the Work such that it will be fully and adequately completed within that period. When DAI has accepted the Subcontractor's Schedule of Work, it shall be binding upon the Subcontractor. Any acceptance of Subcontractor's Schedule by DAI simply means that the Schedule meets the minimum requirements of the Subcontract but does not imply DAI's concurrence in the adequacy of the Schedule for any other purpose. The Period of Performance dates are fixed, and are not

d'exécution, et (3) tel que requis par l'ingénieur pour réaliser la coordination avec le travail par DAI et d'autres Sous-contractants engagés séparément par DAI. Le Sous-contractant doit présenter un calendrier qui montre l'enchaînement des travaux de façon à minimiser les perturbations sur le chantier.

Tous les calendriers doivent être en anglais ou en français et tout système de dimensions (anglais ou métrique) indiqué doit être conforme à celui qui est utilisé dans le Sous-contrat. Aucune prolongation de délai doit être permise en raison d'un retard par DAI dans l'approbation de ces livrables si le Sous-contractant n'a pas agi promptement et de façon responsable dans la présentation de ces livrables. Le Sous-contractant doit identifier chaque livrable comme requis par le Sous-contrat.

Une mise à jour du calendrier doit être présentée à des intervalles définis à l'annexe F, Calendrier des Livrables, montrant les progrès réels réalisés sur chaque activité et l'effet des progrès réalisés sur le rythme des travaux restants, y compris toute modification de la séquence des activités. Le Sous-contractant doit soumettre un calendrier actualisé à l'ingénieur ou le représentant de l'ingénieur pour approbation.

L'approbation du calendrier par l'ingénieur ne modifie en rien les obligations du Sous-contractant consistant à œuvrer pendant la période de prestation. Le Sous-contractant peut réviser le calendrier à tout moment et le soumettre de nouveau à l'ingénieur. Un calendrier révisé doit montrer l'effet des avenants, le cas échéant.

## **6.9 Acceptation du calendrier des travaux**

La période de prestation est définie sur la page de couverture de cet accord de Sous-contrat. Le Sous-contractant doit organiser les travaux de sorte qu'ils soient complètement et convenablement achevés pendant cette période. Une fois que l'échéancier du Sous-contractant a été accepté par DAI, il doit être exécutoire. Toute acceptation du calendrier du Sous-contractant par DAI signifie simplement que le calendrier respecte les

adjusted based on an updated Schedule of Work. The Period of Performance may only be extended by a written subcontract modification signed by the authorized Subcontracts Administrators. Acceptance or approval of any schedule or revision thereof by DAI shall not (1) extend the completion date or obligate DAI to do so, (2) constitute acceptance or approval of any delay, or (3) excuse the Subcontractor from or relieve the Subcontractor of its obligation to maintain the progress of the Work and achieve final completion by the established completion date.

#### **6.10. Notice of Delay**

If the Subcontractor receives a notice of any change in the Work, or if any other conditions arise which are likely to cause or are actually causing delays which the Subcontractor believes may result in late completion of the Work, the Subcontractor shall notify the Chief of Party, Subcontracts Administrator, and Engineer. The Subcontractor's notice shall state the effect, if any, of such change or other conditions upon the approved schedule, and shall state in what respects, if any, the relevant schedule or the completion date should be revised. The Subcontractor shall give this notice not more than five (5) days after the first event-giving rise to the delay or prospective delay.

#### **6.11. Working Hours**

The working hours shall be determined by the Subcontractor but shall be both reasonable and in accordance with the laws of the Republic of Haiti. Any hours or days of overtime, weekend, or holiday work shall be an exclusive arrangement of the subcontractor and his or her work force without further obligation to DAI. The Subcontractor shall inform the Engineer or the Engineer's Representative of the proposed working hours prior to the commencement of the Work.

exigences minimales du Sous-contrat. Cependant, cela n'implique pas l'assentiment de DAI sur la pertinence du calendrier pour d'autres fins quelconques. Les dates de la période de prestation sont fixées, et ne sont pas ajustées en fonction d'une mise à jour du programme du travail. La période de prestation ne peut être prolongée que par une modification du Sous-contrat écrite signée par les administrateurs autorisés du Sous-contrat. L'acceptation ou l'approbation d'un quelconque échéancier ou de sa révision ne doit pas (1) reporter la date d'achèvement ni obliger DAI de le faire, (2) constituer l'acceptation ou l'approbation d'un quelconque retard, ou (3) excuser le Sous-contractant ou le dégager de son obligation de maintenir l'état d'avancement des travaux et d'atteindre l'achèvement définitif à la date d'achèvement fixée.

#### **6.10 Avis de retard**

Si le Sous-contractant reçoit un avis sur un quelconque changement dans le travail, ou s'il se produit une toute autre condition susceptible de causer ou qui cause réellement des retards que le Sous-contractant croit capables de retarder la fin de l'achèvement des travaux, le Sous-contractant doit informer le directeur du projet, l'administrateur du Sous-contrat, et l'ingénieur. L'avis du Sous-contractant doit indiquer l'effet éventuel d'un tel changement ou d'autres conditions sur le calendrier approuvé, et doit spécifier en quoi le calendrier concerné ou la date d'achèvement devrait éventuellement être révisé. Le Sous-contractant doit donner cet avis pas plus de cinq (5) jours après l'émergence de la première situation qui causerait le retard ou un éventuel retard.

#### **6.11 Les heures de travail**

Les heures de travail sont déterminées par le Sous-contractant, mais elles doivent être à la fois raisonnables et en conformité avec les lois de la République d'Haïti. Les heures ou jours de travail supplémentaires ou le travail pendant les week-ends ou les jours fériés doivent faire l'objet d'une entente exclusive entre le Sous-contractant et sa main-d'œuvre, sans autre obligation pour DAI. Avant le début des travaux, le Sous-

contractant doit informer l'ingénieur ou le représentant de l'ingénieur des heures de travail proposées.

## **6.12. Excusable Delays**

### **FAR 52.249-10, Default**

The Subcontractor will be allowed time, not money, for excusable delays. Examples of such cases include:

- (1) Acts of God or of the public enemy,
- (2) Acts of the client in either its sovereign or contractual capacity,
- (3) Acts of Government of the host country in its sovereign capacity,
- (4) Fires,
- (5) Floods,
- (6) Strikes,
- (7) Epidemics,
- (8) Quarantine restrictions,
- (9) Freight embargoes, and
- (10) Unusually severe weather.

In each instance, the failure to perform must be beyond the control and without the fault or negligence of the Subcontractor, and the failure to perform. Furthermore, the failure:

- (1) Must be one that the Subcontractor could not have reasonably anticipated and taken adequate measures to protect against,
- (2) Cannot be overcome by reasonable efforts to reschedule the Work, and
- (3) Directly and materially affects the date of final completion of the project.

The Subcontractor shall notify the Engineer, or Engineer's Representative, in writing the reason for the delay at the time of the failure to perform. Pursuant to FAR 52.249-14, DAI may consider a time extension due to excusable delays. If the Engineer determines that any failure to perform results from one or more of the causes above, the delivery schedule shall be requested, subject to the rights of DAI under the termination clause of this Subcontract.

The Subcontractor Administrator must approve any time extension.

## **6.12. Les retards excusables**

### **FAR, 52.249-10 par défaut**

Du temps sera accordé au Sous-contractant, non pas l'argent, pour les retards excusables. Des exemples de tels cas sont les suivants :

- (1) Cas de force majeure ou catastrophe naturelle,
- (2) Actes du client soit dans sa capacité souveraine ou contractuelle,
- (3) Actes de Gouvernement du pays hôte dans sa capacité souveraine,
- (4) Les incendies,
- (5) Les inondations,
- (6) Les grèves,
- (7) Les épidémies,
- (8) Restrictions de quarantaine,
- (9) Embargos sur les frets, et
- (10) Météo inhabituellement violente.

Dans chaque cas, l'incapacité de fonctionner doit être au-delà du contrôle et sans la faute ou la négligence du Sous-contractant. En outre, l'incapacité :

- (1) Doit être une situation que le Sous-contractant ne pouvait pas raisonnablement prévoir et contre laquelle il/elle ne pouvait pas prendre les mesures adéquates de protection,
- (2) Ne peut pas être surmontée par des efforts raisonnables visant à reprogrammer les travaux, et
- (3) Influe directement et matériellement sur la date de l'achèvement définitif du projet.

Le Sous-contractant doit aviser par écrit l'ingénieur, ou le représentant de l'ingénieur, de la raison du retard au moment où se produit l'incapacité de travailler. Conformément à FAR 52.249-14, DAI peut envisager une prolongation de délai en raison de retards excusables. Si l'ingénieur décide qu'une incapacité de fonctionner provient d'une ou de plusieurs des causes mentionnées ci-dessus, le calendrier de livraison doit être demandé, sous



réserve des droits de DAI en vertu de la clause de résiliation de ce Sous-contrat.

L'Administrateur du Sous-contrat doit approuver toute prolongation de période du Sous-contrat.

## **7. QUALITY CONTROL AND ACCEPTANCE**

### **7.1. Compliance with Design Standards**

The Subcontractor, when/if carrying out design work, shall comply with accepted standards for materials, designs, and methods in the development of drawings and specifications. At a minimum, all design and work shall conform to those required by the Republic of Haiti. Additional specific design standards applicable to this subcontract are stated in Subcontract Data, if any.

All design work shall be performed by an engineer duly certified and/or licensed in Haiti.

### **7.2. Quality Assurance**

The Subcontractor is responsible to prepare and submit a Quality Assurance Plan to DAI's Engineer. This Plan shall describe in specific detail the systematic actions to be taken by the Subcontractor and its team with confidence that components and installations shall be purchased, designed, and constructed in accordance with applicable standards, specifications and drawings, as specified by subcontract. The schedule shall be submitted in accordance with the timeline outlined in Appendix F, Schedule of Deliverables.

The Subcontractor shall institute an appropriate inspection plan set forth in a quality assurance plan. The plan shall include checklists of duties to be carried out, ensuring these duties are carried out by the supervisory staff and senior employees, and carrying out regular inspections to determine whether the various services are being performed according to the Subcontract. The

## **7 LE CONTRÔLE DE LA QUALITÉ ET ACCEPTATION**

### **7.1 La conformité aux normes de conception**

Lorsqu'il effectue le travail de conception, le Sous-contractant doit se conformer aux normes établies pour les matériaux, les conceptions et méthodes dans l'élaboration des plans et cahiers de charge. Au minimum, tous les travaux de conception doivent être conformes à celles exigées par la République d'Haïti. Les normes spécifiques supplémentaires de conception applicables à ce Sous-contrat sont mentionnées dans les données de contrat, le cas échéant.

Tous les travaux de conception seront effectués par un Ingénieur certifié et/ou agréé en Haïti.

### **7.2 L'assurance de la qualité**

Le Sous-contractant est chargé de préparer et soumettre à l'ingénieur de DAI un Plan d'assurance de la qualité. Ce plan doit décrire avec des détails précis les mesures systématiques que le Sous-contractant et son équipe doivent prendre, avec l'assurance que les composantes et les installations devront être achetées, conçues et réalisées conformément aux normes applicables, spécifications et plans, tels qu'ils sont spécifiés par le Sous-contrat. Le calendrier doit être soumis conformément à l'échéancier figurant à l'annexe F, Calendrier des Livrables.

Subcontractor shall photograph construction operations daily. The Subcontractor shall provide copies of the inspection reports and photographs to the Engineer, or Engineer's Representative.

The Subcontractor shall correct and improve promptly any shortcomings and substandard conditions noted during inspections. The Subcontractor shall promptly bring any conditions beyond the responsibility of the Subcontractor to the attention of the DAI COP, Engineer, or Engineer's Representative.

### **7.3. Workmanship and Quality Control**

The Subcontractor is expected to produce the Work which conforms in quality with its own Quality Assurance Plan, and conforms with accuracy to the details of the technical specifications, drawings, and standards, and at his or her own expense, is to institute a quality control system and provide experienced managers, engineers, foremen, surveyors, materials technicians and other technical staff, together with all transport, instruments and equipment, to ensure adequate supervision and execution of the Work at all times.

The Subcontractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures for coordinating all portions of the Work under the Subcontract, unless the Drawings or Specifications give other specific instructions concerning these matters. If the Drawings or Specifications give specific instructions concerning construction means, methods, technique, sequences, or procedures, the Subcontractor shall evaluate and mitigate any health and safety implications of these instructions.

The Subcontractor shall ensure materials and workmanship meet the requirements described in the

Le Sous-contractant doit mettre en place un plan d'inspection approprié défini dans un plan d'assurance qualité. Le plan doit inclure des listes de contrôle des tâches à exécuter, garantissant que ces tâches sont effectuées par le personnel de supervision et les cadres supérieurs et effectuant des inspections régulières pour déterminer si les différents services sont fournis conformément au contrat de sous-traitance. Le sous-traitant doit photographier les opérations de construction quotidiennement. Le sous-traitant doit fournir des copies des rapports d'inspection et des photographies à l'ingénieur ou à son représentant.

Le Sous-contractant doit corriger et corriger rapidement toute lacune constatée lors de l'inspection et les conditions inférieures à la norme. Le sous-contractant doit immédiatement signaler toute condition ne relevant pas de sa responsabilité à l'attention du COP de la DAI, de l'ingénieur ou de son représentant.

### **7.3 Exécution et contrôle de la qualité**

Le Sous-contractant devrait produire un travail qui, en termes de qualité, se conforme à son propre plan d'assurance de la qualité, et se conforme, avec précision, aux détails des cahiers des charges, plans et normes. Il doit, à ses propres frais, mettre en place un système de contrôle de la qualité et fournir du personnel ayant de l'expérience comme directeurs, ingénieurs, contremaîtres, arpenteurs, techniciens des matériaux, et d'autres techniciens, ainsi que tout l'équipement de transport et des instruments, afin d'assurer une supervision et une exécution adéquates des travaux à tout moment.

Le Sous-contractant doit seul avoir la charge et le contrôle des moyens, méthodes, techniques et séquences de la construction, et des procédures de la coordination de toutes les parties du travail en vertu du Sous-contrat, à moins que les plans ou les cahiers des charges donnent d'autres instructions spécifiques sur ces questions. Si les plans et les cahiers des charges donnent des instructions spécifiques sur les moyens, les méthodes, techniques, séquences, or procédures de construction, le Sous-contractant doit évaluer et atténuer les répercussions sur la santé et la sécurité dues à ces instructions.

Scope of Work, drawings, and technical specifications and in accordance with the Engineer's, or the Engineer's Representative, technical instructions, within the Scope of Work, and shall be subjected to such tests as the Engineer, or the Engineer's Representative, may direct at the place of manufacture or fabrication, or on the Site or at all or any of such places. The Subcontractor shall provide such assistance, instruments, machines, labor and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any materials used and shall supply samples of materials before incorporation in the Work for testing as may be selected and required by the Engineer, or the Engineer's Representative.

The cost of all supervision and process control, including testing, so carried out by the Subcontractor shall be deemed to be included in the subcontract.

Specific quality assurance test requirements are indicated in the Technical Specifications and the Subcontractor should ensure practical attendance and other compliance requirements directed by the Engineer, or Engineer's Representative. This will include provision of necessary test for the following:

#### **7.4. Inspection by the Engineer**

The Engineer, or the Engineer's Representative, will routinely inspect the services being performed and the supplies furnished to determine whether the Work is being performed in a satisfactory manner, and that all supplies are of acceptable quality and standards. The Subcontractor shall be responsible for any countermeasures or corrective action, within the scope of this subcontract, which may be required by the Engineer, as a result of such inspection.

#### **7.5. Testing**

The Subcontractor shall mobilize the necessary field testing apparatus and equipment complete with

Le Sous-contractant doit veiller à ce que les matériaux et l'exécution répondent aux exigences décrites dans le cahier des charges, les plans et les spécifications techniques et conformément aux instructions techniques de l'ingénieur ou du représentant de l'ingénieur, dans le cahier des charges. Le Sous-contractant doit s'assurer que les matériaux et l'exécution soient soumis aux tests, selon les directives de l'ingénieur ou du représentant de l'ingénieur, sur le site de la production ou de la fabrication, ou sur le chantier ou à tous ou n'importe lequel de ces endroits. Le Sous-contractant doit fournir l'assistance, les instruments, les machines, la main-d'œuvre et les matériaux selon les exigences normales permettant d'examiner, mesurer et tester les travaux et la qualité, le poids et la quantité de tous les matériaux utilisés. Il doit aussi fournir des échantillons des matériaux pour les tests avant leur incorporation dans les travaux, selon une sélection et l'exigence de l'ingénieur, ou du représentant de l'ingénieur.

Le coût de tout le contrôle de la supervision et du processus, y compris les tests, effectués par le Sous-contractant doit être considéré comme inclus dans la Sous-contrat.

Des exigences sur les tests spécifiques d'assurance de la qualité sont indiquées dans les cahiers de charge et le Sous-contractant doit veiller au respect des exigences pratiques sur l'assiduité et la conformité, selon les directives de l'ingénieur ou du représentant de l'ingénieur. Cela inclura la fourniture du test nécessaire pour ce qui suit:

#### **7.4 L'inspection par l'Ingénieur**

L'ingénieur, ou représentant de l'ingénieur, inspectera régulièrement les services réalisés et les produits fournis afin de déterminer si le travail est effectué de façon satisfaisante, et que toutes les fournitures sont de qualité et normes acceptables. Le Sous-contractant est responsable de toutes les contre-mesures ou des mesures correctives, dans le cadre de ce Sous-contrat, qui peuvent être exigées par l'ingénieur, à la suite de cette inspection.

standards and procedures for performing the required field test as required in the technical specification and in the subcontractor's own Quality Assurance Plan. Imported materials that cannot be tested on sites and are delivered to the site shall bear with them certifications of their suitability to be utilized (i.e. cement, reinforcing steel and etc.). The Engineer shall be furnished with copies of the certification from manufacturers of the classification, strength capacities etc. of these items. Supplied imported materials for which no testing equipment is available for verification shall bear with the supply, a certification from the manufacturer of the quality of the material. If the material does not pass the required standards of quality as described in the subcontract document, it shall be taken out of the site and not used for the Work.

Materials shall always be transported stored, tested and installed by the Subcontractor according to international trade technical rules and best professional practice. Supporting documents and certificates shall attest to the origin and quality of materials. Brand names, or proven equivalent, shall be submitted by the Subcontractor prior delivery, attesting to the quality of materials for desired properties including strength, bulkiness, shape, appearance and overall quality of the material. All materials used in the Works shall generally comply with American Society for Testing and Materials (ASTM) or equivalent standards unless otherwise specified by DAI. Where proprietary products are specified, similar products from other manufacturers will be permitted only with the approval of the DAI Engineer.

## **7.6. Inspection by the Funding Agency**

The designated Funding Agency representative may conduct routine inspections of the work being performed to determine whether the Work is being performed in a satisfactory manner, and that all materials are of an acceptable quality. The Subcontractor agrees to cooperate fully with requests for inspection from the

## **7.5 L'essai**

Le Sous-contractant doit mobiliser le dispositif et l'équipement nécessaires des tests sur le terrain doté de règles et procédures pour l'exécution du test sur le terrain nécessaire comme l'exigent le cahier des charges et le Plan d'assurance de la qualité du Sous-contractant. Les matériaux importés qui ne peuvent pas être testés sur les chantiers et sont livrés sur chantier doivent être accompagnés de certificats de leur aptitude à l'utilisation (p. ex. ciment, acier d'armature, etc.). L'ingénieur doit recevoir les copies de la certification de la classification, capacités de résistance, etc. de ces objets, de la part des fabricants. L'approvisionnement des matériels importés pour lesquels aucun équipement de test n'est disponible pour la vérification doit s'accompagner d'une certification du fabricant sur la qualité des matériels. Si le matériel ne satisfait pas aux normes de qualité établies comme le décrit le document du Sous-contrat, il doit être enlevé du chantier et ne doit pas être utilisé pour le travail.

Les matériaux doivent toujours être transportés stockés, testés et installés par le Sous-contractant selon les règles techniques du commerce international et les meilleures pratiques professionnelles. Les pièces justificatives et les certificats doivent attester de l'origine et la qualité des matériels. Les noms de marque, ou d'équivalence avérée, doivent être fournis par le contractant avant la livraison, attestant de la qualité des matériels pour les propriétés souhaitées, y compris la force, taille, forme, l'apparence et la qualité globale du matériel. Tous les matériels utilisés dans les travaux devront répondre aux normes d'American Society for Testing and Materials (ASTM) ou à des normes équivalentes, sauf indication contraire de DAI. Lorsque des produits brevetés sont spécifiées, des produits similaires d'autres fabricants ne seront permis qu'avec l'approbation de l'ingénieur de DAI. Les tests doivent être effectués lors de la construction.

## **7.6 L'inspection par l'organisme de financement**

Le représentant autorisé de l'agence de financement peut effectuer des inspections régulières des travaux en cours pour déterminer si le travail est effectué de façon satisfaisante, et que tous les matériaux sont d'une qualité

Engineer, or Engineer's Representative, or the designated Funding Agency representative.

The Subcontractor shall neither seek nor accept direct instructions from the Funding Agency in connection with the performance of his or her services under this Subcontract, unless issued through an approved Change Order Modification to the subcontract agreement.

The Subcontractor shall be responsible for any countermeasures or corrective action, within the scope of this subcontract, which may be required by the COP or Engineer, as a result of such inspection.

## **7.7. Inspection**

The Subcontractor shall maintain and adhere to its Inspection Plan as outlined in its Quality Assurance/Quality Control Manual as described in 52.246-12 Inspection of Construction (August 1996)

The Subcontractor shall maintain an adequate inspection system and perform such inspections as will ensure that the Work performed under the subcontract conforms to subcontract requirements. The Subcontractor shall maintain complete inspection records and make them available to DAI and/or the Funding Agency. All work shall be conducted under the general direction of the Chief of Party and is subject to DAI's, representing the Funding Agency, inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

DAI, and or the Funding Agency, inspections and tests are for the sole benefit of DAI, and or the Funding Agency, and do not:

- (1) Relieve the Subcontractor of responsibility for providing adequate quality control measures;
- (2) Relieve the Subcontractor of responsibility for damage to or loss of the material before acceptance;
- (3) Constitute or imply acceptance; or
- (4) Affect the continuing rights of DAI, or the Funding Agency, after acceptance of the completed work under paragraph (i) of this

acceptable. Le Sous-contractant s'engage à collaborer pleinement avec les demandes d'inspection de l'ingénieur, ou du représentant de l'ingénieur, ou du représentant attitré de l'agence de financement.

Le Sous-contractant ne doit solliciter ni accepter d'instructions directes de l'agence de financement en rapport avec l'exécution de ses services dans le cadre de ce Sous-contrat, à moins qu'émis par l'entremise d'un modificatif approuvé à l'accord du Sous-contrat.

Le Sous-contractant est responsable de toutes les contre-mesures ou des mesures correctives, dans le cadre du présent Sous-contrat, qui peuvent être exigées par le directeur du projet ou l'ingénieur, à la suite de cette inspection.

## **7.7 L'inspection**

Le Sous-contractant doit tenir et de se conformer à son Plan d'inspection, comme il est décrit dans son guide de contrôle/assurance de la qualité comme écrit dans

52.246-12 Inspection de la construction (août 1996)

Le Sous-contractant doit maintenir un système adéquat d'inspection et effectuer ces inspections telles que les travaux effectués dans le cadre du Sous-contrat soient conformes aux exigences du contrat de Sous-contrat. Le Sous-contractant doit conserver des dossiers complets d'inspection et les rendre disponibles à DAI et/ou l'organisme de financement. Tous les travaux doivent être effectués sous la direction générale du directeur du projet et soumis à l'inspection et au test de DAI, représentant l'agence de financement, en tout lieu et à tout moment raisonnable avant l'acceptation pour assurer le strict respect des conditions du contrat.

Les inspections et les tests de DAI, et ou de l'agence de financement sont au seul bénéfice de DAI, et ou l'organisme de financement, et n'ont pas pour but de :

- (1) dégager le Sous-contractant de la responsabilité de fournir des mesures de contrôle de la qualité ;
- (2) dégager le Sous-contractant de la responsabilité pour dommage ou perte du matériel avant l'acceptation ;
- (3) constituer ni impliquer l'acceptation ; ou

section.

The presence or absence of a DAI inspector does not relieve the Subcontractor from any subcontract requirement, nor is the inspector authorized to change any term or condition of the specification without the authorized Subcontract Administrator's written authorization.

The Subcontractor shall promptly furnish, at no increase in subcontract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by DAI. DAI may charge to the Subcontractor any additional cost of inspection or test when work is not ready at the time specified by the Subcontractor for inspection or test, or when prior rejection makes re-inspection or retest necessary. DAI shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the subcontract. Subcontractor shall schedule all inspections with a reasonable amount of advance notice.

The Subcontractor shall, without charge, replace or correct work found by DAI not to conform to Subcontract requirements, unless in the public interest the Owner consents to accept the work with an appropriate adjustment in contract price. The Subcontractor shall promptly segregate and remove rejected material from the premises.

If the Subcontractor does not promptly replace or correct rejected work, DAI may:

- (1) By subcontract or otherwise, replace or correct the work and charge the cost to the Subcontractor; or
- (2) Terminate for default the Subcontractor's right to proceed.

If, before acceptance of the entire work, DAI decides to examine already completed work by removing it or tearing it out, the Subcontractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Subcontractor or its subcontractors, the Subcontractor shall defray the expenses of the examination and of satisfactory reconstruction.

- (4) Influencer sur la poursuite des droits de DAI, ou de l'organisme de financement, après l'acceptation du travail achevé en vertu de l'alinéa (i) de la présente section.

La présence ou l'absence d'un inspecteur de DAI ne dégage pas le Sous-contractant de toute exigence du Sous-contrat, et l'inspecteur n'est autorisé à changer aucun terme ou aucune condition des cahiers de charge sans l'autorisation écrite de l'administrateur du Sous-contrat.

Le Sous-contractant doit sans délai fournir, sans augmentation de prix du Sous-contrat, toutes les installations, toute la main-d'œuvre et tous les matériels raisonnablement nécessaires pour effectuer en toute sécurité et aisément ces inspections et contrôles exigés par DAI. DAI peut facturer le Sous-contractant pour tous les frais supplémentaires d'inspection ou de test lorsque le travail n'est pas prêt au moment indiqué par le Sous-contractant pour l'inspection ou le test, ou lorsqu'un rejet antérieur rend nécessaire une réinspection ou un nouveau test. DAI doit effectuer toutes les inspections et tous les tests de façon à ne pas retarder inutilement le travail. Des tests spéciaux, de vraie grandeur et de performance doivent être effectués, comme cela est décrit dans le Sous-contrat. Le Sous-contractant doit programmer toutes les inspections avec assez de préavis.

Le Sous-contractant doit, sans frais, remplacer ou corriger des travaux que DAI aura trouvés non conformes aux exigences du contrat, à moins que dans l'intérêt public le propriétaire consent à accepter le travail avec un ajustement approprié au prix du contrat. Le Sous-contractant doit rapidement séparer et retirer des locaux les matériels rejetés.

Si le Sous-contractant ne remplace ou ne corrige pas rapidement le travail rejeté, DAI peut :

- (1) Par Sous-contrat, ou faute de quoi, remplacer ou corriger le travail et facturer le Sous-contractant ; ou
- (2) résilier, pour manquement, le droit du Sous-contractant de continuer.

Si, avant l'acceptation de l'ensemble de l'ouvrage, DAI décide d'examiner le travail déjà effectué en l'enlevant ou l'arrachant, le Sous-contractant doit, sur demande, fournir dans les moindres délais tout ce qu'il faut en termes d'installations, de main-d'œuvre et de matériel. Si

However, if the work is found to meet subcontract requirements, the Subcontracts Administrator shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

## **7.8. Inspection and Acceptance**

DAI's inspection and acceptance of services, reports and other required deliverables or outputs shall be delivered to DAI's Address as stated in the Subcontract Data or at any other location where the services are performed and reports and deliverables or outputs are produced or submitted. The Engineer, or Engineer's Representative, have been delegated authority to inspect and accept all services, reports and required deliverables or outputs.

## **7.9. Site Possession**

While the site is within the possession of the Subcontractor, the Subcontractor shall be fully responsible for all security of materials and equipment on site, including those that were present at the time of Site Possession, belonging to, or in the care of, DAI or the Funding Agency, Owner, or others.

The Subcontractor shall be responsible to replace or repair any damage, loss, theft, or abuse of the site while the site is in its possession.

## **7.10. Requests for Information or Clarification**

The Subcontractor shall submit to the Engineer, or the Engineer's Representative, written Requests for Information or Clarification when there is need to confirm the interpretation of a standard, specification, instruction, or note on the construction drawings or to secure a documented directive or clarification from

le travail est jugé défectueux ou non conforme à tous égards par la faute du Sous-contractant ou de ses Sous-contractants, le Sous-contractant doit assumer les frais de l'inspection et de la reconstruction satisfaisante. Cependant, si le travail est jugé conforme aux exigences du Sous-contrat, l'administrateur du Sous-contrat doit apporter un ajustement équitable pour les services additionnels impliqués dans l'inspection et la reconstruction, y compris une prolongation du délai si l'achèvement des travaux était ainsi retardé.

## **7.8 L'inspection et l'acceptation**

L'inspection et l'acceptation des services par DAI, les rapports et autres livrables ou produits doivent être livrés à l'adresse de DAI comme il est indiqué dans les données du Sous-contrat, ou à tout autre endroit où les services sont assurés et les rapports et les livrables ou les produits sont fournis ou soumis. L'ingénieur ou le représentant de l'ingénieur ont reçu l'autorité d'inspecter et d'accepter tous les services, les rapports et les biens livrables ou produits nécessaires.

## **7.9 La possession du site**

Pendant que le Sous-contractant est en possession du site, le Sous-contractant doit être pleinement responsable de toute la sécurité du matériel et de l'équipement sur le site, y compris ceux qui étaient présents au moment de la possession et qui sont la propriété de, ou à la charge de DAI ou l'organisme de financement, du propriétaire, ou autres.

Le Sous-contractant est responsable de remplacer ou réparer tout dommage, perte, vol, ou abus du site pendant que le site est en sa possession.

## **7.10 Demandes de renseignements ou d'éclaircissements**

Le Sous-contractant doit soumettre à l'ingénieur, ou au représentant de l'ingénieur, des demandes écrites de renseignements ou d'éclaircissements lorsqu'il est

DAI, the designer, Funding Agency, or Owner, that is needed to continue work.

In some cases, a Request for Information or Clarification raised by the Subcontractor that has been answered by DAI and distributed to all stakeholders may be accepted as a change to the scope of work unless further approval is required for price or time extensions associated with the change, which shall be further requested by the Subcontractor through a Request for Potential Change Order.

The Engineer, or the Engineer's Representative, shall respond in a timely fashion to the Subcontractor.

### **7.11. Environmental Quality Assurance**

The Subcontractor shall adhere to all environmental compliance and mitigation requirements outlined by DAI or provided in the DAI approved Environmental Management and Monitoring Plan (EMMP) and those determined necessary during the period of performance.

The Subcontractor shall also comply with any and all applicable specifications, standards, or national Republic of Haiti or local environmental regulations. The Subcontractor shall be responsible for any fines, fees, or penalties associated with failing to comply with environmental laws and regulations.

### **7.12. Differing Site Conditions**

(Differing Site Conditions, FAR 52.236-2 Apr 1984)

The Subcontractor shall promptly, and before the conditions are disturbed, give a written notice as per Section 5.5 of this subcontract agreement, to DAI of:

- (1) Subsurface or latent physical conditions at the site which differ materially from those indicated

nécessaire de confirmer l'interprétation d'une norme, de spécification, d'instruction ou d'une note sur les plans de construction ou d'obtenir de DAI, du concepteur, de l'organisme de financement, ou du propriétaire, une directive ou un éclaircissement documenté qui est nécessaire pour poursuivre les travaux.

Dans certains cas, une demande de renseignements ou d'éclaircissements faite par le Sous-contractant qui a été traitée par DAI et distribuée à tous les intervenants peut être acceptée comme un changement au cahier des charges, à moins qu'une nouvelle approbation ne soit requise pour le prix ou la prorogation des délais associés au changement, ce que le Sous-contractant doit encore demander par le biais d'une demande d'un modificatif potentiel.

L'ingénieur, ou le représentant de l'ingénieur, doit répondre de façon opportune au Sous-contractant.

### **7.11 L'assurance de la qualité de l'environnement**

Le Sous-contractant doit se conformer à toutes les exigences environnementales et les mesures d'atténuation décrites par DAI ou fournies dans EMMP et les exigences jugées nécessaires pendant la période d'exécution.

Le Sous-contractant doit également se conformer à toutes les spécifications et les normes, ou toutes les réglementations environnementales nationales ou locales en vigueur en République d'Haïti. Le Sous-contractant est responsable de toutes les amendes, tous les frais, ou les pénalités en rapport au non-respect des lois et réglementations sur l'environnement.

### **7.12 Conditions divergentes du chantier**

(Conditions divergentes du chantier, LOIN 52.236-2 Avril 1984)

Le Sous-contractant doit rapidement, et avant que les conditions ne soient perturbées, donner un avis écrit à



in this contract; or

- (2) Unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

The Project Site Rehabilitation Engineer or Engineer's Representative shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Subcontractor's cost of, or the time required for, performing any part of the work under this subcontract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the subcontract modified in writing accordingly.

No request by the Subcontractor for an equitable adjustment to the subcontract under this clause shall be allowed, unless DAI has given the written notice required; provided, that the time prescribed for giving written notice may be extended by DAI.

No request by the Subcontractor for an equitable adjustment to the subcontract for differing site conditions shall be allowed if made after final payment under this subcontract.

The Contractor may furnish surveys or studies describing physical characteristics, legal limitations, or utility locations for the site. The Subcontractor shall be entitled to rely on the accuracy of the information contained in the surveys or studies, but shall exercise proper precautions related to the safe and compliance performance of the Work in accordance with the Drawings and Specifications.

If, in the course of the Work, the Subcontractor encounters human remains or recognizes the existence of burial markers, archaeological sites, wetlands or other protected resources not indicated in the Drawings, the Subcontractor shall immediately suspend any operations that would affect them and notify the Contractor, who shall work with government authorities to resume operations. The Subcontractor shall continue with all other operations that do not affect those remains or features.

DAI, conformément à la section 5.5 du présent accord de Sous-contrat, sur :

- (1) les conditions souterraines ou physiques latentes sur le site qui diffèrent sensiblement de celles qui sont indiquées dans le présent contrat ; ou
- (2) les conditions physiques inconnues sur le site, présentant un caractère exceptionnel, qui diffèrent sensiblement de celles connues habituellement et généralement reconnues comme inhérentes au travail du type prévu dans le contrat.

L'ingénieur ou le représentant de l'ingénieur du projet de réhabilitation du site doit sans délai enquêter sur les conditions du site après avoir reçu l'avis. Si les conditions diffèrent donc sensiblement et causent, pour le Sous-contractant, une augmentation ou une diminution de coût, ou de temps nécessaire pour l'exécution d'une quelconque portion des travaux au titre de ce Sous-contrat, si ou non le changement découle des conditions, un ajustement équitable sera effectué en vertu de la présente clause et le Sous-contrat sera modifié en conséquence par écrit.

Aucune demande du Sous-contractant pour un ajustement équitable au Sous-contrat en vertu de cette présente clause ne doit être admise, à moins que DAI ait donné l'avis écrit nécessaire, sous réserve que le délai prescrit pour donner l'avis écrit puisse être prolongé par DAI.

Aucune demande du Sous-contractant pour un ajustement équitable au Sous-contrat pour à cause des conditions divergentes du chantier ne doit être admise si elle est présentée après le paiement final au titre de ce Sous-contrat.

Le contractant peut fournir des enquêtes ou des études décrivant les caractéristiques physiques, les limites juridiques, ou des endroits des services publics pour le chantier. Le Sous-contractant doit être en droit de se fier à l'exactitude de l'information contenue dans les enquêtes ou études, mais doit exercer des précautions en ce qui concerne la sécurité et le respect des obligations dans l'exécution des travaux selon les plans et les cahiers des charges.

Si, au cours des travaux, le Sous-contractant rencontre des restes humains ou reconnaît l'existence de marqueurs de sépulture, des sites archéologiques, des zones humides

### **7.13. Examination of Work Before Covering Up**

No work shall be covered up or put out of view with prior approval from Engineer, or Engineer's Representative. The Subcontractor shall afford full opportunity of the Engineer, or Engineer's Representative, to examine and measure any work which is about to be covered up, or put out of view, before permanent work is placed thereupon. The subcontractor shall give due notice to the Engineer, whenever any such work is ready, or about to be ready, for examination. The Engineer shall, without unreasonable delay unless he or she considers it unnecessary and advises the Subcontractor accordingly, attend for the purpose of examining and measuring such work or of examining such foundations.

If a portion of the Work is covered up, contrary to the DAI Engineer's request for the Specifications, the Subcontractor must, if requested in writing, uncover the Work for the Engineer's inspection and be replaced at the Subcontractor's own cost, without any request or Claim for an adjustment to the Period of Performance.

### **7.14. Removal of Improper work or materials**

The Chief of Party, Engineer, or Engineer's Representative shall have the authority to issue instructions as necessary for:

- (1) The removal from the site, within such time or times as may be specified in the instruction, of any materials or work, that are not in accordance with the Subcontract;
- (2) The substitution of proper and suitable materials and work; and

ou d'autres ressources protégées non indiquées dans les plans, il doit immédiatement suspendre toute opération qui pourrait les affecter et en informer le contractant, qui doit travailler avec les autorités gouvernementales à reprendre ses activités. Le Sous-contractant doit continuer avec toutes les autres opérations qui n'affectent pas ces restes ou ces éléments.

### **7.13 Vérification des travaux avant la couverture**

Aucun travail ne sera couvert ou mis hors de vue sans l'approbation préalable de l'ingénieur ou du représentant de l'ingénieur. Le Sous-contractant doit offrir pleinement la possibilité à l'ingénieur ou du représentant de l'ingénieur de vérifier et mesurer tout travail qui est sur le point d'être recouvert, ou mis hors de vue, avant qu'un travail permanent n'y soit placé. Le Sous-contractant doit tenir l'ingénieur dûment informé chaque fois qu'un tel travail est prêt, ou sur le point d'être prêt, pour vérification. L'ingénieur doit, sans retard injustifié, à moins qu'il ou elle le juge inutile et en informe le Sous-contractant en conséquence, assister dans le but de vérifier et mesurer un tel travail ou examiner de telles fondations.

Si une partie des travaux est couverte, contrairement à la demande des spécifications par l'Ingénieur de DAI, le Sous-contractant doit, sur demande écrite, exposer le travail pour l'inspection par l'ingénieur et le remplacer à ses propres frais, sans faire de demande ou de réclamation pour un ajustement au délai d'exécution.

### **7.14 Retrait des travaux ou matériaux inopportuns**

Le directeur du projet, l'ingénieur, ou le représentant de l'ingénieur sont habilités à donner des instructions nécessaires pour :

- (1) Le retrait du chantier, dans le temps ou les temps qui peuvent être spécifiés dans les instructions, de tout matériau ou travail qui ne sont pas en conformité avec le Sous-contrat ;
- (2) La substitution de matériaux et travaux

(3) The proper re-execution of any work or materials not in accordance with the Subcontract.

Any costs associated with these instructions, shall be borne at the sole expense of the Subcontractor.

### **7.15. Remedial Work**

When any part of the Work or any equipment or material is found, upon examination by the Engineer, not to conform to requirements, or is at any stage before Final Completion and Acceptance, is damaged, so that it no longer conforms to requirements, the Project Site Renovation Engineer may order its repair or complete removal and replacement, at the Subcontractor's expense.

### **7.16. Substantial Completion**

"Substantial Completion" means the stage in the progress of the Work as determined and certified by the Project Engineer and the USAID Water and Sanitation COP, on which the Work (or a portion designated by DAI) is sufficiently complete and satisfactory. Substantial completion means that the Work may be used for the purpose for which it is intended, and only minor items remain to be completed or corrected which:

- (1) Do not interfere with the intended utilization of the Work, and
- (2) Can be completed or corrected within the time period required for final completion.

A Substantial Completion inspection shall be held between DAI and Subcontractor, and when possible the Owner, to jointly inspect the Work and to determine whether all equipment, materials, and installation are complete, fully operational, and functioning.

Any equipment, installation, or system that is not fully functioning and operational means that Substantial Completion is not realized.

The "date of substantial completion" means the date determined by the Engineer or COP of which substantial completion of the Work has been achieved. When possible, the "date of substantial completion" shall be

appropriés et adéquats ; et

- (3) La bonne réexécution des travaux ou des matériaux non conformes à la Sous-contrat.

Les coûts associés à ces instructions, sont aux frais exclusifs du Sous-contractant.

### **7.15 Les travaux de réparation**

Lorsque, après vérification par l'ingénieur, une partie du travail ou un équipement ou un matériel quelconque est déclaré non conforme aux exigences, ou se trouve endommagé à n'importe quel stade avant l'achèvement final et l'acceptation, de sorte qu'il n'est plus conforme aux exigences, l'ingénieur du projet de rénovation du site peut ordonner qu'il soit réparé ou totalement retiré ou remplacé, aux frais du Sous-contractant.

### **7.16 L'achèvement substantiel**

« L'achèvement substantiel » signifie l'étape de l'avancement des travaux, selon la détermination et la certification par l'ingénieur du projet et le directeur du projet de Water and Sanitation, à laquelle le travail (ou une portion désignée par DAI) est suffisamment achevé et satisfaisant. L'achèvement substantiel veut dire que le travail peut être utilisé pour les fins auxquelles il est destiné, et qu'il ne reste que des aspects mineurs à compléter ou corriger qui :

- (1) N'interfèrent pas avec l'utilisation prévue des travaux, et
- (2) Peuvent être achevés ou corrigés dans le délai requis pour l'achèvement définitif.

L'inspection d'un achèvement substantiel doit avoir lieu entre le DAI et le Sous-contractant, et si possible le propriétaire, pour inspecter conjointement les travaux et déterminer si l'ensemble de l'équipement, des matériaux et des installations est achevé, entièrement opérationnel, et fonctionne.

Tout équipement, toute installation ou tout système qui n'est pas complètement fonctionnel et opérationnel

confirmed, and signed, by the Owner, through representative attendance at the Substantial Completion Inspection.

All system tests and commissioning must be complete before the Substantial Completion Inspection, and reports from any testing or commissioning inspectors or authorities must be available for the Substantial Completion inspection. Testing of systems shall be based on Technical Specifications.

A Punch List shall be generated at the Substantial Completion inspection, and shall include a list of all incomplete, defective, damaged, or not functioning materials, installation or equipment.

The Subcontractor may request partial demobilization from the site upon Substantial Completion.

Any accrual of liquidated damages shall cease upon Substantial Completion.

The Subcontractor shall submit to DAI, and thus the Owner, any Operations and Maintenance Manuals, materials, or training required under this subcontract agreement upon Substantial Completion.

signifie que l'achèvement substantiel des travaux n'est pas réalisé.

La « date d'achèvement substantiel » signifie la date déterminée par l'ingénieur ou le directeur du projet à laquelle l'achèvement substantiel des travaux a été réalisé. Dans la mesure du possible, la "date d'achèvement substantiel" doit être confirmée, et signée par le propriétaire, à travers la présence d'un représentant à l'inspection de l'achèvement substantiel.

Tous les tests et mises en service du système doivent être terminés avant l'inspection de l'achèvement substantiel de l'inspection, et les rapports de tous les inspecteurs ou responsables des tests et mises en service doivent être disponibles pour l'inspection de l'achèvement substantiel. Les tests des systèmes doivent être basés sur les spécifications techniques. Une liste de travaux doivent être générés à l'achèvement de l'inspection, et doit inclure une liste de toutes les demandes incomplètes, défectueux, endommagés ou ne fonctionne pas, l'installation du matériel ou d'équipement.

Une liste des tâches doit être créée lors de l'inspection de l'achèvement substantiel, et elle doit comprendre une liste de tous les matériels, installations et équipements inachevés, défectifs, endommagés ou qui ne fonctionnent pas.

Le Sous-contractant peut demander une démobilisation partielle lors de l'achèvement substantiel.

Toute comptabilisation des dommages-intérêts doit cesser à l'achèvement substantiel.

Le Sous-contractant doit soumettre à DAI, et donc au propriétaire, au moment de l'achèvement substantiel, tout manuel d'exploitation et d'entretien, tout matériel, ou formation qu'exige cet accord de Sous-contrat.

### **7.17. Punch List**

When any part of the Work or any equipment, material, or installation is found, upon examination by the Project Engineer during the Substantial Completion Inspection, not to conform to requirements it shall be recorded on a Punch List. This punch list shall only include materials

### **7.17 Liste des tâches**

Lorsqu'après vérification par l'ingénieur du projet au cours de l'inspection de l'achèvement substantiel, une partie des travaux ou un équipement, matériel, ou une installation s'avère non conforme aux exigences, il faut le reporter sur une liste des tâches. Cette liste des tâches ne doit comprendre que des matériels ou installations qui

or installations that do not interfere with the intended use or operation by the Owner.

The Subcontractor shall complete all Punch List items within thirty (30) days of the Substantial Completion Date, and notify the Project Engineer, within thirty (30) days of the Substantial Completion Date, when the Punch List inspection can occur.

Upon completion of all Punch list Items, the Subcontractor shall request, in writing, a Final Completion Inspection, however, the Subcontractor remains responsible for any of its own materials, equipment, or personnel on site and shall provide adequate security and protection for these items until fully demobilized.

The Subcontractor remains responsible for the continuing security of its own assets, labor, and safety and security during the time it takes to complete the Punch List.

Failure to include an item on the Punch List does not alter the responsibility of the Subcontractor to complete all Work in accordance with the subcontract agreement, technical specifications, and drawings.

## **7.18. Final Completion and Acceptance**

"Final Completion and Acceptance" means the stage in the progress of the Work as determined by the Project Engineer and COP, and confirmed in writing to the Subcontractor, at which all the Work required under the subcontract has been completed in a satisfactory manner, subject to the discovery of defects after final completion, and except for items specifically excluded in the Certificate of Final Acceptance.

The "date of Final Completion and Acceptance" means the date determined by the DAI Engineer and COP when final completion of the Work has been achieved, as indicated by written notice to the Subcontractor.

n'interfèrent pas avec l'utilisation ou l'opération prévue par le propriétaire.

Le Sous-contractant doit finaliser tous les éléments de la liste de Punch dans les trente (30) jours de la date d'achèvement substantiel, et en informer l'ingénieur de projet, dans les trente (30) jours de la date d'achèvement substantiel, lorsque l'inspection de la liste de tâches peut avoir lieu.

Après la finalisation des éléments de la liste des tâches, le Sous-contractant doit demander, par écrit, une inspection d'achèvement final. Toutefois, le Sous-contractant reste responsable de son propre matériel, équipement, ou personnel sur le chantier et doit convenablement assurer la sécurité et la protection de ces éléments jusqu'à la démobilisation totale.

Le Sous-contractant reste responsable de la sécurité permanente de ses propres biens, sa main-d'œuvre et la sécurité pendant tout le temps nécessaire pour parachever la liste des tâches.

Le fait de ne pas inclure un élément sur la liste des tâches ne change en rien la responsabilité du Sous-contractant de terminer le travail conformément à l'accord de Sous-contrat, au cahier des charges et au plan.

## **7.18 L'achèvement final et l'acceptation**

« Achèvement et acceptation définitifs » signifie l'étape de l'avancement des travaux, selon la détermination par l'ingénieur du projet et le directeur du projet, et une confirmation écrite au Sous-contractant, à laquelle tout le travail requis en vertu du Sous-contrat a été achevé de manière satisfaisante, sous réserve de la découverte de défauts après l'achèvement final, et à l'exception des éléments expressément exclus dans le certificat de réception définitive.

La « date d'achèvement et l'acceptation définitifs » signifie la date déterminée par l'Ingénieur et le directeur du projet de DAI à laquelle l'achèvement définitif des

Final Completion and Acceptance shall be determined through a joint inspection of all of the materials, equipment, and installation.

When possible, the Certificate of Final Completion and Acceptance shall be confirmed by the Owner, through representative attendance at the Final Completion Inspection.

The Subcontractor may request demobilization from the site upon Final Completion. Site Possession ceases upon the date of Final Completion, however, the Subcontractor remains responsible for any of its own materials, equipment, or personnel on site and shall provide adequate security and protection for these items until fully demobilized.

#### **7.19. Certificate of Final Completion and Acceptance**

When the COP, via the DAI Engineer, or Engineer's Representative, are satisfied that the Work under the subcontract is complete (with the exception of continuing obligations as specifically excluded), the COP shall issue to the Subcontractor a Certificate of Final Acceptance and make final payment, minus retention, upon:

- (1) Satisfactory completion of all required tests,
- (2) A final inspection that all items listed in the Punch List have been completed or corrected and that the Work is finally complete (subject to the discovery of defects after final completion),
- (3) Formal hand over of the Work to the Owner, and
- (4) Submittal by the Subcontractor of all documents and other items required upon completion of the Work, including a final request for payment (Request for Final Acceptance).

travaux a été réalisé, tel que cela est indiqué par écrit dans un avis adressé au Sous-contractant.

L'achèvement et l'acceptation définitifs doivent être déterminés par une inspection conjointe de tous les matériaux, équipements et installations.

Dans la mesure du possible, le certificat d'achèvement et acceptation définitifs doit être confirmé par le propriétaire, par la présence d'un représentant à l'inspection d'achèvement final.

Le Sous-contractant peut demander la démobilisation du chantier après l'achèvement final. La possession du site cesse à la date de l'achèvement définitif. Toutefois, le Sous-contractant reste responsable de son propre matériel, équipement, ou personnel sur le chantier et doit convenablement assurer la sécurité et la protection de ces éléments jusqu'à la démobilisation totale.

#### **7.19 Certificat d'achèvement et acceptation définitifs**

Lorsque le directeur du projet, par le biais de l'ingénieur ou le représentant de l'ingénieur de DAI sont convaincus que le travail en vertu du Sous-contrat est achevé (à l'exception des obligations permanentes telles que spécifiquement exclues), le directeur du projet doit délivrer au Sous-contractant un certificat d'acceptation définitive et effectuer le dernier paiement, moins la rétention, sur :

- (1) La réalisation satisfaisante de tous les tests nécessaires,
- (2) Une inspection finale que tous les éléments énumérés dans la liste des tâches ont été achevés ou corrigés et que le travail est enfin terminé (sous réserve de la découverte de défauts après l'achèvement définitif),
- (3) Le transfert formel du travail au propriétaire, et
- (4) La soumission, par le Sous-contractant, de tous les documents et autres éléments nécessaires à la fin des travaux, y compris une dernière demande de paiement (Demande d'acceptation définitive).

## **7.20. Defects and Liabilities**

The Defects and Liabilities period is intended to cover any defects that may be found to exist in the complete Work, including but not limited to latent defects, and is a period during which the Subcontractor is expected to maintain, repair, and remedy defects discovered after Substantial Completion.

The Subcontractor is not responsible to repair or replace items which can be proven to have been damaged by improper use, lost, or stolen by the infrastructure users, visitors, building occupants or maintenance staff, during the Defects and Liability Period.

During the Defects and Liabilities Period, the Subcontractor is responsible to respond to all requests by the Contactor, Funding Agency, or Owner to repair or replace latent defects discovered during use and operations.

Only upon the completion, repair or replacement of all latent defects shall remaining fifty percent (50%) of the Retention Money, less any liquidated damages or penalties, be certified by the DAI COP, via DAI Engineer, or Engineer's Representative, for payment to the Subcontractor.

## **8. REPORTS, MEETINGS, AND DELIVERABLES**

### **8.1. Deliverables**

A full schedule of deliverables required under this subcontract agreement is provided in Appendix F, Schedule of Deliverables.

### **8.2. Preconstruction Conference**

## **7.20 Défauts et responsabilités**

La période des défauts et des responsabilités est destinée à couvrir tous les défauts susceptibles d'être découverts dans le travail achevé, y compris mais sans s'y limiter, les défauts latents, et c'est une période au cours de laquelle le Sous-contractant devrait gérer, réparer, et corriger les défauts découverts après l'achèvement substantiel.

Le Sous-contractant n'est pas responsable de réparer ou remplacer des éléments que l'on peut prouver avoir été endommagés par une mauvaise utilisation, perdus ou volés par les usagers des infrastructures, les visiteurs, les occupants du bâtiment ou le personnel de l'entretien, au cours de la période des défauts et des responsabilités.

Au cours de la période des défauts et des responsabilités, le Sous-contractant est responsable de répondre à toutes les demandes faites par le contractant, l'organisme de financement, ou le propriétaire, pour la réparation ou le remplacement sur les défauts latents découverts pendant l'usage et l'exploitation.

Ce n'est qu'après l'achèvement, les réparations ou remplacement de tous les défauts latents que les cinquante pourcent restant (50%) de la retenue de garantie, moins les dommages-intérêts ou pénalités, doivent être certifiés par le directeur du projet de DAI, par le biais de l'ingénieur, ou le représentant de l'ingénieur, pour le paiement au Sous-contractant.

## **8 RAPPORTS, REUNIONS, ET LIVRABLES**

### **8.1 Livrables**

Un calendrier complet des livrables requis en vertu du présent accord de Sous-contrat est présenté dans l'annexe F, Tableau des Livrables.

### **8.2 Conférence de pré-construction**

A preconstruction conference will be scheduled at the location and time of the issuance of the Letter of Award.

Une conférence de préconstruction sera programmée, l'endroit et au moment sera dans la lettre d'attribution.

### **8.3. Site Meetings**

Site Meetings shall be attended by the Subcontractor's Project Manager, the Engineer, and/or the Engineer's Representative, and shall be held throughout the Period of Performance of the Subcontract at a frequency determined by agreement between the Engineer and DAI, and as stated in Appendix F. The Engineer, or the Engineer's Representative, will chair the Meetings and keep the minutes, copies of which shall be provided to each party within a timely manner. The following shall be presented by the subcontractor at each meeting, at a minimum:

- (1) Site Inspection and site walk through
- (2) Presentation of work progress
- (3) Procurement update, as applicable
- (4) Labor and equipment schedules
- (5) Review status of submittals: requests for information, variances, alternatives and substitutions
- (6) Upcoming activities planned by the Subcontractor that may require testing

### **8.3 Réunions du chantier**

Les réunions du chantier doivent bénéficier de la présence active du Sous-contractant, de l'ingénieur et/ou du représentant de l'ingénieur, et doivent se tenir durant toute la période d'exécution du Sous-contrat à une fréquence déterminée par accord entre l'ingénieur et DAI, et selon ce qui est indiqué dans l'annexe F. L'ingénieur, ou le représentant de l'ingénieur, présidera les réunions et tiendra les procès-verbaux, dont des copies doivent être remises à chacune des parties dans un délai raisonnable. Les points suivants doivent être présentés par le Sous-contractant à chaque séance, au minimum :

- (1) Inspection et visite guidée du chantier
- (2) Présentation de l'avancement des travaux
- (3) Mise à jour de la passation du marché, le cas échéant
- (4) Calendriers de la main-d'œuvre et des équipements
- (5) Statuts des bilans des soumissions : demandes d'information, variations ; alternatives et substitutions
- (6) Prochaines activités prévues par le Sous-contractant pouvant nécessiter des tests.

### **8.4. Health and Safety of Persons and Property**

The Subcontractor is responsible to prepare and submit a Health and Safety Plan to DAI, in accordance with the timeline outlined in Appendix F, Schedule of Deliverables. This Plan shall describe in specific detail the systematic actions to be taken by the Subcontractor and its team with confidence that there shall be continuous and adequate provisions for the management of health, safety, and security at the Site. The Health and Safety Plan shall include, at a minimum:

- (1) Acknowledgement and acceptance of the responsibility to manage health and safety of workers, visitors, and all equipment, and materials on site.
- (2) Designation of responsibilities on the

### **8.4 Santé et la sécurité des personnes et des biens**

Le Sous-contractant est responsable de préparer et de soumettre un Plan de santé et de sécurité à DAI, conformément au calendrier figurant à l'annexe F, Calendrier des Livrables. Ce plan doit décrire avec précision les mesures systématiques que le Sous-contractant et son équipe doivent prendre en assurant qu'il y aura des dispositions continues et adéquates pour la gestion de la santé, de la salubrité et de la sécurité sur le chantier. Le Plan de Sécurité et de Santé doit comprendre au minimum :

- (1) La reconnaissance et l'acceptation de la responsabilité de gérer la santé et la sécurité des travailleurs, des visiteurs et de tous les équipements et matériels sur le chantier.
- (2) La désignation des responsabilités sur le chantier



- construction site and contact numbers.
- (3) Training and education requirements – both routine and in response to an incident.
- (4) Incident procedures and reporting.
- (5) Emergency medical, fire and ambulance contact information and directions.
- (6) Compliance with any health and safety regulations and standards required by the host-country or DAI.
- (7) Communication protocols for notifying and/or sending a copy of all incident reports to the Project Engineer as soon as an incident occurs.

Failure of the Subcontractor to implement the Health and Safety plan, the engineer will, with consultation with USAID Water and Sanitation Project COP, issue an immediate stop work order. The written notification of stop work order will be send by Subcontract Administrator. All costs and time delays resulting from any such “Stop Work” order are entirely the Contractors responsibility.”

## 8.5. Monthly Progress Reports

The Subcontractor shall submit monthly Progress Reports, which provide a written status of progress, problems, or updates to the Engineer and the COP. These monthly reports shall be submitted via email to the Engineer and DAI five days before the regular monthly meeting. The Progress Report shall at a minimum include the following elements:

- (1) Comparison (bar chart) of work progress against the approved Schedule;
- (2) Notification of delays;
- (3) Labor and equipment schedules, usage, or problems or concerns;
- (4) Field observations, problems and conflicts;
- (5) Quality Assurance Plan Compliance: Status of all testing and all quality control issues as well as the results of daily meetings and inspections;
- (6) Health & Safety Plan Compliance: Status of H&S Plan compliance, summary of Safety issues; and

- de construction et les numéros de contact.
- (3) Les exigences en matière de formation et éducation – pour le quotidien et en réponse à un incident.
- (4) Les procédures et les rapports d'incident.
- (5) Les soins médicaux d'urgence, les coordonnées et les directions des pompiers et des ambulances
- (6) La conformité avec la réglementation et les normes de santé et de sécurité exigées par le pays hôte ou DAI.
- (7) Les protocoles de communication pour informer et/ou envoyer une copie de tous les rapports d'incidents à l'ingénieur du projet dès qu'un incident se produit.

Le manquement du Sous-contractant d’implementer le Plan de Santé et Sécurité, l’ingénieur, en consultation avec le COP du Projet USAID Water and Sanitation Project un ordre d’« Arrêt de Travail » immédiat. La notification écrite de cet “Arrêt de travail” sera faite par l’Administrateur du Sous-contrat. Tous les coûts et les délais découlant de tels ordres d’« Arrêt de Travail » sont entièrement la responsabilité des entrepreneurs.

## 8.5 Rapports mensuels sur l’état d’avancement

Le Sous-contractant doit présenter des rapports mensuels sur l’état d’avancement qui donnent par écrit un état d’avancement, des problèmes ou des mises à jour à l’ingénieur et au directeur du projet. Ces rapports mensuels doivent être envoyés par e-mail à l’ingénieur et DAI cinq jours avant la réunion mensuelle régulière. Le rapport sur l’état d’avancement doit au minimum inclure les éléments suivants :

- (1) Une comparaison (graphique) de l'avancement des travaux par rapport au calendrier approuvé ;
- (2) Un avis des retards ;
- (3) Les calendriers, l’usage, ou les problèmes et préoccupations sur la main-d’œuvre et les équipements ;
- (4) Les observations sur le terrain, les problèmes et les conflits ;
- (5) La conformité avec le Plan d'Assurance de la Qualité : l'état de tous les tests et tous les problèmes de contrôle de la qualité, ainsi que les

- (7) Environmental Management and Monitoring Plan Activities and Compliance: Status of EMMP activities, issues and compliance.
- (8) Social impact issues, workforce concerns, or expectations;
- (9) List of submittals and correspondences provided during the period, and their corresponding status;
- (10) Photographs of work progress, installation, and activities on Site during the period

- résultats de réunions quotidiennes et des inspections ;
- (6) La conformité au Plan de Santé & Sécurité : l'état de la conformité au plan de S&S, résumé des questions de sécurité ; et
- (7) Les activités et la conformité du Plan de Gestion et Surveillance Environnementales : l'état des activités, des problèmes et de la conformité au EMMP ;
- (8) Les questions d'impact social, les préoccupations ou les attentes de la main-d'œuvre ;
- (9) La liste des soumissions et des correspondances faites au cours de la période, et leur état correspondant ;
- (10) Les photos de l'avancement des travaux, des installations, et des activités sur le chantier au cours de la période.

## **8.6. Final Report**

The Subcontractor shall submit to the Engineer, or Engineer's Representative, a Final Report including bar charts of progress and selected photos along with the final invoice, summing up observations resulting from the inspections, progress, difficulties or irregularities encountered, resolution of problems, measures taken to improve conditions, recommendations, and other matters related to this subcontract.

## **8.6 Rapport final**

Le Sous-contractant doit soumettre à l'ingénieur, ou au représentant de l'ingénieur, un rapport final comprenant des diagrammes à barres des progrès et les photos choisies, ainsi que la facture définitive, résumant les observations qui proviennent des inspections, des progrès, des difficultés ou des irrégularités rencontrées, la résolution des problèmes, les mesures prises pour améliorer les conditions, les recommandations, et les autres aspects de cette Sous-contrat.

## **8.7. Environmental Impact Assessment and Reports**

An environmental impact assessment report may be requested that meets the Funding Agency requirements. When requested by DAI, the Subcontractor shall assist DAI as requested in completion of this assessment, and any subsequent environmental reports required to monitor compliance.

## **8.7 L'évaluation et les rapports de l'impact sur l'environnement**

Il est possible qu'un rapport d'évaluation des impacts environnementaux soit demandé, lequel répond aux exigences de l'agence de financement. Lorsqu'il est demandé par DAI, le Sous-contractant doit aider DAI dans la réalisation de cette évaluation et de tous les rapports sur l'environnement requis pour assurer la conformité.

## **9. CONTRACTUAL AND TECHNICAL DIRECTION**

### **9.1.Subcontract Administration**

For purposes of this Subcontract Agreement, only the authorized individuals designated as the Subcontractor's administrators are authorized to bind DAI and Subcontractor contractually. A list of those authorized is found in the Subcontract Data.

For the subcontractor, only the signatory of the subcontract agreement is authorized to bind the subcontractor contractually.

### **9.2.Technical Direction**

The Chief of Party (COP) is responsible for the overall management and technical direction of all DAI activities in The Republic of Haiti; including this activity. The COP's representative, the "Engineer," shall be as specified in the Subcontract Data.

The Engineer may delegate technical duties and authorities vested in the Engineer to the Engineer's Representative, such as a Site Inspector, and may from time to time revoke such delegation. Such delegation and revocation shall be in writing and copied to DAI and Subcontractor in this Subcontract. Such information shall only take effect after receipt by DAI or Subcontractor.

The COP, and his or her designated representatives, including the Project Engineer, reserves the right to attend any/all meetings, participate in site visits, provide management or technical direction through the Engineer, or Engineer's Representative, and take any other action deemed necessary to manage the performance of the subcontractor.

The Engineer is responsible for providing day-to-day supervision, technical direction, record keeping, performance documentation, and reporting. The Engineer shall carry out all duties specified by the Subcontract.

## **9 DIRECTION CONTRACTUELLE ET TECHNIQUE**

### **9.1 Administration du Sous-contrat**

Aux fins de l'accord du présent Contrat, seuls les individus autorisés désignés comme administrateurs du Sous-contractant sont autorisés à engager contractuellement DAI et le Sous-contractant. Une liste de ces personnes autorisées se trouve dans les données du Sous-contrat.

Pour le Sous-contractant, seul le signataire de l'accord de Sous-contrat est autorisé à engager contractuellement le Sous-contractant.

### **9.2 Direction technique**

Le directeur du projet est responsable de la gestion et la direction technique globales de toutes les activités de DAI en République d'Haïti, y compris la présente activité. Le représentant du directeur du projet, « l'ingénieur » doit être tel qu'il est défini dans les données du contrat.

L'ingénieur peut déléguer les fonctions et les pouvoirs techniques dévolus à l'ingénieur au représentant de l'ingénieur, tel qu'un Inspecteur de chantier, et il peut de temps à autre révoquer cette délégation. Cette délégation et la révocation doivent être faites par écrit, avec copie DAI et au Sous-contractant dans ce Sous-contrat. De telles informations ne prendront effet qu'après réception par DAI ou Sous-contractant.

Le directeur du projet et ses représentants désignés, y compris l'ingénieur du projet, se réservent le droit de prendre part à toutes les réunions, de participer à des visites du chantier, fournir une gestion ou une direction technique à travers l'ingénieur ou le représentant de l'ingénieur, prendre toute autre mesure jugée nécessaire pour gérer le fonctionnement du Sous-contractant.

L'ingénieur est responsable d'assurer la supervision quotidienne, la direction technique, la tenue des dossiers, la documentation et les rapports du fonctionnement.

The term “technical direction” is defined to comprise:

- (1) Supervising the Subcontractor, technically administering the subcontract, certifying measurements, deliverables, and payments to the subcontractor, reviewing Change Order Requests, interpreting the subcontract appendices, recommending extensions of time, rejecting or accepting materials used, reviewing all deliverables under the subcontract and other duties as may be assigned from time to time by DAI.
- (2) Provision of written directions, within the Scope of the Subcontract, to facilitate completion of the Work;
- (3) Provision of written information to the Subcontractor which assists in the interpretation of drawings, specifications, or technical portions of the Statement of Work by responding in a timely manner to Requests for Clarification or Information.
- (4) Review and, where required, provide written approval of technical reports, drawings, specifications, or technical information to be delivered. Technical directions must be in writing, and must be within the Scope of the Work.
- (5) The Engineer, or Engineer’s Representative, shall at all times have access to the Work during any stage of the execution or preparation or completion.
- (6) The Engineer shall represent DAI during the whole of the period of constructions under this Subcontract. The Engineer shall advise, report, and consult with DAI on all matters relating to this Subcontract. DAI’s instructions or any correspondence of any form to the Subcontractor shall be forwarded through the Engineer. The Engineer shall have authority to act on behalf of DAI only to the extent provided in the Subcontract Documents as they may be amended in writing in accordance with the Subcontract.
- (7) Keep DAI informed of the progress of the Work, based on on-site inspections.
- (8) Certify, verify, and measure Work completed based on photographs, site inspections, or testing results.
- (9) Authorized by designation to take any or all action with respect to the following, except any

L'ingénieur doit s'acquitter de toutes les tâches prévues par le Sous-contrat.

Le terme « direction technique » est défini de manière à englober les dimensions suivantes :

- (1) Superviser le Sous-contractant, assurer l’administration technique du Sous-contrat, certifier les mesures, les livrables et les paiements au Sous-contractant, examiner les demandes des modificatifs, interpréter les annexes du Sous-contrat, recommander les prorogations de délais, rejeter ou accepter des matériaux utilisés, examiner tous les livrables en vertu du Sous-contrat et d'autres fonctions qui peuvent être assignées de temps à autre par DAI.
- (2) Donner des directions écrites. au titre du Sous-contrat, pour faciliter l'achèvement des travaux ;
- (3) Fournir au Sous-contractant des données par écrit facilitant l'interprétation des plans, des cahiers des charges, ou des parties techniques du cahier de charge en répondant en temps opportun aux demandes d'éclaircissements ou de renseignements.
- (4) Examiner et, si nécessaire, donner l'approbation écrite de rapports techniques, des plans, des cahiers des charges, ou des renseignements techniques à fournir. Les directions techniques doivent être par écrit, et doivent être dans le cahier des charges.
- (5) L'ingénieur, ou le représentant de l'ingénieur, doit en tout temps avoir accès aux travaux à n'importe quel stade de l'exécution, ou de la préparation, ou de l'achèvement.
- (6) L'ingénieur doit représenter DAI pendant toute la période des constructions dans le cadre de ce Sous-contrat. L'ingénieur doit conseiller, reporter à, et consulter DAI sur toutes les questions relatives à ce Sous-contrat. Les instructions ou toute forme de correspondance de DAI au Sous-contractant doivent être transmises par l'ingénieur. L'ingénieur n'est autorisé à agir au nom de DAI que dans la mesure prévue dans les documents du Sous-contrat car ils peuvent être modifiés par écrit conformément à la Sous-contrat.
- (7) Tenir DAI informé de l'avancement des travaux, sur la base d'inspections du chantier
- (8) Certifier, vérifier et mesurer le travail réalisé à partir des photographies, des inspections du

action specifically prohibited by the terms of this Subcontract:

- i. Assure that the Subcontractor performs the technical requirements of the subcontract in accordance with the subcontract terms, conditions, and specifications.
  - ii. Perform or cause to be performed, inspections necessary in connection with 1) above and require the Subcontractor to correct all deficiencies; perform acceptance for DAI.
  - iii. Maintain day-to-day liaison and direct communications with the Subcontractor. Written communications with the Subcontractor and documents shall be entitled "As per Subcontract Data," with a copy furnished to the COP.
- (10) Monitor the Subcontractor's production or performance progress and notify the Subcontractor in writing of deficiencies observed during surveillance, and direct appropriate action to effect correction. Record and report to the COP and authorized Subcontracts Administrators as incidents of gross faulty or nonconforming work, health or safety violations, delays or problems.

#### LIMITATIONS:

- (1) Neither the Engineer nor Engineer's Representative is authorized to approve subcontract modifications, including change orders that would increase the subcontract price or change the period of performance. These changes require the approval of the Engineer, the Chief of Party, and shall be signed by an authorized Subcontracts Administrator of the Contractor.
- (2) Neither the Engineer nor Engineer's Representative is empowered to award, agree to, or sign any subcontract (including delivery or purchase orders) or modifications thereto, or in any way to obligate the payment of money by DAI. Neither the Engineer, nor Engineer's

- (9) Autorisé par désignation à prendre toutes les mesures en ce qui concerne ce qui suit, à l'exception de toute action spécifiquement interdite par les termes de ce Sous-contrat :
  - i. S'assurer que le Sous-contractant remplit les exigences techniques du Sous-contrat conformément aux termes, conditions et cahiers des charges du Sous-contrat.
  - ii. Réaliser ou faire réaliser les inspections nécessaires en relation avec 1) ci-dessus et exiger que le Sous-contractant corrige toutes les déficiences; effectuer l'acceptation pour DAI.
  - iii. Maintenir la liaison courante et les communications directes avec le Sous-contractant. Les communications écrites avec le Sous-contractant et les documents doivent être intitulés « En vertu des données du Sous-contrat », avec une copie fournie au directeur du projet.
- (10) Vérifier les réalisations ou la progression des performances du Sous-contractant et lui signaler par écrit les déficiences observées lors du contrôle, et ordonner les mesures appropriées pour redresser. Consigner et reporter au directeur du projet et aux administrateurs autorisés du Sous-contrat les incidents de travail manifestement défectueux ou non conforme, les violations contre la santé et la sécurité, les retards et les problèmes.

#### LIMITATIONS :

- (1) Ni l'ingénieur, ni le représentant de l'ingénieur n'est autorisé à approuver les modifications du Sous-contrat, y compris les avenants qui augmenteraient le prix ou changeraient le délai d'exécution. Ces modifications nécessitent l'approbation de l'ingénieur, du directeur du projet, et doivent être signées par un administrateur autorisé du contractant du Sous-contrat.
- (2) Ni l'ingénieur, ni le représentant de l'ingénieur, n'est habilité à attribuer, accepter ou signer un Sous-contrat (y compris la livraison ou les bons de commande) ou ses modifications, ou en aucune façon obliger le paiement d'une somme d'argent par DAI. Ni l'ingénieur, ni le représentant de l'ingénieur, ne peut prendre des mesures qui peuvent avoir une incidence sur le calendrier, les fonds ou la portée du Sous-contrat sans l'approbation écrite du directeur du projet.

Representative, may take any action which may impact on the subcontract schedule, funds, or scope without the written approval of the COP. Neither the Engineer nor Engineer's Representative shall be held liable for, nor will they have control of, construction process, techniques, procedures, safety precautions and schedules relating to the all forms of Work. Nor shall the Engineer, or Engineer's Representative, be responsible for or be in control or charge of acts or omissions of the Subcontractor.

The Engineer, or Engineer's Representative, shall not be liable or responsible for any of the Subcontractor's mistakes or the Subcontractor's failure to perform the Work in accordance with the subcontract documents except where such performance of the Subcontractor is due to the Engineer, or Engineer's Representative's failure to perform his/her functions in accordance with the agreement between the Engineer, or Engineer's Representative, and DAI.

The Engineer, or Engineer's Representative, is required to meet with the Subcontractor, at intervals outlined in Appendix F, Schedule of Deliverables, concerning performance of items delivered under this subcontract and any other administration or technical issues. The venue and time of meeting shall be arranged by the Engineer, and shall involve all relevant stakeholders of the Project. Telephonic reports may be made if no problems are being experienced.

In the absence of the designated Engineer or Engineer's Representative, the COP will designate appropriate someone to serve as Engineer in their place.

Contact information for the Engineer, and Engineer's Representative, shall be provided by the COP in the Notice to Proceed.

### **9.3. Communications with the Funding Agency**

All of the Subcontractor's contractual written or oral communications with or to the Funding Agency, or local agencies relative to the Work under the subcontract, must be through or with the prior written authorization of COP. Direction given by the Funding Agency or local

Ni l'ingénieur, ni le représentant de l'ingénieur ne doit être tenu pour responsable, ni avoir le contrôle du processus, des techniques et procédures de construction, des mesures de sécurité et des programmes relatifs à toutes les formes du travail. L'ingénieur, ou le représentant de l'ingénieur, ne doit pas non plus être responsable, ni en contrôle, ni en charge des actes ou omissions du Sous-contractant.

L'ingénieur, ou le représentant de l'ingénieur, n'est pas coupable ou responsable des erreurs du Sous-contractant ou de l'incapacité du Sous-contractant d'exécuter les travaux conformément aux documents du Sous-contrat, sauf lorsqu'une telle performance du Sous-contractant est due à l'incapacité de l'ingénieur, ou du représentant de l'ingénieur d'exercer ses fonctions conformément à l'accord entre l'ingénieur, ou le représentant de l'ingénieur et DAI.

L'ingénieur, ou le représentant de l'ingénieur, est tenu de se réunir avec le Sous-contractant, à des intervalles indiqués dans l'annexe F, Tableau des Livrables, à propos de l'exécution des éléments livrés en vertu du présent Sous-contrat et toute autre administration ou des problèmes techniques. Le lieu et la date de la réunion doivent être organisés par l'ingénieur, et doit associer toutes les parties prenantes du projet. Les rapports téléphoniques peuvent être faits si aucune il n'y a aucun problème.

En l'absence de l'ingénieur désigné ou du représentant de l'ingénieur, le directeur du projet désignera une personne appropriée pour servir d'ingénieur à leur place.

Les coordonnées de l'ingénieur, et du représentant de l'ingénieur, sont fournies par le directeur du projet dans l'ordre d'exécution.

### **9.3 Les communications avec l'organisme de financement**

Tous les communications contractuelles écrites ou orales du Sous-contractant avec ou à l'organisme de financement, ou les agences locales, portant sur le travail en vertu du Sous-contrat, doivent se faire par ou avec

agencies relative to the work under the subcontract shall not be effective unless and until confirmed in writing by the COP.

#### **9.4. Subcontracting**

In the event the Subcontractor requires the services of subcontractors other than any approved nominated 2nd-tier subcontractors, the Subcontractor shall obtain prior written approval from the Subcontracts Administrator, for all such subcontracts which are in excess of 20% of the total primary Subcontract Price. The approval by DAI shall not relieve the Subcontractor of any of his/her obligations under this Subcontract agreement, and the terms of any subcontract shall be subject to, and be in conformity with, the provisions of this Subcontract.

All clauses, terms and conditions of this subcontract agreement must be flowed down to the 2nd-tier subcontractors, and all 2nd-tier subcontractors shall equally abide by the same terms and conditions of this subcontract agreement between DAI and the Subcontractor.

DAI has a right to request written evidence from the Subcontractor that the Subcontractor has properly paid its 2nd-tier subcontractors and material and equipment suppliers. If the Subcontractor fails to furnish such evidence within seven days, DAI shall have the right to contact 2nd tier subcontractors directly to ascertain whether they have been properly paid. DAI retains the right to notify any surety that has provided a Payment Bond (as covered in Section 11) if DAI confirms that 2nd tier subcontractors or material and equipment suppliers have not been properly paid. Neither DAI, the Funding Agency, nor the Owner shall have an obligation to pay or to see the payment of money to a 2nd-tier subcontractor, except as otherwise required by law.

l'autorisation écrite préalable du directeur du projet. Les directives données par l'organisme de financement ou les agences locales par rapport au travail en vertu du Sous-contrat ne sont effectives que si et jusqu'à confirmation par écrit par le directeur du projet.

#### **9.4 Le Sous-contrat**

Dans le cas où le Sous-contractant requiert les services d'autres Sous-contractants que ceux du 2ème niveau désignés et approuvés, il/elle doit au préalable obtenir l'approbation écrite de l'administrateur de Sous-contrat, pour l'ensemble de ces contrats de Sous-contrat qui dépassent 20% du prix total brut du Sous-contrat. L'approbation par DAI ne dégage le Sous-contractant d'aucune de ses obligations en vertu du présent accord de Sous-contrat, et des conditions de tout Sous-contrat doivent être assujetties à, et être en conformité avec les dispositions du présent Sous-contrat.

Toutes les clauses, tous les termes et conditions du présent accord de Sous-contrat doivent se traduire jusqu'aux Sous-contractants du 2ème niveau, et tous les Sous-contractants de 2e niveau des Sous-contractants doivent également respecter les mêmes termes et conditions du présent accord de Sous-contrat entre DAI et le Sous-contractant.

DAI a le droit de demander au Sous-contractant une preuve écrite que le Sous-contractant a dûment payé ses Sous-contractants de 2ème niveau et ses fournisseurs de matériels et d'équipements. Si le Sous-contractant ne peut pas apporter une telle preuve dans un délai de sept jours, DAI a le droit de contacter directement les Sous-contractants de 2ème niveau pour s'assurer qu'ils ont été dûment payés. DAI se réserve le droit de notifier toute société de caution ayant fourni une garantie de paiement (tel que c'est décrit à la section 11) si DAI confirme que des Sous-contractants de 2ème niveau ou des fournisseurs de matériels et d'équipements n'ont pas été dûment payés. Ni DAI, l'organisme de financement, ni le propriétaire n'a d'obligation de payer ou de voir le versement d'argent à un Sous-contractant de 2ème niveau, sous réserve des dispositions contraires établies par la loi.

## **10. SUBCONTRACTOR'S GENERAL OBLIGATIONS**

### **10.1. Subcontractor's General Responsibilities**

The Subcontractor shall, with due care and diligence, design (to the extent provided for by the Subcontract), execute and complete the Work and remedy any defects therein in accordance with the provisions of the Subcontract. The Subcontractor shall provide all superintendence, labor, materials, plant, Subcontractor's equipment and all other things, whether of a temporary or permanent nature, required in and for such design, execution, completion and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Subcontract.

The Subcontractor shall confine operations at the Site to areas permitted by applicable law, statutes, ordinances, codes, rules or regulations, and lawful orders of public authorities, and shall not unreasonably encumber the Site with materials or equipment. The Subcontractor shall not conduct any business of its own on the Site which does not directly relate the performance of this subcontract agreement.

### **10.2. Site Operations and Methods of Construction**

The Subcontractor shall take full responsibility for the adequacy, stability and safety of all Site operations and means and methods of construction. Where the Subcontract expressly provides that part of the Work shall be designed by the Subcontractor, it shall be fully responsible for that part of such Work, notwithstanding any approval by the Engineer, or Engineer's Representative.

## **10 OBLIGATIONS GÉNÉRALES DU SOUS-CONTRACTANT**

### **10.1 Responsabilités générales du Sous-contractant**

Le Sous-contractant doit, soin et diligence raisonnables, concevoir (dans la mesure prévue par le Sous-contrat), exécuter et achever les travaux et de remédier à tout défaut qui en résultent, conformément aux dispositions du Sous-contrat. Le Sous-contractant doit fournir tout ce qui concerne la direction, la main-d'œuvre, les matériaux, l'installation, les équipements du Sous-contractant et toute autre chose nécessaire, de nature temporaire ou permanente, dans et pour un tel processus de conception, exécution, achèvement et correction de tout défaut, autant que la nécessité de réaliser ledit processus est déterminée dans, ou doit être déduite du Sous-contrat.

Le Sous-contractant doit circonscrire les activités sur le chantier à des zones autorisées par la loi, les statuts, codes, arrêtés, règles ou règlements applicables, et les ordres légaux des autorités publiques, et ne doit pas excessivement encombrer le chantier avec des matériaux ou des équipements. Le Sous-contractant n'est pas mener ses propres affaires sur le chantier qui ne se rapportent pas directement à l'exécution du présent accord de Sous-contrat.

### **10.2 Les activités du chantier et les méthodes de construction**

Le Sous-contractant doit assumer l'entière responsabilité de l'adéquation, la stabilité et la sécurité de toutes les opérations sur le chantier et des moyens et méthodes de construction. Lorsque le Sous-contrat prévoit expressément qu'une partie des travaux doit être conçu par le Sous-contractant, il doit être entièrement responsable de cette partie de ces travaux, nonobstant toute approbation de l'ingénieur, ou du représentant de l'ingénieur.



### **10.3. Site Security and Lighting**

The Subcontractor shall take full responsibility for his or her own security of his or her own tools, materials, supplies, and equipment on site, and maintain, at his or her own cost, all lights, guards, fencing, and locks.

### **10.4. Extraordinary Traffic and Special Loads**

The Subcontractor shall use every reasonable means to prevent any of the roads or bridges connecting with or en route to the site, from being damaged by any traffic of the Subcontractor. The Subcontractor shall select routes, choose and use appropriate and safe vehicles, and restrict and distribute loads so that any such extraordinary traffic will be limited as far as reasonably possible and so that no unnecessary damage may occur to such roads and bridges.

### **10.5. Opportunities for other Subcontractors**

The Subcontractor shall in accordance with the requirements of DAI and the Engineer, or Engineer's Representative, afford all reasonable opportunities for carrying out work by other Subcontractors employed by DAI, their workforce, DAI employees, and any other duly constituted authorities who may be employed in the execution on or near the worksite. Subcontractor shall be responsible for coordination of its workforce, labor, materials and equipment with all other labor on site, whether employed by Subcontractor or not.

### **10.6. Site Clean-up**

Subcontractors must maintain a clean work site, by disposing of all debris and leftover material which were used for the work. All debris will be disposed of in an approved and certified dump site authorized by DAI, via the Engineer, Engineer's Representative, or

### **10.3 La sécurité du site et l'éclairage**

Le Sous-contractant doit assumer l'entière responsabilité de sa propre sécurité et celle de ses outils, matériels, fournitures et équipements sur le chantier, et de maintenir, à ses propres frais, tous les éclairages, les gardiens, les clôtures et les verrous.

### **10.4 Trafic extraordinaire et chargements spéciaux**

Le Sous-contractant doit utiliser tous les moyens raisonnables pour empêcher que toutes les routes ou tous les ponts qui se connectent ou mènent au chantier d'être endommagés par le trafic du Sous-contractant. Le Sous-contractant doit désigner des itinéraires, choisir et utiliser des véhicules appropriés et sûrs, et restreindre et répartir les chargements afin de limiter ces trafics extraordinaires autant qu'il est raisonnablement possible et d'éviter des dégâts inutiles à ces routes et ponts.

### **10.5 Opportunités pour d'autres Sous-contractants**

Conformément aux exigences de DAI et de l'ingénieur, ou du représentant de l'ingénieur, le Sous-contractant doit permettre toutes les possibilités raisonnables pour l'exécution des travaux par d'autres Sous-contractants employés par DAI, leur main-d'œuvre, des employés de DAI, et d'autres autorités dûment constituées qui peuvent être employés dans l'exécution sur le chantier ou à proximité. Le Sous-contractant est responsable de la coordination de sa main-d'œuvre, du travail, des matériels et des équipements avec tous les autres travailleurs sur le chantier, qu'ils soient employés par le Sous-contractant ou non.

### **10.6 Le nettoyage du chantier**

Les Sous-contractants doivent maintenir un site de travail propre, en se débarrassant de tous les débris et les restes de matériau utilisés pour le travail. Tous les débris seront jetés dans un dépotoir approuvé et certifié et autorisé par

Environmental Officer. The Subcontractor is responsible to keep the work site free from all obstruction and shall store or dispose any construction plant and surplus materials, and clear away/remove from site any wreckage, rubbish or temporary Work no longer required. The Subcontractor shall properly dispose any debris arising from installation.

The subcontractor is responsible to bear all costs associated with the provision of the necessary health and safety equipment and methods for clean-up, proper removal and disposal of materials on site.

## **10.7 Hazardous Materials**

In the event of the discovery of the presence of hazardous or environmentally dangerous materials, the Subcontractor shall immediately notify the Engineer prior to removing or otherwise disturbing the material in question, and shall immediately stop Work in the affected area. In accordance with applicable specifications, standards, or national or local health or environmental regulations, the Subcontractor shall provide the workers with mandated, and/or, appropriate health and safety material and equipment. Hazardous and dangerous materials shall be stored and disposed of in compliance with the technical specifications, standard, or national or local regulations and laws.

When the hazardous material has been rendered harmless, as certified by an appropriate authority, the Work in the affected area shall resume upon written direction by DAI. The Subcontractor may submit a request for an extension in the Period of Performance based on the Work stopped in this area. This request for an extension of the Period of Performance must show evidence that the entire Work was delayed due to the affected area, and the overall work schedule, i.e. sequence of work, could not be adjusted within the Period of Performance.

DAI, via l'ingénieur, le représentant de l'ingénieur, ou l'agent de l'environnement. Le Sous-contractant est responsable de garder le lieu de travail exempt de toute obstruction et doit conserver ou éliminer toute installation de construction et les matériels en surplus, et dégager/enlever du chantier les décombres, déchets ou du travail provisoire dont il n'a plus besoin. Le Sous-contractant doit éliminer correctement les débris résultant de l'installation.

Le Sous-contractant est responsable d'assumer tous les coûts associés à la fourniture de l'équipement nécessaires pour la santé et la sécurité et des méthodes de nettoyage, d'évacuation et d'élimination appropriées des matériaux sur le chantier.

## **10.7 Matériaux dangereux**

En cas de découverte de la présence de matériaux dangereux ou de substances écologiquement dangereuses, le Sous-contractant doit immédiatement informer l'Ingénieur avant d'enlever ou autrement perturber le matériau en question, et doit immédiatement arrêter le travail dans la zone touchée. Conformément aux spécifications et normes applicables, ou aux réglementations sanitaires ou environnementales nationales ou locales, le Sous-contractant doit fournir aux travailleurs des matériels et des équipements de santé et de sécurité mandatés et/ou appropriés. Les matériaux dangereux doivent être stockés et évacués en conformité avec les spécifications techniques, les normes, ou les réglementations et les lois nationales ou locales.

Lorsque les matériaux dangereux ont été rendus inoffensifs, tel qu'attesté par une autorité appropriée, les travaux dans la zone touchée doivent reprendre après des instructions par écrit de DAI. Le Sous-contractant peut présenter une demande de prorogation du délai d'exécution fondée sur l'arrêt des travaux dans cette zone. Cette demande de prorogation du délai d'exécution doit démontrer que l'ensemble des travaux a été retardé en raison de la zone touchée, et le calendrier global des travaux, c.-à-d. séquence des travaux, n'a pas pu être ajustée dans le délai d'exécution.

### **10.8 Assignment**

The Subcontractor shall not further subcontract or assign any services or the Work to be performed under this Subcontract without prior written authorization from the Subcontracts Administrator.

### **10.9 Taxes due by Subcontractor**

The Subcontractor shall be responsible for the payment of all charges and taxes, with respect to income tax, value added tax, import and custom taxes, in accordance with the Income Tax Laws and regulations in force, and all amendments thereto, with the exception of those taxes exempt through a waiver granted on the basis of the Bilateral Agreement between the United States and the Government of the Republic of Haiti (FAR 52.229-6, Taxes – Foreign Fixed Price Contracts). It is the Subcontractor's responsibility to make all the necessary inquiries in this respect and he or she shall be deemed to have satisfied him or herself regarding the application of all relevant tax laws.

### **10.10 Employees of the Subcontractor**

The Subcontractor shall be subject to and operate under all applicable Haitian Labor laws regarding employers' liability, worker's compensation, and unemployment compensation insurance. The Subcontractor expressly agrees that it is an independent contractor and its employees engaged in the Work are not and shall not be treated or considered employees of DAI. The Subcontractor shall be responsible for verifying the education and work experience of any key personnel, or representative ("Personnel") assigned to perform the Work under the Subcontract and shall provide DAI with written proof of such verification.

All employees of the Subcontractor shall comply with the Government of Haiti laws and regulations in force in regards to the import, sale, use, barter, consumption or disposal of alcoholic drinks, narcotics, weapons, and

### **10.8 Affectation**

Le Sous-contractant ne doit pas en outre sous-traiter ou attribuer des services ou le travail à effectuer en vertu de ce Sous-contrat sans l'autorisation préalable écrite de l'administrateur de Sous-contrat.

### **10.9. L'impôt dû par le Sous-contractant**

Le Sous-contractant doit être responsable du paiement de tous les frais et taxes, en ce qui concerne l'impôt sur le revenu, la taxe sur la valeur ajoutée, les taxes d'importation et de douane, conformément à la législation et à la réglementation fiscales en vigueur, et tous les amendements y relatifs, à l'exception de ces impôts exemptés par une exemption accordée sur la base de l'Accord bilatéral entre les États-Unis et le Gouvernement de la République d'Haïti (FAR 52.229-6, Impôts — Contrats étrangers à prix fixe). Il est de la responsabilité du Sous-contractant de faire toutes les recherches nécessaires à cet égard et il ou elle est censé(e) de s'assurer de la l'application des lois fiscales pertinentes.

### **10.10 Employés du Sous-contractant**

Le Sous-contractant doit être soumis et opérer conformément à toutes les lois haïtiennes du travail concernant la responsabilité des employeurs, l'indemnisation des travailleurs et l'assurance de l'allocation chômage. Le Sous-contractant convient expressément qu'il est un entrepreneur indépendant et ses employés engagés dans le travail ne sont pas et ne doivent pas être traités ou considérés comme des employés de DAI. Le Sous-contractant est responsable de la vérification de l'éducation et l'expérience professionnelle de tout personnel clé, ou représentant ("Personnel") chargé d'effectuer le travail en vertu du Sous-contrat et doit fournir à DAI une preuve écrite de cette vérification.

arms. The Subcontractor shall ensure that all employees have due regard to all holiday, recognized festivals, religious, and or other customs. The Subcontractor shall, at all times, take all reasonable precautions to prevent any unlawful, riotous, or disorderly conduct by, or amongst, his or her employees and for the preservation of peace and the protection of persons and property onsite or within the communities at large.

DAI reserves the right to disapprove the assignment of or request the removal of any Personnel assigned to perform the Work hereunder. DAI shall notify the Subcontractor, in writing, of the disapproved assignment or requested removal. The Subcontractor shall propose a qualified replacement for DAI's approval, and the Funding Agency if required, within ten (10) working days of receipt of such notice.

### **10.11 Key Personnel**

The Subcontractor shall furnish the Key Personnel outlined in the Subcontract Data for performance under this Subcontract. The Subcontractor shall employ the key personnel proposed at the time of tender, to carry out the functions stated in the Schedule or other personnel approved by the Engineer.

Personnel identified as "Key Personnel" are considered to be essential to the Work being performed.

The Subcontractor must submit CVs for all of the Key Personnel, and DAI may request an interview of proposed Key Personnel.

Prior to substituting or replacing the individual(s) or diverting any portion of the specified individual's time to other programs, the Subcontractor shall notify the Subcontract Administrator, via the Engineer, reasonably in advance, or as soon as possible thereafter, and shall submit justification, including proposed substitutions, in sufficient detail to permit evaluation of the impact on the program. No diversion, substitution, or replacement

Tous les employés du Sous-contractant doivent se conformer aux lois et réglementations en vigueur du gouvernement d'Haïti en ce qui concerne l'importation, la vente, l'utilisation, le troc, la consommation ou de l'élimination de boissons alcoolisées, les stupéfiants et les armes. Le Sous-contractant doit s'assurer que tous les employés tiennent dûment compte de tous les congés, les festivals reconnus, les coutumes religieuses et d'autres. Le Sous-contractant doit, à tout moment, prendre toutes les précautions raisonnables pour empêcher toute conduite illicite, sédition, ou désordonnée par, ou parmi ces employés et pour la préservation de la paix et la protection des personnes et des biens sur le chantier ou au sein des communautés en général.

DAI se réserve le droit de refuser l'affectation ou de demander le retrait de tout membre de personnel affecté à exécuter le travail en vertu des présentes. DAI doit informer le Sous-contractant, par écrit, de l'affectation rejetée ou du retrait demandé. Le Sous-contractant doit proposer un remplacement qualifié pour l'approbation de DAI et l'organisme de financement, si nécessaire, dans un délai de dix (10) jours suivant la réception d'une telle notification.

### **10.11 Le personnel clé**

Le Sous-contractant doit fournir le personnel clé décrit dans les données du contrat pour l'exécution en vertu de ce Sous-contrat. Le Sous-contractant doit employer le personnel clé proposé au moment de l'appel d'offres, pour remplir les fonctions énoncées dans le programme ou d'autres membres du personnel approuvés par l'ingénieur.

Le personnel identifié comme « Personnel Clé » est considéré être essentiel au travail effectué.

Le Sous-contractant doit présenter les CVs de tout le personnel clé, et DAI peut demander une interview du personnel clé proposé.

Avant de substituer ou remplacer la (les) personne(s) ou de diriger une portion du temps de la personne spécifiée vers d'autres programmes, le Sous-contractant doit informer l'administrateur de Sous-contrat, via l'ingénieur, raisonnablement à l'avance, ou dès que possible après cette date, et doit présenter la justification, y compris les

shall be made by the Subcontractor without the prior written consent of the Engineer.

### **10.12 Key Equipment**

The Subcontractor shall furnish the Key Equipment outlined in the Subcontract Data for performance under this Subcontract, if any. The Subcontractor shall ensure the Key Equipment is available at the necessary times, in accordance with the approved schedule, to carry out the functions stated in the Schedule or other personnel approved by the Engineer.

Equipment identified as “Key Equipment” are considered to be essential to the Work being performed.

No diversion, substitution, or replacement for Key Equipment shall be made by the Subcontractor without the prior written consent of the Engineer.

### **10.13 Removal of Subcontractor’s Employees**

DAI shall have the right, at any time, to request removal of any Personnel provided by the Subcontractor whom DAI and/or the Funding Agency reasonably deems, in consultation with the Subcontractor, to be unsatisfactory. Upon such request, the Subcontractor shall use all reasonable efforts to promptly replace such removed personnel with substitute Subcontractor Personnel having the skills and training suitable to provide the services required of the Subcontractor under this subcontract.

The Subcontractor shall ensure that the person leaves the Site within seven (7) days and has no further connection with the work in the Subcontract.

If any of the personnel is discharged by the Subcontractor for misconduct or inexcusable nonperformance, travel and transportation costs associated with the repatriation of such personnel and

substitutions proposées, de façon suffisamment détaillée pour permettre l'évaluation de l'impact sur le programme. Aucune réaffectation, ni substitution ou remplacement ne doit être par le Sous-contractant sans le consentement préalable écrit de l'ingénieur.

### **10.12 L'équipement clé**

Le Sous-contractant doit fournir l'équipement clé décrit dans les données du Sous-contrat pour l'exécution en vertu du présent Sous-contrat, le cas échéant. Le Sous-contractant doit s'assurer que l'équipement clé est disponible au moment voulu, conformément au calendrier approuvé, pour remplir les fonctions énoncées dans le programme ou d'autres membres du personnel approuvés par l'ingénieur.

L'équipement identifié comme « l'équipement clé » est considéré être essentiel pour le travail effectué.

Aucun détournement, ni substitution ou remplacement d'équipement clé ne doit être par le Sous-contractant sans le consentement préalable écrit de l'ingénieur.

### **10.13 Retrait des employés du Sous-contractant**

DAI a le droit, à tout moment, de demander le retrait d'un membre du personnel fourni par le Sous-contractant que DAI et/ou l'organisme de financement estime raisonnablement, en consultation avec le Sous-contractant, ne pas être satisfaisant. Après une telle demande, le Sous-contractant doit utiliser tous les efforts raisonnables de remplacer promptement ce membre retiré par un membre du personnel de substitution du Sous-contractant ayant les compétences et la formation appropriées pour fournir les services requis du Sous-contractant en vertu de ce Sous-contrat.

Le Sous-contractant doit s'assurer que la personne quitte le chantier dans un délai de sept (7) jours et n'ait aucun autre lien avec le travail dans la Sous-contrat.

Si un membre du personnel est renvoyé par le Sous-contractant pour inconduite ou inexécution inexcusable,

the assignment of replacement personnel shall not be an allowable cost under the Subcontract.

#### **10.14 Source of Instructions**

The Subcontractor shall neither seek nor accept instructions from any authority external to DAI, the Engineer, or their authorized representatives in connection with the performance of his or her services under this Subcontract. The Subcontractor shall refrain from any action which may adversely affect DAI and shall fulfill his or her commitments with fullest regard for the interest of DAI.

#### **10.15 Safety and Security**

The Subcontractor shall take all prudent measures to ensure the personal safety and security of all Subcontractor employees as well as DAI's Engineer, or Engineer's Representative, and other project staff visiting the Site, consistent with its Health and Safety Plan. Subcontractor is responsible for all costs and logistics associated with providing Site security. The Subcontractor shall comply with all applicable laws, ordinances, rules, regulations, lawful authorities, or any public authority having jurisdiction for the safety of persons or property and protect the same from damage, injury, or loss.

The Subcontractor shall erect and maintain, as required by existing conditions and performance of the Subcontract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, publicize safety regulations and notifying owners and users of adjacent sites and utilities.

The Subcontractor agrees to cooperate with and adhere to requests from DAI's Security Manager and other DAI hired security staff in regard to the security of DAI's project personnel.

#### **10.16 Permits**

Except as otherwise directed by DAI, the Subcontractor has or will have, prior to commencement of any Work,

les frais de voyage et de transport associés au rapatriement de ce membre du personnel et l'affectation de membre de personnel de remplacement ne constituent pas des coûts admissibles en vertu du Sous-contrat.

#### **10.14 Source des instructions**

Le Sous-contractant ne doit solliciter ni accepter d'instructions d'aucune autorité extérieure à DAI, l'ingénieur, ou leurs représentants autorisés dans le cadre de l'exécution de ses services en vertu de ce Sous-contrat. Le Sous-contractant doit s'abstenir de toute action qui pourrait nuire à DAI et doit remplir ses engagements avec le plus grand respect pour l'intérêt de DAI.

#### **10.15 De la sûreté et la sécurité**

Le Sous-contractant doit prendre toutes les mesures prudentes pour assurer la sécurité personnelle de tous ses employés, ainsi que de l'ingénieur de DAI ou de son représentant, ainsi que des autres membres du personnel du projet se rendant sur le site, conformément à son plan de santé et de sécurité. Le sous-contractant est responsable de tous les coûts et de la logistique associés à la sécurité du site. Le sous-contractant doit respecter toutes les lois, ordonnances, règles, réglementations, autorités légales ou toutes les autorités publiques compétentes pour la sécurité des personnes et des biens et les protéger contre tout dommage, préjudice ou perte.

Le sous-contractant doit ériger et maintenir, en fonction des conditions et des performances du sous-contrat, des garanties raisonnables de sécurité et de protection, notamment l'affichage de panneaux de danger et d'autres avertissements contre les dangers, la publicité des règles de sécurité et la notification aux propriétaires et aux utilisateurs des sites et services adjacents. Le sous-contractant accepte de coopérer avec le responsable de la sécurité de DAI et d'autres responsables de la sécurité embauchés par DAI pour répondre à leurs demandes, en ce qui concerne la sécurité du personnel de projet de DAI.

and shall submit, all necessary business and professional licenses, permits, and other licenses as may be required by the Government of the Republic of Haiti to enable the Subcontractor to perform the services required hereunder.

#### **10.17 Publicity and News Release**

No publicity or news releases shall be made to the news media or the general public relating to participation on the Program without the prior written approval of Chief of Party, which approval shall not be unreasonably withheld. The parties further agree that news releases made by either of them shall recognize the participation and contribution of the other party.

#### **10.18 Publications**

The Subcontractor shall not publish or publicly disseminate any information or data derived or obtained from or in connection with any services rendered hereunder, without the prior written consent of the Chief of Party.

#### **10.19 Audit and Records**

The Subcontractor shall maintain books, records, documents, and other evidence to substantiate, without limitation, all costs incurred under or in connection with the subcontract and to substantiate the other subcontract requirements in accordance with generally accepted accounting principles prevailing in the United States, the Cooperating Country, or the International Accounting Standards Committee (an affiliate of the International Federation of Accountants) to substantiate properly all transactions under or in connection with the subcontract. This clause does not apply to cost records for non-reimbursable cost items incurred under fixed-price (lump sum or unit price) contracts, but it does apply to records concerning source of goods and other comparable contract requirements applicable to such

#### **10.16 Des permis**

Sauf indication contraire de DAI, le Sous-contractant a ou aura, avant le début de tout travail, et doit présenter, toutes les patentes et les cartes professionnelles, les permis, et autres licences exigées par le Gouvernement de la République d'Haïti pour permettre au Sous-contractant pour effectuer les services requis en vertu des présentes.

#### **10.17 Publicité et communiqué**

Aucune publicité ni communiqué ne doit être fait à la presse ou au grand public relatives portant sur la participation au programme sans l'approbation préalable écrite du directeur du projet, laquelle ne doit pas être refusée sans motif valable. De plus, les parties conviennent que les communiqués de presse faits par l'une d'entre elles doivent reconnaître la participation et la contribution de l'autre.

#### **10.18 Publications**

Le Sous-contractant ne doit publier ni diffuser publiquement aucune information ou donnée provenant de, ou obtenue de, ou en relation avec des services fournis en vertu des présentes, sans le consentement préalable écrit du directeur du projet.

#### **10.19 Contrôle et Registres**

Le Sous-contractant doit conserver les registres comptables, les dossiers, documents et autres preuves pour justifier, sans limitation, tous les frais engagés en vertu ou dans le cadre du Sous-contrat et pour justifier les autres exigences du Sous-contrat, conformément aux principes comptables généralement reconnus aux États-Unis, le pays coopérant, ou le Comité international des normes comptables (une société affiliée de la Fédération internationale des comptables) pour justifier correctement toutes les transactions effectuées en vertu ou dans le cadre du Sous-contrat. Cette clause ne s'applique pas aux relevés des coûts pour les postes de dépenses non

items. The foregoing constitutes "records" for the purpose of this clause.

The Subcontractor shall maintain such records during the subcontract term and for a period of three (3) years after final payment. However, records which relate to appeals under the "Disputes and Appeals" clause or litigation or the settlement of claims arising out of the performance of this subcontract shall be retained until such appeals, litigation, or claims have been finally settled.

All records shall be subject to inspection and audit by DAI, its Funding Agency, or its authorized agents at all reasonable times. The Subcontractor shall afford the auditor proper facilities for such inspection and audit.

remboursables engagés en vertu des contrats à forfait (montant forfaitaire ou prix unitaire), mais elle s'applique aux comptes relatifs à la provenance des marchandises et à d'autres exigences du contrat comparables applicables à ces éléments. Ce qui précède constitue les « registres » aux fins de la présente clause.

Le Sous-contractant doit conserver ces registres pendant la durée du Sous-contrat et pour une période de trois (3) ans après le paiement final. Cependant, les registres qui ont trait aux appels en vertu de la clause « Différends et Appels » ou aux litiges ou règlements des réclamations découlant de l'exécution de cette Sous-contrat doivent être conservés jusqu'à ce que ces appels, litiges ou réclamations aient été définitivement réglés.

Tous les registres doivent être soumis à l'inspection et à la vérification par DAI, son organisme de financement, ou ses mandataires autorisés, à tout moment raisonnable. Le Sous-contractant doit permettre au vérificateur des installations appropriées pour ce type d'inspection et de vérification.

## **11 INVOICING INSTRUCTIONS**

### **11.1 Invoicing Instructions**

The Subcontractor shall submit invoices to USAID Water and Sanitation Project Procurement department and concurrently submit a copy to the Chief of Party, at the address listed in Subcontract Data.

Electronic copies will be accepted provided the original invoice with all documentation is received within three (3) days of the electronic submission.

### **11.2 Required Documentation for Payment**

Invoices submitted to DAI must include the following:

- (1) Subcontractor Name and Address
- (2) Invoice Date and Invoice Number
- (3) Subcontract Agreement Number
- (4) Subcontractor's DUNS number

## **11 INSTRUCTIONS RELATIVES À LA FACTURATION**

### **11.1 Instructions relatives à la facturation**

Le Sous-contractant doit présenter les factures au service des Procurements du Projet USAID Water and Sanitation et soumettre simultanément une copie au directeur du projet, à l'adresse indiquée dans les données du contrat.

Les copies électroniques seront acceptées à condition que la facture initiale, avec toute la documentation, soit reçue dans un délai de trois (3) jours de l'envoi électronique.

### **11.2 Documents requis pour le paiement**

Les factures présentées à DAI doivent comprendre les éléments suivants :



- (5) DAI Contract Number
- (6) Subcontractor Remittance Address
- (7) Total payment requested
- (8) Cumulative payments to date
- (9) Certification signed by DAI's Engineer, or Engineer's Representative, verifying the quality and acceptability of the deliverables, i.e., Work performed during the period, in accordance with the Payment Schedule and Schedule of Deliverables
- (10) Copies of Progress Report(s) submitted during the timeframe
- (11) Copies of Progress Meeting Note(s) during the timeframe
- (12) Digital Photographs of the Work completed during the invoice period

In addition to the above, each copy of the invoice must contain the following certification, signed by an authorized representative of the Subcontractor's organization. Failure to provide the required invoice information will result in the invoice being returned to the Subcontractor for correction.

Subcontractor certification:

I hereby certify, to the best of my knowledge and belief, that

- (1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
- (2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code;
- (3) This request for payment does not include any amounts which the Subcontractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and
- (4) This certification is not to be construed as final acceptance of the Subcontractor's performance.

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- (1) Nom et adresse du Sous-contractant
- (2) Date de facturation et numéro de facture
- (3) Numéro d'accord de Sous-contrat
- (4) Numéro du Sous-contractant
- (5) Numéro de contrat DAI
- (6) L'adresse de paiement du Sous-contractant
- (7) Paiement total demandé
- (8) Paiements cumulatifs à date
- (9) Attestation signée par l'ingénieur, ou le représentant de l'ingénieur de DAI, vérifiant la qualité et l'acceptabilité des livrables, c.-à-d., le travail effectué au cours de la période, conformément à l'échéancier de paiement et le calendrier des livrables
- (10) Copies des rapports d'avancement soumis au cours de la période
- (11) Copies des Notes des réunions d'étape Note(s) au cours de la période
- (12) Photographie numériques des travaux achevés au cours de la période.

En plus de ce qui précède, chaque copie de la facture doit contenir l'attestation suivante, signée par un représentant autorisé de l'organisation du Sous-contractant.

L'incapacité de fournir les renseignements nécessaires sur la facture conduira à ce que la facture soit retournée au Sous-contractant pour correction.

Attestation du Sous-contractant :

J'atteste, à ma connaissance, que

- (1) Les montants demandés ne sont seulement que pour l'exécution conformément aux cahiers des charges, termes et conditions du contrat ;
- (2) Tous les paiements dus aux Sous-contractants et aux fournisseurs à partir des paiements antérieurs reçus en vertu du contrat ont été effectués, et des paiements opportuns seront effectués à partir des recettes de paiement couvert par cette attestation, conformément aux accords de Sous-contrat et aux exigences du Chapitre 39 du Titre 31, Code des États-Unis ;
- (3) Cette demande de paiement ne comprend pas les montants que le Sous-contractant a l'intention de suspendre ou retenir d'un Sous-contractant ou fournisseur conformément aux conditions du Sous-contrat ; et
- (4) Cette attestation ne doit pas être interprétée comme l'acceptation définitive de la performance

(Name)

du Sous-contractant.

(Title)

(Nom)

(Date)

(Titre)

(Date)

### 11.3 Taxes Withheld from Payments

DAI will withheld, on behalf of Subcontractor 2% of tax required by Haitian Government from any payment made to subcontractor. Tax amount withheld will be paid to Direction General des Impôts (DGI) by DAI on behalf of subcontractor.

### 11.3 L'impôt retenu sur les paiements

DAI retiendra au nom du Sous-contractant 2 % d'impôt exigé par le Gouvernement haïtien sur tout paiement fait au Sous-contractant. Le montant de l'impôt retenu sera versé à la Direction Générale des Impôts (DGI) par DAI au nom du Sous-contractant.

### 11.4 Payment Terms

DAI shall pay the subcontractor within 15 calendar days after receipt of a proper invoice and acceptance of deliverables outlined Appendix F, Schedule of Deliverables and Appendix G, Schedule of Payments, of this subcontract agreement. DAI shall reserve the right to withhold payment if the subcontractor fails to meet its obligations, in part or in full under this purchase order.

### 11.4 Les modalités de paiement

DAI doit payer le Sous-contractant dans les 15 jours civils suivant la réception d'une facture correcte et l'acceptation des livrables énoncés à l'annexe F, Calendrier des Livrables et Annexe G, Calendrier des Paiements, de ce Sous-contrat. DAI se réserve le droit de retenir un paiement si le Sous-contractant ne satisfait pas à ses obligations, en tout ou en partie au titre du présent bon de commande.

### 11.5 Final Payment

Final payment to the Subcontractor, including the balance of the retention, is withheld until the Subcontractor has met all its obligations under the Subcontract. Final Payment shall be made following:

### 11.5 Paiement final

Le paiement final au Sous-contractant, y compris la solde de la rétention, est retenu jusqu'à ce que le Sous-contractant ait rempli toutes ses obligations en vertu du Sous-contrat. Le paiement final sera versé suite à :

(1) Issuance of Certificate of Completion and Final

(1) La délivrance de l'attestation d'achèvement et l'acceptation définitive des travaux du Sous-

Acceptance of the Work to the Subcontractor indicating that completion and acceptance of the Work has been certified by the Engineer and the COP

- (2) Receipt of Final Report
- (3) Receipt of required product and installation certifications and warranties, Operations and Maintenance manuals, trainings or materials as required
- (4) Confirmation that all Defects and Liabilities requests by the beneficial occupant or owner have been resolved to the satisfaction of the Engineer
- (5) Receipt of signed Release by the Subcontractor of all future monetary claims against DAI

The making of final payment by DAI to the Subcontractor constitutes a waiver of Claims by DAI, except those arising from:

- (1) Liens, claims, security interests or encumbrances arising out of the Subcontract and unsettled
- (2) Failure of the Work to comply with the requirements of the subcontract agreement
- (3) Terms of special warranties required by the subcontract agreement

## 11.6 Final Invoice

Notwithstanding any other provision in this Agreement to the contrary, the Subcontractor is required to submit the final request for payment application/invoice, appropriately marked as such, under this Agreement not later than thirty (30) calendar days after the Certificate of Final Completion and Acceptance. Any invoices received after that date will not be paid by DAI. All final invoices must be marked as such, and the following shall accompany the final invoice:

- (1) A certification by the Subcontractor that its suppliers, if any, have been paid.
- (2) A release signed by the Subcontractor discharging DAI of and from any liabilities, obligations, and claims arising out of or under this Subcontract.

contractant indiquant que l'achèvement et l'acceptation des travaux ont été certifiés par l'ingénieur et le directeur du projet

- (2) La réception du rapport final
- (3) La réception des produits requis et des attestations et garanties des installations, les manuels d'exploitation et d'entretien, des formations ou des matériaux, au besoin
- (4) La confirmation que toutes les demandes par le l'occupant ou le propriétaire bénéficiaire concernant les Défauts et Responsabilités ont été résolues à la satisfaction de l'ingénieur
- (5) La réception d'une décharge, signée par le Sous-contractant, de toutes créances monétaires futures contre DAI

Le versement du paiement final par DAI au Sous-contractant constitue un abandon de créances par DAI, à l'exception de ceux découlant de :

- (1) Privilèges, réclamations, sûretés ou droits réels découlant du Sous-contrat et non réglés
- (2) L'incapacité du travail de se conformer aux exigences de l'accord de Sous-contrat
- (3) Termes de garanties spéciales requises par l'accord de Sous-contrat

## 11.6 Facture finale

Nonobstant toute autre disposition du présent accord de procéder autrement, le Sous-contractant est tenu de soumettre la demande finale d'application/demande de paiement, correctement marquée comme telle, en vertu du présent accord au plus tard trente (30) jours civils après l'Attestation de l'achèvement et acceptation définitifs. Toute facture reçue après cette date ne sera pas payée par DAI. Toutes les factures finales doivent être marquées comme telles, et les éléments suivants doivent accompagner la facture finale :

- (1) Une attestation par le Sous-contractant que ses fournisseurs, le cas échéant, ont été payés.
- (2) Une décharge signée par le Sous-contractant déchargeant DAI de toute responsabilité, obligation, et réclamation découlant, ou en vertu du présent Sous-contrat.

### **11.7 Monies due by the Subcontractor**

Whenever throughout the life of the Subcontract and before final payment, certain monies become due by the Subcontractor, DAI shall have the right to recover such costs by either of the following methods or combination thereof:

- (1) Deduction from monies due the Subcontractor, or to become due the Subcontractor, or being retained by DAI pending final acceptance of the Work, or
- (2) Recovery from the Subcontractor's performance and/or payment security/bond.

### **11.8 Liquidated Damages**

FAR Clause 52.211-12 "Liquidated Damages – Construction" (APR 1984)

In the event that the Subcontractor does not complete the Work within the number of days indicated in the Contract Data following the end of the completion period of the Subcontract then the Liquidated Damages shall be levied beyond this period shall be deducted from the final payment until the Work is authorized as completed by the Engineer and COP.

The Parties mutually agree that if the Project is delayed, Contractor OR Owner will suffer significant damages that are difficult to ascertain and quantify. As such, the Parties mutually agree to a liquidated daily rate specified in the Subcontract Data as fair and reasonable compensation to Contractor and not as a penalty. The said sum shall be payable by the sole fact of the delay without the need for any previous notice or any legal proceedings, or proof of damage, which shall in all cases be considered as ascertainable.

### **11.7 Les sommes dues par le Sous-contractant**

Toutes les fois que tout au long de la vie du Sous-contrat, et avant le paiement final, des fonds sont dus par le Sous-contractant, DAI a le droit de recouvrer ces coûts par l'une des méthodes suivantes ou une combinaison de celles-ci :

- (1) Déduction des sommes dues au Sous-contractant, ou en cours de devenir dues, ou étant retenues par DAI en attendant l'acceptation définitive du travail, ou
- (2) Recouvrement à partir de la performance du Sous-contractant et/ou la sécurité des paiements/caution.

### **11.8 Des dommages-intérêts**

FAR Article 52.211-12 « Des Dommages-Intérêts – Construction » (avril 1984)

Dans le cas où le Sous-contractant ne termine pas le travail dans le nombre de jours indiqué dans les données du contrat après la fin de la période d'achèvement du Sous-contrat, les dommages-intérêts sont donc prélevés au-delà de cette période et déduits du paiement final jusqu'à ce que le travail soit approuvé comme achevé par l'ingénieur et le directeur du projet.

Les Parties conviennent mutuellement que si le projet est retardé, le contractant ou le propriétaire subira d'importants dommages difficiles à évaluer et à quantifier. À ce titre, les Parties conviennent mutuellement sur un taux quotidien fixé contractuellement spécifié dans les données du contrat comme une rémunération juste et raisonnable à le contractant et non pas comme une sanction. Ladite somme est payable par le seul fait du retard sans nécessité de ou de procédure judiciaire, ou preuve du dommage, qui doit dans tous les cas être considéré comme vérifiable.

## **12 BONDS, INSURANCE, AND RISK ALLOCATION**

### **12.1 Performance Security**

For United States Government (USG) funded projects (including those funded by the United States Agency for International Development (USAID), the Federal Acquisitions Regulation (FAR) requires performance bonds and payment bonds for all construction subcontracts with values above the simplified acquisition threshold, currently at \$150,000 USD. (FAR 28.102-1). For USG projects, the FAR requires a minimum of two forms of payment protection, including a Performance Bond, a Payment Bond, or a Bid Bond for construction projects between \$30,000 and \$150,000 (FAR 28.102-2). These are mandatory bonds, unless a waiver by the Funding Agency is obtained.

Subcontractor shall, at its own expense, obtain and provide to DAI a Performance Security in the form of Bank Guarantee from a reputable Haitian Bank or an international Bank or in the form of performance bond from an Insurance company, acceptable to DAI within the time period outlined in Appendix F, Schedule of Deliverables. The security shall be issued in the format and language approved by DAI, and shall cover performance, payments, and any mobilization. The amount of the performance security shall not be less than the amount specified in the Subcontract Data and shall be in U.S. dollars.

The Performance Security shall remain valid until the Subcontractor has executed and completed the Work and remedied any defects therein in accordance with this Subcontract. The Performance Security will be called upon after a written statement, stating that Subcontractor is in breach of its obligations under the Subcontract, is received by the Subcontractor. The Surety will promptly make payments to all persons, firms, subcontractors, and corporations furnishing materials and/or financing, or performing labor in the execution of the work provided for in such contract, including all amounts due for supplies, labor, transportation, equipment, tools, repairs on machinery, and materials consumed or used in connection with the construction of such work, and for

## **12 CAUTIONNEMENT, ASSURANCES, ET RÉPARTITION DES RISQUES**

### **12.1 Caution de bonne exécution**

Pour les projets financés par le Gouvernement des États-Unis (USG) (y compris ceux qui sont financés par l'Agence des États-Unis pour le développement international (USAID), la Réglementation fédérale sur les achats (FAR) exige des garanties de bonne exécution et des paiements pour tous les Sous-contrats portant sur les constructions avec les valeurs au-dessus du seuil d'achat simplifié, qui est actuellement de 150 000 USD. (FAR 28.102-1). Pour les projets USG, la FAR requiert au minimum deux formes de protection de paiement, à savoir un cautionnement d'exécution, un cautionnement de paiement et un cautionnement de soumission pour les projets de construction d'un montant compris entre 30 000 et 150 000 dollars (FAR 28.102-2). Ce sont des obligations obligatoires, à moins d'obtenir une dérogation de la part de l'organisme de financement.

Le Sous-contractant doit, à ses frais, obtenir et fournir à DAI une caution de bonne exécution sous forme de garantie bancaire d'une banque haïtienne de bonne réputation ou d'une banque internationale ou sous forme de cautionnement bancaire d'une compagnie d'assurance, acceptable à DAI, dans le délai indiqué à l'annexe F, Tableau des Livrables. La caution doit être émise dans le format et le langage approuvés par DAI, et porter sur la performance, les paiements, et toute mobilisation. Le montant de cette caution ne doit pas être inférieur au montant spécifié dans les données du Sous-contrat et doit être en dollars américains.

La caution reste valable jusqu'à ce que le Sous-contractant ait exécuté et achevé les travaux et corrigé tous les défauts à cet effet conformément au présent Sous-contrat. La caution sera engagée après que le Sous-contractant ait reçu une déclaration écrite indiquant que le sous-contractant est en violation de ses obligations en vertu du sous-contrat. Le garant fera promptement des paiements à l'ensemble de personnes, entreprises, Sous-contractants, sociétés fournissant des matériaux et/ou du financement, ou assumant la main-d'œuvre dans

all labor, performed in such work whether by subcontractor or otherwise.

Prior to making any claim under the Performance Security, DAI shall, in every case, notify the Subcontractor in writing stating the nature of the default in respect of which claim is made.

DAI will release the performance bond upon his acceptance of hand over letter provided by Subcontractor.

## 12.2 Insurance

The Subcontractor agrees to maintain, and show proof of coverage within 10 days of contract signature, liability insurance as required and customary in the construction industry in the Republic of Haiti and include:

- a. General liability insurance as required by the Government of Haiti and any other applicable laws and as prescribed;
- b. Equipment Insurance as required by Government of Haiti and any other applicable law as prescribed
- c. Worker's compensation insurance covering each employee to the extent required by the Government of Haiti;
- d. Insurance to cover any damages or destruction of works, for whatever cause;
- e. Insurance coverage for equipment and tools used under this Contract; and
- f. All social insurance as required by applicable laws for all employees;
- g. Defense Based Act (DBA) Insurance is required

Adequate liability insurance shall be maintained for all personnel and equipment during the entire period of performance of this Subcontract. Such insurance will protect the Subcontractor and its employees, DAI, and the Funding Agency from the following claims which

l'exécution des travaux prévus dans ce contrat, y compris tous les montants dus pour les fournitures, la main-d'œuvre, le transport, l'équipement, les outils, les réparations des machines, et les matériaux consommés ou utilisés dans le cadre de la construction d'un tel travail, et pour tout le travail effectué dans cet ouvrage, que ce soit par le Sous-contractant ou autrement.

Avant de faire une réclamation aux termes du cautionnement bancaire, DAI doit, dans chaque cas, informer le Sous-contractant par écrit en précisant la nature de la déficience à propos de laquelle la réclamation est faite.

DAI libèrera la garantie de bonne d'exécution après son acceptation de la lettre de transfert fournie par le Sous-contractant.

## 12.2 Assurance

Le Sous-contractant s'engage à maintenir, et présenter une preuve de couverture dans les 10 jours de la signature du contrat, l'assurance responsabilité civile telle que requis et d'usage dans l'industrie de la construction en République d'Haïti et qui comprend :

- a. L'assurance responsabilité civile générale tel que requis par le gouvernement d'Haïti et les autres lois applicables et de la manière prescrite ;
- b. Équipement L'assurance requise en gouvernement d'Haïti et toute autre loi applicable selon la prescription
- c. L'assurance-accident du travail pour chaque employé dans la mesure requise par le gouvernement d'Haïti ;
- d. L'assurance pour couvrir les dommages ou la destruction d'œuvres, pour quelque cause que ce soit ;
- e. La couverture d'assurance pour l'équipement et les outils utilisés en vertu du présent contrat ; et
- f. Toutes les assurances sociales comme l'exigent les lois applicables pour tous les employés ;
- g. L'assurance de la Loi sur les bases militaires est requise

Une assurance responsabilité civile adéquate doit être maintenue pour tous les membres du personnel et le matériel durant toute la période de prestation de ce Sous-contrat. Cette assurance protège le Sous-contractant et de

may arise out of or result from its operations hereunder (whether by itself, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable): claims under workmen's compensation, disability benefit and other similar employee benefit acts; claims for damages because of bodily injury, occupational sickness or disease, or death, of its employees or any other person; claims which are sustained by any person as a result of the actions of the Subcontractor or by any other person; and claims for damages because of injury to or destruction of tangible property, including loss of use.

### **12.3 Insurance of the Work and Subcontractor's Equipment**

The Subcontractor shall purchase and maintain insurance to prevent against loss or damage and cover replacement of equipment deemed necessary to complete the Work. The insurance shall provide coverage for:

- (1) The Work, together with materials and Plant for incorporation therein, to the full replacement cost
- (2) An additional sum of 15 percent (%) of such replacement cost, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Work and of removing debris of whatsoever nature
- (3) The Subcontractor's Equipment and other things brought onto the Site by the Subcontractor, for a sum sufficient to provide for their replacement at the Site

Delays in the Work due to loss or damage to construction equipment which is not insured are not considered excusable delays.

ses employés, DAI, et l'agence de financement contre les réclamations suivantes qui peuvent découler ou résulter de ses opérations en vertu des présentes (que ce soit par le Sous-contractant lui-même, toute personne directement ou indirectement employés dans une de ces opérations, ou par quiconque, pour des actes dont l'un d'eux peut être responsable) : les réclamations en vertu de l'indemnisation des accidentés du travail, allocations aux personnes handicapées et autres régimes d'avantages sociaux ; les demandes de dommages-intérêts en raison de risques de blessures corporelles, de maladie professionnelle ou de maladie, ou la mort, de ses employés ou toute autre personne ; les réclamations qui sont soutenus par une personne à la suite des mesures prises par le Sous-contractant ou par toute autre personne ; et les demandes de dommages-intérêts en raison d'une blessure ou la destruction de biens corporels, y compris la perte d'utilisation.

### **12.3 L'assurance du travail et de l'équipement du Sous-contractant**

Le Sous-contractant doit acquérir et maintenir une assurance pour prévenir contre les pertes ou les dommages et couvrir le remplacement de l'équipement jugé nécessaire pour terminer le travail. L'assurance couvrir :

- (1) Les travaux, avec les matériaux et des installations pour y être incorporés, à la valeur de remplacement total
- (2) Une somme supplémentaire de 15 pour cent (%) de ce coût de remplacement, pour couvrir les coûts supplémentaires de, et accessoire à, la rectification de pertes ou de dommages, y compris les honoraires professionnels et les frais de démolition et retrait d'une partie des travaux et de l'évacuation des débris de toute nature
- (3) L'équipement du Sous-contractant et d'autres choses apportées au chantier par le Sous-contractant, pour une somme suffisante pour permettre leur remplacement sur le chantier.

Les retards dans le travail en raison d'une perte ou d'endommagement de l'équipement de construction qui n'est pas assuré ne sont pas considérées comme des retards excusables.

#### **12.4 Insurance against Accident to Workmen**

DAI shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Subcontractor or any other subcontractor. The Subcontractor shall indemnify and keep indemnified DAI against all claims, proceedings, damages, cost, charges and expenses whatsoever in respect thereof or in relation thereto.

The Subcontractor shall insure against such liability and shall continue such insurance during the whole of the time that any persons are employed by him or her on the Work. Provide that, in respect of any of any persons employed by any subcontractor, the Subcontractor's obligations to insure as aforesaid under this clause shall be satisfied if the subcontractor shall have insured against liability in respect of such persons in such a manner that DAI is indemnified under the policy, but the Subcontractor shall require such subcontractor to produce to DAI, when required, such policy of insurance and the receipt of the payment of the current premium.

The subcontractor shall maintain Defense Based Act (DBA) insurance as required in Subcontract Data, and as described in the Special Provisions of this subcontract agreement.

#### **12.5 Third Party Insurance**

The Subcontractor shall, without limiting its or DAI's obligations and responsibilities, insure, in the joint names of the Subcontractor and DAI, against liabilities for death of or injury to any person or loss of or damage to any property or loss of or damage to any property (other than the Work) arising out of the performance of the Subcontract.

#### **12.4 L'assurance contre les accidents des ouvriers**

DAI n'est pas responsable pour, ou en matière, des dommages ou des indemnités payables à un travailleur ou toute autre personne employé par le Sous-contractant ou tout autre Sous-contractant. Le Sous-contractant doit indemniser et maintenir indemnisé DAI contre toutes réclamations, procédures, dommages, coûts, frais et dépenses de quelque nature que ce soit à l'égard de ou par rapport à celle-ci.

Le Sous-contractant doit assurer cette responsabilité et doit maintenir cette assurance pendant tout le temps que des personnes sont employées par lui sur le travail. Prévoir que, à l'égard d'une des personnes employées par un Sous-contractant, les obligations du Sous-contractant d'assurer comme dit précédemment en vertu de la présente clause doit être satisfaite si le Sous-contractant doit être assuré contre la responsabilité à l'égard de ces personnes d'une telle manière que DAI est indemnisée en vertu du contrat d'assurance, mais le Sous-contractant doit exiger que ce Sous-contractant fournisse à DAI, lorsque nécessaire, une telle police d'assurance et le reçu du paiement la prime actuelle.

Le Sous-contractant doit maintenir l'assurance portant sur la Loi des bases militaires, comme il est requis dans les données du contrat, et décrit dans les dispositions spéciales du présent accord de Sous-contrat.

#### **12.5 Assurance responsabilité civile**

Le Sous-contractant doit, sans limiter ses obligations et responsabilités ou celles de DAI, assurer, en son nom et au nom de DAI, contre la responsabilité pour décès de ou blessures à une personne ou une perte de, ou des dommages aux biens ou une perte de, ou dommage aux biens (autres que les travaux) découlant de l'exécution du Sous-contrat.



## **12.6 Evidence of Insurance**

Prior to the issuance of a Notice to Proceed, the Subcontractor shall furnish DAI with Certificates of Insurance, for those listed above, as documentation that all insurance required herein has been effected. Each insurer must be reasonably acceptable to DAI, licensed to conduct business in all countries where this Subcontract shall apply. If requested, Subcontractor shall provide copies of receipts for the payment of the current premium. It is specifically agreed that the types and amounts of insurance shall not limit Subcontractor's liability to indemnify, defend, and hold DAI harmless.

DAI may investigate, approve, or reject the credibility and rating of the Insurance Company, i.e. surety.

The subcontractor shall provide evidence of insurance renewals upon expiration of an insurance policy that expires during the period of performance.

Subcontractor shall provide at least thirty (30) days prior written notice of cancellation or material change in any insurance.

## **12.7 Indemnification**

The Subcontractor shall defend, indemnify, and hold harmless, DAI, and the Funding Agency, agents, officers and directors, and employees, from and against any and all claims, liability, losses, cost or expenses, including attorney's fees, arising out of the acts, errors or omissions of the Subcontractor, its agents, officers and directors, employees, and anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This indemnification obligation shall not be limited in any way by required, actual, or available insurance coverage.

Specifically, in regard to damage to persons and property, the Subcontractor shall indemnify DAI and the Funding Agency against all losses and claims in respect of: (a) death of or injury to any person, or (b) loss of or damage to any property which may arise out of or in

## **12.6 Preuve d'assurance**

Avant la délivrance d'un avis de commencer, le Sous-contractant doit fournir à DAI les certificats d'assurance, pour celles qui sont énumérées ci-dessus, comme documentation que toutes les assurances nécessaires dans ce cadre ont été obtenues. Chaque assureur doit être raisonnablement acceptable pour DAI, autorisé à faire des affaires dans tous les pays où cette Sous-contrat s'applique. Le Sous-contractant doit, sur demande, fournir des copies des reçus pour le paiement de la prime actuelle. Il est expressément convenu que les types et les montants d'assurance ne doit pas limiter la responsabilité du Sous-contractant d'indemniser de défendre et mettre hors de cause DAI.

DAI peut examiner, approuver, ou rejeter la crédibilité et le classement de la compagnie d'assurance, c.-à-caution.

Le Sous-contractant doit fournir une preuve de renouvellement d'assurance après l'expiration d'un contrat d'assurance qui expire au cours de la période d'exécution.

Le Sous-contractant doit fournir au moins trente (30) jours de préavis écrit d'annulation ou de changement important dans l'assurance.

## **12.7 L'indemnisation**

Le Sous-contractant doit défendre, indemniser et mettre hors de cause DAI, l'agence de financement, les agents, les responsables et les directeurs, et les employés, de et contre toute réclamation, responsabilité, pertes, coûts ou dépenses, y compris les honoraires d'avocat, découlant des actes, erreurs ou omissions du Sous-contractant, ses responsables et directeurs, ses employés, et quiconque directement ou indirectement employé par l'un d'entre eux ou toute personne pour des actes dont l'un d'entre eux peut être responsable. Cette obligation d'indemnisation ne doit, en aucune façon, être limitée par une couverture d'assurance requise, effective, ou disponible.

Plus précisément, au sujet des dommages aux personnes et aux biens, le Sous-contractant doit indemniser DAI et l'organisme de financement contre toutes pertes et

consequence of the execution and completion of the Work and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

Likewise, DAI shall defend, indemnify, and hold harmless the Subcontractor and its agents, officers and directors, and employees from and against all claims, liability, losses, cost or expenses, including attorney's fees, arising out of the acts, errors or omissions of DAI, its agents, officers and directors, employees, subcontractors, and anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This indemnification obligation shall not be limited in any way by required, actual, or available insurance coverage.

## **12.8 Relationship of Parties**

The Subcontractor has entered into this Agreement as an independent contractor. Nothing contained herein shall be construed as creating the relationship of employer and employee between Subcontractor and DAI or any of its employees.

## **12.9 Rights and Remedies**

No failures of or delay by DAI in the exercise of any right under this Agreement shall constitute a waiver thereof, nor shall any single or partial exercise of any such right preclude other or further exercise thereof or of any other such right. The waiver by DAI of any breach of any provision of this Agreement shall not be deemed to be a waiver of any subsequent breach or of any other provision of this Subcontract.

Neither DAI nor its Funding Agency's review, approval, nor payment for, any of the services required under this

réclamations en ce qui concerne : (a) le décès de ou blessures à une personne, ou (b) la perte de ou le dommage à tout bien qui pourrait survenir de ou en conséquence de l'exécution et l'achèvement des travaux et la réparation des défauts éventuels dans les travaux, et contre l'ensemble des réclamations, procédures, dommages, coûts, frais et dépenses de quelque nature que ce soit à l'égard de ou en relation à ceux-ci.

De même, DAI doit défendre, indemniser et mettre hors de cause le Sous-contractant et ses agents, responsables et directeurs, et ses employés de et contre toutes réclamations, responsabilités, pertes, coûts ou dépenses, y compris les honoraires d'avocat, découlant des actes, erreurs ou omissions de DAI, ses agents, dirigeants, administrateurs, employés, Sous-contractants, et quiconque directement ou indirectement employés par l'un d'entre eux ou toute personne pour des actes dont l'un d'eux peut être responsable. Cette obligation d'indemnisation ne doit, en aucune façon, être limitée par une couverture d'assurance requise, effective ou disponible.

## **12.8 Relation de Parties**

Le Sous-contractant a conclu cet accord comme entrepreneur indépendant. Rien de qui est y contenu ne doit être interprété comme créant la relation employeur-employé entre le Sous-contractant et DAI ou aucun de ses employés.

## **12.9 Droits et recours**

Aucun manquement ou retard de la part de DAI dans l'exercice de tout droit en vertu du présent Accord n'en constitue une dérogation, ni aucun exercice seul ou partiel d'un tel droit n'en exclut d'autres ni davantage l'exercice de tel ou tel autre droit. La dérogation de DAI à une violation d'une quelconque provision de cet accord ne doit pas être considérée comme une dérogation à une violation ultérieure ou à une autre provision de ce Sous-contrat.

DAI ni son financement, ni l'examen, l'approbation de l'Agence, ni de paiement, l'un des services requis en vertu

Agreement shall be construed to have operated as a waiver of any rights under this Agreement, or of any cause of action arising out of the performance of this Subcontract and the Subcontractor shall be and remain liable to DAI and its Funding Agency for damages caused by the Subcontractor's negligent performance of any of the services furnished under this subcontract.

The rights and remedies of DAI or the Subcontractor provided for under this Agreement are in addition to any other rights and remedies provided by law.

### **12.10 Dispute Resolution**

Any controversy or claim arising out of or relating to the terms of this Subcontract or any Task Order issued hereunder, or the breach thereof, which cannot be settled amicably, shall be settled by arbitration under the Rules of Conciliation and Arbitration of the International Chamber of Commerce. The place of arbitration shall be Maryland, United States of America. The language to be used in the arbitral proceedings shall be English. As independent, irrevocable covenants to each other, neither party will institute any action or proceed against the other party in any court or judicial forum concerning any matter under dispute, other than to seek entry of a judgment upon an award rendered by the arbitrator(s) pursuant to these terms and conditions. The provisions shall survive the termination or expiration of the Subcontract. During the term of any pending controversy or claim hereunder, the Subcontractor shall proceed diligently with the performance of the Work under the Subcontract in accordance with the direction(s) given by DAI.

### **12.11 Legal Effect of Funding Agency Approvals and Decisions**

The parties hereto understand that the subcontract has reserved to the Funding Agency certain rights such as, but not limited to, the right to approve the terms of this subcontract, the Subcontractor, and any or all plans, reports, specifications, subcontracts, bid documents,

du présent accord ne sera interprétée comme ont fonctionné comme une renonciation de tout droit en vertu du présent accord, ou de toute cause d'action découlant de l'exécution du présent Sous-contrat et le Sous-contractant doit être et demeurer redevable à DAI et son agence de financement pour des dommages causés par la négligence du Sous-contractant dans l'exécution de l'un des services fournis en vertu du présent Sous-contrat.

Les droits et recours de DAI ou le Sous-contractant prévu aux termes du présent accord s'ajoutent à tous les autres droits et recours prévus par la loi.

### **12.10 Résolution des différends**

Toute controverse ou réclamation découlant de ou se rapportant aux termes de ce Sous-contrat ou de tout ordre de mission émis aux termes du présent, ou la violation de ceux-ci, qui ne peut être réglé à l'amiable, sera tranchée par arbitrage selon le Règlement de conciliation et d'arbitrage de la Chambre de Commerce Internationale. L'arbitrage aura lieu dans le Maryland, Etats-Unis d'Amérique. La langue de la procédure d'arbitrage est l'anglais. Comme indépendants, engagés irrévocablement l'une à l'autre, aucune partie ne pourra intenter aucune action ou procédure à l'encontre de l'autre partie devant tout tribunal ou forum judiciaire concernant toute question en litige, autres que de demander la saisie d'un jugement sur une sentence rendue par l'arbitre(s) conformément à ces termes et conditions. Les dispositions doivent survivre à la résiliation ou l'expiration du Sous-contrat. Pendant la durée de l'attente de toute controverse ou réclamation en vertu des présents, le Sous-contractant doit continuer avec diligence l'exécution des travaux en vertu du Sous-contrat conformément aux directives données par DAI.

### **12.11 Effet juridique des approbations et décisions de l'agence de financement**

Les parties au présent accord comprennent que la Sous-contrat a réservé à l'organisme de financement certains droits tels que, mais sans s'y limiter, le droit d'approuver les termes de ce Sous-contrat, le Sous-contractant, et un ou tous les plans, rapports, cahiers des charges, Sous-

drawings, or other documents related to this subcontract and the project of which it is part. The parties hereto further understand and agree that the Funding Agency, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure that proper use of funds, and that any decision by the Funding Agency to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing this project and shall not be construed as making the Funding Agency a party to the subcontract. The parties hereto understand and agree that the Funding Agency may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the project with the parties jointly or separately, without thereby incurring any responsibilities or liability to the parties jointly or to any of them. Any approval (or failure to disapprove) by the Funding Agency shall not bar DAI or the Funding Agency from asserting any right, or relieve the Subcontractor of any liability which the Subcontractor might otherwise have to DAI or the Funding Agency.

## **12.12 Applicable Law**

In the performance of the Work under this Subcontract, the Subcontractor shall comply with all applicable laws, rules, and regulations. This Subcontract shall be construed, interpreted and applied in accordance with the laws of the State of Maryland, except those portions of the Federal Acquisition Regulation (FAR) or other regulations applicable to government procurement that are incorporated by full text or reference in the Subcontract. These provisions shall be interpreted in accordance with the Federal common law of Government as applied by the Federal Courts, Board of Contract Appeals, and quasi-judicial agencies of the Federal government.

contrat, documents de soumission, plans, ou d'autres documents liés à ce Sous-contrat et au projet dont il fait partie. Les parties au présent accord comprennent et acceptent également que l'organisme de financement, en réservant une partie ou la totalité des droits d'approbation ci-dessus a agi uniquement comme une entité de financement pour s'assurer que l'utilisation appropriée des fonds, et que toute décision de l'agence de financement d'exercer ou s'abstenir d'exercer ces droits d'approbation devront être constituées en tant que financier dans le cadre du financement de ce projet et ne doivent pas être interprétées comme faisant de l'organisme de financement une partie à la Sous-contrat. Les parties au présent accord comprennent et conviennent que l'organisme de financement peut, de temps à autre, exercer les droits d'approbation ci-dessus, ou discuter des questions liées à ces droits et du projet avec les parties conjointement ou séparément, sans pour autant encourir aucune responsabilité ou obligation aux parties conjointement ou à l'un d'entre eux. Toute approbation (ou le fait de ne pas désapprouver) par l'agence de financement n'interdit pas DAI ou l'organisme de financement de faire valoir un droit quelconque, ou ne dégage pas le Sous-contractant de toute responsabilité que le Sous-contractant pourrait par ailleurs avoir à l'égard de DAI ou de l'organisme de financement.

## **12.12 Droit applicable**

Dans le cadre de l'exécution du travail en vertu du présent Sous-contrat, le Sous-contractant doit se conformer à la totalité des lois, règles et règlements applicables. Cette Sous-contrat doit être comprise, interprétée et appliquée conformément aux lois de l'État du Maryland, sauf les parties relatives à la loi fédérale sur les achats (FAR) ou d'autres règlements applicables aux marchés publics qui sont incorporés intégralement ou par référence dans le Sous-contrat. Ces dispositions doivent être interprétées conformément au droit commun fédéral du gouvernement tel qu'appliqué par les tribunaux fédéraux, le Board of Contract Appeals (Conseil de recours des contrats), et les agences quasi-judiciaires du gouvernement fédéral.

### **12.13 Fraud Awareness and Reporting**

The Subcontractor will immediately report any instances of fraud, waste, abuse, conflict of interests concerning its staff, consultants, vendors or 2nd-tier subcontractors on this Project to: the DAI Global LLC website as follows:

If you have a question or concern on ethics or compliance that you'd like to communicate to DAI, please contact the Chief, Ethics and Compliance Officer directly at +1-301-771-7998 or at [ethics@dai.com](mailto:ethics@dai.com). If you wish to remain anonymous, please visit [www.ethicspoint.com](http://www.ethicspoint.com) and choose "File a New Report." Enter DAI, select a country, and file your report. A hotline number for your country will also present itself. The Ethicspoint hotline service provides translations if necessary. All reports will be reviewed and responded to appropriately.

Subcontractor will ensure compliance with FAR 52.203-13 (Reporting Requirements).

### **12.13 Rapports et de sensibilisation à la fraude**

Le Sous-contractant doit immédiatement signaler tout cas de fraude, de gaspillage, d'abus, de conflits d'intérêts concernant son personnel, ses consultants, ses fournisseurs ou des Sous-contractants de 2ème niveau dans le cadre de ce projet à : DAI Global LLC sur le site internet comme suit :

Si vous avez une question ou une préoccupation sur l'éthique ou la conformité que vous souhaitez communiquer à DAI, veuillez contacter directement le directeur, Spécialiste en déontologie et conformité au +1-301-771-7998 ou at [ethics@dai.com](mailto:ethics@dai.com). Si vous souhaitez garder l'anonymat, veuillez visiter [www.ethicspoint.com](http://www.ethicspoint.com) et choisissez "File a New Report." « Soumettre un nouveau rapport ». Entrez DAI, sélectionnez un pays, et soumettez votre rapport. Un numéro d'appel correspondant à votre pays sera également indiqué. Le service du numéro d'appel d'Ethicspoint fournit des traductions si nécessaire. Tous les rapports seront examinés et reçoivent des suites appropriées.

Le Sous-contractant assurera la conformité à la loi fédérale sur les achats 52.203-13 (Obligations de déclaration).

## **13 SUSPENSION AND TERMINATION**

### **13.1 Suspension of the Work**

The Subcontractor will, upon written notice from Subcontracts Administrator identified in the Subcontract Data, suspend, delay, or interrupt all or a part of the scope of the Work. In such event, the Subcontractor will resume the Work upon the suspended activities upon written notice from DAI. If any suspension, delay or interruption causes an increase or decrease in the Subcontractor's cost of, or the time required for, the performance of any part of the Work, DAI shall make an equitable adjustment and modify the Agreement in writing. Any claim by the Subcontractor for an adjustment under this paragraph must be asserted in writing, fully supported by factual information, to the Subcontracts Administrator within thirty (30) calendar

## **13 SUSPENSION ET RÉSILIATION**

### **13.1 Suspension des travaux**

Sur avis écrit de l'administrateur de sous-contrats identifié dans les données de Sous-contrat, le Sous-contractant, suspendra, retardera ou interrompra tout ou partie du champ d'activité. Dans ce cas, le Sous-contractant reprendra le travail sur les activités suspendues sur avis écrit de DAI. Si les suspensions, retards ou interruptions entraînent une augmentation ou une diminution de coût pour le Sous-contractant, ou de temps nécessaire pour l'exécution d'une quelconque partie des travaux, DAI devra faire un ajustement équitable et modifier l'accord par écrit. Toute réclamation par le Sous-contractant pour un ajustement effectué en vertu du présent paragraphe doit être exprimée par écrit, entièrement appuyée par des informations factuelles, à

days from the date of receipt by Subcontractor of the written notice of suspension from DAI or within such extension of that 30 day period, as DAI, in its sole discretion, may grant in writing at the Subcontractor's request prior to expiration of said period. Nothing herein will be construed as relieving Subcontractor of its obligations to perform, including without limitation, the failure of the parties to agree upon Subcontractor entitlement to, or the amount of, any adjustment in time or compensation. If the Work is reduced by a change authorization issued hereunder, such action will not be the basis for a claim based on loss of anticipated profits.

### **13.2 Termination for Default**

DAI may, by written notice, terminate the whole or any part of a Subcontract issued hereunder for default in the event that the Subcontractor fails to perform any of the provisions of this Subcontract or, in the opinion of DAI, becomes financially or legally incapable of completing the Subcontract and does not correct such to DAI's reasonable satisfaction within a period of seven (7) calendar days after receipt of a written cure notice from DAI specifying such failure. Failures may include, but are not limited to:

- (1) Repeatedly refusing or failing to supply enough properly skilled workers or properly materials;
- (2) Failing to make payment to subcontractors for materials or labor in accordance with the respective agreements;
- (3) Repeatedly disregarding applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
- (4) Being found guilty or negligent of a substantial breach of a provision in this subcontract agreement, including repeated failure to conform to drawings or specifications; or
- (5) Failure to progress the work such that Contractor has a reasonable concern that Subcontractor will not finish the work by the

l'administrateur de Sous-contrat dans les trente (30) jours civils à compter de la date de réception par le Sous-contractant de l'avis écrit de suspension de DAI ou dans le prolongement de cette période de 30 jours, comme DAI, à sa seule discrétion, peut accorder par écrit à la demande du Sous-contractant avant l'expiration de ladite période. Rien dans les présentes ne sera interprété comme une décharge des obligations du Sous-contractant d'exécuter, y compris sans limitation, le manquement des parties à l'accord sur le droit du Sous-contractant à, ou le montant de tout ajustement dans le temps ou l'indemnisation. Si le travail est réduit par une autorisation de modification émise aux termes des présentes, cette action ne sera pas la base d'une réclamation fondée sur la perte de profits anticipés.

### **13.2 Résiliation pour cause de défaut**

DAI peut, par avis écrit, mettre fin à tout ou une partie d'un Sous-contrat émis aux termes des présentes pour cause de défaut dans le cas où le Sous-contractant faillit à l'exécution d'une quelconque des dispositions du présent Sous-contrat ou, de l'avis de DAI, devient financièrement ou juridiquement incapable d'achever le Sous-contrat et n'y remédie pas à la satisfaction raisonnable de DAI dans un délai de sept (7) jours civils suivant la réception d'une notification écrite de DAI spécifiant un tel manquement. Les manquements peuvent inclure, mais sans s'y limiter, les éléments suivants :

- (1) Refus répété ou incapacité de fournir suffisamment de travailleurs dûment qualifiés des matériels appropriés ;
- (2) Incapacité d'effectuer le paiement aux Sous-contractants pour des matériaux ou de la main-d'œuvre, conformément aux accords respectifs ;
- (3) Violation répétée des lois, statuts, ordonnances, codes, règles et règlements applicables, ou des ordres juridiques d'une autorité publique ;
- (4) Avoir été trouvé coupable de négligence ou d'une violation importante d'une disposition de cet accord de Sous-contrat, y compris le fait de ne pas à se conformer, à plusieurs reprises, aux plans ou au cahier des charges ; ou
- (5) Incapacité faire progresser les travaux au point

subcontract completion date.

If, after notice of termination, it is determined for any reason that Subcontractor was not in default or that the default was excusable, the rights and obligations of the parties will be the same as if the notice of termination had been issued pursuant to termination for convenience. In the event of termination for default, Subcontractor will not be entitled to termination expenses. Regardless of the cause of termination, the Subcontractor shall deliver to DAI legible copies of all completed or partially completed Work and documents including, but not limited to, laboratory, field, or other notes, log book pages, technical data, computations, and designs. In the event of termination, DAI will be entitled to recover from Subcontractor any additional costs it incurs in completing Subcontractor's scope of work.

### **13.3 Termination for Convenience by DAI**

All or part of the Work issued hereunder may be terminated by DAI for its convenience upon thirty (30) days written notice to the Subcontractor. In such event, Subcontractor will be entitled to compensation for services competently performed up to the date of termination and its allowable, allocable, and reasonable termination expenses as determined by applicable Funding Agency. Subcontractor will not be permitted to recover profit or overhead on unperformed work.

## **APPENDIX A: SPECIAL SUBCONTRACT PROVISIONS**

The following clauses are incorporated from the Prime Task Order and are applicable to this Subcontract:

### **A.1 AIDAR 752.225-70 (FEB 2012) Source & Nationality Requirements/Geographic**

que le contractant a une préoccupation raisonnable que le Sous-contractant ne terminera pas le travail à la date de fin de Sous-contrat.

Si, après l'avis de résiliation, il est établi pour une raison quelconque que Sous-contractant n'était pas en défaut ou que la défaillance était excusable, les droits et obligations des parties seront les mêmes que si l'avis de résiliation avait été délivré en vertu d'une résiliation pour raisons de commodité. En cas de résiliation pour défaut, le Sous-contractant n'aura pas droit aux indemnités de cessation. Quelle que soit la cause de la résiliation, le Sous-contractant doit fournir à DAI des copies lisibles de tous les travaux complètement ou partiellement achevés et des documents, y compris, sans s'y limiter, les notes de laboratoire, de terrain, ou autres, les pages des journaux de bord, les données techniques, calculs, et les dessins. En cas de résiliation, DAI aura le droit de recouvrer du Sous-contractant tous les coûts supplémentaires engagés dans l'achèvement des travaux du Sous-contractant.

### **13.3 Résiliation pour raisons de commodité par DAI**

Tout le travail, ou une partie, lancé vertu des présentes peut être résilié par DAI pour des raisons pratiques, dans trente (30) jours de préavis écrit au Sous-contractant. Dans ce cas, le Sous-contractant aura droit à une rémunération pour les services effectués avec compétence jusqu'à la date de résiliation et à ses indemnités de cessation admissibles, attribuables et raisonnables, telles que déterminées par l'organisme de financement. Le Sous-contractant ne sera pas autorisé à recouvrer des bénéfices ou des frais généraux sur le travail non réalisé.

## **ANNEXE A : DISPOSITIONS SPÉCIALES DU SOUS-CONTRAT**

Les clauses suivantes sont incorporées à partir du principal ordre d'exécution et sont applicables à ce Sous-contrat :

### **A.1 AIDAR 752.225-70 (FEB 2012) Conditions de Source & nationalité/Code**

## Code

- a) Except as may be specifically approved by the USAID Contracting Officer, the Subcontractor must procure all commodities (e.g. equipment, materials, vehicles, supplies) and services (including transportation services) in accordance with the requirements of CFR Part 228 “Rules on Procurement of Commodities and Services Finance by USAID Federal Program Funds”.

The authorized source for procurement for this subcontract is Geographic Code 935.

Guidance on eligibility of specific goods or services may be obtained from the DAI Subcontracts Administrator.

- b) Ineligible goods and services. The Subcontractor shall not procure any of the following goods or services under this subcontract:
- (1) Military equipment
  - (2) Surveillance equipment
  - (3) Commodities and services for support of police or other law enforcement activities
  - (4) Abortion equipment
  - (5) Luxury goods and gambling equipment or
  - (6) Weather modification equipment

### c) Prohibited Sources

The Subcontractor agrees not to procure any goods or services with the origin from the Office of Foreign Assets Control (OFAC) prohibited countries. The current list of those countries under comprehensive sanctions are Crimea Region of Ukraine, Cuba, Iran, North Korea, Sudan, and Syria. The most current list can be found on the Department of Treasury website at <http://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx>. Goods may not transit through, be manufactured or assembled in those countries, nor can a vendor be owned or controlled by a prohibited country.

## A.2. Worker's Compensation Insurance (Defense Base Act) (Apr 1984)

## géographique

- a) À l'exception des cas spécifiquement approuvés par l'agent de négociation des contrats de l'USAID, le Sous-contractant doit se procurer tous les produits de base (p. ex., équipements, matériaux, véhicules, fournitures) et des services (y compris les services de transport) en conformité avec les exigences de CFR partie 228 « Règles sur l'approvisionnement des produits de base et services financés par les Fonds du programme fédéral de USAID. »

La source autorisée pour l'approvisionnement de cette Sous-contrat est le Code géographique 935.

Les directives sur l'éligibilité de certains produits ou services peuvent être obtenues auprès de l'administrateur de contrats de Sous-contrat de DAI.

- b) Les produits et services non admissibles. Le Sous-contractant ne doit pas acquérir les produits ou services suivants dans le cadre de ce Sous-contrat :
- (1) L'équipement militaire
  - (2) L'équipement de surveillance
  - (3) Produits et services d'appui à la police ou à d'autres opérations de maintien de l'ordre
  - (4) Matériel pour l'avortement
  - (5) Les produits de luxe et l'équipement de jeu de hasard
  - (6) Matériel pour changer la météo

### c) Sources interdites

Le Sous-contractant s'engage à ne pas acquérir des biens ou services d'origine des pays interdits par le bureau de contrôle des avoirs étrangers (OFAC). La liste actuelle de ces pays sous le régime des sanctions globales comprend la Région de Crimée en Ukraine, Cuba, l'Iran, la Corée du Nord, le Soudan et la Syrie. La liste la plus récente se trouve sur le site web du département du Trésor à <http://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx>. Les marchandises ne peuvent pas transiter, être fabriqués ou assemblés dans ces pays, ni un vendeur peut appartenir ou être contrôlé par un pays interdit.

## A.2

## L'assurance contre les accidents du



The Subcontractor shall secure, and provide evidence of Defense Based Act (DBA) insurance for all its personnel, in a time frame in accordance with Appendix F: Schedule of Deliverables, before commencing performance under this contract, such workers' compensation insurance or security as the Defense Base Act (42 U.S.C. 1651, et seq.) requires and (b) continue to maintain it until performance is completed. Failure to obtain DBA insurance may result in fines and penalties that are the responsibility of the Subcontractor." If the U.S. Department of Labor grants a waiver for the country, DBA insurance may not be required. See Contract Data for exact requirements for this particular subcontract agreement.

### **A.3 DUNS Number**

The Subcontractor shall provide to DAI its Data Universal Numbering System (DUNS) number prior to award and signature by DAI of this subcontract agreement, as defined by the solicitation requirements. This system is developed and regulated by Dun & Bradstreet (D&B) and assigns a unique numeric identifier, referred to as a "DUNS number" to a single business entity. Created in 1962, the Data Universal Numbering System or D-U-N-S® Number is D&B's copyrighted, proprietary means of identifying business entities on a location-specific basis. The US government uses DUNS numbers as a way to keep track of how federal assistance money is awarded and dispersed

### **A.4 Executive Order on Terrorism Financing (AAPPD 02-04, Mar 2002)**

The Subcontractor/Recipient is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of the Subcontractor/recipient to ensure compliance with these Executive Orders and laws. This provision must be

### **travail (Loi sur la base militaire) (avril 1984)**

Le Sous-contractant doit garantir, et fournir la preuve de l'assurance relative à la loi sur les bases militaires pour l'ensemble de son personnel, dans un délai conforme à l'Annexe F : Calendrier des Livrables, avant de commencer le travail dans le cadre de ce contrat, comme l'assurance des accidents du travail ou de la sécurité que requiert la Loi sur les bases militaires (42 U.S.C. 1651, et suivants), et (b) continuer à la maintenir jusqu'à ce que le travail soit achevé. Le fait de ne pas obtenir l'assurance-DBA peut entraîner des amendes et pénalités qui sont de la responsabilité du Sous-contractant. Si le Département du Travail des États-Unis accorde une dérogation pour le pays, L'assurance DBA peut ne pas être nécessaire. Voir les données du contrat pour les conditions exactes sur ce contrat particulier.

### **A.3 Numéro DUNS**

Le Sous-contractant doit fournir à DAI son numéro du Système de Numérotation Universel de Données (DUNS) avant l'attribution et la signature par DAI de l'accord de ce Sous-contrat, tel que défini par les exigences sur la sollicitation. Ce système est développé et réglementé par Dun & Bradstreet (D&B) et attribue un identificateur numérique unique, appelé « numéro DUNS » à une entité commerciale unique. Créé en 1962, le Système de Numérotation Universel de Données ou D-U-N-S® est un moyen exclusif sous copyright de D&B servant à identifier les entités commerciales sur base d'emplacement spécifique. Le gouvernement américain utilise les numéros DUNS comme une manière de suivre la façon dont l'argent de l'aide est accordée et réparti.

### **A.4 Le Décret sur le financement du terrorisme (AAPPD 02-04, Mars 2002)**

Il est rappelé au Sous-contractant/bénéficiaire que les décrets et la loi des États-Unis interdisent les transactions avec, et la fourniture de ressources et de soutien pour, les individus et les organisations liés au terrorisme. Il est de la responsabilité juridique du Sous-contractant/bénéficiaire de s'assurer le respect de ces

included in all subcontracts/sub-awards issued under the Prime Contract.

In addition to conducting a background check for any new personnel, Subcontractor agrees to conduct a search for the prospective employee's name on the following site:

<http://www.treasury.gov/offices/enforcement/ofac/sdn/index.html>

A print out from the website verifying that the prospective new employee's name does not appear on the list shall be submitted to the DAI Subcontracts Manager identified in Article 9 herein for DAI's records.

### **A.5 Foreign Corrupt Practices Act**

In the performance of its obligations under this Agreement, Subcontractor, its officers, directors, agents and employees shall comply strictly with all applicable laws, regulations and orders including but not limited to the Foreign Corrupt Practices Act of the United States. Subcontractor hereby acknowledges and agrees that certain laws of the United States of America prohibit any person from making any payment of money or anything of value, directly or indirectly, to any government official, political party, or candidate for political office for the purpose of obtaining or retaining business. Subcontractor hereby represents and warrants that, in the performance of its obligations hereunder, it has not made or offered to make, and will not make or offer to make, any such proscribed payment. Any such practice will be grounds for cancelling the award of this contract and for such other additional actions, civil and/or criminal as may be applicable.

### **A.6 USAID Disability Policy – Acquisition**

décrets et lois. Cette disposition doit être comprise dans tous les contrats de Sous-contrat/attribution secondaires délivrés en vertu du contrat principal.

En plus de l'exigence d'effectuer une vérification des antécédents pour tout nouveau personnel, le Sous-contractant s'engage à faire une recherche sur les noms d'éventuels employés sur le site suivant :

<http://www.treasury.gov/offices/enforcement/ofac/sdn/index.html>

Une copie imprimée tirée du site web attestant que le nom de l'éventuel nouvel employé n'apparaît pas dans la liste doit être soumise au directeur des contrats de Sous-contrat de DAI identifié à l'article 9 ci-après pour les dossiers de DAI.

### **A.5 La Loi sur les pratiques de corruption à l'étranger**

Dans l'exercice de leurs obligations en vertu du présent accord, le Sous-contractant, ses responsables, administrateurs, agents et employés doivent se conformer strictement à toutes les lois, réglementations et ordonnances applicables, y compris mais sans s'y limiter, la Foreign Corrupt Practices Act des États-Unis. Le Sous-contractant, par la présente, reconnaît et accepte que certaines lois des États-Unis d'Amérique interdisent à toute personne d'effectuer un paiement d'argent ou quoi que ce soit de valeur, directement ou indirectement, à tout fonctionnaire du gouvernement, parti politique ou candidat à un poste politique dans le but d'obtenir ou de conserver des affaires. Le Sous-contractant, par la présente, déclare et garantit que, dans l'exercice de ses obligations aux présentes, il n'a pas fait ou proposé de faire, et ne fera pas ou ne proposera pas de faire un tel paiement interdit. Toute pratique de cette nature constituera un motif suffisant pour annuler l'adjudication de ce contrat et pour d'autres actions complémentaires de cette nature, civiles et/ou pénales, tel que cela peut s'appliquer.

### **A.6 La politique de l'USAID sur le**

## **(December 2004)**

- a) The objectives of the USAID Disability Policy are (1) to enhance the attainment of United States foreign assistance program goals by promoting the participation and equalization of opportunities of individuals with disabilities in USAID policy, country and sector strategies, activity designs and implementation; (2) to increase awareness of issues of people with disabilities both within USAID programs and in host countries; (3) to engage other U.S. government agencies, host country counterparts, governments, implementing organizations and other donors in fostering a climate of nondiscrimination against people with disabilities; and (4) to support international advocacy for people with disabilities. The full text of the policy paper can be found at the following website:

<http://www.usaid.gov/about/disability/DISABPOL.FIN.html>.

- b) USAID therefore requires that the Subcontractor not discriminate against people with disabilities in the implementation of USAID programs and that it make every effort to comply with the objectives of the USAID Disability Policy in performing this subcontract. To that end and within the scope of the subcontract, the Subcontractor's actions must demonstrate a comprehensive and consistent approach for including men, women and children with disabilities.

### **A.7 Anti-Trafficking**

- a) The U.S. Government is opposed to prostitution and related activities, which are inherently harmful and dehumanizing, and contribute to the phenomenon of trafficking in persons. None of the funds made available under this subcontract may be used to promote, support, or advocate the legalization or practice of prostitution. Nothing in the preceding sentence shall be construed to preclude assistance designed to ameliorate the suffering of, or health risks to, victims while they are being

## **handicap - Acquisition (décembre 2004)**

- a) Les objectifs de la politique de l'USAID du handicap sont (1) d'améliorer la réalisation des objectifs du programme d'aide étrangère des États-Unis en encourageant la participation et l'égalisation des chances des personnes handicapées dans la politique de l'USAID, les stratégies par pays et par secteur d'activité, la conception et la mise en œuvre des activités ; (2) d'accroître la sensibilisation aux enjeux des personnes handicapées tant dans les programmes de l'USAID que dans les pays d'accueil ; (3) d'impliquer d'autres organismes du gouvernement américain, les homologues et les gouvernements des pays hôtes, les organisations de mise en œuvre et d'autres donateurs dans le renforcement d'un climat de non-discrimination envers les personnes handicapées ; et (4) d'appuyer le plaidoyer international pour les personnes handicapées. Le texte intégral du document de politique peut être trouvé sur le site web suivant :

<http://www.usaid.gov/about/disability/DISABPOL.FIN.html>.

- b) L'USAID exige donc que le Sous-contractant ne fasse pas de discrimination contre les personnes handicapées dans la mise en œuvre de ses programmes et qu'il s'efforce de se conformer aux objectifs de la politique de l'USAID sur les handicaps dans l'exécution de cette Sous-contrat. À cette fin et dans le cadre du Sous-contrat, le Sous-contractant doit démontrer une approche complète et cohérente d'inclure des hommes, des femmes et des enfants handicapés.

### **A.7 La lutte contre la traite**

- a) Le Gouvernement américain s'oppose à la prostitution et les activités connexes, qui sont par nature dangereuses et déshumanisantes, et contribuent au phénomène de la traite des personnes. Aucun des fonds disponibles dans le cadre du présent Sous-contrat ne peut être utilisé pour promouvoir, appuyer ou défendre la légalisation ou la pratique de la prostitution. Rien de ce qui est dit dans la phrase précédente ne doit être utilisé pour empêcher l'aide destinée à atténuer les souffrances ou des risques pour la

- trafficked or after they are out of the situation that resulted from such victims being trafficked.
- b) DAI may terminate this subcontract, without penalty, if the Subcontractor (i) engages in severe forms of trafficking in persons or has procured a commercial sex act during the period of time that the grant, subcontract, or cooperative agreement is in effect, or (ii) uses forced labor in the performance of the grant, subcontract, or cooperative agreement.

#### **A.8 Prohibition of Assistance to Drug Traffickers**

DAI reserves the right to terminate this Subcontract, to demand a refund, or take other appropriate measures if the Subcontractor is found to have been convicted of a narcotics offense or to have been engaged in drug trafficking as defined in 22 CFR Part 140 and ADS 206.

#### **A. 9 Reporting of Foreign Taxes**

- a) Final and Interim Reports. The Subcontractor must annually submit two reports:
  - (1) an interim report by November 17; and
  - (2) a final report by April 16 of the next year.
- b) Contents of Report. The reports must contain:
  - (1) Subcontractor name.
  - (2) Subcontractor name with phone, fax and email.
  - (3) Subcontract number, Prime contract number.
  - (4) Amount of foreign taxes assessed by a foreign government [each foreign government must be listed separately] on commodity purchase transactions valued at \$500 or more financed with U.S. foreign assistance funds under this agreement during the prior U.S. fiscal year. NOTE: For fiscal year 2003 only, the reporting period is February 20, 2003 through September 30, 2003.
  - (5) Only foreign taxes assessed by the foreign government in the country receiving U.S. assistance is to be reported. Foreign taxes by a third party foreign government are not to be reported. For example, if an assistance program

santé des victimes, pendant qu'elles sont objets de traite ou après qu'elles soient sorties de la situation qui a été causée par le fait qu'elles soient victimes de la traite.

- b) DAI peut résilier ce contrat, sans pénalité, si le Sous-contractant (i) s'engage dans les formes graves de traite des personnes ou s'est livré à une activité sexuelle à but lucratif pendant que la subvention, la Sous-contrat, ou l'accord de coopération est en vigueur, ou (ii) utilise le travail forcé dans l'exercice de la subvention, du Sous-contrat, ou de l'accord de coopération.

#### **A.8 Interdiction d'assistance aux trafiquants de drogue**

DAI se réserve le droit de résilier le présent Sous-contrat, d'exiger un remboursement, ou prendre d'autres mesures appropriées si le Sous-contractant a été reconnu coupable dans une affaire de stupéfiants ou s'est engagé dans un trafic de drogue, comme cela est défini dans 22 CFR Part 140 et ADS 206.

#### **A. 9 Déclaration des impôts étrangers**

- a) Rapport intermédiaire et final. Le Sous-contractant doit soumettre chaque année deux rapports :
  - (1) Un rapport intérimaire avant le 17 novembre ; et
  - (2) Un rapport final au plus tard le 16 avril de l'année suivante.
- b) Contenu du rapport. Les rapports doivent contenir :
  - (1) Nom du Sous-contractant.
  - (2) Nom du Sous-contractant avec téléphone, fax et email.
  - (3) le numero du Sous-contrat, le numéro du contrat principal
  - (4) Le montant des impôts étrangers établis par un gouvernement étranger [chaque gouvernement étranger doit être indiqué séparément] sur les transactions d'achat de produits d'une valeur de 500 \$ ou plus financés par des fonds de l'aide étrangère des États-Unis en vertu de cet accord pendant l'année fiscale précédente des États-Unis. Remarque: NOTE : Pour l'exercice 2003 seulement, la période de déclaration est du 20

for Lesotho involves the purchase of commodities in South Africa using foreign assistance funds, any taxes imposed by South Africa would not be reported in the report for Lesotho (or South Africa).

- (6) Any reimbursements received by the Subcontractor during the period in (iv) regardless of when the foreign tax was assessed plus, for the interim report, any reimbursements on the taxes reported in (iv) received by the recipient through October 31 and for the final report, any reimbursements on the taxes reported in (iv) received through March 31.
  - (7) The final report is an updated cumulative report of the interim report.
  - (8) Reports are required even if the Subcontractor did not pay any taxes during the reporting period.
  - (9) Cumulative reports may be provided if the Subcontractor is implementing more than one program in a foreign country.
- c) Definitions. For purposes of this clause:
- (1) "Agreement" includes USAID direct and country contracts, grants, cooperative agreements and interagency agreements.
  - (2) "Commodity" means any material, article, supply, goods, or equipment.
  - (3) "Foreign government" includes any foreign governmental entity.
  - (4) "Foreign taxes" means value-added taxes and custom duties assessed by a foreign government on a commodity. It does not include foreign sales taxes.
- d) Where. The Subcontractor will submit the reports to DAI's COP.

For further information see

<http://www.state.gov/m/rm/c10443.htm>.

février 2003 au 30 septembre 2003.

- (5) Seuls les impôts établis par le gouvernement étranger dans le pays qui reçoit l'aide des États-Unis doivent être signalés. Les impôts étrangers par le gouvernement étranger d'une tierce partie ne doivent pas être indiqués. Par exemple, si un programme d'aide pour le Lesotho implique l'achat de produits en Afrique du Sud à l'aide de fonds de l'aide étrangère, les taxes imposées par l'Afrique du Sud ne seraient pas reportées dans le rapport pour le Lesotho (ou l'Afrique du Sud).
  - (6) Tout remboursement reçu par le Sous-contractant au cours de la période en (iv) quel que soit le moment où l'impôt étranger a été établi, pour le rapport intérimaire, tout remboursement sur les impôts déclarés dans (iv) reçu par le récipient jusqu'au 31 octobre et pour le rapport final, tout remboursement sur les impôts déclarés dans (iv) reçu jusqu'au 31 mars.
  - (7) Le rapport final est un rapport cumulatif mis à jour du rapport intérimaire.
  - (8) Les rapports sont requis même si le Sous-contractant n'a pas payé d'impôt pendant la période de déclaration.
  - (9) Des rapports cumulatifs peuvent être soumis si le Sous-contractant met en œuvre plus d'un programme dans un pays étranger.
- c) Définitions. Pour les besoins de la présente clause :
- (1) « Accord » comprend les contrats, subventions, accords de coopération et les accords inter-agences impliquant directement USAID et les pays.
  - (2) « Produit » désigne le matériel, les articles, les fournitures, les biens et l'équipement.
  - (3) « Gouvernement étranger » comprend toute entité gouvernementale étrangère.
  - (4) « L'impôt étranger » désigne les taxes et les droits de douane sur la valeur ajoutée établis par un gouvernement étranger sur une marchandise. Il n'inclut pas les taxes de vente étrangères.
- d) Où. Le Sous-contractant doit présenter les rapports au directeur du projet de DAI.

Pour de plus amples renseignements, voir

<http://www.state.gov/m/rm/c10443.htm>.

**A.10 Notification of Ownership Changes (Oct 1997)**

- a) The Subcontractor shall make the following notifications in writing:
  - (1) When the Subcontractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Subcontractor shall notify the Subcontracts Administrator within 30 days.
  - (2) The Subcontractor shall also notify the Subcontract Administrator within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.
- b) The Subcontractor shall:
  - (1) Maintain current, accurate, and complete inventory records of assets and their costs;
  - (2) Provide the Subcontract Administrator or designated representative ready access to the records upon request;
  - (3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Subcontractor's ownership changes; and
  - (4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Subcontractor ownership change.
- c) DAI shall include the substance of this clause in all subcontracts under this subcontract that meet the applicability requirement of FAR 15.408(k).

**A.11 AIDAR 752.7009 Marking (JAN 2007)**

- a) It is USAID policy that USAID-financed commodities and shipping containers, and project construction sites and other project locations be suitably marked with the USAID

**A.10 Notification de changement de propriétaire (Oct. 1997)**

- a) Le Sous-contractant doit faire les déclarations suivantes par écrit :
  - (1) Lorsque le Sous-contractant devient conscient qu'un changement de propriété s'est produit ou va sans nul doute de produire, et qui pourrait entraîner des changements dans l'évaluation de ses actifs immobilisés dans les registres comptables, le Sous-contractant doit informer l'administrateur de Sous-contrat dans les 30 jours.
  - (2) Le Sous-contractant doit également informer l'administrateur de Sous-contrat dans les 30 jours suivants chaque fois que des changements aux évaluations d'actifs ou d'autres changements des coûts ont eu lieu ou vont sans nul doute se produire à cause d'un changement de titulaire.
- b) Le Sous-contractant doit :
  - (1) Maintenir à jour, exacts et complets les registres d'inventaire des actifs et leurs coûts ;
  - (2) Fournir à l'administrateur de Sous-contrat ou au représentant désigné un accès facile aux registres sur demande ;
  - (3) S'assurer que tous les actifs individuels et regroupés, leurs valeurs capitalisées, le cumul des amortissements, et durée d'utilité sont identifiés précisément avant et après chacun des changements de propriété de Sous-contractant ; et
  - (4) Conserver et continuer à maintenir les plans de dépréciation et d'amortissement en fonction des registres des actifs maintenus avant chaque changement de propriété de Sous-contractant.
- c) DAI doit inclure la substance de cette clause, en vertu de ce Sous-contrat, dans tous les contrats de Sous-contrat qui répondent aux conditions d'applicabilité de FAR 15.408(k).

**A.11 AIDAR 752.7009 Marquage (JAN 2007)**

- a) La politique d'USAID est que les marchandises, les conteneurs d'expédition, les sites de construction de projets et les autres endroits de projets financés par USAID soient

emblem. Shipping containers are also to be marked with the last five digits of the USAID financing document number. As a general rule, marking is not required for raw materials shipped in bulk (such as coal, grain, etc.), or for semi-finished products which are not packaged.

- b) Specific guidance on marking requirements should be obtained prior to procurement of commodities to be shipped, and as early as possible for project construction sites and other project locations. This guidance will be provided through the cognizant technical office indicated on the cover page of this subcontract, or by the Mission Director in the Cooperating Country to which commodities are being shipped, or in which the project site is located.
- c) Authority to waive marking requirements is vested with the Regional Assistant Administrators, and with Mission Directors.
- d) A copy of any specific marking instructions or waivers from marking requirements is to be sent to the DAI COP and DAI Subcontracts Manager identified in Article 9 herein; the original should be retained by the Subcontractor.

convenablement marqués avec l'emblème d'USAID. Les conteneurs d'expédition doivent également être marqués des cinq derniers chiffres du numéro de document de financement d'USAID. En règle générale, le marquage n'est pas obligatoire pour les matières premières expédiées en vrac (telles que le charbon, les grains, etc.), ou pour des produits semi-finis qui ne sont pas emballés.

- b) Des orientations spécifiques sur les exigences relatives au marquage devraient être acquises avant l'achat de produits à expédier, et le plus tôt possible pour les sites de construction des projets et d'autres emplacements du projet. Cette orientation sera fournie par le bureau technique compétent indiqué sur la page de couverture du présent Sous-contrat, ou par le Directeur de la Mission dans le pays de coopération vers lequel les marchandises sont expédiées, ou dans lequel le site du projet est situé.
- c) Les administrateurs assistants régionaux et les directeurs des missions sont investis du pouvoir de dispenser des exigences de marquage.
- d) Une copie des instructions spécifiques des marquages ou des dispenses des exigences de marquage doit être envoyée au directeur du projet de DAI et au directeur des contrats de Sous-contrat identifiés à l'article 9 ci-joint ; l'original doit être conservé par le Sous-contractant.

## **APPENDIX B: GENERAL PROVISIONS FAR AND AIDAR PROVISIONS.**

The Subcontractor agrees to comply with all applicable requirements, specifications, and conditions of the Prime Contract as are, in turn, incorporated into this Subcontract. Any applicable requirements, specifications, and conditions of the Prime Contract specified by law, are included in this Subcontract. Unless a current version of a clause is specifically incorporated in the body of this Subcontract, to the

## **14 ANNEXE B : DISPOSITIONS GENERALES LES DISPOSITIONS DE FAR ET AIDAR**

Le Sous-contractant s'engage à respecter toutes les exigences, les spécifications, et les conditions du contrat principal telles qu'elles sont, à leur tour, intégrées dans ce Sous-contrat. Toutes les exigences, les spécifications, et les conditions du Contrat principal applicables fixées par la loi, sont comprises dans ce Sous-contrat. À moins qu'une version actuelle d'une clause soit expressément incorporée dans le corps de cette Sous-contrat, dans la mesure où une version antérieure d'une telle clause est

extent that an earlier version of any such clause is included in the Prime Contract under which this Subcontract is issued, the date of the clause as it appears in such Prime Contract shall be controlling and said version shall be incorporated herein. In all such clauses the term "Contractor" shall mean the Subcontractor performing under this Subcontract, the term "Contract" shall mean this Subcontract, and the terms "Government," "Contracting Officer," and equivalent phrases shall mean DAI and the DAI Subcontract Manager, respectively. It is intended that the referenced clauses shall apply to the Subcontractor in such a manner as is necessary to reflect the position of the Subcontractor as a Subcontractor to the Prime Contractor, to insure the Subcontractor's obligations to the Prime Contractor and the U.S. Government, and to enable the Prime Contractor to meet its obligations under its Prime Contract. Clauses not requiring flow down from DAI to the Subcontractor, but nevertheless specified herein shall have full force and effect in performance of this Agreement.

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

<http://arnet.gov/far>

<http://www.usaid.gov>

#### FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)

| NUMBER   | TITLE                            | DATE     |
|----------|----------------------------------|----------|
| 52.202-1 | DEFINITIONS                      | JUL 2004 |
| 52.203-3 | GRATUITIES                       | APR 1984 |
| 52.203-5 | COVENANT AGAINST CONTINGENT FEES | APR 1984 |

incluse dans le contrat principal en vertu de laquelle ce contrat est émis, la date de la clause, telle qu'elle apparaît dans ce contrat principal gouverne et ladite version doit être intégrée aux présentes. Dans toutes ces clauses le terme « entrepreneur » désigne le Sous-contractant qui exécute en vertu de ce Sous-contrat, le terme « contrat » désigne le présent Sous-contrat, et les termes « gouvernement », « agent de négociation des contrats », et des expressions équivalentes renvoient respectivement à DAI et le directeur de Sous-contrat de DAI. Il est prévu que les clauses mentionnées s'appliquent au Sous-contractant d'une manière qui soit nécessaire de refléter la position du Sous-contractant en tant que Sous-contractant à le contractant principal, d'assurer les obligations du Sous-contractant à le contractant principal et au gouvernement des États-Unis, et de permettre à le contractant principal de s'acquitter de ses obligations au titre de son contrat principal. Les clauses ne nécessitant pas de transfert de DAI au Sous-contractant, mais néanmoins sont spécifiées ici sont pleinement en vigueur dans l'exécution du présent accord.

Les clauses du contrat relatives à cette section sont incorporées par renvoi (par numéro de référence, titre et date) conformément à la clause dans FAR « 52.252-2 CLAUSES INCORPORATED BY REFERENCE » (clauses incorporées par référence) dans la section I du présent contrat. Voir FAR 52.252-2 pour une adresse internet (si spécifiée) pour l'accès électronique au texte intégral d'une clause.

<http://arnet.gov/far>

<http://www.usaid.gov>

#### RÈGLEMENT FÉDÉRAL SUR LES ACHATS (48 CFR Chapitre 1)

| NUMÉRO   | TITRE  | DATE         |
|----------|--|--------------|
| 52.202-1 | DÉFINITIONS                                    | Juillet 2004 |
| 52.203-3 | PRIMES   | APR 1984     |
| 52.203-5 | CONVENTION CONTRE LES HONORAIRES CONDITIONNELS | APR 1984     |



52.203-6 RESTRICTIONS ON  
SUBCONTRACTOR SALES TO THE  
GOVERNMENT JUL 1995

52.203-7 ANTI-KICKBACK PROCEDURES  
OCT 2010

52.203-8 CANCELLATION, RESCISSION  
AND RECOVERY OF FUNDS FOR ILLEGAL OR  
IMPROPER ACTIVITY JAN 1997

52.203-10 PRICE OR FEE ADJUSTMENT FOR  
ILLEGAL OR IMPROPER ACTIVITY JAN 1997

52.203-12 LIMITATION ON PAYMENTS TO  
INFLUENCE CERTAIN FEDERAL  
TRANSACTIONS OCT 2010

52.209-6 PROTECTING THE  
GOVERNMENT'S INTEREST WHEN  
SUBCONTRACTING WITH CONTRACTORS  
DEBARRED SUSPENDED, OR PROPOSED FOR  
DEBARRMENT OCT 2010

52.215-2 AUDIT AND RECORDS –  
NEGOTIATION OCT 2010

52.215-10 PRICE REDUCTION FOR  
DEFECTIVE COSTS OR PRICING DATA –  
MODIFICATION OCT 2010

52.215-12 SUBCONTRACTOR COST OR  
PRICING DATA OCT 2010

52.215-13 SUBCONTRACTOR COST OR  
PRICING DATA - MODIFICATIONS OCT 2010

52.215-14 INTEGRITY OF UNIT PRICES  
OCT 2010

52.222-50 COMBATING TRAFFICKING IN  
PERSONS FEB 2009

52.228-04 WORKSER'S COMPENSATION  
AND WAR-HAZARD INSURANCE OVERSEAS  
APR 1984

52.228-07 INSURANCE – LIABILITY TO  
THIRD PERSONS MAR 1996

52.232-20 LIMITATION OF COST APR  
1984

52.203-6 RESTRICTIONS SUR LES VENTES  
DE SOUS-CONTRACTANT AU GOUVERNEMENT  
JUL 1995

52.203-7 PROCEDURES CONTRE LES POTS-  
DE-VIN OCT 2010

52.203-8 ANNULATION, RESILIATION ET  
RECouvreMENT DES FONDS POUR ACTIVITE  
ILLEGALE OU INAPPROPRIEE JAN 1997

52.203-10 AJUSTEMENT DES PRIX OU DES  
FRAIS ACTIVITE ILLEGALE OU INAPPROPRIEE  
JAN 1997

52.203-12 LIMITATION SUR LES PAIEMENTS  
VISANT A INFLUENCER CERTAINES  
TRANSACTIONS FÉDÉRALES OCT 2010

52.209-6 PROTECTION DE L'INTERET DU  
GOUVERNEMENT DANS UN CONTRACT DE  
SOUS-CONTRAT AVEC DES ENTREPRENEURS  
INTERDITS, SUSPENDUS OU FRAPPES  
D'INTERDICTION OCT 2010

52.215-2 VERIFICATION ET DOSSIERS -  
NÉGOCIATION OCT 2010

52.215-10 REDUCTION DE PRIX POUR DES  
COÛTS DÉFECTUEUX OU DONNEES SUR LES  
PRIX – MODIFICATION OCT 2010

52.215-12 COUT DU SOUS-CONTRACTANT  
OR DONNEES SUR LES PRIX OCT 2010

52.215-13 COUT DU SOUS-CONTRACTANT  
OR DONNEES SUR LES PRIX – MODIFICATIONS  
OCT 2010

52.215-14 INTEGRITE DES PRIX A L'UNITE  
OCT 2010

52.222-50 LUTTE CONTRE LA TRAITE DES  
PERSONNES FEB 2009

52.228-04 INDEMNISATION D'ACCIDENT DE  
TRAVAIL ET ASSURANCE DES RISQUES DE  
GUERRE OUTRE-MER APR 1984

52.228-07 ASSURANCE - RESPONSABILITÉ  
ENVERS LES TIERS MAR 1996

|                   |  |             |                   |  |             |
|-------------------|--|-------------|-------------------|--|-------------|
| 52.232-22<br>1984 | LIMITATION OF FUNDS  | APR         | 52.232-20<br>1984 | LIMITATION DE COÛT   | APR         |
| 52.242-15<br>1989 | STOP-WORKS ORDER   | AUG         | 52.232-22<br>1984 | LIMITATION DE FONDS  | APR         |
| 52.223-5          | POLLUTION PREVENTION AND<br>RIGHT-TO-KNOW  | MAY 2011    | 52.242-15         | ORDRE D'ARRÊT DE TRAVAIL<br>AOÛT 1989  |             |
| 52.223-14         | TOXIC CHEMICAL RELEASE<br>REPORTING  | OCT 2000    | 52.223-5          | PRÉVENTION DE LA POLLUTION<br>ET DROIT À L'INFORMATION   | MAI 2011    |
| 52.225-13         | RESTRICTIONS ON CERTAIN<br>FOREIGN PURCHASES   | JUN 2008    | 52.223-14         | DECLARATION SUR LES PRODUITS<br>CHIMIQUES TOXIQUES   | OCT 2000    |
| 52.227-4          | PATENT INDEMNITY--<br>CONSTRUCTION CONTRACTS   | DEC 2007    | 52.225-13         | RESTRICTIONS SUR CERTAINS<br>ACHATS A L'ETRANGER   | JUN 2008    |
| 52.229-6          | TAXES--FOREIGN FIXED-PRICE<br>CONTRACTS  | JAN 1991    | 52.227-4          | INDEMNISATION DE BREVETS--<br>CONTRATS DE CONSTRUCTION   | DÉC 2007    |
| 52.232-17         | INTEREST   | OCT 2010    | 52.229-6          | TAXES—CONTRATS ETRANGERS<br>À PRIX FIXE  | JAN 1991    |
| 52.232-23<br>1986 | ASSIGNMENT OF CLAIMS   | JAN         | 52.232-17         | INTÉRÊT  | OCT 2010    |
| 52.233-1          | DISPUTES   | JUL 2002    | 52.232-23         | CESSION DE CRÉANCES  | JAN<br>1986 |
| 52.233-3          | PROTEST AFTER AWARD  | AUG<br>1996 | 52.233-1          | DIFFÉRENDS   | JUL 2002    |
| 52.236-3          | SITE INVESTIGATION AND<br>CONDITIONS AFFECTING THE WORKS                                   | APR<br>1984 | 52.233-3          | PROTESTATION APRÈS<br>L'ATTRIBUTION  | AUG 1996    |
| 52.236-5          | MATERIAL AND WORKSMANSHIP  | APR 1984    | 52.236-3          | ENQUETE DU CHANTIER ET<br>CONDITIONS QUI AFFECTENT LE TRAVAIL  | APR 1984    |
| 52.236-6          | SUPERINTENDENCE BY THE<br>SUBCONTRACTOR  | APR 1984    | 52.236-5          | MATÉRIAU ET FABRICATION  | APR 1984    |
| 52.236-7          | PERMITS AND RESPONSIBILITIES   | NOV 1991    | 52.236-6          | SURINTENDANCE PAR LE SOUS-<br>CONTRACTANT  | APR 1984    |
| 52.236-8          | OTHER CONTRACTS  | APR 1984    | 52.236-7          | PERMIS ET RESPONSABILITÉS  | NOV 1991    |
| 52.236-9          | PROTECTION OF EXISTING<br>VEGETATION STRUCTURES, EQUIPMENT,<br>UTILITIES, AND IMPROVEMENTS | APR 1984    | 52.236-8          | AUTRES CONTRATS  | APR 1984    |
| 52.236-10         | OPERATIONS AND STORAGE<br>AREAS  | APR 1984    | 52.236-9          | PROTECTION DE LA VÉGÉTATION,<br>DES STRUCTURES, DE L'EQUIPEMENT, DES<br>SERVICES PUBLIQUES ET AMÉLIORATIONS<br>EXISTANTS | APR 1984    |

52.236-11 USE AND POSSESSION PRIOR TO  
COMPLETION APR 1984

52.236-12 CLEANING UP APR 1984

52.236-13 ACCIDENT PREVENTION NOV  
1991

52.236-15 SCHEDULES FOR CONSTRUCTION  
CONTRACTS APR 1984

52.236-17 LAYOUT OF WORKS APR 1984

52.236-26 PRECONSTRUCTION  
CONFERENCE FEB 1995

52.242-13 BANKRUPTCY JUL 1995

52.243-4 CHANGES AUG 1987

52.244-5 COMPETITION IN  
SUBCONTRACTING DEC 1996

52.249-2 TERMINATION FOR  
CONVENIENCE OF THE GOVERNMENT (FIXED  
PRICE) ALTERNATE I MAY 2004

52.249-10 DEFAULT (FIXED-PRICE  
CONSTRUCTION) APR 1984

52.253-1 COMPUTER GENERATED FORMS  
JAN 1991

#### AID ACQUISITION REGULATIONS (48 CFR CHAPTER 6)

752.202-1(b) DEFINITIONS JAN 1990

752.202-1(d) DEFINITIONS FOR OVERSEAS  
CONTRACTS AUG 1999

752.204-2 SECURITY REQUIREMENTS FEB  
1999

752.211-70 LANGUAGE AND MEASUREMENT  
JUN 1992

752.255-70 SOURCE AND NATIONALITY  
REQUIREMENTS FEB 2012

52.236-10 ZONES DES OPERATIONS ET DE  
STOCKAGE APR 1984

52.236-11 UTILISATION ET LA POSSESSION  
AVANT L'ACHEVEMENT APR 1984

52.236-12 NETTOYAGE APR 1984

52.236-13 PRÉVENTION DES ACCIDENTS  
NOV 1991

52.236-15 CALENDRIERS DES CONTRATS DE  
CONSTRUCTION APR 1984

52.236-17 DISPOSITION DU TRAVAIL APR  
1984

52.236-26 CONFÉRENCE DE  
PRÉCONSTRUCTION FÉVR. 1995

52.242-13 FAILLITE JUL 1995

52.243-4 CHANGEMENTS AOÛT 1987

52.244-5 CONCURRENCE DANS LA SOUS-  
CONTRAT DÉC 1996

52.249-2 RESILIATION AU GRE DU  
GOUVERNEMENT (PRIX FIXE) SUPPLEANT I  
MAI 2004

52.249-10 DEFAULT (CONSTRUCTION À PRIX  
FIXE) APR 1984

52.253-1 FORMES GENEREES PAR  
ORDINATEUR JAN 1991

#### REGLEMENT SUR L'ACQUISITION D'AIDE (48 CFR CHAPITRE 6)

752.202-1(b) DÉFINITIONS JAN 1990

752.202-1(d) DÉFINITIONS POUR LES  
CONTRATS D'OUTRE-MER AUG 1999

752.204-2 EXIGENCES DE SÉCURITÉ FÉV  
1999

752.211-70 LANGUE ET MESURE JUN  
1992

752.226-2 SUBCONTRACTING WITH  
DISADVANTAGED ENTERPRISES JUL 1997

752.226-3 LIMITATIONS ON  
SUBCONTRACTING JUN 1993

752.228-3 WORKSER'S COMPENSATION  
INSURANCE (DEFENSE BASE ACT) APR 1984

752.228-7 INSURANCE-LIABILITY TO THIRD  
PERSONS JUL 1997

752.228-9 CARGO INSURANCE DEC 1988

752.228-70 MEDICAL EVACUATION  
(MEDVAC) SERVICES JUL 2007

752.231-71 SALARY SUPPLEMENTS FOR HG  
EMPLOYEES OCT 1998

752.245-70 GOVERNMENT PROPERTY -  
USAID REPORTING REQUIREMENTS JUL  
1997

752.245-71 TITLE TO AND CARE OF  
PROPERTY APR 1984

752.247-70 PREFERENCE FOR PRIVATELY  
OWNED US FLAG COMMERCIAL VESSELS FEB  
1999

752.7003 DOCUMENTATION FOR PAYMENT  
APR 1984

752.7008 USE OF GOVERNMENT  
FACILITIES OR PERSONNEL APR 1984

752.7010 CONVERSION OF U.S. DOLLARS  
TO LOCAL CURRENCY APR 1984

752.7013 CONTRACTOR-MISSION  
RELATIONSHIPS OCT 1989

752.255-70 EXIGENCES SUR LA SOURCE ET LA  
NATIONALITÉ FEB 2012

752.226-2 SOUS-CONTRAT AVEC DES  
ENTREPRISES DEFAVORISEES JUL 1997

752.226-3 LIMITATIONS SUR LA SOUS-  
CONTRAT JUIN 1993

752.228-3 L'ASSURANCE-ACCIDENT DE  
TRAVAIL (LOI SUR LES BASES MILITAIRES)  
APR 1984

752.228-7 ASSURANCE DE LA  
RESPONSABILITE AUX TIERS JUL 1997

752.228-9 ASSURANCE DES MARCHANDISES  
DÉC 1988

752.228-70 SERVICES D'ÉVACUATION  
MÉDICALE (MEDVAC) JUL 2007

752.231-71 COMPLEMENTS DE SALAIRE POUR  
LES EMPLOYES DE GH OCT 1998

752.245-70 BIENS DU GOUVERNEMENT - LES  
EXIGENCES DE DECLARATION DE USAID JUL  
1997

752.245-71 TITRE DE SOINS DE PROPRIETE  
APR 1984

752.247-70 PREFERENCE POUR DES NAVIRES  
DE COMMERCE BATTANT PAVILLON  
AMERICAIN FÉV 1999

752,7003 DOCUMENTATION POUR LE  
PAIEMENT APR 1984

752,7008 UTILISATION DES INSTALLATIONS  
OU DU PERSONNEL DU GOUVERNEMENT  
APR 1984

752,7010 CONVERSION DES DOLLARS  
AMÉRICAINS EN MONNAIE LOCALE APR  
1984

752,7013 RELATIONS ENTREPRENEUR-  
MISSION OCT 1989

## **APPENDIX C: SCOPE OF WORK**

Incorporated by reference.

## **ANNEXE C: TERMES DE REFERENCES**

Incorporées par référence

## **APPENDIX D: TECHNICAL SPECIFICATIONS**

Incorporated by reference.

## **ANNEXE D: SPECIFICATIONS TECHNIQUES**

Incorporées par référence

## **APPENDIX E: CONSTRUCTION DRAWINGS**

Incorporated by reference.

## **ANNEXE E: PLANS DE CONSTRUCTION**

Incorporées par référence

## APPENDIX F: SCHEDULE OF DELIVERABLES / ANNEXE F: CALENDRIER DES LIVRABLES

The following items shall be delivered under this subcontract:

| Description of Deliverable  | Quantity | Delivery Date or Requirements   | Deliver To  |
|---|----------|---|---|
| Pre-Construction Conference<br>Evidence of Insurance:<br><ul style="list-style-type: none"> <li>- General Liability Insurance</li> <li>- Equipment Insurance</li> <li>- Workman's compensation Insurance</li> <li>- DBA insurance</li> </ul> Work Schedule/Program<br>Health and Safety Plan<br>Quality Assurance Plan<br>Performance Bond at 15% of Subcontract Value. | 1        | Maximum 10 days following award.<br>Prior to Notice to Proceed is issued.<br>Prior to mobilization payment  | DAI COP<br>DAI Subcontracts Administrator<br>DAI Project Engineer |
| Monthly Payment Request or Application/ Invoice   | 2        | Following joint measurement to ascertain the works satisfactorily executed.<br>Signed and verified by the Project Engineer or Engineer's Representative after measurement/inspection.<br>Copies of Progress Reports and Site Meeting Notes shall be included with each Payment Request. | DAI's Accounts Payable<br>DAI Engineer                            |
| Progress Reports  | 1        | Monthly, 5 days before the corresponding Monthly site meetings.   | DAI Project Engineer  |
| Site Meetings   | 1        | Monthly   | DAI Project Engineer  |
| Schedule updates  | 1        | Monthly, or as needed when delays are identified.   | DAI Project Engineer  |
| Final Report  | 2        | Before final inspection   | DAI Engineer and DAI COP  |
| Request for Substantial Completion Inspection   | 1        | 5 days before inspection  | DAI Engineer and DAI COP  |
| As Built Drawings and product warranties and instruction manuals<br>Operation Manuals, training or materials, as required   | 1        | 5 days before Final Completion  | DAI Engineer and DAI COP  |
| Request for Final Completion and Acceptance Inspection  | 1        | 5 days before inspection  | DAI Engineer and DAI COP  |

## APPENDIX G: PRICED BILL OF QUANTITIES/ BORDEREAU DES PRIX ET QUANTITES

Incorporated by reference/ Incorporé par référence.

## APPENDIX – J PAYMENT SCHEDULE

| Milestone/Deliverable  | Anticipate date                 | % of value  | Gross payment Amount USD  |
|--|---------------------------------|-------------|---|
| Executed items as per BOQ  | Monthly                         | 90%         | \$ <span style="background-color: yellow;">          </span>        |
| Completion of all repairs and remedy that occur after final completion as per Subcontract requirements | 365 days after final completion | 10%         | \$ <span style="background-color: yellow;">          </span>        |
| <b>Total executed works</b>  |                                 | <b>100%</b> | <b>\$ <span style="background-color: yellow;">          </span></b> |

## **APPENDIX C: SCOPE OF WORK**

### **Summary**

#### **1.1 SUMMARY**

##### **A. Section Includes:**

1. Existing site description: The Charpentier site has six existing wells. F1, F2 and F5 discharge, when operating to the 300 m<sup>3</sup> elevated reservoir onsite. F3 well outflow is directed to a separate valve house but also discharges to the Charrier reservoir. F4 output is piped to the same valve house as F3, but is directed through a pressure main to sector 1 in Les Cayes, the original part of the city in which a 700 m<sup>3</sup> reservoir is nearly complete at a distance of 3 km from the F4 well. F6 is not currently operational. F2 is also currently without pump or column pipe, both of which were removed and stored within the well house.
2. The project consists of improvements to the Charpentier well field in Les Cayes to re-equip wells F1 and F2 with solar powered submersible pumps together with a solar power panel system to energize and run the pumps. The project also includes the site improvements of wall and fence rehabilitation and installation, the implementation of drainage improvements,
3. Specific requirements are provided in the following Divisions and Sections. Work will include:
  - a) Procurement and installation of two submersible solar well motor pump sets



- b) Provision and installation of column pipe and fittings to set the solar pumps at the required depth.
- c) Accessories necessary to control and operate the pumps in manual and automated modes. These will include industry standard inverter, well probe, electric cable controller and pump “on-off” switch.
- d) Automated controllers that operates the F1 and F2 in automated and manual modes,

- e) Provisions and accessories as well as installation such that the new solar pumps may also be powered from and existing 400 kw Genset when the owner wishes.
- f) Limited additional spare parts
- g) Training, testing and Commissioning

END OF  
SECTION

## **APPENDIX D: TECHNICAL SPECIFICATIONS**

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## 00 43 25 SUBSTITUTION REQUEST

Project: \_\_\_\_\_ Substitution Request Number: \_\_\_\_\_

To: \_\_\_\_\_ From: \_\_\_\_\_ Date: \_\_\_\_\_

Within-bid Substitution Request

Post-bid Substitution Request

Subproject or Solicitation Number: \_\_\_\_\_ Re: \_\_\_\_\_

Subcontract For: \_\_\_\_\_

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Specification Title: \_\_\_\_\_ Description: \_\_\_\_\_

Section No: \_\_\_\_\_ Pay Item No.: \_\_\_\_\_ Article/Paragraph: \_\_\_\_\_

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Proposed Substitution: \_\_\_\_\_

Manufacturer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Trade Name: \_\_\_\_\_ Model No.: \_\_\_\_\_

Unit or Lump Sum Price (for Post-bid Requests): \$US: \_\_\_\_\_

Change in Subcontract Unit Price (for Post-bid Requests): \$US: \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Subcontract Documents that the proposed substitution will require for its' proper installation.

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The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.

- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on the other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment by contractor will be made for changes required to other elements of subproject design, including A/E design, detailing and constructions costs caused by the substitution.

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Submitted by: \_\_\_\_\_

Signed by: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

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#### A/E's REVIEW AND ACTION

\_\_\_ Substitution approved – Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.

\_\_\_ Substitution approved as noted – Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.

\_\_\_ Substitution rejected – Use specified materials if post-bid request. Reject Bidder Proposal if within-bid request.

\_\_\_ Substitution Request received too late – Use specified materials.

Signed by: \_\_\_\_\_ Date: \_\_\_\_\_

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Supporting Data Attached:      Drawings      Product Data      Samples      Tests      Reports      Other \_\_\_\_\_

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## **SECTION 01 10 00**

### **Summary**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Existing site description: The Charpentier site has six existing wells. F1, F2 and F5 discharge, when in operation, to the 300 m<sup>3</sup> elevated reservoir onsite. F3 well outflow is directed to a separate valve house but also discharges to the Charrier reservoir. F4 output is piped to the same valve house as F3, but is directed through a pressure main to sector 1 in Les Cayes, the original part of the city in which a 700 m<sup>3</sup> reservoir is nearly complete at a distance of 3 km from the F4 well. F6 is not currently operational. F2 is also currently without pump or column pipe, both of which were removed and stored within the well house.
2. The subproject consists of improvements to the Charpentier well field in Les Cayes to re-equip wells F1 and F2 with solar powered submersible pumps together with a solar power panel system to energize and run the pumps. The subproject also includes the site improvements of wall and fence rehabilitation and installation, and the implementation of drainage improvements.
3. Specific requirements are provided in the following Divisions and Sections. Work will include:
  - a) Procurement and installation of two submersible solar well motor pump sets.
  - b) Provision and installation of column pipe and fittings to set the solar pumps at the required depth.
  - c) Procurement of solar panels and electrical accessories
  - d) Construction of racking structure and installation of solar panel array.

- e) Accessories necessary to control and operate the pumps in manual and automated modes. These will include industry standard inverter, well probe, electric cable controller and pump “on-off” switch.
- f) Automated controllers that operates the F1 and F2 in automated and manual modes,
- g) Provisions and accessories as well as installation such that the new solar pumps may also be powered from an existing 400 kw Genset when the owner wishes.
- h) Limited additional spare parts
- i) Training, testing and Commissioning

## 1.2 RELATED SECTIONS

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

END OF SECTION

## **PART 1 - GENERAL**

### **1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
  - 1. 00 70 00 General Conditions Infrastructure Fixed Unit Price Subcontract
  - 2. Appendix G: Priced Bill of Quantities

### **1.2 DEFINITIONS**

- A. Unit price is an amount, established on the basis of the Subcontractor's bid, that is stated on the Priced Bill of Quantities as a price per unit of measurement for materials, equipment or services. When multiplied by actual completed quantities as certified by the Contractor's (DAI's) Engineer, the result determines the contract price paid for that specific item. Additional description is provided in Section 00 70 00.

### **1.3 PROCEDURES**

- A. The general cost elements considered to be included in unit prices are described in Section 00 70 00. However, these elements shall not be considered as exhaustive.
- B. The scope and extent of work, equipment installation, and activities necessary for completion by the Subcontractor of each unit price item are detailed in the Individual Sections that are referenced for each unit item in Part 3 below. IT IS EXPRESSLY NECESSARY AND REQUIRED TO FULLY READ AND UNDERSTAND THE SECTIONS REFERENCED FOR EACH UNIT PRICE ITEM IN PART 3 BELOW, PRIOR TO PROVIDING THE UNIT PRICES OFFERED FOR EACH ITEM. THE SUBCONTRACTOR IS FULLY RESPONSIBLE FOR COMPLETING ALL WORK SPECIFIED IN THE REFERENCED SECTIONS AND SHOWN ON THE CONSTRUCTION PLANS.
- C. Methods and units of measurement for quantities corresponding to each unit price in Part 3 of this Section.
- D. Contractor (DAI) reserves the right to reject Subcontractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Contractor's expense, by an independent surveyor acceptable to Contractor.
- E. List of Unit Prices: A list of unit price items is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials, equipment and work described under each unit price.

## **Part 2 - PRODUCTS (Not Used)**



## Part 3 – EXECUTION

### 3.1 – SCHEDULE OF UNIT PRICE

#### A. Item No.1: Mobilization.

- 1- **Description:** Mobilization to the site, set up and staging of Subcontractor offices and staging areas, in accordance with **Section 00 71 13** « Mobilization ».
- 2- **Unit of Measurement:** Lump sum.

#### B. Item No.2: Cleaning and Waste Management.

- 1- **Description:** Site cleanup and disposal of existing debris, and transport for storage of certain items, in accordance with **Section 01 74 00**. « Cleaning and Waste Management ».
- 2- **Unit of Measurement:** Lump sum

#### C. Item No.3 : Photovoltaic Collectors.

- 1- **Description:** Supply and installation of a Photovoltaic Energy Generation Array, in accordance with **Section 26 31 00**. « Photovoltaic Collectors ».
- 2- **Unit of Measurement:** Lump sum.

**D. Item No.4:** Submersible Centrifugal Well Pumps.

1- **Description:** Supply and Installation of two solar pumps and associated electrical accessories and mechanical accessories, in accordance with **Section 33 11 36** « Submersible Centrifugal Well Pumps ».

2- **Unit of Measurement:** Lump sum.

**E. Item No. 5 :** Structural Steel Framing.

1- **Description:** Construction of Structural Steel Framing to support a Photovoltaic Module Array, in accordance with Section **05 10 00** « Structural Steel Framing ».

2- **Unit of Measurement:** Lump sum.

**F. Item No. 6:** Site Water Utility Distribution Piping

1- **Description:** Discharge line connections to existing water transmission lines and installation of fittings and accessories, in accordance with **Section 33 14 16** « Site Water Utility Distribution Piping ».

2- **Unit of Measurement:** Lump sum.

**G. Item No.7:** Cast-in-place Concrete

1- **Description:** Procure materials, mix concrete, erect and place rebar, place and cure reinforced concrete, in accordance with **Section 03 30 00** « Cast-in-place concrete ».

2- **Unit of Measurement:** cubic meter.

**H. Item No. 8:** Chain Link Fences and Gates

1- **Description:** Install a chain link fence with barbed wire at the top of an existing masonry wall, in accordance with **Section 32 31 13** « Chain Link Fences and Gates »

2- **Unit of Measurement:** meter.

**I. Item No.9:** Painting

1- **Description:** Paint a structural metal frame in accordance with **Section 09 91 00** « Painting»

2- **Unit of Measurement:** Lump sum.

**J. Item No.10:** Clearing and Grubbing

1- **Description:** Clear and grub certain areas at the project site in accordance with **Section 31 11 00**

« Clearing and Grubbing»

- 2- **Unit of Measurement:** square meter.

**K. Item No 11:** Temporary Project Signage

- 1- **Description:** Erect temporary project signs in accordance with Section **01 58 13** « Temporary Project Signage. »
- 2- **Unit of Measurement:** Each.

**L. Item No.12:** Diaphragm-type Metering Pumps.

- 1- **Description:** Install Diaphragm-type metering pump for chlorination treatment system and two agitator units in accordance with Section **46 33 42** « Diaphragm-type Metering Pumps. »
- 2- **Unit of Measurement:** Lump Sum.

**M. Item No 13:** Composite Fence and Gates.

1- **Description:** This work includes all labor and material to furnish and install a chain link fence with barbed wire and concertina razor wire on top of constructed concrete columns along an existing masonry wall, in accordance with **Section 32 31 32** « Composite Fence and Gates ».

2- **Unit of Measurement:** meter

**N. Item No.14 :** Excavation and Fill. .

1-**Description:** This work includes all the labor, material and equipment required for providing Excavation, Backfilling, Embankment and Compaction, in accordance with **Section 31 23 00.** « Excavation and Fill ».

2- **Unit of Measurement:** Cubic meter.

**O. Item No.15 :** Channel Outlet grates. .

1-**Description:** This work includes the fabrication and installation of grates at the outlets of existing masonry wall channels at the Charpentier site, in accordance with **Section 33 40 00.** « Stormwater utilities ».

2- **Unit of Measurement:** Each.

**P. Item No. 16 :** Demobilization

1-**Description:** Removal of staging areas, Subcontractor offices, and demobilization of equipment and related materials, in accordance with Section 00 71 13 « Mobilization ».

2- **Unit of Measurement:** Lump sum.

END OF SECTION

## **SECTION 01 25 13**

### **Product Substitution Procedures**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Procedures for requesting substitutions pre-bid, within bid, and post-bid conditions

##### **1.2 PRICE AND PAYMENT PROCEDURES**

A. This Subcontract is based on standards of quality for all products and materials as established in the Subcontract documents. Various systems and products have been designed to work together and are complimentary to each other. Unapproved substitutions or changes may result in inferior product or system performance. Substitutions will therefore only be considered on the following basis:

1. Pre-bid - Substitutions will not be considered for acceptance prior to the submission of bids.
2. Within Subcontractor's bid – The Subcontract bidder may propose alternate products and present its unit price bid for individual pay items based on these substitute products, strictly according to the indications in Article 1.2.B below.
3. Post-bid – Substitutions will only be considered after the Subcontract has been signed *if the following is applicable*:
  - a) The originally specified product is no longer available (locally or internationally) through commercial sources or *if* field conditions have changed (as determined by the Engineer) or are no longer reflected accurately on the plans and in the specifications. The necessity to import into the country a product or material that is included in the plans and specifications (the Subcontract Documents), does not constitute justification for requesting a substitution.

- B. Product Options - Whenever one or more products or systems is/are specified by using a proprietary name or the name of a particular manufacturer or vendor, the specific item mentioned shall be understood as establishing type, function, dimension, appearance, and quality desired. Other manufacturer's products, or systems, *might* be accepted *if* the provisions of Article 1.2.A above apply, provided sufficient information is submitted to allow the Engineer to determine that products proposed are equivalent to those named. In this case the determination by the Engineer shall be based on the following provisions:
1. For specifications or plans requiring specific grades, types, qualities, dimensions, and/or properties concerning materials, and if the phrases "Substitutions" or "Or Equal" or similar connotations *do not* appear, no other material will be considered.
  2. For products or systems specified (or listed on the Plans) by naming one or several comparable commercial products or manufacturers, if the phrases "Substitutions", "Or Equal" or similar connotations *do* appear, substitutions may be considered for the listed products, manufacturers or systems, according to the following Article 1.2.C.
- C. Substitutions (if allowable according to the provisions of Articles 1.2.A and 1.2.B)
1. Post-bid
    - a) Substitution requests must be made in a timely manner and brought to the attention of the Engineer in writing. Failure to meet the time frame requirements noted below are grounds for rejecting the request.
    - b) Substitution requests must be received in the Engineer's office at least 30 days before the submittal is due to be approved. If a submittal schedule is not available, the Subcontractor must note this date in his request. It is the Subcontractor's obligation to present the substitution request in a timely manner.
    - c) Subcontractor shall request and provide reason for substitution to Engineer, fully describing the i.) cause for the requested substitution and how it is covered within the provisions of Article 1.2.A.3, and ii.) the proposed item, material or system. Information shall include any adjustments to that or other affected work, and shall state credit or change in unit price involved. Provide requested samples. Requests for substitutions shall include:



- (1) Note to Engineer's attention any known deviations from the original product specified.
- (2) Product identification and manufacturer's name and address.
- (3) Manufacturer's descriptive literature, performance and test data, and reference standards.
- (4) Itemized comparison of proposed substitution with product or method specified.
- (5) Accurate cost data on proposed substitution in comparison with product or method specified.
- (6) Data relating to changes in construction schedule.
- (7) Relation to compatibility of installation.
- (8) Subcontractor shall state:
  - (a) Product is equivalent or superior in all respects to the originally specified product.
  - (b) Product will provide same warranty as required in General Conditions of the Subcontract, or the same special warranty or guarantee as specified in the specific Section.
  - (c) The substitution request includes all cost data and cost implications of the proposed substitution.
  - (d) That except for the case described in Article 1.2.A.3.a above, the Subcontractor understands that the substitution request, if approved, will be as a no-change Subcontract modification.
  - (e) That the Subcontractor will waive future claims for added costs caused by the proposed substitution.
  - (f) That Subcontractor shall will pay redesign and special inspection costs if caused by this product.
- d) The Engineer will determine acceptability of proposed substitution, and will notify Subcontractor of acceptance or rejection in writing within a reasonable time. When substitution is not accepted, provide specified product.
- e) The Engineer is not responsible for verification of compatibility of substitutions to other related work.

2. Within Subcontractor's bid (Criteria for determining minimum technical acceptability or equivalency)
  - a) Subcontract Bidder must include all of the required information as detailed in the "Submittals" article of the Section for which substitutions are requested.
  - b) Include product description, manufacturer or product specifications, drawings, photographs, performance and test data adequate for evaluation of the request; with applicable portions of the data are clearly identified
  - c) If the original product is shown or detailed on plans or within calculations provided in the Subcontract documents, include revised plans and calculations that reflect the proposed modifications which will allow for construction or installation of the substituted components. This includes, but is not limited to, one-line diagrams, wiring and electrical schematics, and layouts of electrical or electro-mechanical components.
  - d) Clearly describe how the substituted products will meet each of the requirements in "Part II – Products" of the Specification Section for which the substitutions are requested.
  - e) Subcontract Bidder shall state:
    - (1) Product is equivalent or superior in all respects to the originally specified product.
    - (2) Product will provide same warranty as required in General Conditions of the Subcontract, or the same special warranty or guarantee as specified in the specific Section.
    - (3) The substitution request includes all cost data and cost implications of the proposed substitution.
    - (4) That the Subcontractor will waive future claims for added costs caused by the proposed substitution.
    - (5) That Subcontractor shall will pay redesign and special inspection costs if caused by this product.
    - (6) That the Subcontract Bidder understands that the Engineer will determine acceptability of proposed substitution during the bid review process, and that rejection of the substitution request will classify the Subcontract Bidder as unresponsive

due to non-compliance with minimum technically acceptable criteria.

- f) Subcontract Bidder must provide only one unit price in the Priced Bill of Quantities for each pay item. If Bidder submits a Substitution Request for a Specification Section, it is understood that the unit prices proposed by the Subcontract Bidder include the substitutions proposed by the Bidder.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

#### **A. Substitution Request Form**

1. Subcontractor, Bidder or Proposer shall submit all substitution requests on this form, which is included as Section 00 43 25. Make additional copies as required.
2. This form shall be completely filled form when requesting a substitution for methods or materials shown or described in the Subcontract Documents.
3. If the pertinent portions of the Substitution Request Form are not filled in, the Engineer will reject the request for substitution.

END OF SECTION

## **SECTION 01 58 13**

### **TEMPORARY PROJECT SIGNAGE**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Subcontractor shall furnish, install and maintain all sign materials including sign posts, weighted stands, brackets, and required mounting hardware, and miscellaneous materials and painting required for temporary subproject identification signs

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Measurement shall be for each sign erected

##### **1.3 RELATED SECTIONS**

- A. Applicable provisions of DAI General Conditions & Infrastructure Fixed Price Unit Price Subcontract

##### **1.4 REFERENCES**

- B. None Applicable

##### **1.5 DEFINITIONS AND USES**

##### **1.6 SUBMITTALS**

- A. Shop Drawings: Submit the following in accordance with DAI General Conditions for submittals:
  - 1. Drawing identifying locations, material, layout, sign content, font type and size, and sample colors. Make sign and lettering to scale, using Client approved lettering fonts, clearly indicating condensed lettering if used.

The sign details will be submitted to the Engineer for approved prior to fabrication.

## 1.7 QUALITY ASSURANCE

- A. All materials and products shall be subject to approval by the Engineer.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. All sign materials and components shall be delivered to site safely and undamaged. All materials shall be new and not recycled from previous applications.

## 1.9 PROJECT/SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of said obstructions as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.

## 1.10 REGULATORY AND ENVIRONMENTAL WORK CONSTRAINTS

- A. The Subcontractor shall be provided a copy of the approved subproject Environmental Mitigation and Monitoring Program (EMMP). The EMMP includes critical work activities that may have environmental impacts that require the Subcontractor to mitigate environmental risk. No extra payment will be made for this work.

## PART 2 – PRODUCTS

### 2.1 SIGN MATERIALS

A. Structure and Framing: New construction grade lumber, structurally adequate and suitable for exterior application and specified finish.

B. Sign Panels: New A-B Grade, exterior type, APA MDO plywood both sides.

1. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles, minimum  $\frac{3}{4}$ -inch.

C. Rough Hardware: Galvanized steel, of sizes and types to enable sign assemblies to resist wind loads as required by authorities having jurisdiction but not less than wind velocity of 50 mph.

1. Use minimum  $\frac{1}{2}$ -inch diameter button head carriage bolts to fasten sign panels to supporting structures or #10 x 2  $\frac{1}{2}$ " zinc wood screws spaced at 6" on center. Bolt heads to be painted to match sign face.

D. Paint: Exterior quality, as specified in Division 9 or as a minimum as specified herein.

1. Primer and finish coat; exterior, semi-gloss, enamel.
2. Colors for structure, framing, sign surfaces, and graphics: As shown on the Drawings or as directed by the Engineer.

## **PART 3 – EXECUTION**

### **3.1 PROJECT IDENTIFICATION SIGN**

- A. Install subproject identification signs within 10 days of the Notice to Proceed date. Failure to erect the signs may be reason to delay approval of the initial Application for Payment.
- B. Paint exposed surfaces of supports, framing and surface material; one (1) coat of primer and two (2) coats of finish paint.
- C. Set signs plumb and level and solidly braced as required to prevent displacement during the subproject. If mounted on posts, sink posts 1 to 1.25 m below grade, leaving a minimum of 2 m of each post above grade for mounting the sign.
- D. Install information signs at a height for optimum visibility, on ground mounted poles or attached to temporary structural surfaces.

### **3.2 MAINTENANCE**

- A. Maintain signs and supports in neat, clean condition; repair damages to structure, framing or sign.
- B. Relocate information signs as required by the progress of the Work.
- C. Poorly maintained, defaced, damaged or dirty signs shall be replaced, repaired or cleaned without delay, at no additional cost to the Owner.
- D. Special care must be taken to ensure that construction materials and dust are not allowed to obscure the face of a sign.
- E. Signs no in effect shall be covered or removed.

### **3.3 REMOVAL**

- A. Remove signs, framing and supports and foundations upon completion of the Work.

B. Leave areas clean and patch as required to remove any traces of temporary signs and restore area to pre-project conditions.

END OF SECTION



## **SECTION 01 71 13**

### **Mobilization**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

**A. Section Includes:**

1. Requirements for Subcontractor Mobilization and Demobilization
2. Subcontractor shall be responsible for all preparatory work and operations required prior to beginning Work

##### **1.2 PRICE AND PAYMENT PROCEDURES**

**A. Unit price is as detailed in the Section 00 70 00**

**B. Measurement – applies to all work, accessories and items necessary for the mobilization of equipment, personnel and tools to the site and the orderly setup of the Subproject construction facilities. Measurement and Payment includes, but is not limited to, the following:**

1. Movement of personnel, tools, equipment, materials, supplies, disposal bins, and incidentals to the PROJECT site and all preparatory work
2. Establishment of all necessary facilities for Subproject execution, including acquisition of easements for the Subcontractor's convenience.
3. Obtaining permits necessary for the execution of the Work
4. Providing required bonds and proof of insurance.
5. Upon completion of the Work, Subcontractor shall remove tools, equipment, and unused materials and supplies from the Subproject site and restore all disturbed areas outside the Subproject area to their pre-construction condition.

##### **1.3 QUALITY ASSURANCE**

- A. The Engineer has the right to reject construction tools, equipment, materials, and supplies which are, in Engineer's opinion, unsafe, improper, or inadequate.
  - 1. Subcontractor shall bring rejected construction tools, equipment, materials, and supplies to an acceptable condition as approved by the Engineer or remove from the Subproject site.

#### 1.4 SUBMITTALS

- A. Subcontractor shall submit within seven (7) days after the effective date of the Notice to Proceed, a layout of the Subproject site including temporary fences, roads, parking, buildings, storage areas, drainage plans, temporary building layouts, and temporary utility locations.

## **PART 2 – PRODUCTS**

### **2.1 SPECIFIC REQUIREMENTS**

- A. The provision of a site office to be used by the Subcontractor site foreman and Subcontractor site engineer, which shall be equipped with a desk or table, seats, and adequate space for meetings of up to five people. Office shall have artificial light and shall be equipped with electrical outlets, all of which shall be supplied with electrical energy via a Subcontractor-provided generator.
- B. Provision of WC (portable toilette) with functional handwashing facilities and constant supply of toilette paper. WC shall be emptied and maintained to the satisfaction of the Engineer and as needed in order to permit its continued use according to manufacturer recommendations.

## **PART 3 – EXECUTION (NOT APPLICABLE)**

END OF SECTION

## **SECTION 01 74 00**

### **CLEANING AND WASTE MANAGEMENT**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

**A. Section Includes:**

1. Indications and procedures for site cleanup.

##### **1.2 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract**

##### **1.3 REFERENCES**

- A. OSHA HAZCOM 2012**

##### **1.4 SUBMITTALS**

- A. Subcontractor shall provide to the representatives of the Client within seven (7) business days from the effective date of the Subcontract, a note on the general execution of this Section, defining in particular the organization of work, the choice of means and arrangements for carrying out the work.**

##### **1.5 SAFETY REQUIREMENTS**

- A. Standards: Maintain Subproject in accord with safety and insurance standards.**

B. Cleaning and disposal operations shall comply with local ordinances and anti-pollution laws.

1. Subcontractor shall not burn or bury rubbish and waste materials on Subproject site.
2. Subcontractor shall not dispose of volatile wastes such as mineral spirits, oils.
3. Subcontractor shall not dispose of any wastes into canals, streams or waterways.

## 1.6 PROJECT/SITE CONDITIONS

- A. The existing situation of the site, as shown on the plans, is provided in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations and conditions of topographic features shall be determined by the Subcontractor as the work proceeds.

## **PART 2 – PRODUCTS – NOT USED**

## **PART 3 – EXECUTION**

### **3.1 INSTALLATION - CLEANING AND WASTE MANAGEMENT**

- A. Prior to construction commencement, remove existing trash, debris and garbage present at the site and dispose of them legally in public or private relief areas located off the property of the owner. Coordinate with the Owner (CTE) or municipal solid waste management authority.
- B. Provide loading, transportation and deposit of portable toilets to a site within the Les Cayes commune, to be designated by the Owner. Provide two additional trips using at least one flat bed vehicle, including pickup, loading, and deposit, as directed by the Engineer to remove from site miscellaneous equipment, abandoned cars, and furniture to a site within the Les Cayes commune, to be designated by the Owner.

### **3.2 CLOSEOUT ACTIVITIES**

- A. In preparation for final completion or occupancy, conduct final inspection of sight.
- B. Maintain the site clean until obtention of Subproject Substantial Completion Certificate.

END OF SECTION

## **SECTION 01 74 00**

### **CLEANING AND WASTE MANAGEMENT**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

**A. Section Includes:**

- 1. Indications and procedures for site cleanup.**

##### **1.2 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract**

##### **1.3 REFERENCES**

- A. OSHA HAZCOM 2012**

##### **1.4 SUBMITTALS**

- A. Subcontractor shall provide to the representatives of the Client within seven (7) business days from the effective date of the Subcontract, a note on the general execution of this Section, defining in particular the organization of work, the choice of means and arrangements for carrying out the work.**

##### **1.5 SAFETY REQUIREMENTS**

- A. Standards: Maintain Subproject in accord with safety and insurance standards.**

B. Cleaning and disposal operations shall comply with local ordinances and anti-pollution laws.

1. Subcontractor shall not burn or bury rubbish and waste materials on Subproject site.
2. Subcontractor shall not dispose of volatile wastes such as mineral spirits, oils.
3. Subcontractor shall not dispose of any wastes into canals, streams or waterways.

## 1.6 PROJECT/SITE CONDITIONS

- A. The existing situation of the site, as shown on the plans, is provided in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations and conditions of topographic features shall be determined by the Subcontractor as the work proceeds.



## **PART 2 – PRODUCTS – NOT USED**

## **PART 3 – EXECUTION**

### **3.1 INSTALLATION - CLEANING AND WASTE MANAGEMENT**

- A. Prior to construction commencement, remove existing trash, debris and garbage present at the site and dispose of them legally in public or private relief areas located off the property of the owner. Coordinate with the Owner (CTE) or municipal solid waste management authority.
- B. Provide loading, transportation and deposit of portable toilets to a site within the Les Cayes commune, to be designated by the Owner. Provide two additional trips using at least one flat bed vehicle, including pickup, loading, and deposit, as directed by the Engineer to remove from site miscellaneous equipment, abandoned cars, and furniture to a site within the Les Cayes commune, to be designated by the Owner.

### **3.2 CLOSEOUT ACTIVITIES**

- A. In preparation for final completion or occupancy, conduct final inspection of sight.
- B. Maintain the site clean until obtention of Subproject Substantial Completion Certificate.

END OF SECTION

## **SECTION 01 77 00**

### **Closeout Procedures**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes: Administrative and procedural requirements for Subcontract closeout including, but not limited to the following:
  - 1. Project record document submittal set(s)
  - 2. Operation and maintenance manual submittal set(s).
  - 3. Submittal set of warranties.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Measurement – the closeout submittals as required in this Section shall not be measured separately for payment, but shall be paid for in the Subcontract Unit Price Bid for the individual pay items that require closeout submittals.

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract

##### **1.4 CLOSEOUT SUBMITTALS**

- A. As-built drawings and record drawings: When requested in the individual specification Sections, submit "as-built" and "Record" drawings of the installation, complying minimally as indicated below. Additional requirements may be indicated in the individual Section.
  - 1. One hard copy of the marked-up field copies of Subcontract plans and specifications showing revisions to the construction documents based on

changes that occur in the field. The copies shall be bound in a 3-ring binder or otherwise bound as approved by the Engineer. Subcontractor marks changes onto a field set of prints of the construction plans (required by to be kept on site), denoting what and where the changes were made. Additions shall be marked in red ink. Deletions shall be marked in green ink. Notes and annotations shall be marked in blue ink. Marked-up plans shall clearly show and differentiate changed elements from originally intended, including dimensions, materials, and other descriptions.

2. A scanned PDF in color of the entire marked-up field set of plans

3. Updated construction drawings (Record Drawings) showing final configuration of the work in AutoCAD format, consisting of working drawing in “model space” and the sheet file, and which shall include all Xref files.
  4. Four hard copies of the Record Drawings on 11 x 17 size paper, each bound in a 3-ring binder
  5. A PDF file for each for each Record Drawing. The PDF file(s) shall be placed into a folder named “PDF” on the submitted media.
  6. All electronic media concerning “as-built” and “Record” drawings shall be submitted on Memory Stick, labeled as “As-built Drawings”, with sub-folders labeled “PDF” and “AutoCad”,
- B. Warranties: Organize warranty documents into an orderly sequence based on the order of the specification Sections.
1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
  2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title “WARRANTIES”, Project name, and name of Subcontractor.
  4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file. Provide table of contents at beginning of document. Provide electronic file on a memory stick labeled “WARRANTIES”, Project Name

- C. Operation and maintenance manual for entire system: When requested in the individual specification Section, provide two sets of system-level operation and maintenance manuals in a transparent plastic binder, covering the operation and maintenance of the sum of the electro-mechanical and other components that comprise the overall system. This manual will be provided in French.
- D. Operation and maintenance data: Provide two sets of operation and maintenance manuals for all individual electro-mechanical equipment *regardless* of indications or requirements of the individual specification Sections.
- E. Other data to be submitted as an Annex to the Warranty Submittal:
  - a. Two sets of type and test certificates, if provided by manufacturer, of operational equipment
  - b. UPC number cutouts from equipment packaging.
  - c. Copies of all manufacturer material certificates.

## **PART 2 – PRODUCTS**

## **PART 3 – EXECUTION**

END OF SECTION

## **SECTION 03 30 00**

### **CAST-IN-PLACE CONCRETE**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures for use in constructing the Structural Steel Framing and for Composite Fence and Gates

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Measurement shall be in cubic meters of concrete placed for Structural Steel Framing. Rebar procurement, erection, and associated reinforcement shall not be measured separately, but shall be paid for at the Subcontract unit price bid for Cast-in-Place Concrete. Concrete placement for columns and foundations required for Composite Fence and Gates shall not be measured or paid for separately, but shall be paid for at the Subcontract Unit Price for Composite Fence and Gates.

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. 05 10 00 Structural Steel Framing

##### **1.4 REFERENCES**

- A. ASTM

1. A82/A82M-07 Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
2. A185/185M-07 Standard Specification for Steel Welded Wire Reinforcement, Plain, for  
Concrete

3. A615/A615M-09 Standard Specification for Deformed and Plain Carbon Steel  
Bars for Concrete Reinforcement
4. A653/A653M-11 Standard Specification for Steel Sheet, Zinc Coated (Galvanized)  
or Zinc Iron Alloy Coated (Galvannealed) by the Hot Dip Process  
Standard Specification for Low Alloy Steel Deformed and Plain  
Bars for Concrete Reinforcement

- |     |               |   |
|-----|---------------|---|
| 6.  | A767/A767M-09 | Standard Specification for Zinc Coated (Galvanized) Steel Bars for Concrete Reinforcement   |
| 8.  | A820-11       | Standard Specification for Epoxy Coated Reinforcing Steel Bars<br>Standard Specification for Steel Fibers for Fiber Reinforced Concrete |
| 9.  | A996/A996M-09 | Standard Specification for Rail Steel and Axle Steel Deformed Bars for Concrete Reinforcement   |
| 10. | C31/C31M-10   | Standard Practice for Making and Curing Concrete Test Specimens in the field  |
| 11. | C33/C33M-11A  | Standard Specification for Concrete Aggregates  |
| 12. | C39/C39M-12   | Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens   |
| 13. | C94/C94M-12   | Standard Specification for Ready Mixed Concrete   |
| 14. | C143/C143M-10 | Standard Test Method for Slump of Hydraulic Cement Concrete   |
| 15. | C150-11       | Standard Specification for Portland Cement  |
| 16. | C171-07       | Standard Specification for Sheet Materials for Curing Concrete  |
| 17. | C172-10       | Standard Practice for Sampling Freshly Mixed Concrete   |
| 18. | C173-10       | Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method   |
| 19. | C192/C192M-07 | Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory   |
| 20. | C231-10       | Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method   |

## 1.5 SUBMITTALS

- A. Product Data: Unless otherwise indicated, submit the following to the Engineer
1. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, subproject conditions, weather, test results, or other circumstances warrant adjustment.
  2. Material certificates: For each of the following, signed by manufacturers:
    - 1) Cement materials



- 2) Admixtures
- 3) Abrasive aggregate
- 4) Lightweight aggregate for structural concrete
- 5) Reinforcing steel

- B. Test Report for Concrete Mix Designs: Trial mixes including water cement // fly ash // ratio curves, concrete mix ingredients, and admixtures.
- C. Samples: Submit the result of a concrete test for approval by the Engineer.
- D. Shop Drawings: Submit the following in accordance with Submittal Procedures: Requirements for Submittals:

1. Steel Reinforcement: Placing drawing that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade and supports for concrete reinforcement.
2. Formwork: Submit detailing fabrication, assembly, and support of formwork.

## 1.6 CLOSEOUT SUBMITTALS

- A. Submit "as built" drawings of the installation: 3 sets of hard copies

## 1.7 QUALITY ASSURANCE

- A. Subcontractor shall provide name and qualifications of selected independent testing agency to the Engineer prior to commencement of Work, including the agency's qualifications, for approval by the Engineer.
- B. Testing Agency Qualifications: An independent agency, acceptable to the Engineer
- C. Furnish, pay for and deliver representative samples of sufficient quantity of cement, aggregates and admixtures required for trial batch mixes to the testing laboratory. Obtain materials from the batching plant that will be supplying production Concrete in conformance with ASTM C94/C94M.
- D. Measure all materials for Concrete, including water, with equipment and facilities suitable for accurate measurement and capable of being adjusted in conformance with ASTM C 94.
- E. Methods of Sampling and Testing:
  1. Fresh Concrete Sampling: ASTM C 172
  2. Specimen Preparation: ASTM C 31
  3. Compressive Strength: ASTM C 39
  4. Slump test : ASTM C-143
- F. Furnish, pay for and deliver for testing at least three cylinders for each day's pour or at least six for each 10 cubic meters of cast-in-place concrete, whichever is greater.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- G. Concreting shall not be started during rain and shall not be continued during such weather after having been started except long enough to come to a suitable cutoff point.
- H. Deliver, store, and handle steel reinforcement to prevent bending and damage.

## 1.9 PROJECT/SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities
- B. The subcontractor shall provide for the protection, temporary removal and replacement, or relocation of said obstructions as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.

## PART 2 – PRODUCTS

### 2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

### 2.2 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Subproject:
  - 1. Portland Cement: ASTM C 150, Type I
  - 2. Normal-Weight Aggregates: ASTM C 33, graded.
    - 1) Maximum Coarse-Aggregates size:  $\frac{3}{4}$  inch (19 mm) nominal.
    - 2) Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
  - 3. Water: Clean, free from oil, acid, salt, injurious amounts of vegetable

matter, alkalis, and other impurities: Water potable, ASTM 94/C 94M.

## 2.4 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, nonmolecular film forming, manufactured to fresh concrete.
- B. Moisture- retaining Cover: polyethylene film or white burlap-polyethylene sheet. Water potable.

## 2.5 CONCRETE MIXING

- A. Proportion normal-weight concrete mixture as follows:
  - 1) Minimum compressive strength: 3000 psi (20.7 MPa) at 28 days.
  - 2) Maximum water- cementitious materials ratio: 0.50.
  - 3) Slump limit: 3 to 4 inches (75 to 100 mm).
  - 4) Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M.
  - 5) When air temperature is between 85 and 90 deg F (30 C and 32 deg C) reduce mixing and deliver time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

## PART 3 – EXECUTION

### 3.1 INSPECTION

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Ensure reinforcement and inserts are not disturbed during concrete placement.
- B. Maintain accurate records of poured concrete items to indicate date, location of pour, quality of concrete, ambient air temperature and test samples taken.

- C. Concrete placing shall not be started until all necessary preparations have been completed and approval has been given. Preparations shall consist of completing all form work involved, placing all reinforcing steel, anchors, fastening devices, waterproofing and such other work to be built into the concrete in the section to be poured, and any other preparations herein required for the concreting operations. Free water and any mud or debris shall be removed from forms and excavations to be occupied by concrete.
- D. Set anchor bolts to templates under supervision of knowledgeable and experience foreman prior to placing concrete.
- E. Set bolts and fill holes with [shrinkage compensating grout] [epoxy grout].

### 3.3 INSTALLATION - CAST-IN-PLACE CONCRETE

#### A. Formwork

- 1. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

#### B. Steel reinforcement

- 1. Clean reinforcement of loose rust and mill scale, earth, and other foreign materials that would reduce bond to concrete.

#### C. Concrete placement

- 1. Concrete shall be conveyed from the mixer or transporting vehicle to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of materials or displacement of the reinforcing steel and which will avoid re-handling. For ready-mix concrete in an agitator truck, the elapsed time from mixer to placement shall not exceed 1-1/2 hours.

- D. Place concrete according to the locations and dimensions on the Plans and as directed by the Engineer
- E. Grout under base plates [and machinery] using procedures in accordance with manufacturer's recommendations which result in 100% contact over grouted area.
- F. Protect anchor bolt holes from water accumulations
- G. Vibrate concrete using the appropriate size equipment as placing proceeds.

Check frequency and amplitude of vibrations prior to use. Provide additional standby vibrators in the event of equipment failure.

- H. Surfaces of concrete that are protected by formwork which is left in place for seven days shall not require any additional curing except as specified for hot weather. If the formwork is removed in less than seven days, the concrete shall receive moist curing until seven days have elapsed since the concrete was placed.
- I. Protect freshly placed and consolidated concrete against damage or defacement from adverse weather conditions.

### 3.4 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the well house and immediate surroundings

END OF SECTION

## **SECTION 05 10 00**

### **Structural Steel Framing**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. This work includes procurement, fabrication and installation of structural steel framing members, structural steel support members, complete with required bracing, welds, washers, nuts, baseplates, connectors and bolts. Additionally, the construction of a reinforced concrete block retaining wall around the perimeter of the framing structure is included.
2. Instructions and indications for the Subcontractor to provide all labor, supervision, engineering, and fabrication required for installation of the channel framing in accordance with the Subcontract drawings and as specified herein.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Structural Steel Framing is paid for at the subcontract unit price bid, and shall include all steel, bolts, fasteners, welding, erection and associated components and equipment required to build the frame and mount the panels. Modifications to the dimensions of the lateral support purlins, if required to accommodate the solar panel clearances and/or mounting hardware, shall not be measured separately, but shall be paid for at the contract unit price bid for Structural Steel Framing. Reinforced concrete block retaining wall around the perimeter of the structure shall not be measured or paid separately, but shall be paid for at the Subcontract Unit Price Bid for Structural Steel Framing. Concrete placement, including rebar, shall be included in the Subcontract unit price bid for Cast-in-Place Concrete. Excavation and fill for the Structural Steel Framing sub-base compacted granular fill, as well as for the concrete block retaining wall, supporting the reinforced concrete foundations shall be measured and paid for at the Subcontract Unit Price Bid for Excavation and Fill. Painting shall be paid for at the Subcontract Unit Price Bid for Painting.

### 1.3 RELATED SECTIONS

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract



B. Section 09 91 00 Painting

- C. 03 30 00 Cast in Place Concrete
- D. 31 23 00 Excavation and Fill
- E. 26 31 00 Photovoltaic Collectors

1.4 REFERENCES

- A. ASTM A36/A36M, Specification for Structural Steel.
- B. ASTM A325M, Specification for High-Strength Bolts for Structural Steel Joints  
Metric
- C. ASTM A992 Structural Steel Shapes
- D. ASTM 1023 Stranded Carbon Steel Wire Ropes for General Purposes
- E. ASTM F436 Hardened Steel Washers
- F. ASTM F959 Compressible Washer-Type Direct Tension Indicators for use with  
Structural Fasteners
- G. ASTM F1554 Anchor Bolts, Steel, 36, 55, and 105
- H. ASTM F1582 "Twist Off" Tension Control Structural Bolts/Nut/Washer  
Assemblies, Steel, Heat Treated, 120/105 Ksi Minimum Tensile Strength
- I. ASTM A36 Structural Steel
- J. ASTM A108 Steel Bars, Carbon, Cold Finished, Standard Quality
- K. ASTM A242 High-Strength, Low-Alloy Structural Steel
- L. ASTM A283 Low and Intermediate Tensile Strength Carbon Steel Plates
- M. ASTM A307 Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
- N. A500/A500M-10a Cold Formed Welded and Seamless Carbon Steel Structural  
Tubing in Rounds and Shapes
- O. A501 07 Hot-Formed Welded and Seamless Carbon Steel Structural Tubing

- A. Master Painters Institute (MPI):

1. No. 18 - Primer, Zinc Rich, Organic.

## 1.5 SUBMITTALS

A. Product Data: Unless otherwise indicated, submit the following to the Engineer:

1. Submit bolts manufacturer's product data, including installation instructions.
2. Submit electrode manufacturer's product data for the welds.
3. Submit manufacturer's product data for the bolts.
4. Submit manufacturer's product data for steel.

B. Shop Drawings: Submit the following drawings in accordance with Section 00 70 00 for submittals:

1. For the base plate
2. For the connection of the concrete foundation, baseplate and the column.
3. For the connection between the column and the girders.
4. For the column lengths
5. For the concrete foundation beams and footings
6. Purlin lengths (as indicated on the plans or as required to accommodate panel mounting hardware and to comply with manufacturer clearance requirements).
7. Submit all shop and assembly drawings necessary to completely install the channel framing in compliance with the Subcontract Drawings.

## 1.6 CLOSEOUT SUBMITTALS

A. Submit "as built" drawings of the installation: 3 sets of hard copies, 2 sets of operation and maintenance manuals and 2 sets of type and test certificates of operational equipment.

## 1.7 QUALITY ASSURANCE

- A. Subcontractor shall verify that the dimensions mentioned on the plans are true in the field before starting work.
- B. Subcontractor shall to be sure that the materials on the site are exactly the same as required in this Section and shown in the approved shopped drawings.
- C. Pre-Installation Conference: Convene a meeting on site, after submittals are received and approved but before any work, to review drawings and specifications, submittals, schedule, manufacturer instructions, site logistics and pertinent matters of coordination, temporary protection, governing regulations, tests and inspections. Participants to include all parties whose work is influenced or related to the work of this Section, and at a minimum the Field Inspection Engineer, Structural Design Engineer, and Subcontractor Subproject Director shall attend.
- D. Upon completion of finish bolting or welding on any part of the work, and prior to start of work by other trades that may be supported, attached, or related to the structural steel work, submit a certified report of survey for approval by the Engineer.
- E. Questions about Subcontract Documents: The Subcontractor shall promptly notify the Engineer whenever design of members and connections for any portion of the structure are not clearly indicated or when other questions exist about the Subcontract documents. Such questions shall be resolved prior to the submission of shop drawings.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Steel Column: Deliver the steel columns to site with theirs panels clearly identifying the location of installation.
- B. Base plate: Deliver the baseplate to site with its panel clearly identifying the location of installation.
- C. Bolts: Deliver baseplate bolts to site in manufacturer's original packaging
- D. Steel Column: Steel column, in clean, dry area, off ground. Protect columns from damage.

- E. Bolts: Store bolts and assembly hardware in clean, dry area in accordance with fastener manufacturer's instructions.
- F. Protect materials and finish from damage during handling and installation.

## 1.9 PROJECT/SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of said obstructions as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.

## PART 2 – PRODUCTS

### 2.1 STRUCTURAL STEEL

Structural steel shall be free from defects impairing strength, durability or appearance. Any substitutions of product or manufacturer must be approved in writing by the Engineer through a Request for Modification submitted ten days prior to the date the materials will be ordered. Structural steel shall meet the latest minimum requirements of the following Standards:

- A. Structural steel shapes, bars and plates shall conform to the ASTM designations listed in the General Notes of the Drawings and within the References of Part 1.

- B. Rectangular structural channel is cold formed conforming to the ASTM designations listed in the General Notes of the Drawings and within the References of Part 1.

#### 2.1 High Strength Structural Bolts:

- A. High strength structural bolts shall conform to the ASTM designations listed in the General Notes of the Drawings and within the References of Part 1.
- B. High strength bolts shall be detailed and installed in accordance with AISC - Specification for Structural Joints Using ASTM A325 or A490 Bolts.
- C. Manufacturer's symbol and grade markings shall appear on all bolts and nuts.

#### 2.2 COLD FORMED STEEL

- A. Steel Channel Framing components shall be approved by the Engineer in writing and must be submitted ten days prior to the date the materials will be ordered.
- B. All channel members shall be fabricated from structural grade steel conforming to one of the following ASTM specifications: A 1011 SS GR 33, A 653 GR 33.
- C. Fittings shall be fabricated from steel conforming to one of the following ASTM specifications: A 575, A 576, A36 or A 635.

#### 2.3 Paints and Primers

- A. Supplier's standard lead- and chromate-free, non-asphaltic, rust-inhibiting primer.
- B. Galvanizing repair paint: SSPC Paint 20.
- C. Refer to Specification Section 09 91 00 for additional paint requirements.

#### 2.4 Concrete Blocks and Perimeter Retaining Wall

- A. Shall be furnished and constructed according to the indications on the plans

### PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected. After verification that everything is correct, the Subcontractor shall have the authorization of the Engineer to begin his work.

### 3.2 INSTALLATION – STRUCTURAL STEEL FRAMING

- A. After construction of the foundation according to separate Sections,
  - 1. Install the baseplate symmetrically with the angles so that the holes in the corners are in the same position as the hole in the plate. See the Subcontract plans.
  - 2. Clean bolts placing the baseplate on the concrete surfaces.
  - 3. Verify dimensions and condition of existing work, report discrepancies and potential problem areas to the Engineer before commencing fabrication.
- B. Columns
  - 1. The columns should be placed in the center of the steel plate and have a 90 degree angle with the plate in order to be able to recover the computational forces in an efficient way. The Subcontractor must ensure that all columns of the structures are to be positioned as shown on the plans.
- C. Beams and Purlins
  - 1. The beams must be welded with the columns as shown on the plans. The purlin must be placed in a correct way in order to have a uniform arrangement of the solar panels.
- D. Paint
  - 1. Paint structural steel according to this and other Sections of these Subcontract documents. Should additional indications be required, paint according to the fabricator's recommendations.
  - 2. Do not apply paint initially to the following:
    - a. Surfaces within 50 mm (2 inches) of joints to be welded in field.
    - b. Surfaces which will be encased in concrete.
    - c. Surfaces which will receive sprayed on fireproofing.

- d. Top flange of members which will have shear connector studs applied.
- 3. After welds have been completed, repaint all exposed ferrous surfaces according to the indications of Section 09 91 00.

### 3.3 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the well house and immediate surroundings

END OF SECTION

## **SECTION 09 91 00**

### **Painting**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Indications for painting of the Structural Steel Framing

##### **1.2 Price and Payment Procedures**

###### **A. Unit price is as detailed in the Section 00 70 00**

- B. Measurement – includes materials and labor required for sanding, preparation, priming and painting of the Structural Steel Framing Structure members. Includes repainting after assembly in the place of welds and any other exposed surfaces**

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract**
- B. 05 10 00 Structural Steel Framing**
- C. 01 25 13 Product Substitution Procedures**

##### **1.4 REFERENCES**

- A. ASTM D 16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.**
- B. ASTM D 523 - Test Method for Specular Gloss.**



- C. US Green Building Council, (USGBC) - Green Seal standards for LEED paint credits.
- D. American National Standards Institute (ANSI) - Performance Standards.
- E. Paint Decorating Contractors of America (PDCA) - Application Standard.
- F. National Paint and Coatings Association (NPCA) - Gloss Standard.
- G. American Society for Testing Materials (ASTM) - Testing Methods.
- H. Master Paint Institute (MPI) - Established paint categories and standards.
- I. Ozone Transmission Commission (OTC) - Established levels of Volatile Organic Compounds.

## 1.5 DEFINITIONS AND USES

A. Gloss levels as established by the National Paint & Coating Association (NPCA) using ASTM test method #D-523 (60-degree meter) are as follows:

1. Flat - Less than 5 Percent.
2. Eggshell - 5 - 20 Percent.
3. Satin - 20 - 35 Percent.
4. Semi-Gloss - 30 - 65 Percent.
5. Gloss - Over 65 Percent.

## 1.6 SUBMITTALS

A. Product Data: Provide a complete list of all products to be used, with the following information for each:

1. Consult with the Owner and the Engineer to determine desired color of the paint
2. Submit a product data sheets and material safety data sheets for all primers, paints, stains and coatings used.
3. Manufacturer's name, product name and/or catalog number, and general product category.
4. Cross-reference to specified paint system(s) that the product is to be used in; include description of each system. Unless otherwise indicated, submit the following to the Engineer:

B. Samples: Submit samples of paint finish on specified metals

C. Manufacturer's Instructions: Indicate special surface preparation procedures.

D. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

## 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of three years demonstrated experience in installing products of the same type and scope as specified.
- B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish areas designated by the Engineer
  - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by the Engineer.
- C. Refinish mock-up area as required to produce acceptable work.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Disposal:
  - 1. Never pour leftover coating down any sink or drain. Use up material on the job or seal can and store safely for future use.
  - 2. Do not incinerate closed containers.
  - 3. For specific disposal or recycle guidelines, contact the local waste management agency or district. Recycle whenever possible.

#### 1.9 PROJECT CONDITIONS

- A. The Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

#### 1.10 REGULATORY AND ENVIRONMENTAL WORK CONSTRAINTS

- A. Follow all environmental and worker safety regulations and rules as included in the subproject specific environmental monitoring and management plan (EMMP) and according to national and municipal environmental regulations.

#### 1.11 WARRANTY

- A. Inspection of all surfaces to be coated must be done by the manufacturer's or distributor's representative to insure proper preparation prior to application.
- B. All thinners, fillers, primers and finish coatings shall be from the same manufacturer to support a product warranty. Products other than those submitted shall be accompanied by a letter stating its fitness for use and compatibility.
- C. At subproject closeout, provide to the Owner or the Engineer an executed copy of the Manufacturer's standard form outlining the terms and conditions of and any exclusions to their Limited Warranty against Manufacturing Defect.

#### 1.12 EXTRA MATERIALS

- A. At subproject closeout, supply the Owner five gallons of each product for touch-up purposes. Cans shall be clearly marked with color name, number and type of paint.
- B. At subproject closeout, provide the color mixture name and code to the Owner for accurate future color matching.

### **PART 2 – PRODUCTS**

#### 2.1 MIXING AND TINTING

- A. Except where specifically noted in this section, all paint shall be ready-mixed and pre-tinted. Agitate all paint prior to and during application to ensure uniform color, gloss, and consistency.

- B. Thinner addition shall not exceed manufacturer's printed recommendations. Do not use kerosene or other organic solvents to thin water-based paints.
- C. Where paint is to be sprayed, thin according to manufacturer's current guidelines.

## 2.2 EXTERIOR PAINT SCHEDULE

- A. Commercial Water-base System: (one prime coat and two finish coats)
  - 1. Primer: Universal Metal primer (400 g/l).
  - 2. Finish: Alkyd Semi-Gloss (396 g/l).

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. The subcontractor shall review the product manufacturer's special instructions for surface preparation, application, temperature, re-coat times, and product limitations.
- B. The subcontractor shall review product health and safety precautions listed by the manufacturer.
- C. The subcontractor shall be responsible for enforcing on site health and safety requirements associated with the Work.
- D. Do not begin installation until substrates have been properly prepared.
- E. Ensure that surfaces to receive paint are dry immediately prior to application.

- F. Ensure that moisture-retaining substrates to receive paint have moisture content within tolerances allowed by coating manufacturer. Where exceeding the following values, promptly notify the Engineer and obtain direction before beginning work.
- G. Examine surfaces to receive coatings for surface imperfections and contaminants that could impair performance or appearance of coatings, including but not limited to, loose primer, rust, scale, oil, grease, mildew, algae, or fungus, stains or marks, cracks, indentations, or abrasions.
- H. Correct conditions that could impair performance or appearance of coatings in accordance with specified surface preparation procedures before proceeding with coating application.

### 3.2 PREPARATION - GENERAL

- A. Clean surfaces thoroughly prior to coating application.
- B. Do not start work until surfaces to be finished are in proper condition to produce finished surfaces of uniform, satisfactory appearance.
- C. Remove dust and loose particulate matter from surfaces to receive coatings immediately prior to coating application.
- D. Remove or protect adjacent hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items not indicated to receive coatings.
- E. Move or protect equipment and fixtures adjacent to surfaces indicated to receive coatings to allow application of coatings.
- F. Protect adjacent surfaces not indicated to receive coatings.

### 3.3 SURFACE PREPARATION

- A. Metals: Remove rust or scale, if present, by wire brush cleaning, power tool cleaning, or sandblast cleaning; remove grease, oil, and other contaminants which could impair coating performance or appearance by solvent cleaning, with phosphoric-acid solution cleaning of welds, bolts and nuts; spot-prime repaired welds with specified primer.

### 3.4 APPLICATION - GENERAL

- A. Apply each coat to uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.
- B. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.
- C. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5 feet (1.5 m).
- D. Remove dust and other foreign materials from substrate immediately prior to applying each coat.
- E. Where paint application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.
- F. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

### 3.5 CLEANING

- A. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.
- B. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.
- C. Reconnect equipment adjacent to surfaces indicated to receive coatings.
- D. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.
- E. Remove protective materials.

### 3.6 PROTECTION AND REPAIR

- A. Protect completed coating applications from damage by subsequent construction activities.
- B. Repair to the owner's acceptance coatings damaged by subsequent construction activities. Where repairs cannot be made to Engineer's acceptance, re-apply

finish coating to nearest adjacent change of surface plane, in both horizontal and vertical directions.

### 3.7 ADJUSTING

- A. All scratches, welds and other exposed surfaces shall be painted or repainted upon completion of the work

END OF SECTION



## **SECTION 26 31 00**

### **Photovoltaic Collectors**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Section includes instructions for the provision of a photovoltaic array of panels, with associated controls and wiring, for the supply of power to two submersible pumps in wells F1 and F2

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is as detailed in the Section 00 70 00
- B. Measurement – includes procurement and all related work for the installation of solar panel array, panel connector clamps and hardware necessary to provide minimum wind load resistance as specified, spare panels, associated electrical conduits and cables, and electrical system components necessary to convey DC power to the F1 and F2 well houses, as indicated or required to perform the work described in Section 26 31 00 and on the plans. Work and components inside of the well houses shall be measured and paid for at the subcontract unit price bid for Submersible Centrifugal Well Pumps. Fabrication and erection of solar racking structure shall be paid for at the subcontract unit price bid for Structural Steel Framing. Excavation of trenches and backfill of conduit runs shall be paid for at the subcontract unit price for Excavation and Fill.

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. Section 33 11 36 Submersible Centrifugal Well Pumps
- C. Section 05 10 00 Structural Steel Framing
- D. Section 03 30 00 Cast-in-place Concrete
- E. Section 01 25 13 Product Substitution Procedures

F. Section 01 77 00 Closeout Procedures

1.4 REFERENCES

- A. IEC/EN 62253: Standard for Photovoltaic pumping systems. Design qualification and performance measurements
- B. ASTM B286 - 07(2017): Standard Specification for Copper Conductors for Use in Hookup Wire for Electronic Equipment
- C. NFPA 70 National Electric Code
- D. NEMA - National Electrical Manufacturer's Association
- E. UL 778
- F. ASTM – American Society of Testing Materials

1.5 SUBMITTALS

- A. Product Data: Unless otherwise indicated, submit the following to the Engineer:
  - 1. Photovoltaic (PV) panel technical specifications sheet
  - 2. PV panel connectors (clamps) for attachment to the metal support framing, including hardware, and documentation that asserts that such connectors are compatible according to the manufacturer's requirements
  - 3. Wire specifications and specifications for PV Disconnects, Combiners and Protectors
- B. Shop Drawings: Submit the following in accordance with Section 00 70 00 for submittals:
  - 1. Panel array layout and number of panels
  - 2. Steel framing modifications to the Subcontract plan set required to accommodate the panels
  - 3. Connection details for PV modules to steel framing
  - 4. Cable routing, DC overload and overcurrent protections, and DC combiner and outdoor electrical component wiring. Include dimensions, sizes, and types.

1.6 QUALITY ASSURANCE

- A. Inspection and Testing: All equipment and components supplied may be subjected to inspection and tests required by the Engineer to be performed by Subcontractor during installation and after completion. Prior to inspection and testing, the equipment shall undergo pre-service cleaning and protection.
- B. Subcontractor verify and demonstrate compliance with the technical details listed in the technical data submittals.

## 1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Provide six (6) photovoltaic panels total identical to those installed in the new solar power generation system.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. The equipment shall be delivered on site in the manufacturer original packaging.  
Subcontractor shall not open packaging without the approval of the Engineer.
- B. Store all controls, wiring and PV panels off the ground in a dry space. Project materials, equipment and components to be used shall be stored in such a manner as to preserve their quality and condition as recommended by manufacturers, suppliers and according to best industry practices

## 1.9 CLOSEOUT SUBMITTALS

- A. Submit "as built" drawings of the installation including wiring and conduit runs:  
3 sets of hard copies,
- B. Two sets of operation and maintenance manuals
- C. Two sets of type and test certificates of operational equipment.
- D. Warranty Documentation.
- E. UPC number cutouts from equipment packaging.
- F. Copies of all manufacturer material certificates.

## 1.10 PROJECT/SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of said obstructions as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.

## 1.11 WARRANTY

- A. The complete photovoltaic power delivery system, including controls, shall be warranted by the Subcontractor for period (the Defects and Liability Period) of one (1) year after issuance of the Certification of Final Completion and Acceptance.
- B. Photovoltaic modules shall have a product warranty by manufacturer against defects in workmanship and materials for a period of ten year years under normal use, operation and service, with no more than 0.8% annual degradation in power production

## **PART 2 – PRODUCTS**

### 2.1 EQUIPMENT:

- A. Photovoltaic panels and array requirements:
  - 1. Stringing design should contemplate local climate conditions for minimum and maximum voltage within the maximum power point tracking boundaries of the PV pumping system.
  - 2. Both pumps, as specified separately in Section 33 11 36, should be separately wired to designated PV sub-array. DC wiring shall not be co-mingled on a common DC bus.

3. PV site perimeter must be at least 3 meters setback distance from any roads, buildings, trees, or fences. Any shading objects within five meters of the PV array shall be removed.
4. Must be minimum 320W monocrystalline or polycrystalline silicon 72-cell modules
5. Must be in compliance with IEC 61215, UL 1703, UL 2703, and other relevant codes and standards
6. Must have standard aluminum frames with clear mounting and grounding holes
7. Must have junction box including 2x MC4 connectors sufficient for leapfrog stringing
8. Must be procured from a reputable manufacturer, included on Bloomberg “Tier 1” list of module manufacturers
9. Must be rated for performance in humid, salty sea air for 25 years without corrosion, moisture penetration, or delamination.
10. Must be rated for at least 1,000 VDC string voltage.

**B. Wiring and Stringing**

1. All mounting bolts shall be compliant with PV manufacturer specifications
2. No additional holes shall be added to PV panel frames other than manufacturer mounting and grounding holes (or else this will void the warranty)
3. UV-resistant Zip-Ties -- Include HEYCO Sunbundler or equivalent
4. S-Clips for Wire Management -- Include HEYCO Sunrunner or equivalent

## **2.2 MANUFACTURERS**

- A. Photovoltaic Module Canadian Solar CS6U-325 (or equivalent per Section 01 25 13 Product Substitution Procedures)
- B. Substitution Limitations – the Subcontract Plans and Specification Sections show the above products, which have been designed to work together as a system to meet the requirements of this Subproject. Substitution requests may be accepted subject to the provisions of Section 01 25 13. Substitution requests must be accompanied with plans that show how the substituted components will provide the equivalent functionality shown on the plans and Specification Sections of the Subcontract documents. Additional requirements for acceptance of substitution requests pertaining to the equipment in this Article are as follows:
  - 1. Plans submitted with request shall show required modifications to the Structural Steel Framing Rack Structure proposed to accommodate the substituted panels
  - 2. Panels shall be rated for a minimum wind load of 3600 Pa
  - 3. Panel mounting hardware data sheets that substantiate compatibility with the panel manufacturer mounting requirements

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected.

### **3.2 INSTALLATION – PHOTOVOLTAIC COLLECTORS**

- A. Subcontractor shall fully erect the Structural Steel Framing as specified in Section 05 10 00 and shown on the plans, and paint as according to Section 09 91 00.
- B. Surface Preparation
  - 1. Thoroughly clean the exterior surfaces of the steel framing structure
- C. Photovoltaic panels

1. Install the PV panels per the approved shop drawings and in accordance with manufacturer recommendations. Provide the required minimal clearances between each PV unit as required by the manufacturer. Provide panel connectors (clamps) as required by the manufacturer and approved by the Engineer
  2. Fasten panels to the purlins with manufacturer recommended mounting hardware fasteners using the recommended tightening torques
  3. Install conduit and wiring to connect the power output from the array to the newly installed solar pumps in wells F1 and F2
- D. Placement of Conduit
1. Remove 40 cm wide portion of existing concrete wheel path to install conduit per detail on plans
  2. Replace concrete with patch according to specifications in Section 03 30 00 and as indicated on the plans.

### 3.3 FIELD SITE QUALITY CONTROL

- A. Testing – Subcontractor shall provide all reports and test results necessary and shall be present at a site meeting to provide any and all equipment and information required, in obtaining from Owner and Subcontractor a Substantial Completion Certificate. Testing shall include measurements of power output from the PV panel array, amperage, and other electrical output characteristics consistent with industry standards for field testing of PV equipment.
- B. The tests shall be performed in the presence of the Engineer and the Owner, following the Subcontractor's standard procedures as detailed in applicable provisions of DAI General Conditions & Infrastructure Fixed Price Unit Price Subcontract (00 70 00 of these specifications). This process shall be part of the training provided to the owner.
- C. Related Testing – The testing of the PV array shall be performed in conjunction and support of the field testing described in Section 33 11 36 for the solar submersible pumps.

### 3.4 CLOSEOUT ACTIVITIES

- A. Training shall be provided as part of Section 33 11 36, and shall incorporate consideration of the requirements for upkeep and operation of the PV arrays

### 3.5 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the PV panel array area and immediate surroundings

END OF SECTION



## **SECTION 31 11 00**

### **CLEARING AND GRUBBING**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

**A. Section Includes:**

1. Requirements for clearing, grubbing, removing, and disposing of vegetation within the limits of the proposed Subproject improvement areas, as designated on the Plans.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A.** Unit price is comprised of the elements as explained in Section 00 70 00. **B.** Measurement shall be in square meters of area cleared and grubbed. Tree removal shall not be measured separately, but shall be paid for at the Subcontract Unit Price Bid for Clearing and Grubbing.

##### **1.3 RELATED SECTIONS**

- A.** Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price

##### **1.4 PROJECT/SITE CONDITIONS**

- A.** The existing situation of the site, as shown on the plans, is provided in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations and conditions of topographical features shall be determined by the Subcontractor as the work proceeds.

##### **1.5 QUALITY ASSURANCE**

A. Regulatory Standards - Cleaning and disposal operations shall comply with local ordinances and anti-pollution laws.

1. Subcontractor shall not burn or bury rubbish and waste materials on subproject site.
2. Subcontractor shall not dispose of volatile wastes such as mineral spirits or oils.
3. Subcontractor shall not dispose of any wastes into canals, streams or waterways.

**PART 2 – Not Used**

**PART 3 – EXECUTION**

**3.1 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed. Owner, upon notification of intent to proceed by Subcontractor, will designate within three work days all trees, shrubs and plants to remain. Items designated to remain that are damaged shall be replaced at the Subcontractor's expense.

### 3.2 INSTALLATION - CLEARING AND GRUBBING

- B. All surface objects, trees, stumps, roots, and other protruding obstructions not designated to remain shall be cleared and grubbed, including mowing, as required.
- C. Stumps, roots and solid objects shall be removed to at least 0.6 m below existing ground surface, and backfilled with a course stone mixture that meets the material specifications in Part 2 of this Section.
- D. Subcontractor shall scalp the grubbed areas including removal of sawdust and other vegetation matter.
- E. All cleared timber shall be removed from the subproject and shall become the property of the Subcontractor
- F. Branches on trees or shrubs of up to 50 mm diameter shall be cut, pruned and removed as directed by the Engineer. All pruning cuts by the Subcontractor shall be made sufficiently close to the parent limb so as not to have a protruding stub but shall be beyond the branch bark collar of the branch.

### 3.3 CLOSEOUT ACTIVITIES

- A. In preparation for final completion or occupancy, conduct final inspection of sight.
- B. Maintain the site clean until obtention of Subproject Substantial Completion Certificate.

END OF SECTION

## **SECTION 31 23 00**

### **EXCAVATION AND FILL**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

A. Section Includes all the labor, material and equipment required for excavation, backfilling, grading and compaction of granular material for Structural Steel Framing embankment, conduit backfill and trench backfill

##### **1.2 PRICE AND PAYMENT PROCEDURES**

A. The unit price includes the items described in section 00 70 00.

B. Measurements shall be in cubic meters (m3) of trench backfill and/or embankment placed and compacted in its final position. The subcontractor must perform a topographic survey of the site for the structural steel framing (the PV rack), as well as conduit trenches, before and after placement and must provide calculations using the cross-section end method as backup for submitting an estimate for the cubic meters of embankments placed. Excavation and disposal of excess materials shall not be measured or paid for separately, but shall be included in the subcontract unit price bid for "Excavation and Fill" as detailed in this Section. Trench excavation (including concrete removal) and fill at road crossings shall not be measured or paid for separately, but shall be included in the subcontract unit price bid for "Excavation and Fill" as described in this section.

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. 01 74 00 Cleaning and Waste Management.
- C. 31 11 00 Clearing and Grubbing

## 1.4 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. ASTM International (ASTM):
  - a. D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
  - b. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
  - c. D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
  - d. ASTM D2216 - 10, Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
  - e. D6913/D6213-17 - Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
  - f. D6938 - 17a - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
2. AASHTO T-191 - Standard Method of Test for Density of Soil In-Place by the Sand-Cone Method

## 1.5 SUBMITTALS

A. Product Data: Unless otherwise indicated, submit the following to the Engineer:

1. Subcontractor shall cooperate with Engineer In obtaining and providing samples of all specified materials.
2. When provided by a supplier, subcontractor shall submit certification from the supplier certifying the Embankment, or approved equal, meets the requirements of this Specification.
3. Product data sheets or samples indicating embankment strength and color.
4. Subcontractor shall submit certified laboratory test certificates for all items required in this section. Subcontractor shall submit list of compaction equipment to be used, that should consist of vibrating plates or small vibrating rollers.

B. Shop Drawings: Submit the following in accordance with DAI General Conditions for submittals:

1. Proposed boundaries of the surface of the embankment in plan view on the site conditions sheet. Estimated excavation limits in cross section view for several locations throughout the areas of work.

## 1.6 QUALITY ASSURANCE

- A. Subcontractor shall provide name and qualifications of selected independent testing agency to the Engineer prior to commencement of Work. Subcontractor shall pay all costs related to Backfill and Embankment verification testing.

Testing Agency Qualifications: An independent agency, acceptable to the Engineer, qualified according to ASTM D4253, ASTM D6913, ASTM D2216, ASTM D1557 and ASTM D698, shall be used for testing as indicated in the plans and specifications.

- B. Under the observation of the Engineer, take a representative sample of the granular backfill material delivered on site and proposed for the embankment and trench backfill, and provide to the test laboratory for particle-size distribution (gradation) of soils using sieve analysis. Sample shall be taken directly from a lot taken from the chosen river or from the provider of the aggregate.
- C. During compaction, take and provide two different samples and provide to the approved laboratory for compaction tests under the direction of the engineer, in compliance with the standards listed previously in this Section. The samples shall come from the structural steel framing foundation and shall not be taken at the same elevation. Subcontractor or approved laboratory may alternatively perform in-situ testing according to T-191 or D6938 - 17a.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Embankment granular backfill is to be delivered on the ground and covered with a tarp or other waterproof protection until its placement for compaction.

## 1.8 PROJECT/SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities.
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of said obstructions as required for the performance



of the work required in these subcontract documents. No extra payment will be made for this work.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

- A. Embankment and trench backfill material: The embankment used must be of (clean) quality free of all kinds of impurities or other particles that may affect its structural integrity. The source of the material shall not be changed during construction.
- B. The following gradation is required and shall in addition have 15% or less silt and clay:

| <b>Sieve</b> | <b>Percent Passing</b> |
|--------------|------------------------|
| 63 mm        | 100                    |
| 50 mm        | 90 to 100              |
| 37.5 mm      | 35 to 70               |
| 25 mm        | 0 to 20                |
| 12.5         | 0 to 5                 |

- C. Upon request by the Subcontractor, the Engineer may authorize a change in backfill or embankment materials subject to materials available locally at time of construction, but is under no obligation to accept such substitution

## **PART 3 – EXECUTION**

### **3.1 GENERAL: EXCAVATION / BACKFILLING.**

- A. The subcontractor shall inform the ENGINEER sufficiently in advance before commencing excavation or backfilling to facilitate any necessary verifications for the start of activities.

- B. The subcontractor shall not excavate beyond the dimensions and elevations established in the Technical File.
- C. Materials shall not be wasted without permission of ENGINEER.
- D. Prior to beginning grading operations in any area, all necessary clearing and grubbing in that area shall have been performed in accordance with Section 31 11 00 Clearing and Grubbing.

### 3.2 PREPARATION AND INSTALLATION ( Excavation and Fill )

- A. Embankments shall be placed after at least 72 hours of completely dry meteorological conditions. Remove and standing water and scrape away mud, to be disposed of according to Section 01 74 00. Make the necessary corrections to the base of the natural terrain before laying the gravel on the site.
- B. The Subcontractor must stake or otherwise define the proposed alignment of the extents of embankment placement in accordance with the shop drawings. Obtain approval of the Engineer prior to laying gravel on the site.
- C. The Subcontractor must ensure that the installation of the embankment does not create to drainage problems or standing water at the site.
- D. Moisture shall be added as necessary to meet required compaction densities prior to placement of the material, using approved mixing methods, such as a mechanical mixing device. Wetting the aggregate by jetting in cars, bins, stockpiles, or trucks will not be permitted. Addition of water to the material during compaction will be permitted only when it is necessary to increase the percentage of moisture to obtain satisfactory compaction.
- E. The subbase shall be constructed in lifts not more than 4 in. (100 mm) thick when compacted, except that if tests indicate that the desired results are being obtained, the compacted thickness of any lift may be increased to a maximum of 8 in. (200 mm). The granular material shall be deposited full width with a mechanical spreader or spreader box of a type approved by the Engineer, in a manner that shall not cause segregation and that shall require minimum blading or manipulation. The equipment and the method used shall be approved by the Engineer. Each lift shall be compacted immediately after placing. The granular

material shall be compacted to not less than 95 percent of the standard laboratory density.

### 3.3 INSPECTION

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected.

### 3.4 CLOSEOUT ACTIVITIES

- A. All damages to the finished surface shall be repaired and recompact prior to the issuance of the certificate of substantial completion.

### 3.5 CLEANING

- A. All unused materials and equipment shall be removed from the site upon completion of the work.
- B. All excess excavated materials shall be removed from the site and disposed of offsite at legal and approved facilities.

END OF SECTION

## **SECTION 32 31 13**

### **CHAIN LINK FENCES AND GATES**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Description for all labor and material to furnish and install a chain link fence with barbed wire and concertina razor wire along the top of an existing masonry wall.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Measurement shall be in longitudinal meters of chain link fence installed

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. Section 31 11 00 Clearing and Grubbing
- C. Section 01 25 13 Product Substitution Procedures

##### **1.4 REFERENCES**

###### **A. ASTM International (ASTM):**

- |                   |   |
|-------------------|---|
| 1. ASTM A121-13   | Metallic-Coated Carbon Steel Barbed Wire  |
| 2. ASTM A392      | Zinc-Coated Steel Chain-Link Fence Fabric   |
| 3. ASTM A780      | Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings |
| 4. ASTM A449 – 14 | Standard Specification for Hex Cap Screws, Bolts  |

- 5. A563M - 07(2013) and Studs, Steel, Heat Treated, 120/105/90 ksi  
Minimum Tensile Strength, General Use  
Standard Specification for Carbon and Alloy Steel  
Nuts (Metric)
- 6. ASTM F552 Terminology Relating to Chain Link Fencing
- 7. ASTM F567 Installation of Chain Link Fence
- 8. ASTM F626-14 Fence Fittings

- |     |                     |   |
|-----|---------------------|---|
| 9.  | ASTM F1043          | Strength and Protective Coatings of Steel<br>Industrial Chain Link Fence Framework  |
| 10. | ASTM 764            | Standard Specification for Metallic Coated<br>Carbon Steel Wire, Coated at Size and Drawn to<br>Size for Mechanical Springs |
| 11. | ASTM A 176 – (2009) | Standard specification for stainless steel and its<br>conditions of resistance to high temperatures.                        |
| 12. | ASTM F 1379         | Standard Specification for Blade Tape   |
| 13. | ASTM F1083          | Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized)<br>Welded, for Fence Structures  |

## 1.5 SUBMITTALS

A. Product Data: Unless otherwise indicated, submit the following to the Engineer

1. Manufacturer's Literature and Data: Barbed wire, Fence material, concertina blade type wire and description of all equipment and accessories
2. Material Samples: Provide representative samples of chain link fabric, framework, fittings and barbed wire. Samples will be returned to Subcontractor after review

B. Shop Drawings: Submit the following in accordance with DAI General

Specifications and Conditions for submittals:

1. Site Plan showing layout of fence locations and columns with dimensions, footings and details of attachments.
2. Details regarding erection, installation and mounting, including accessory hardware, fasteners and materials.

## 1.6 CLOSEOUT SUBMITTALS

A. Submit "as built" drawings of the installation: 3 sets of hard copies

## 1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Qualified manufacturers of similar products, capable of providing material certificates attesting to the compliance of the materials used with norms and standards referenced in this Section.
- B. Third party installers, should the Subcontractor wish to subcontract this work:
  1. Submit qualifications of installer to the Engineer for approval
  2. Installer must have verifiable experience with installation of chain link fencing on existing concrete surfaces, over the last five years, and provide client references.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products off the ground and cover with tarps until installation.
- B. Protect products from damage during handling and construction operations.

#### 1.9 PROJECT/SITE CONDITIONS

- A. Subcontractor shall be responsible for verifying location and extent of installation as well as conditions of the existing concrete wall to which the proposed fencing shall be anchored. The construction of the existing masonry wall as shown on the plans is approximate and the details of the foundation may vary considerably. Subcontractor shall notify the Engineer immediately of any conditions that may prevent or delay the installation of the chain link fence.
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of obstructions or private property as required for the performance of the work required in these subcontract documents. No extra payment will be made for this work.

#### 1.10 Warranty

- A. Manufacturer warranty for chain link fabric, tension and brace bands, barbed and razor wire shall be for a minimum period of ten years from date of substantial completion, and shall cover defects in workmanship and materials.
- B. Extended Correction Period – The structure assembly and chain link fabric, shall be warranted by the Subcontractor for a period (the Defects and Liability Period) of one (1) year after issuance of the Certification of Final Completion and Acceptance.

## **PART 2 – PRODUCTS**

### **2.1 GENERAL**

A. All materials shall be subject to approval by the Engineer. The materials shall minimally be of the same dimensions, diameters and grades as indicated on the plans.

#### **B. Chain Link Fabric**

1. Material shall conform to standards referenced above for ferrous metals, zinc-coated and detailed specifications forming the various parts thereto; and other requirements specified herein. Zinc-Coated metal members (including fabric, posts, rails, hardware, and other ferrous metal items) after fabrication shall be reasonably free of excessive roughness.
2. Height (exposed): 1 m (as determined by nearest mesh roll height commercially available)
3. Mesh Size: 2 inches (50 mm)
4. Wire Gauge: 0.148 inches (3.76 mm)
5. Zinc-Coated Steel Fabric: ASTM A392 Hot-Dipped Galvanized, Class 1, 0.8 oz per square foot G.B.W. or 1.2 oz per square foot (G.A.W.)

#### **C. Round Steel Pipe Fence Framework**

1. Round Steel Pipe and Rail: Schedule 40 standard weight pipe, in accordance with ASTM F1083, 1.8 oz/ft<sup>2</sup> (550 g/m<sup>2</sup>) hot dip galvanized zinc exterior interior coating.
2. Regular Grade: Minimum steel yield strength 30,000 psi (205 MPa)

#### **D. Tension Wire**

1. Metallic Coated Steel Marcellled Tension Wire: 7 gauge core marcellled wire complying with ASTM A824. Coating shall match chain link fabric.

#### **E. Fittings**

1. Tension and Brace Bands: Galvanized pressed steel complying with ASTM F626, minimum steel thickness of 12 gauge (0.105 in.)(2.67 mm), minimum width of ¾ in. (19 mm) and minimum zinc coating of 1.20 oz/ft<sup>2</sup>



(366 g/m<sup>2</sup>). Secure bands with 5/16 in. (7.94 mm) galvanized steel carriage bolts.

2. Terminal Post Caps, Line Post Loop Tops, Rail and Brace Ends, Boulevard Clamps, Rail Sleeves: In compliance to ASTM F626, pressed steel galvanized after fabrication having a minimum zinc coating of 1.20 oz/ft<sup>2</sup> (366 g/m<sup>2</sup>).
3. Fence Post Floor Flange Anchor: Galvanized pressed steel complying with ASTM F626, min. 6" x 6" x 1/4" bracket for mounting chain link posts on concrete surfaces.

F. Barbed Wire (or equal)

1. Metallic Coated Steel Barbed Wire: Comply with ASTM A121, 12-4-5-14R, double 12.5 gauge (0.099 in.) (2.51 mm) twisted standard wire with 4 point 14 gauge (0.080 in.) (2.03 mm) round barbs spaced 5 in. (127 mm) on center. Match coating type shall match that of the chain link fabric.

C. Concertina Barbed Wire Blade/Razor Type (or equivalent as proposed in Article 1.5 Submittals)

1. Coil Diameter before Set-up: 450 mm.
2. Approximate Diameter After Set-up: 435 mm.
3. Extended Length of coil (meter): 15 meters.
4. Barbed tape 0.5 mm thick Heavily Galvanized Sheet.
5. Core Wire 2.5 mm Galvanized High Tensile Wire.
6. No. of turns per coil: 56.
7. Barb width: 15 mm.
8. Barb length: 21.2 mm.
9. C/C Barb Spacing: 35 mm.
10. No. of clips: 3.

## **PART 3 – EXECUTION**

### **3.1 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected and approved by the Engineer.

### 3.2 INSTALLATION – CHAIN LINK FENCE AND GATES

- B. Subcontractor shall thoroughly clear all areas of debris or obstructions prior to laying out materials, accordance with Section 33 11 00.
- C. Remove obstructions, including existing razor wire, broken glass, nails and other objects from top of masonry wall.
- D. Install chain link fence in accordance with the Plans
- E. Posts: Fence Posts shall be attached to the top of the existing masonry wall using post floor flanges and sufficient hardware to secure the post and fence to the wall and prevent overtopping or leaning. Method and materials used to attach the fence posts to the existing wall shall be subject to approval by the Engineer. Posts shall be set plumb in anchors in accordance with ASTM F567 and shall not be spaced greater than 10 ft. (3.05 m) apart, on center.
- F. Top Rail: Install rail continuously thru the line post or barb arm loop top. Splice rail using top rail sleeves, min. 6 in. (152 mm) long. Rail shall be secured to the terminal post by a brace band and rail end. Bottom rail or intermediate rail shall be field cut and secured to the line posts using boulevard clamps or brace band with rail end.
- G. Tension Wire: Shall be installed 4 in. (101.6 mm) up from the bottom of the fabric. Fences without top rail shall have a tension wire installed 4 in. (101.6mm) down from the top of the fabric. Tension wire to be stretched taut, independently and prior to the fabric, between the terminal posts and secured to the terminal post using a brace band. Secure the tension wire to each line post with a tie wire. Install the top tension wire through the barb arm loop.
- H. Install fabric to outside of the framework maintaining a top-wall clearance of no more than 2 inches (50 mm). Attach fabric to the terminal post by threading the tension bar through the fabric; secure the tension bar to the terminal post with tension bands and 5/16 in. (7.94 mm) carriage bolts spaced no greater than 12 inches (304.8mm) on center. Chain link fabric to be stretched taut and free of sag using a come-along or other approved methods. Fabric to be secured to the line post with tie wires spaced no greater than 12 inches (304.8 mm) on center and

- to horizontal rail spaced no greater than 18 inches (457.2 mm) on center. Wrap the tie a full 360° around the post or rail and fabric wire picket, using a variable speed drill, twist the two ends together three full turns, cut off any excess wire and bend over to prevent injury. Secure the fabric to the tension wire by crimping hogs rings around a fabric wire picket and tension wire.
- I. Barbed Wire: Stretched taut between terminal posts with come-along. Attach each strand of barbed wire to the terminal post using a brace band. Use intermediate brace bands at top of post every fourth post for additional tensioning.
  - J. Install Concertina type razor wire along the three horizontal strands of barbed wire, connecting it to the horizontal strands and post extensions according to manufacturer's recommendations, according to the approved shop drawings, along the entire top of fence.
  - K. The existing gate shall be left in place undamaged and unaltered.

### 3.3 CLEANING

- A. The area of the fence line shall be left neat and free of any debris caused by the installation of the fence.

END OF SECTION

## **SECTION 32 31 32**

### **Composite Fences and Gates**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Description for all labor and material to furnish and install a chain link fence with barbed wire and concertina razor wire on top of constructed concrete columns along an existing masonry wall.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Measurement shall be in longitudinal meters of composite chain link fence installed. Reinforced concrete placement, including rebar, for columns and foundations shall not be measured and paid for separately, but shall be paid for at the Subcontract Unit Price for Composite Fence and Gates. In addition to the columns called out at the spacing on the Plans, seven additional columns shall be constructed and paid for at the Subcontract Unit Price for Composite Fence and Gates. Excavation and disposal of excess soil materials required for columns and foundations in this specification and as detailed on the plans shall not be measured or paid for separately, but shall be paid for at the Subcontract unit price for Composite Fence and Gates.

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. Section 31 11 00 Clearing and Grubbing
- C. Section 03 30 00 Cast-in-place Concrete
- D. Section 32 31 13 Chain Link Fences and Gates
- E. Section 01 25 13 Product Substitution Procedures

## 1.4 REFERENCES

### A. ASTM International (ASTM):

- |                         |   |
|-------------------------|---|
| 1. ASTM A121-13         | Metallic-Coated Carbon Steel Barbed Wire  |
| 2. ASTM A392            | Zinc-Coated Steel Chain-Link Fence Fabric   |
| 3. ASTM A780            | Standard Practice for Repair of Damaged and<br>Uncoated Areas of Hot-Dip Galvanized Coatings  |
| 4. ASTM F552            | Terminology Relating to Chain Link Fencing  |
| 5. ASTM F567            | Installation of Chain Link Fence  |
| 6. ASTM F626-14         | Fence Fittings  |
| 7. ASTM F1043           | Strength and Protective Coatings of Steel<br>Industrial Chain Link Fence Framework  |
| 8. ASTM 764             | Standard Specification for Metallic Coated<br>Carbon Steel Wire, Coated at Size and Drawn to<br>Size for Mechanical Springs                 |
| 9. ASTM A449 – 14       | Standard Specification for Hex Cap Screws, Bolts<br>and Studs, Steel, Heat Treated, 120/105/90 ksi<br>Minimum Tensile Strength, General Use |
| 10. A563M - 07(2013)    | Standard Specification for Carbon and Alloy Steel<br>Nuts (Metric)  |
| 11. ASTM A 176 – (2009) | Standard specification for stainless steel and its<br>conditions of resistance to high temperatures.  |

- |                 |  |
|-----------------|--|
| 12. ASTM F 1379 | Standard Specification for Blade Tape  |
| 13. ASTM F1083  | Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized)<br>Welded, for Fence Structures |

## 1.5 SUBMITTALS

### A. Product Data: Unless otherwise indicated, submit the following to the Engineer

1. Manufacturer's literature and data: Barbed wire, concertina blade type wire, fence material, post floor flange anchors and description of all equipment and accessories
2. Material Samples: Provide representative samples of chain link fabric, framework, fittings and barbed wire. Samples will be returned to Subcontractor after review.

### B. Shop Drawings: Submit the following in accordance with DAI General

#### Specifications and Conditions for submittals:

1. Site Plan showing layout of fence locations
2. Details of attachments of chain-link fence material, barbed wire, and razor blade wire to columns
3. Details regarding erection, installation and mounting, including accessory hardware, fasteners and materials.
4. Temporary bracing methods of existing wall to be employed.
5. Rebar detailing drawings *if* the rebar will be erected offsite or *if* a third-party fabricator will erect or place the rebar

## 1.6 CLOSEOUT SUBMITTALS

- ### A. Submit "as built" drawings of the installation: 3 sets of hard copies,

## 1.7 QUALITY ASSURANCE

### A. Manufacturer Qualifications:

1. Qualified manufacturers of similar products, capable of providing material certificates attesting to the compliance of the materials used with norms and standards referenced in this Section.
- B. Third party installers, should the Subcontractor wish to subcontract this work:
  1. Submit qualifications of installer to the Engineer for approval
  2. Installer must have verifiable experience with installation of chain link fencing over the last five years, and provide client references.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products off the ground and cover with tarps until installation.
- B. Protect products from damage during handling and construction operations.

#### 1.9 PROJECT/SITE CONDITIONS

- A. Subcontractor shall be responsible for verifying location and extent of installation as well as conditions of the existing concrete wall. The construction of the existing masonry wall as shown on the plans is approximate and the details of the foundation may vary considerably. Subcontractor shall notify the Engineer immediately of any conditions that may prevent or delay the construction of new columns and the installation of the chain link fence.
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of obstructions or private property as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.

## 1.10 Warranty

- A. Manufacturer warranty for chain link fabric, tension and brace bands, and barbed and razor wire shall be for a minimum period of ten years from date of substantial completion, and shall cover defects in workmanship and materials.
- B. Extended Correction Period – The structure assembly and chain link fabric shall be warranted by the Subcontractor for period (the Defects and Liability Period) of one (1) year after issuance of the Certification of Final Completion and Acceptance.

## PART 2 – PRODUCTS

### 2.1 GENERAL

- A. All materials shall be subject to approval by the Engineer. The materials shall minimally be of the same dimensions, diameters and grades as indicated on the plans.
- B. Chain Link Fabric
  - 1. Material shall conform to standards referenced above for ferrous metals, zinc-coated and detailed specifications forming the various parts thereto; and other requirements specified herein. Zinc-Coated metal members (including fabric, posts, rails, hardware, and other ferrous metal items) after fabrication shall be reasonably free of excessive roughness.
  - 2. Height (exposed): 1 m (as determined by nearest mesh roll height commercially available)
  - 3. Mesh Size: 2 inches (50 mm)
  - 4. Wire Gauge: 0.148 inches (3.76 mm)
  - 5. Zinc-Coated Steel Fabric: ASTM A392 Hot-Dipped Galvanized, Class 1, 0.8 oz per square foot G.B.W. or 1.2 oz per square foot (G.A.W.)
- C. Round Steel Pipe Fence Framework
  - 1. Round Steel Pipe and Rail: Schedule 40 standard weight pipe, in accordance with ASTM F1083, 1.8 oz/ft<sup>2</sup> (550 g/m<sup>2</sup>) hot dip galvanized zinc exterior interior coating.



2. Regular Grade: Minimum steel yield strength 30,000 psi (205 MPa)

D. Tension Wire

1. Metallic Coated Steel Marcellled Tension Wire: 7 gauge core marcellled wire complying with ASTM A824. Coating shall match chain link fabric.

E. Fittings

1. Tension and Brace Bands: Galvanized pressed steel complying with ASTM F626, minimum steel thickness of 12 gauge (0.105 in.)(2.67 mm), minimum width of ¾ in. (19 mm) and minimum zinc coating of 1.20 oz/ft<sup>3</sup> (366 g/m<sup>2</sup>). Secure bands with 5/16 in. (7.94 mm) galvanized steel carriage bolts.
2. Terminal Post Caps, Line Post Loop Tops, Rail and Brace Ends, Boulevard Clamps, Rail Sleeves: In compliance to ASTM F626, pressed steel galvanized after fabrication having a minimum zinc coating of 1.20 oz/ft<sup>3</sup> (366 g/m<sup>2</sup>).
3. Fence Post Floor Flange Anchor: Galvanized pressed steel complying with ASTM F626, min. 6" x 6" x ¼" bracket for mounting chain link posts on concrete surfaces.

F. Barbed Wire (or equal)

1. Metallic Coated Steel Barbed Wire: Comply with ASTM A121, 12-4-5-14R, double 12.5 gauge (0.099 in.) (2.51 mm) twisted standard wire with 4 point 14 gauge (0.080 in.)(2.03 mm) round barbs spaced 5 in. (127 mm) on center. Match coating type shall match that of the chain link fabric.

G. Concertina Barbed Wire Blade/Razor Type (or equivalent as proposed in Article

1.5 Submittals)

1. Coil Diameter before Set-up: 450 mm.
2. Approximate Diameter After Set-up: 435 mm.
3. Extended Length of coil (meter): 15 meters.
4. Barbed tape 0.5 mm thick Heavily Galvanized Sheet.
5. Core Wire 2.5 mm Galvanized High Tensile Wire.
6. No. of turns per coil: 56.
7. Barb width: 15 mm.
8. Barb length: 21.2 mm.
9. C/C Barb Spacing: 35 mm.

10. No. of clips: 3.

#### H. Cast-in-place Concrete Columns and Foundations

1. Rebar, Concrete and associated materials shall conform to the requirements of Section 03 30 00 Cast-in-place Concrete, and shall have a resistance of 21 MPa at 28 days cure.

### **PART 3 – EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected and approved by the Engineer.

#### **3.2 INSTALLATION – COMPOSITE FENCES AND GATES**

- A. Subcontractor shall thoroughly clear all areas of debris or obstructions prior to laying out materials, accordance with Section 33 11 00.
- B. Mark and layout proposed column locations along existing masonry wall.
- C. Brace the existing wall as per the submitted shop drawings and excavate for the placement of new column foundations
- D. Erect rebar columns and footings, place as indicated on the plans, and obtain approval of the Engineer before proceeding with construction.
- E. Place cast-in-place concrete footings and erect columns as indicated on the plans. In addition, columns shall be placed at all corners of the fence.
- F. Remove obstructions, including existing razor wire, broken glass, nails and other objects from top of existing masonry wall.
- G. Install chain link fence in accordance with the Plans

- H. Top Rail: Install rail continuously thru the line post or barb arm loop top. Splice rail using top rail sleeves, min. 6 in. (152 mm) long. Rail shall be secured to the columns as shown on the plans.
- I. Anchors, fastener placement in Columns: The bolts and fasteners shall be placed without damage to the integrity of the concrete surface. Excessive chipping and shedding concrete surface shall not be permitted, and shall be repaired by the Subcontractor. Adequate drills and equipment for placement in concrete are required.
- J. Tension Wire: Shall be installed approximately 4 in. (101.6 mm) up from the bottom of the fabric and 4 in down from the top. Tension wire to be stretched taut, independently and prior to the fabric, between the tension bands or fasteners mounted to the columns and secured under the metal plates shown on the plans. Install the top tension wire through the barb arm loop.
- K. Install fabric to outside of the framework maintaining a top-column clearance of no more than 2 inches (50 mm). Attach fabric to the columns by threading the tension bar through the fabric; secure the tension bar to the column as shown on the plans. Chain link fabric to be stretched taut and free of sag using a come-along or other approved methods. Fabric to be secured to horizontal rail spaced no greater than 18 inches (457.2 mm) on center. Wrap the tie a full 360° around the rail and fabric wire picket, using a variable speed drill, twist the two ends together three full turns, cut off any excess wire and bend over to prevent injury. Secure the fabric to the tension wire by crimping hogs rings around a fabric wire picket and tension wire.
- L. Barbed Wire: Stretched taut using a come-along or other approved methods and secured to expansion anchors and washer assemblies.
- M. Install Concertina type razor wire along the three horizontal strands of barbed wire, connecting it to the horizontal strands according to manufacturer's recommendations, according to the approved shop drawings, along the entire top of fence.
- N. The existing gate shall be left in place undamaged and unaltered.

### 3.3 CLEANING

- A. The area of the fence line shall be left neat and free of any debris caused by the installation of the fence.

END OF SECTION

## **SECTION 32 31 32**

### **Composite Fences and Gates**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Description for all labor and material to furnish and install a chain link fence with barbed wire and concertina razor wire on top of constructed concrete columns along an existing masonry wall.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Measurement shall be in longitudinal meters of composite chain link fence installed. Reinforced concrete placement, including rebar, for columns and foundations shall not be measured and paid for separately, but shall be paid for at the Subcontract Unit Price for Composite Fence and Gates. In addition to the columns called out at the spacing on the Plans, seven additional columns shall be constructed and paid for at the Subcontract Unit Price for Composite Fence and Gates. Excavation and disposal of excess soil materials required for columns and foundations in this specification and as detailed on the plans shall not be measured or paid for separately, but shall be paid for at the Subcontract unit price for Composite Fence and Gates.

##### **1.3 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. Section 31 11 00 Clearing and Grubbing
- C. Section 03 30 00 Cast-in-place Concrete
- D. Section 32 31 13 Chain Link Fences and Gates
- E. Section 01 25 13 Product Substitution Procedures

## 1.4 REFERENCES

### A. ASTM International (ASTM):

- |                         |   |
|-------------------------|---|
| 1. ASTM A121-13         | Metallic-Coated Carbon Steel Barbed Wire  |
| 2. ASTM A392            | Zinc-Coated Steel Chain-Link Fence Fabric   |
| 3. ASTM A780            | Standard Practice for Repair of Damaged and<br>Uncoated Areas of Hot-Dip Galvanized Coatings  |
| 4. ASTM F552            | Terminology Relating to Chain Link Fencing  |
| 5. ASTM F567            | Installation of Chain Link Fence  |
| 6. ASTM F626-14         | Fence Fittings  |
| 7. ASTM F1043           | Strength and Protective Coatings of Steel<br>Industrial Chain Link Fence Framework  |
| 8. ASTM 764             | Standard Specification for Metallic Coated<br>Carbon Steel Wire, Coated at Size and Drawn to<br>Size for Mechanical Springs                 |
| 9. ASTM A449 – 14       | Standard Specification for Hex Cap Screws, Bolts<br>and Studs, Steel, Heat Treated, 120/105/90 ksi<br>Minimum Tensile Strength, General Use |
| 10. A563M - 07(2013)    | Standard Specification for Carbon and Alloy Steel<br>Nuts (Metric)  |
| 11. ASTM A 176 – (2009) | Standard specification for stainless steel and its<br>conditions of resistance to high temperatures.  |

- |                 |  |
|-----------------|--|
| 12. ASTM F 1379 | Standard Specification for Blade Tape  |
| 13. ASTM F1083  | Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized)<br>Welded, for Fence Structures |

## 1.5 SUBMITTALS

### A. Product Data: Unless otherwise indicated, submit the following to the Engineer

1. Manufacturer's literature and data: Barbed wire, concertina blade type wire, fence material, post floor flange anchors and description of all equipment and accessories
2. Material Samples: Provide representative samples of chain link fabric, framework, fittings and barbed wire. Samples will be returned to Subcontractor after review.

### B. Shop Drawings: Submit the following in accordance with DAI General

#### Specifications and Conditions for submittals:

1. Site Plan showing layout of fence locations
2. Details of attachments of chain-link fence material, barbed wire, and razor blade wire to columns
3. Details regarding erection, installation and mounting, including accessory hardware, fasteners and materials.
4. Temporary bracing methods of existing wall to be employed.
5. Rebar detailing drawings *if* the rebar will be erected offsite or *if* a third-party fabricator will erect or place the rebar

## 1.6 CLOSEOUT SUBMITTALS

- ### A. Submit "as built" drawings of the installation: 3 sets of hard copies,

## 1.7 QUALITY ASSURANCE

### A. Manufacturer Qualifications:

1. Qualified manufacturers of similar products, capable of providing material certificates attesting to the compliance of the materials used with norms and standards referenced in this Section.
- B. Third party installers, should the Subcontractor wish to subcontract this work:
  1. Submit qualifications of installer to the Engineer for approval
  2. Installer must have verifiable experience with installation of chain link fencing over the last five years, and provide client references.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products off the ground and cover with tarps until installation.
- B. Protect products from damage during handling and construction operations.

## 1.9 PROJECT/SITE CONDITIONS

- A. Subcontractor shall be responsible for verifying location and extent of installation as well as conditions of the existing concrete wall. The construction of the existing masonry wall as shown on the plans is approximate and the details of the foundation may vary considerably. Subcontractor shall notify the Engineer immediately of any conditions that may prevent or delay the construction of new columns and the installation of the chain link fence.
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of obstructions or private property as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.

## 1.10 Warranty

- A. Manufacturer warranty for chain link fabric, tension and brace bands, and barbed and razor wire shall be for a minimum period of ten years from date of substantial completion, and shall cover defects in workmanship and materials.
- B. Extended Correction Period – The structure assembly and chain link fabric shall be warranted by the Subcontractor for period (the Defects and Liability Period) of one (1) year after issuance of the Certification of Final Completion and Acceptance.



## **PART 2 – PRODUCTS**

### **2.1 GENERAL**

- A. All materials shall be subject to approval by the Engineer. The materials shall minimally be of the same dimensions, diameters and grades as indicated on the plans.
- B. Chain Link Fabric
  - 1. Material shall conform to standards referenced above for ferrous metals, zinc-coated and detailed specifications forming the various parts thereto; and other requirements specified herein. Zinc-Coated metal members (including fabric, posts, rails, hardware, and other ferrous metal items) after fabrication shall be reasonably free of excessive roughness.
  - 2. Height (exposed): 1 m (as determined by nearest mesh roll height commercially available)
  - 3. Mesh Size: 2 inches (50 mm)
  - 4. Wire Gauge: 0.148 inches (3.76 mm)
  - 5. Zinc-Coated Steel Fabric: ASTM A392 Hot-Dipped Galvanized, Class 1, 0.8 oz per square foot G.B.W. or 1.2 oz per square foot (G.A.W.)
- C. Round Steel Pipe Fence Framework
  - 1. Round Steel Pipe and Rail: Schedule 40 standard weight pipe, in accordance with ASTM F1083, 1.8 oz/ft<sup>2</sup> (550 g/m<sup>2</sup>) hot dip galvanized zinc exterior interior coating.
  - 2. Regular Grade: Minimum steel yield strength 30,000 psi (205 MPa)
- D. Tension Wire
  - 1. Metallic Coated Steel Marcellled Tension Wire: 7 gauge core marcellled wire complying with ASTM A824. Coating shall match chain link fabric.

#### E. Fittings

1. Tension and Brace Bands: Galvanized pressed steel complying with ASTM F626, minimum steel thickness of 12 gauge (0.105 in.)(2.67 mm), minimum width of ¾ in. (19 mm) and minimum zinc coating of 1.20 oz/ft<sup>3</sup> (366 g/m<sup>2</sup>). Secure bands with 5/16 in. (7.94 mm) galvanized steel carriage bolts.
2. Terminal Post Caps, Line Post Loop Tops, Rail and Brace Ends, Boulevard Clamps, Rail Sleeves: In compliance to ASTM F626, pressed steel galvanized after fabrication having a minimum zinc coating of 1.20 oz/ft<sup>3</sup> (366 g/m<sup>2</sup>).
3. Fence Post Floor Flange Anchor: Galvanized pressed steel complying with ASTM F626, min. 6" x 6" x ¼" bracket for mounting chain link posts on concrete surfaces.

#### F. Barbed Wire (or equal)

1. Metallic Coated Steel Barbed Wire: Comply with ASTM A121, 12-4-5-14R, double 12.5 gauge (0.099 in.) (2.51 mm) twisted standard wire with 4 point 14 gauge (0.080 in.)(2.03 mm) round barbs spaced 5 in. (127 mm) on center. Match coating type shall match that of the chain link fabric.

#### G. Concertina Barbed Wire Blade/Razor Type (or equivalent as proposed in Article 1.5 Submittals)

1. Coil Diameter before Set-up: 450 mm.
2. Approximate Diameter After Set-up: 435 mm.
3. Extended Length of coil (meter): 15 meters.
4. Barbed tape 0.5 mm thick Heavily Galvanized Sheet.
5. Core Wire 2.5 mm Galvanized High Tensile Wire.
6. No. of turns per coil: 56.
7. Barb width: 15 mm.
8. Barb length: 21.2 mm.
9. C/C Barb Spacing: 35 mm.
10. No. of clips: 3.

## H. Cast-in-place Concrete Columns and Foundations

1. Rebar, Concrete and associated materials shall conform to the requirements of Section 03 30 00 Cast-in-place Concrete, and shall have a resistance of 21 MPa at 28 days cure.

## **PART 3 – EXECUTION**

### 3.1 EXAMINATION

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected and approved by the Engineer.

### 3.2 INSTALLATION – COMPOSITE FENCES AND GATES

- A. Subcontractor shall thoroughly clear all areas of debris or obstructions prior to laying out materials, accordance with Section 33 11 00.
- B. Mark and layout proposed column locations along existing masonry wall.
- C. Brace the existing wall as per the submitted shop drawings and excavate for the placement of new column foundations
- D. Erect rebar columns and footings, place as indicated on the plans, and obtain approval of the Engineer before proceeding with construction.
- E. Place cast-in-place concrete footings and erect columns as indicated on the plans. In addition, columns shall be placed at all corners of the fence.
- F. Remove obstructions, including existing razor wire, broken glass, nails and other objects from top of existing masonry wall.
- G. Install chain link fence in accordance with the Plans
- H. Top Rail: Install rail continuously thru the line post or barb arm loop top. Splice rail using top rail sleeves, min. 6 in. (152 mm) long. Rail shall be secured to the columns as shown on the plans.
- I. Anchors, fastener placement in Columns: The bolts and fasteners shall be placed without damage to the integrity of the concrete surface. Excessive chipping and shedding concrete surface shall not be permitted, and shall be repaired by the

- Subcontractor. Adequate drills and equipment for placement in concrete are required.
- J. Tension Wire: Shall be installed approximately 4 in. (101.6 mm) up from the bottom of the fabric and 4 in down from the top. Tension wire to be stretched taut, independently and prior to the fabric, between the tension bands or fasteners mounted to the columns and secured under the metal plates shown on the plans. Install the top tension wire through the barb arm loop.
  - K. Install fabric to outside of the framework maintaining a top-column clearance of no more than 2 inches (50 mm). Attach fabric to the columns by threading the tension bar through the fabric; secure the tension bar to the column as shown on the plans. Chain link fabric to be stretched taut and free of sag using a come-along or other approved methods. Fabric to be secured to horizontal rail spaced no greater than 18 inches (457.2 mm) on center. Wrap the tie a full 360° around the rail and fabric wire picket, using a variable speed drill, twist the two ends together three full turns, cut off any excess wire and bend over to prevent injury. Secure the fabric to the tension wire by crimping hogs rings around a fabric wire picket and tension wire.
  - L. Barbed Wire: Stretched taut using a come-along or other approved methods and secured to expansion anchors and washer assemblies.
  - M. Install Concertina type razor wire along the three horizontal strands of barbed wire, connecting it to the horizontal strands according to manufacturer's recommendations, according to the approved shop drawings, along the entire top of fence.
  - N. The existing gate shall be left in place undamaged and unaltered.

### 3.3 CLEANING

- A. The area of the fence line shall be left neat and free of any debris caused by the installation of the fence.

END OF SECTION

## **SECTION 33 11 36**

### **Submersible Centrifugal Well Pumps**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Specifications for provision and installation of submersible solar well pump systems (two total) including associated accessories in the F1 and F2 wells and well houses. Pumping systems shall be operable for DC energy source from a Solar Panel Array and also for AC input source from an onsite 400 kW 480 Vac three-phase generator (GenSet).
2. Procurement and installation of column pipe necessary to set install the pumps and set it at the desired depth as indicated in this Section
3. Requirements for testing and commissioning

##### **1.2 Price and Payment Procedures**

###### **A. Unit price is as detailed in the Section 00 70 00**

- B. Measurement** – includes procurement and all related work for the installation of both pumps, both inverters, associated electrical conduits and cables, spare motor, column pipe, well cap covers, and electrical system components to be housed within the F1 and F2 well houses, as indicated in this Section or shown on the plans, and required to perform the work described in Section 33 11 36. Includes drilling openings through well building walls to allow for connection of electric cables routed from the PV panel array. Includes the construction of a low strength concrete pad under proposed transformer when necessary to obtain the indicated electrical component elevation. Pressure gages, pressure sensors, procurement of reservoir high/low level (float) switch and associated conduit, and flow meters are not measured or included in the Subcontract unit price bid

for the work in this Section. Work outside of the well houses associated with power supply shall be measured and paid for at the Subcontract lump sum price bid for Photovoltaic Collectors. Work to connect the column discharge pipe to the existing discharge lines within the well houses shall be paid for at the Subcontract Lump Sum Price Bid for Site Water Utility Distribution Piping.

### 1.3 RELATED SECTIONS

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. Section 26 31 00 Photovoltaic Collectors
- C. Section 33 14 16 Site Water Utility Distribution Piping
- D. Section 01 25 13 Product Substitution Procedures
- E. Section 01 77 00 Closeout Procedures

### 1.4 REFERENCES

- A. DINEPA - Référentiel Technique National Eau Potable et Assainissement
- B. IEC/EN 61702:1995, International Standard for Rating of direct coupled photovoltaic (PV) pumping systems.
- C. IEC/EN 62253: Standard for Photovoltaic pumping systems. Design qualification and performance measurements.
- D. IEC 60529 “degrees of protection provided by enclosures (IP Codes)
- E. AWWA A100-06: Water Wells
- F. NSF61: Standard for Drinking Water System Components
- G. ISO 4064-1: International Standard for Water meters for cold potable water and hot water
- H. AWWA C600: Standard for Installation of Ductile Pipe and their Appurtenances
- I. International Plumbing Code – 2012
- J. EN 1.4301: Stainless
- K. AISI 304 / 316: Stainless
- L. ASTM B286 - 07(2017): Standard Specification for Copper Conductors for Use in

- Hookup Wire for Electronic Equipment
- M. NFPA 70 National Electric Code
  - N. NEMA - National Electrical Manufacturer's Association
  - O. UL 778
  - P. EN 1.4301: Stainless
  - B. AISI 304 / 316: Stainless AWWA B300 Hypochlorites
  - C. ANSI/AWWA B301, Liquid Chlorine.
  - D. ANSI/AWWA C651, Disinfecting Water Mains.
  - E. AWWA C654 Disinfection of Wells
  - F. A312 / A312M Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless-Steel Pipes
  - G. AWWA M11 Steel Pipe—A Guide for Design and Installation, Fifth Edition

## 1.5 SUBMITTALS

A. Product Data: Unless otherwise indicated, submit the following:

1. Submersible solar well pump technical specifications sheet
2. Electrical characteristics motor data sheet
3. Performance curve
4. List of Accessories and corresponding specifications sheet including but not limited to
  - a) solar inverter
  - b) external manual transfer switches for both AC in DC input to the inverter
  - c) AC and DC surge protection
  - d) 480 V – 460 V AC stepdown transformer
  - e) Separate locking cabinets to house AC and DC accessories
  - f) dry-running switch
  - g) column pipe

B. Subcontractor shall provide name and qualifications of selected independent testing agency to the Engineer prior to commencement of Work. Subcontractor shall pay all costs related to water quality verification testing. Address of facility and its National Institute of Standards and Technology (NIST), International Standards Organization (ISO) or similar certificates attesting to calibration conformance and compliance with industry standards for lab testing and analysis shall be included.

C. Shop Drawings/ Documents: Submit the following in accordance with Submittal Procedures:

1. Submersible solar well pump drawings. This required submission for approval shall include all the manufacturer's product data, dimensions, and sizes.
2. Control Wiring diagram, shop drawings and pump panel drawings shall be submitted for approval before the start of installation work.



3. Connections, physical component location and cable arrangements between DC recombiner, transfer switches, inverter, pump motor and transformer.
4. Location of conduit runs through building wall and proposed diameter and drilling method
5. Power and control schematics – Instrumentation Control Scheme including a oneline drawing and short description of alarming, controls and sequencing of pump operation in wells F1 and F2.
6. Drawing/documents required for the design and installation of the system.

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Provide one spare pump motor (without pump) identical to those newly installed to the Owner at reception of the certificate of substantial completion.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Submit "as built" drawings of the installation: 3 sets of hard copies
- B. Two sets of operation and maintenance manuals
- C. Two sets of type and test certificates of operational equipment.
- D. Warranty Documentation.
- E. UPC number cutouts from equipment packaging.
- F. Copies of all manufacturer material certificates.

#### 1.8 QUALITY ASSURANCE

- A. All optional features shall be functionally tested at the factory for proper operation.
- B. Subcontractor shall provide name and qualifications of selected independent testing agency to the Engineer prior to commencement of Work. Subcontractor shall pay all costs related to water quality verification testing. Address of facility and its National Institute of Standards and Technology (NIST), International Standards Organization (ISO) or similar certificates attesting to calibration

conformance and compliance with industry standards for lab testing and analysis shall be included.

- C. Inspection and Testing: All equipment and components supplied may be subjected to inspection and tests required by the Engineer to be performed by Subcontractor during installation and after completion. Prior to inspection and testing, the equipment shall undergo pre-service cleaning and protection. Subcontractor to verify and demonstrate compliance with the technical details listed in the technical data submittals. No variation shall be allowed other than the tolerances specified or permitted in the relevant approved Standards, unless previously approved by the Engineer.

## 1.9 DELIVERY, STORAGE, AND HANDLING

- A. The equipment shall be delivered on site in the manufacturer origin packaging. Subcontractor shall not open packaging without the approval of the Engineer.
- B. Project materials, equipment and components to be used shall be stored in such a manner as to preserve their quality and condition as recommended by manufacturers, suppliers and according to best industry practices and also as presented in other Sections. The quantity of materials and components indicated stored on the Site shall be consistent with that necessary for efficient working. Subcontractor shall keep a neat and organized lay down area and keep complete records of what is stored on site and in the lay down areas.

## 1.10 PROJECT/SITE CONDITIONS

- A. The Subcontractor shall undertake all necessary measures to avoid any damage to existing equipment located in the pump room. No extra payment will be made for this work. Any damages will be restored by the Subcontractor on his charge.
- B. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities

## 1.11 WARRANTY

- A. The complete operational system, including pumps, motors and controls shall be warranted by the Subcontractor for period (the Defects and Liability Period) of one (1) year after issuance of the Certification of Final Completion and Acceptance.
- B. Pumps and inverter shall have a warranty by manufacturer against defects in workmanship and materials for all electrical and mechanical components for a period of two (2) years under normal use, operation and service. The warranty must specifically state that the manufacturer will be liable, or responsible, for any costs of removal, installation, transportation or any other charges which may arise about a warranty claim

## PART 2 – PRODUCTS

### 2.1 EQUIPMENT:

#### A. PUMP & MOTOR MAIN TECHNICAL CHARACTERISTICS

- 1. Maximum Flow rate (+/- 3%): 24 l/s

2. Maximum operating Head (+/- 3%): 45 m
3. Related output power (+/- 3%): 15 kW
4. Related voltage: 3 x 440-460-480 V
5. Nominal Motor Frequency: 60 Hz
6. Pump material: stainless steel: AISI 304, EN 1.4301
7. Motor speed: Max. 3,450 Rpm
8. Motor material: stainless steel: AISI 304, DIN W.-Nr. 1.4301
9. Maximum temperature of pumped liquid: 30 °C
10. Well diameter: 300 mm
11. Fittings and adapters necessary to make connections to existing system

#### B. INVERTER

1. Must be Grid Forming (Self Commutated)

#### C. MATERIALS

1. All parts of the pump and the motor of the submersible pump should be made of stainless steel per the reference standards in Part 1 of this Section
2. All parts of the pump, motor and accessories shall conform to the reference standards in Part 1 of this Section.
3. Pumps will be equipped with necessary accessories and apparatus such that they may be powered with the existing GenSet on site.

## 2.2 MANUFACTURERS

- A. Pump: Grundfos 385S200-3-A (or equivalent)
- B. Motor : Grundfos MS6000 (or equivalent)

- C. Inverter: Grundfos RSI 99044365, voltage range 3 x 380-440 V (or equivalent)
- D. Level Switch (if required): SJE-Rhombus 20SGMPCNC SignalMaster Control  
Switch Normally Closed 20' Cord (or equivalent)
- E. Substitution Limitations – the Subcontract Plans and Specification Sections show the above products, which have been designed to work together as a system to meet the requirements of this Subproject. Substitution requests may be accepted subject to the provisions of Section 01 25 13. Substitution requests must be accompanied with plans that show how the substituted components will provide the equivalent functionality shown on the plans and Specification Sections of the Subcontract documents. Additional requirements for acceptance of substitution requests pertaining to the equipment in this Article are as follows:
  - 1. The pumps/motor combinations must be operable with power supply either from the Photovoltaic Collectors (DC) or the existing onsite Generator (AC).
  - 2. The system must provide over and undervoltage protection to cut out the power connection to the motors if voltage falls outside of allowed voltage limits.
  - 3. The system must provide over and under current protection and surge protection for AC and DC power to the motors.
  - 4. The system must provide for overload protection
  - 5. The inverter must have overtemperature protection.
  - 6. The inverter must provide electrical no load protection and cut out the power connection to the motor if no-load occurs
  - 7. AC and DC disconnect switches must be provided to control power input to the motors and to protect the inverter on both line side and load side
  - 8. The inverter must have adjustable control settings that allow the frequency of power supply to the pump motor to be changed
  - 9. The system must allow for pump operation shutoff through signals from existing reservoir level sensors
  - 10. The electrical system must allow for reception of a high-pressure signal that cuts off pump operation for excessive discharge pressures

## 2.3 NEOPRENE GASKET MATERIAL

- A. Inserted at perimeter contact surface between well cover and concrete well cap, Cloth Inserted Neoprene Rubber sheet specs:
1. Polymer: Chloroprene reinforced with 3.4 oz/sq. yd. nylon fabric
  2. Durometer Rating (hardness): 60
  3. Temperature Range: -20°F to +180°F
  4. Tensile Strength: 1100 PSI
  5. Finish: Plate
  6. Gauge (thickness): ¼"
  7. Fabric Plies: 1 ply or 2 ply
  8. Pressure Sensitive Adhesive (PSA): Yes
  9. Grade: commercial black neoprene rubber

## 2.4 ACCESSORIES

A. The Subcontractor shall ensure that all accessories are supplied and installed for a proper functioning of the pump taking in account project site conditions. The Subcontractor will procure and install accessories as specified on the plans and including:

1. Circuit breaker or DC recombining box, surge protection, well dry-level switch and a 480-460 V transformer allowing to leverage solar energy source with the ability to back up the system with existing generator power.
2. All electrical wires, transducer sleeves and accessories for the functioning of the pump and specified accessories.
3. All electrical materials shall have a UL or ETL label if a test exists.

B. The Subcontractor shall furnish and install all accessories and electrical components within the pump houses as shown on the plans and described in the Specification Sections. Existing pump panel will be removed from the wall and taken off site. All wires within the panel shall be labelled with their gauge size.

- C. The Subcontractor shall furnish and install with the pump a sufficient amount of submersible power cable of the minimum size and voltage rating shown in specifications table. The cable shall have three (3) copper conductors of not less than seven (7) strands, each conductor to be in an insulating water-tight synthetic rubber or plastic jacket; the whole to be enclosed in an outer neoprene, synthetic rubber or PVC jacket which shall be impervious to oil. The power cable shall be supported on the column pipe by means of stainless steel bands at intervals not exceeding 3 m. The cable shall be of sufficient length to extend to the pump controller via the appropriate wire route. The power cable shall include an integral ground lead of appropriate size.
- D. Column pipe - provide sufficient column pipe of nominal 100 or 150 mm diameter, or as recommended by the pump manufacturer, of schedule 40S stainless steel pipe conforming to AISI 304, with wall thickness of 8.18 mm to allow the pump to be set at 24 m depth in borehole F1 and 15 m depth in borehole F2. Discharge line from well F1 and F2 is 200 mm ductile iron pipe. Subcontractor shall verify the existing pipe diameters, verify the exact length of stainless column pipe and any ductile iron force main pump to be procured and installed. The threads shall conform with American Standard Pipe Thread Taper (NPT) specifications.
- E. A continuous transducer sleeve with an inside diameter of at least 1.0 inch I.D of HDPE or equivalent shall be furnished and installed in sufficient length in a continuous roll without splices to extend from the surface to the top of the bowl assembly.

## 2.5 PROTECTIONS

- A. The motor must have IP 68 protection and the motor must have IP 54 protection.
- B. The inverter must have IP 66 protection. Maximum Power Point Tracker (MPPT) shall be included to optimally use the Solar panel and maximize the water discharge.
- C. Adequate protections should be incorporated against dry operation of motor pump set, lightning and storms.
- D. Full protection against open circuit, accidental short circuit and reverse polarity should be provided.
- E. Wiring shall comply with applicable References as listed in Part 1 of this Section.

## 2.6 RESEVOIR LEVEL SWITCH

- A. Subcontractor shall use the existing level switch and conduit runs between the 300 m3 elevated reservoir and the F1 and F2 pump houses, and shall wire the inverters to receive a full tank signal and to shut off accordingly. Should the existing level switch be defective, Subcontractor will be directed by the Engineer to procure and install a new switch and accessories as indicated in Part 3 of this Specification

## PART 3 – EXECUTION

### 3.1 Examination

- A. Examine the areas and conditions under which installation will be performed.  
Correct conditions detrimental to the proper and timely completion of the installation. Do not proceed until satisfactory conditions have been corrected.
- B. Examine the integrity of the existing well cap covers. Provide new cover and attachment hardware as necessary (at no additional cost) per the specifications in this Section if directed by the Engineer
- C. Subcontractor shall examine the functionality of the existing level switch in the 300 cubic meter tank and the electrical integrity of the conduit runs to the F1 and F2 well houses. Should this component be defective or non-operational, a request shall be made to the Engineer for a price Subcontract modification, according to the provisions of Section 00 70 00. Upon approval by the Contractor (DAI), Subcontractor shall proceed to procure this component deemed defective per the specifications in Part 2 of this Section, and to install (including, if necessary, new conduit) as shown on the plans and described in this Section, per the Plans, and per manufacturer recommendations.



- D. Provide inspection report detailing the findings of the Examination within seven calendar days of Subcontract signing. No installation will be performed before Engineer's approval.

### 3.2 INSTALLATION - SUBMERSIBLE CENTRIFUGAL WELL PUMPS

- A. Installation shall not be started before checking and equipment Engineer's approval.
- B. The Subcontractor shall provide for the protection, cleanup, removal and temporary moving objects and equipment located in technical rooms for the execution of the work required in the Subcontract documents. No extra payment will be made for this work.
- C. Protect installed lid and fasteners from damage during construction.
- D. All pipes and fittings, regardless of material type, shall be installed in strict accordance with the standards. In the absence of such installation procedures, the manufacturer's instructions shall be followed.
- E. Ductile pipe and fittings shall be assembled following the standards of AWWA C600 or equivalent for Installation of Ductile Pipe and their Appurtenances under observation of the Engineer. Pipe ends shall be temporarily plugged with approved caps.
- F. Steel Pipe shall be installed according to the guidelines of AWWA M11 and
- G. Install pumps and column pipe according to manufacturer specifications and the standards listed in the References provided in Part 1, with adapters and necessary fittings as determined necessary during inspection.
- H. Install electrical components, including gauges, inverter, and transfer switches, according to the indications in the plans and the standards listed on the plans and listed herein. Inverter shall be mounted on the wall of the well buildings in accordance with manufacturer recommendations, and shall be supplied with a battery for powering the Real Time Clock.
- I. The specified inverter/motor combination indicated in this Section requires the inverter to be programmed to operate the motor at 57.9 h with an approximate speed of 3379 rpm.
- J. Pipe ends shall be temporarily plugged with approved caps to avoid entrance of contamination into the well.

- K. Seal well cover to concrete well cap using neoprene gasket material around the perimeter, and provide any bolts, nuts and or washers needed to fasten cover down onto the concrete well cap

### 3.3 FIELD SITE QUALITY CONTROL

- A. Testing – Subcontractor shall provide all reports, as-built documentation, and test results necessary and shall be present at a site meeting to provide any and all equipment necessary and information required in order to obtain from

Owner and Contractor a Substantial Completion Certificate. Testing shall include field testing of the permanent pumping equipment and amperage measurement on each phase.

- B. Plumbness and Alignment - Upon completion of column pipe installation, and before attachment of cover plate, test for plumbness of the installed down pipes by lowering into the well, to the total a total test depth of 15 meters, a plumb. The outer diameter of the plumb must not be more than 25 mm smaller than the diameter of the pipe being tested. Decontaminate the plumb to the satisfaction of the Engineer before use. If the plumb fails to move freely throughout the test depth, as verified through observation with the aid of illumination by a high-powered lamp, or as confirmed through other approved methods, correct the plumbness and alignment of the down pipes.

- C. Pump testing shall consist of manual water level aquifer measurements, discharge measurement, discharge pressure measurement and field water quality of temperature, pH and conductivity. Aquifer measurements shall be at 1-minute intervals for the first 15 minutes and 10-minute intervals for a period of 1 hour; followed by 30-minute measurements to the completion of the test. The total test time shall be for 8 hours. Monitoring of the recovery of the water after pumping shall be performed until within 10% of original water levels prior to pumping. A report shall be provided to Engineer for further analysis and shall be submitted as a requirement for issuance of the Substantial Completion Certificate. Test shall be performed under solar power generation on a clear day with full solar radiation intensity potential, and run from 8:00 am to 5:00 pm.

- D. Disinfection - After completion of tests of well, or installation of permanent pump, or at time of tests for yield and drawdown test, whichever is later, disinfect the wells by adding chlorine, conforming to AWWA B301, or hypochlorite, conforming to AWWA B300, in sufficient quantity so that a

concentration of at least 50 ppm of chlorine is obtained in all parts of the well. Prepare chlorine solution and introduce into the well in an approved manner, and leave in the well for period of at least 12 hours but not more than 24 hours. Information on methods for preparing chlorine solution and introducing it into the well can be found in AWWA C654. After the contact period, pump the well until the residual chlorine content is not greater than 1.0 ppm. Pump the well to waste for an additional 15 minutes with less than 1 ppm chlorine residual, after which take two samples not less than 30 minutes apart and test for the presence of coliform bacteria. Disinfect and re-disinfect the well as required until two consecutive samples are free from coliform bacteria. The cost of lab tests and sampling for the approved laboratory shall not be paid separately but shall be included in the Subcontract unit price bid for Submersible Centrifugal Well Pumps.

### 3.4 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the well house and immediate surroundings, both created by the Subcontractor and those in place before construction began.
- B. Once the well is sealed, the floor shall be swept, hosed, scrubbed with a chlorine solution, and rinsed. Pump controller shall be kept dry during such work.

### 3.5 CLOSEOUT ACTIVITIES

- A. Commissioning - work activities must be verified as complete before commissioning can start. Testing the pump equipment will be conducted to verify that correct valves and motors engage when called upon by the operator or program. It is important to also check pump flow, motor speeds, and related indicators of compliant functioning at this time. Testing shall include amperage measurement on each phase. The tests shall be performed in the presence of the Engineer and the Owner, following the Contractor's standard procedures as detailed in applicable provisions of DAI General Conditions & Infrastructure Fixed Price Unit Price Subcontract (00 70 00 of these specifications). This process shall be part of the training provided to the owner.
- B. Training will be provided for operations, maintenance and administrative personnel, including instruction for the functioning and maintenance of the chlorinator. The training should provide sufficient information to aid in the

planning and sequencing of the operation and maintenance processes. The details of construction, equipment manufacturers, model numbers, specific drawings are to be provided by the Subcontractor in an operations and maintenance manual, following the indications of Section 01 77 00. The Subcontractor shall provide training to local staff conducted at the site. The training shall be coordinated and planned with the Engineer, but the Subcontractor shall be responsible for the content of the training. The training shall be conducted in Creole and shall include sections on operation of equipment in AC and DC mode, maintenance of security, programming inverter units, mechanical repair, electrical repair, water treatment, chemical handling, and general maintenance. It shall include illustrations and a list of procedures for operation. The course work shall include but not be limited to:

### 1. Wells and Pumps:

- Pump maintenance and troubleshooting.
- Pump panel controls and programming.
- Pump and panel electrical troubleshooting.
- Pump removal procedures and replacement
- Well decontamination procedures.
- Well head instrumentation.
- Pump system switching procedures.

### 2. Controls

- System Architecture
- Communication system operation and troubleshooting
- Component maintenance and replacement
- Tower level sensor troubleshooting, maintenance and repair
- Manual override procedures

### 3. Safety

- Pump and well head safety
- Electrical hazards safety
- Confined space entry safety

#### 4. Environmental Safeguards

- C. A System-level Operation and Maintenance Manual, in French, should be provided with the pumping system. Refer to the requirements of Section 01 77 00 as well. The Manual should have information that describes the functioning, operations, sequencing and required maintenance instructions of and pertaining of the solar energy, photovoltaic, modules, motor pump set, monitoring system, mounting structures, electronics and switches. It should also have cautions and best industry practices and regular maintenance and troubleshooting of the pumping system. Report will contain name and address and description of the person or center to be contacted in case of failure or complaint should also be provided.
- D. A booklet of standard-operating-procedures and guidance documents shall be prepared and four (4) hard copies with a USB Jump Drive of the electronic version shall be presented to Engineer seven calendar days prior to issuance of the Certificate of Final Completion of the project. The booklet shall also include equipment specifications; manufacturer instruction manuals; equipment cut sheets and a full directory of supplier contacts and addresses. The documentation shall include step-by-step instructions for general maintenance of the mechanical, electrical and water treatment systems and shall be illustrated with photographs, drawings and computer screen shots. The manual shall further contain a table of settings, bolt torque values, and equipment operation tolerances.

END OF SECTION

**SECTION 33 14 16**  
**Site Water Utility Distribution Piping**

**PART 1 – GENERAL**

## 1.1 SUMMARY

### A. Section Includes

1. All discharge line piping and connection to the existing water distribution system at the Charpentier Well Field site, for wells F1 and F2, from top of column pipe at well cap to the existing discharge lines
2. Materials and installation for pipe assemblies at well caps

## 1.2 Price and Payment Procedures

- A. Unit price is as detailed in the Section 00 70 00
- B. Measurement – applies to all work, including adaptor and fittings as necessary, starting from the well cap and extending downstream to existing discharge lines within the well buildings F1 and F2, that is necessary to connect the column pipe to the discharge lines prior to their exit from the well houses. Replacement or addition of pressure gages, discharge line pressure sensors, and flow meters are not measured or paid for in the contract unit price bid for the work in this Section, but may be added upon direction of the Engineer as a Subcontract modification.

## 1.3 RELATED SECTIONS

- A. Applicable provisions of Section 00 70 00 General Conditions & Infrastructure  
Fixed Price Unit Price  
Subcontract
- B. Section 33 11 36 Submersible Centrifugal Well Pumps
- C. Section 03 30 00 Cast in Place Concrete
- D. Section 26 31 00 Photovoltaic Collectors
- E. Section 01 74 00 Cleaning and Waste management

## 1.4 REFERENCES

- A. ASTM B88, Standard Specifications for Seamless Copper Water Tube.
- B. ANSI/AWWA C115/A21.15 Standard for Flanged Ductile-Iron Pipe with Threaded Flanges
- C. ANSI/AWWA C110/ A21.10 Ductile-Iron and Gray-Iron Fittings

- D. AWWA/ ANSI C11/A21.11 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- E. AWWA C151 American National Standard for Ductile Iron Pipe, Centrifugally Cast, for Water
- F. ASTM A107 Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
- G. ASTM D1784, Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds (Type 1, Grade 1)
- H. ASTM D1785, Standard Specification for Polyvinyl Chloride (PVC) Plastic Pipe Schedules 40, 80 and 120.
- F. ASTM D 2466 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
- G. AWWA B300 Hypochlorites
- H. ANSI/AWWA B301, Liquid Chlorine.
- I. ANSI/AWWA C651, Disinfecting Water Mains.
- J. AWWA C654 Disinfection of Wells
- K. US military specification Mil-C-27487 or A-A-59326D - Standard for cam & groove couplings
- L. International Plumbing Code – 2012
- M. NSF/ANSI 61-2016 Drinking Water System Components
- N. DINEPA - Référentiel Technique National Eau Potable et Assainissement
- O. A312 / A312M Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless-Steel Pipes
- P. AWWA M11 Steel Pipe—A Guide for Design and Installation, Fifth Edition
- Q. AWWA C604-11 Installation of Buried Steel Water Pipe - 4 In. (100 mm) and Larger

## 1.5 SUBMITTALS

- A. Product Data: Unless otherwise indicated, submit the following to the Engineer:



1. A work plan that describes or includes:
  - a) Description of contamination prevention and well materials and equipment decontamination procedures
  - b) Description of specific methods to be employed to control potential contamination or pollution arising from well installation activities
  - c) Fabrication methods for piping (onsite or at workshop, or off-the-shelf), including address of workshop if applicable
2. Product literature and manufacturer specifications for all piping, fittings and accessories,
3. Name, address, and qualifications for proposed water quality laboratory, including ISO or similar certificates attesting to compliance with industry standards for lab testing and analysis.

B. Shop Drawings: Submit the following in accordance with DAI General Conditions for submittals:

1. Piping design sketches indicating all fittings and pieces and their proposed locations, with notes pertaining to cut locations (if any) of existing piping and installation of accessories.
2. Recommended modifications (if any) to the contract drawings.
3. Details for all couplings, valves, pressure gages, flow meters, operators, and other special appurtenances.
4. This required submission for approval shall include all the manufacturer's product data, dimensions, sizes, and types.

## 1.6 CLOSEOUT SUBMITTALS

- A. Submit "as built" drawings of the installation: 3 sets of hard copies, 2 sets of operation and maintenance manuals and 2 sets of type and test certificates of operational equipment.

## 1.7 QUALITY ASSURANCE

- A. Contractor shall provide name and qualifications of selected independent testing agency to the Engineer prior to commencement of Work. Contractor shall pay all costs related to water quality verification testing. Address of facility and its National Institute of Standards and Technology (NIST), International Standards Organization (ISO) or similar certificates attesting to calibration conformance and compliance with industry standards for lab testing and analysis shall be included

## 1.8 SITE CONDITIONS

- A. Existing Conditions – Contractor shall verify the existing dimensions and materials of well casing and well column pipes, discharge lines, and accessories included but not limited to flow meters, air valves, and gate valves. Reports indicate that the well casing diameter in both F1 and F2 borings is DN 300 mm, that the riser pipe is DN 125 mm for F2 and 150 mm for F1, and that the discharge line from both F1 and F2 pump houses are DN 200 mm DIP. Contractor shall not order pipe or materials before verifying pipe and component geometry, materials and sizes.

## 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Store all pipes, fittings and accessories in clean, dry area, off ground. Protect from damage. Preserve original packaging for solvents, fittings and accessories when delivered as such
- B. Handling: Protect materials and finish from damage during handling and installation.

## 1.10 PROJECT/SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Contractor as the work proceeds. Any excavation work shall be done carefully so as to avoid damaging the existing utilities
- B. The Contractor shall provide for the protection, temporary removal and replacement, or relocation of utility obstructions as required for the performance of the work required in these Contract Documents. Such work may be required to accomplish work described in the Related Sections article of this Section, or that of other Sections not explicitly listed. No extra payment will be made for this work.

## **PART 2 – PRODUCTS**

### **2.1 MATERIALS**

#### **A. Ductile Iron Pipe, Specials, And Fittings**

1. All pipe, specials, and fittings shall be ductile iron conforming to ANSI A21.10. The joints shall conform to the requirements of ANSI A21.11.

2. The fittings shall all have bell connections of standard AWWA dimensions or special dimensions as required or shall be equipped with adapters of the proper class for the size of the pipe as required by the manufacturer.

3. Ductile iron pipe shall conform to AWWA C151 and be of Schedule 40.

4. Ductile iron pipe shall be coated with bituminous asphaltic coating in accordance with AWWA C151.

5. Ductile Iron Pipe with Flanged Fittings shall be rated for 250 psi (17.2 bars) and conform to ANSI/AWWA C115/A21.15

6. All flanged joints shall be furnished with 3 mm thick red rubber or styrene butadiene gaskets. Material for bolts and nuts shall conform to ASTM A107.

7. Couplings and adapters as necessary, complying with ASTM A536.

Couplings shall be of the wide range type to fit Steel, Cast Iron, Ductile Iron, PVC, HDPE and Asbestos-Cement pipe. Gaskets shall be of Styrene- Butadiene Rubber compounded for use with water, salt solutions, mild acids and bases; and shall have abrasion resistance per ASTM D2000

### **2.2 EQUIPMENT**

#### **A. Pressure Gauge**

1. The gauges are glycerin-type with tinned bronze tube connection. They will come from the same manufacturer and will be standardized. The box is provided with an aperture for discharging the condensate. The moving parts are in tin-free steel, bronze or nylon. The scale ranges from 0 to the maximum operating pressure increased by 50%. The accuracy will be higher or equal to 1.5%. Each gauge is equipped with a three-way purge valve. Note: the gauge will only be procured by the Subcontractor

upon direction of the Engineer after examination as indicated in Part 3 of this Specification.

**B. Flow Meters**

1. Flow meter diameters up to 4 inches will be provided, equipped with ductile iron or cast-iron pipes, control dial coated stainless steel and flanged to ANSI standards. The meters will be provided either with stools and straightening vanes or with flanged tubes and integrated straightening vanes. The meters will have integrated straightening blades and will be manufactured in carbon steel and provided with flange Class

D according to AWWA standards. The flow meter will only be procured by the Subcontractor upon direction of the Engineer after examination as indicated in Part 3 of this Specification.

**PART 3 – EXECUTION**

**3.1 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed.

Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected.

- B. The Subcontractor shall examine if the existing flow meters and pressure gages in the F1 and F2 well house are functioning. Should any of these components be defective or non-operational, a request shall be made to the Engineer for a price Subcontract

modification, according to the provisions of Section 00 70 00. Upon approval by the Contractor (DAI), Subcontractor shall proceed to procure these components deemed defective per the specifications in Part 2 of this Section, and to install as outlined in Part 3 of this Section, as shown on the Plans, and per manufacturer recommendations.

**3.2 INSTALLATION – SITE WATER UTILITY DISTRIBUTION PIPING**

- A. The existing pump (in F1) and existing column/riser pipes in the boreholes shall be removed and eliminated from the property. The Owner (representative of CTE) may wish to receive such materials for salvage purposes; however, they shall not be stored onsite.

- B. After installing well column pipe per the requirements of Section 33 11 36, install ductile pipe and their appurtenances according to AWWA C600, in accordance with the approved shop drawings, in order to connect and adapt well column pipe at the well cap to the discharge line leaving the building. Include a reducer fitting and fitting terminal with plug that can (at a future date) be equipped with high pressure sensor via a 1/8 or 1/4 inch NPT male thread sensor. Adapt and connect existing flow meter and pressure gage, or new replacements.
- C. Thoroughly clean the interior of the pipe of all foreign materials before making connections
- D. Perform pipe cutting and threading in a neat and workmanlike manner without damage to the pipe. The cutting methods used shall conform to the manufacturer's recommendations.
- E. Pipes shall be connected with appropriate tools as per manufacturer recommendations.  
  
For installation of mechanical joint adapters and flanges, bolts shall be tightened and torqued in conformance with manufacturer instructions.
- F. Appurtenances and accessories, as indicated in Section 33 14 16 and on the plans, shall be installed in the locations provided on the shop drawings and according to manufacturer's recommendations. Do not install such accessories in an alternative position without the express approval of the Engineer.
- G. Use adequate lubricants for screw on fittings per the manufacturer's recommendations.

### 3.3 SITE QUALITY

#### CONTROL A. Pressure

##### Testing

1. Pre-Test Inspection Test equipment and the pipeline should be examined before pressure is applied to ensure that connections are tight, necessary restraints are in-place and secure, and components that should be isolated or disconnected are isolated or disconnected. All low-pressure filling lines and other items not subject to the test pressure should be disconnected or isolated. Hydrostatic pressure testing is preferred and is strongly recommended. The preferred testing medium is clean water. The test section should be completely filled with the test medium, taking care to bleed off any trapped air. Venting at high points may be required to purge air pockets while the test section is filling. Venting may be provided by loosening flanges, or by using equipment vents. Re-tighten any loosened flanges before applying test pressure.

2. Make-up Water: The test procedure consists of initial expansion and test phases. During the initial expansion phase, the test section is pressurized to the test pressure, and sufficient make-up water is added each hour for two hours to return to test pressure. After the initial expansion phase, one hour after pressurization, the test phase begins. The test phase two (2) hours,
  3. Pressure Test - The pressure and leakage test may be conducted simultaneously. All newly installed pipe, column pipe, and accessories shall be subject to a hydrostatic pressure test. The newly constructed  
  
pipe shall maintain a pressure of 120 psi for 2 hours. No drop in pressure will be allowed. Any defective joints, pipe, valves or hydrants, revealed during the testing or before final acceptance of the work shall be corrected and the test repeated until the specified requirements have been met.
- B. Disinfection of the newly installed piping for both F1 and F2 shall be performed in accordance with ANSI/AWWA C651. Disinfect and re-disinfect as required until two consecutive samples are free from coliform bacteria. The cost of lab tests and sampling for the approved laboratory shall not be paid separately but shall be included in the contract unit price bid for Site Water Utility Distribution
- Piping

### 3.4 CLOSEOUT ACTIVITIES

- A. Commissioning - work activities must be verified as complete before commissioning can start. Testing the piping will be conducted in the presence of the Engineer and the Owner, following the Contractor's standard procedures as detailed in applicable provisions of DAI General Conditions & Infrastructure Fixed Price Unit Price Subcontract (00 70 00 of these specifications). This process shall be part of the training provided to the owner.

### 3.5 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the well house and immediate surroundings, both created by the Subcontractor and those in place before construction began.

END OF SECTION

## **SECTION 33 40 00**

### **STORMWATER UTILITIES**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. This work includes the manufacture and installation of channel outlet grates at the outlet of two different onsite masonry channels.

##### **1.2 PRICE AND PAYMENT PROCEDURES**

###### **A. Unit price is as detailed in the Section 00 70 00**

- ###### **B. Measurement – applies to all work, equipment, materials, accessories and items listed in Section 33 40 00 and indicated on the plans necessary to replace existing outlet grate with new grate system. Measurement shall be for each grate system installed.**

##### **1.3 RELATED SECTIONS**

- ###### **A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract**
- ###### **B. Section 03 30 00 Cast-in-place concrete**

##### **1.4 REFERENCES**

- ###### **A. ASTM A36 - Standard Specification for Steel plates**
- ###### **B. ASTM A793 - Standard Specification for Rolled Floor Plate, Stainless Steel.**
- ###### **C. ASTM A490 - Standard Specification for Structural Bolts**
- ###### **D. AWS/ANSI-A5.29. 1198 Specification Low Alloy Steel Electrodes for Flux Cored**

## Arc Welding

- E. ISO 9001 - Quality Management Systems – Requirements
- F. ISO 14001 - Environmental Management Systems -- Specification with Guidance for Use.
- G. ASTM A-615/A615M - 18e1 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- H. ASTM A185 A185 M Plain-Steel Welded Wire
- I. ASTM A53/A53M-18 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- J. International Code Council (ICC), Evaluation Service (ICC-ES) ESR-2582 for concrete
- K. International Code Council (ICC), Evaluation Service (ICC-ES) ESR-3200 for masonry
- L. International Code Council, Evaluation Service (ICC-ES) ESR-4105 for Unreinforced Masonry (URM)

## 1.5 SUBMITTALS

- A. Product Data: Unless otherwise indicated, submit the following to the Engineer:
  - 1. Galvanized Iron Pipe data sheet.
- B. Equipment: data sheet for diamond core bit, description of drill equipment or core cutter
- C. Shop Drawings: Required strictly and only if post-bid change orders or modifications are approved. In such a case, submit the following in accordance with DAI General Conditions for submittals:
  - 1. Submit outlet channel grates shop drawings, indicating material, surface pattern, thickness, dimensions, tolerances, span, fabrication, shop welding, supports.

## 1.6 QUALITY ASSURANCE



- A. Field Measurements: Take field measurements before preparation of shop drawings and fabrication, as necessary.
- B. Subcontractor shall verify that the dimensions mentioned on the plans are true in the field before starting work.
- C. Subcontractor shall to be sure that the materials on the site are exactly the same as required in this Section and (if required) shown in the approved shopped drawings.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials and finish from damage during handling and installation.

## 1.8 SITE CONDITIONS

- A. The existing underground utilities, as shown on the plans, are located in accordance with available data, but the locations may vary and cannot be guaranteed. The exact locations shall be determined by the Subcontractor as the work proceeds. The excavation work shall be done carefully so as to avoid damaging the existing utilities
- B. The Subcontractor shall provide for the protection, temporary removal and replacement, or relocation of said obstructions as required for the performance of the work required in these Subcontract documents. No extra payment will be made for this work.
- C. The dimensions, material types and thicknesses of the concrete channels is approximate. Subcontractor shall verify in the field.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Galvanized steel pipe, Schedule 40
  - 1. Complies to A53/A53M-18 2.3

B. Epoxy Grout (Approved and Listed)

1. ICC, Evaluation Service (ICC-ES) ESR-2582 for concrete
2. ICC, Evaluation Service (ICC-ES) ESR-3200 for masonry
3. ECC, Evaluation Service (ICC-ES) ESR-4105 for Unreinforced Masonry (URM)

## **PART 3 – EXECUTION**

### **3.1 EXAMINATION**

- A. Subcontractor shall evaluate the hardness of the stone wall masonry and advise the Engineer of any foreseen obstacles for coring/drilling into the walls
- B. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until satisfactory conditions have been corrected. After verification that everything is correct, the Subcontractor shall have the authorization of the Engineer to begin his work.

### **3.2 INSTALLATION – STORMWATER UTILITIES**

- A. Outlet grates
  1. Divert flow around work area with sand bags and pump.
  2. Remove existing grate and grind back bars flush with concrete/wall surface.
  3. Clean bottom of channel and channel walls
  4. Lay out and mark the location of the cross bars. Request inspection by the Engineer.

5. Drill hole 150 mm deep in sides of wall at the specified locations, insert GI pipe, and epoxy grout. In the event that drill bit does not perform adequately, request authorization to the Engineer to remove wall section for casting in place of pipe section. This will be considered a no-cost modification.

### 3.3 PROTECTION

- A. Protect installed outlet grates and fasteners from damage during construction.
- B. Avoid scratches and other damage to the galvanized iron pipe. The Engineer may at his/her discretion request that damaged pipe is replaced at no cost to the Client.

### 3.4 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the channels and immediate surroundings, both created by the Subcontractor and those in place before construction began.

END OF SECTION

## **SECTION 46 33 42**

### **Diaphragm-type Metering Pumps**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Specifications for provision and installation of a chlorine dosing pump and agitator in the Technical and Administrative Building, and an additional agitator in the dosing chamber on top of the new valve building.
2. Requirements for external controls and for accessories
3. Requirements for testing and commissioning

##### **1.2 RELATED SECTIONS**

- A. Section 00 70 00 General Conditions & Infrastructure Fixed Price Unit Price Subcontract
- B. Section 33 14 16 Site Water Utility Distribution Piping
- C. Section 01 77 00 Closeout Procedures

##### **1.3 PRICE AND PAYMENT PROCEDURES**

- A. Unit price is comprised of the elements as explained in Section 00 70 00.
- B. Measurement – includes one dosing pump and two agitator units including necessary accessories, fittings, and pipe required to repair and rehabilitate the two dosing systems to a reliable and functional state of repair. Measurement includes chlorine residual test kits as specified herein, training and operational and lab testing

##### **1.4 REFERENCES**

- A. DINEPA - Référentiel Technique National Eau Potable et Assainissement
- B. ASTM B88, Standard Specifications for Seamless Copper Water Tube.
- C. ASTM D1784, Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds (Type 1, Grade 1)
- D. ASTM D1785, Standard Specification for Polyvinyl Chloride (PVC) Plastic Pipe Schedules 40, 80 and 120.
- E. ASTM D 2466 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
- F. ASTM D 2235 Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (AB S) Plastic Pipe and Fittings
- G. ASTM F 656 Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
- H. ASTM D 2855 Standard Practice for Making Solvent-cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
- I. ASTM D2239 Standard Specifications for Polyethylene (PE) Plastic Pipe.
- J. ASTM D2241, Standard Specifications for Polyvinyl Chloride (PVC) Plastic Pipe (SDR-PR and Class T).
- K. ASTM D3139, Standard Specifications for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
- L. AWWA B300 Hypochlorites
- M. NSF/ANSI standard 60-2016: Drinking water chemicals – Health Effects
- N. NSF/ANSI standard 61: Drinking water components – Health Effects
- O. ANSI/AWWA C652-92 AWWA Standard for Disinfection of Water-Storage Facilities
- P. AWWA B301: Liquid Chlorine Standards
- Q. International Plumbing Code – 2012
- R. EN 1.4301 or AISI 304 / 316: Stainless
- S. NFPA 70 National Electric Code
- T. NEMA - National Electrical Manufacturer's Association

U. UL Underwriter's Laboratory

## 1.5 SUBMITTALS

A. Product Data: Unless otherwise indicated, submit the following to the Engineer:

1. Dosing pump and motor technical specifications sheet
2. Agitator and motor technical specifications sheet
3. Performance curve
4. List of accessories and their manufacturer specifications including injector assembly

Shop Drawings: Submit the following in accordance with Submittal Procedures

Section 00 70 00 for submittals:

1. Dosing pump Drawings. This required submission for approval shall include all the manufacturer's product data, dimensions, and sizes. Show locations of pump, fittings, dosing line material and layout, and associated components.
2. Agitator Drawings. This required submission for approval shall include all the manufacturer's product data, dimensions, and sizes.
3. Wiring and controls diagram: show line diagrams and connections for proposed operation using the existing external control system. System shall also provide for internal motor control with alarms and warnings.

## 1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Provide spare dosing pump motor (without pump) identical to those newly installed to the Owner at reception of the certificate of substantial completion.

## 1.7 CLOSEOUT SUBMITTALS

- A. Submit "as built" drawings of the installation: 3 sets of hard copies, 2 sets of operation and maintenance manuals and 2 sets of type and test certificates of operational equipment.
- B. Warranty Documentation.
- C. UPC number cutouts from equipment packaging.
- D. Copies of all manufacturer material certificates.

## 1.8 QUALITY ASSURANCE

- A. All optional features shall be functionally tested at the factory for proper operation.
- B. Subcontractor shall provide name and qualifications of selected independent testing agency to the Engineer prior to commencement of Work. Subcontractor shall pay all costs related to water quality verification testing. Address of facility and its National Institute of Standards and Technology (NIST), International Standards Organization (ISO) or similar certificates attesting to calibration conformance and compliance with industry standards for lab testing and analysis shall be included.
- C. Inspection and Testing: All equipment and components supplied may be subjected to inspection and tests required by the Engineer performed by Subcontractor during installation and after completion. Prior to inspection and testing, the equipment shall undergo pre-service cleaning and protection. Subcontractor verify and demonstrate compliance with the technical details listed in the technical data submittals. No tolerances shall be allowed other than the tolerances specified or permitted in the relevant approved Standards, unless previously approved by the Engineer.

## 1.9 DELIVERY, STORAGE, AND HANDLING

- A. The equipment shall be delivered on site in the manufacturer original packaging.
- B. Project materials, equipment and components to be used shall be stored in such a manner as to preserve their quality and condition as recommended by manufacturers, suppliers and as is understood to be best industry practices and also as presented in other sections of the Subcontract. The quantity of materials and components stored on the Site shall be consistent with that necessary for efficient working. Subcontractor shall keep a neat and tidy lay down area and keep good records of what is stored on site and in the lay down areas.

## 1.10 PROJECT/SITE CONDITIONS

- A. The Subcontractor shall undertake all necessary measures to avoid any damage to existing equipment located in the pump room. Any damages will be restored by the Subcontractor at his charge.

## 1.11 WARRANTY

- A. The complete operational system, including pumps and motors shall be warranted by the Subcontractor for period (the Defects and Liability Period) of one (1) year after issuance of the Certification of Final Completion and Acceptance.
- B. Pump shall have a warranty by manufacturer against defects in workmanship and materials for a period of two (2) years under normal use, operation and service.

## **PART 2 – PRODUCTS**

### **2.1 EQUIPMENT**

#### **A. DOSING PUMP MAIN TECHNICAL CHARACTERISTICS EQUIPMENT:**

- 1. Flow rate max: 25 l/h
- 2. Pressure max: 12 bar
- 3. Mechanically actuated diaphragm
- 4. Stroke adjustment by variable eccentric minimizing pulsation and shock
- 5. Maximum temperature of pumped liquid: 30 °C
- 6. Adjustment of flow rate while running or stopped: from 0 to 100%
- 7. Suction lift: up to 4 m water
- 8. Maximum suction pressure: 2 bar
- 9. Housing in corrosion resistant glass fiber reinforced by thermoplastic material
- 10. Life lubrication
- 11. Motor Frequency: 60 Hz

### **2.2 DOSING PUMP ACCESSORIES**

- A. The Subcontractor will supply a suction / discharge kit: valve, strainer, injection tube including:
  - 1. 1 injection nozzle,
  - 2. 1 foot valve + weight,
  - 3. 1 PE flexible hose (6 m) 6x8,



4. 1 reinforced PVC hose (6 m) 6x12 and two flanges 1/2"
  5. All electrical wires and accessories for the functioning of the pump,
  6. All accessories to connect the equipment to the reservoir feed pipe located within the pump house.
- B. The Subcontractor ensure that all accessories are supplied and installed to avoid any leaks, such as water and chlorine.

### 2.3 AGITATOR MAIN TECHNICAL CHARACTERISTICS

1. Agitator with direct drive IP 68
2. Material: Stainless steel
3. Motor power: 0,25 kW
4. Housing in corrosion resistant glass fiber reinforced by thermoplastic material
5. Motor Frequency: 60 Hz
6. Provide all electrical wires and accessories for the functioning of the pump,
7. Provide all accessories to connect the equipment to the reservoir feed pipe located within the pump house.

### 2.4 PROTECTIONS

1. The dosing pump and agitator must have IP 68 protection.
2. Alarms and warnings should be incorporated against dry operation of motor pump set.
3. Full protection against open circuit, accidental short circuit and reverse polarity should be provided.
4. Wiring shall comply with applicable References as listed in Part 1 of this Section.

### 2.5 RESIDUAL CHLORINE TEST KITS

- A. Provide 10 (ten) Simple Single-use water quality test Kits to measure: E. coli 1 ml, E. coli 100 ml, Coliform Bacteria, Nitrate / Nitrite, Chlorine residual model mWater or equivalent <http://www.mwater.co/kits.html>

## **PART 3 – EXECUTION**

### **3.1 INSPECTION**

- A. Examine the areas and conditions under which installation will be performed.

Correct conditions detrimental to the proper and timely completion of the installation. Do not proceed until satisfactory conditions have been corrected.

### **3.2 INSTALLATION – DIAPHRAGM-TYPE METERING PUMP**

- A. Installation shall not be started before checking equipment and Engineer's approval.
- B. All pipes and fittings, regardless of material type, shall be installed in strict accordance with the standards under which the pipes and fittings are accepted and approved. In the absence of such installation procedures, the manufacturer's instructions shall be followed
- C. PVC pipe and fittings shall be joined following Article 605.22.2 of International Plumbing Code 2012 under observation of the Engineer. Pipe ends shall be temporarily plugged with approved caps

### **3.3 FIELD SITE QUALITY CONTROL**

- A. Testing the dosing equipment will be conducted to verify that correct valves and pumps engage when called upon by the operator or program. It is important to also check pump flow, motor speeds, and related indicators of compliant functioning at this time. Testing shall include amperage measurement on each phase.

The following sequences should be tested:

1. Dosing pumps injection settings
  2. Pump settings
  3. Suction / discharge kit settings
- B. The tests shall be performed in the presence of the Engineer and the Owner, following the Contractor's standard procedures as detailed in applicable provisions of DAI General Conditions & Infrastructure Fixed Price Unit Price Subcontract (00

70 00 of these specifications). An iterative process shall be used to obtain the correct dosage of chorine which results in a residual chorine in the discharge from the on-site elevated tank, to be determined by the Owner. Perform at least one lab test to demonstrate that the residual chlorine level at the tank discharge meets Owner requirements. The cost of lab tests and sampling for the approved laboratory shall not be paid separately but shall be included in the subcontract unit price bid for This process shall be part of the training provided to the Owner.

### 3.4 CLEANING

- A. All rubbish, unused materials and other non-native materials shall be removed from the well house and immediate surroundings, both created by the Subcontractor and those in place before construction began.

### 3.5 CLOSEOUT ACTIVITIES

- A. Training will be provided for operations, maintenance and administrative personnel, including instruction for the functioning and maintenance of the chlorinator. The training should provide sufficient information to aid in the planning and sequencing of the operation and maintenance processes. The details of construction, equipment manufacturers, model numbers, specific drawings are to be provided by the Subcontractor in an operations and maintenance manual, of which the manufacturer's operation and maintenance manual shall be part in form of appendix. The Subcontractor shall provide training to local staff conducted at the site or a designated locale. The training shall be conducted in Creole and shall include sections on mechanical repair, electrical repair, water treatment, chemical handling, and general maintenance.
- B. An Operation and Maintenance Manual, in French, should be provided with the solar PV pumping system. The Manual should have information that describes the functioning, operations, sequencing and required maintenance instructions of and pertaining of the solar energy, photovoltaic, modules, motor pump set, monitoring system, mounting structures, electronics and switches. It should also have cautions and best industry practices and regular maintenance and troubleshooting of the pumping system. Report will contain name and address and description of the person or center to be contacted in case of failure or complaint should also be provided. A warranty card for the modules and the motor pump set shall also be provided to the Owner.

- C. A booklet of standard-operating-procedures and guidance documents shall be prepared and four (4) hard copies with a USB Jump Drive of the electronic version shall be presented to Engineer seven calendar days prior to issuance of the Certificate of Final Completion of the subproject. The booklet shall also include equipment specifications; manufacturer instruction manuals; equipment cut sheets and a full directory of supplier contacts and addresses. The documentation shall include step-by-step instructions for general maintenance of the mechanical, electrical and water treatment systems and shall be illustrated with photographs, drawings and computer screen shots. The manual shall further contain a table of settings, bolt torque values, and equipment operation tolerances.

END OF SECTION



## **APPENDIX E: CONSTRUCTION DRAWINGS**

## APPENDIX F: SCHEDULE OF DELIVERABLES

The following items shall be delivered under this subcontract:

| Description of Deliverable   | Quantity | Delivery Date or Requirements  | Deliver To   |
|--|----------|--|--|
| <p>Pre-Construction Conference</p> <p>Evidence of Insurance:</p> <ul style="list-style-type: none"> <li>– Equipment Insurance</li> <li>– Workman's compensation Insurance</li> <li>– DBA insurance</li> </ul> <p>Work Schedule</p> <p>Health and Safety Plan Quality</p> | 1        | <p>Maximum 10 days following award.</p> <p>Prior to Notice to Proceed is issued.</p> <p>Prior to mobilization payment</p>  | <p>DAI COP</p> <p>DAI Subcontracts Administrator</p> <p>DAI Project Engineer</p> |
| Security Plan  | 1        | <p>Maximum 10 days following award.</p> <p>Prior to Notice to Proceed is issued.</p>   | <p>DAI COP</p> <p>DAI Subcontracts Administrator</p>                             |
| Invoice  | 2        | <p>Following joint measurement to ascertain the works satisfactorily executed.</p> <p>Signed and verified by the Project Engineer or Engineer's Representative after measurement/inspection.</p> | <p>DAI's Accounts Payable</p> <p>The Engineer</p>                                |
| Progress Reports   | 1        | Monthly  | The Engineer   |
| Site Meetings  | 1        | Bimonthly  | The Engineer   |
| Schedule updates   | 1        | As needed when delays are approved by the Engineer   | The Engineer   |
| Inspection   | 1        | 10 days before inspection  | The Engineer and DAI COP   |
| <p>and instruction manuals</p> <p>Operation Manuals, training or materials, as required</p>  | 1        | 5 days before Final Completion or as specified in the Technical Specifications (the Sections)  | The Engineer and DAI COP   |
| Acceptance Inspection  | 1        | 5 days before inspection   | The Engineer and DAI COP   |



## APPENDIX G: PRICED BILL OF QUANTITIES

| Priced Bill of Quantities  |   |                   |              |               |             |
|--|---|-------------------|--------------|---------------|-------------|
| USAID / DAI Global   |   |                   |              |               |             |
| Charpentier Solar Pump Station Quick Impact Project: SUBPROJECT NUMBER |   |                   |              |               |             |
| SubContractor:   | Name, address, phone number   |                   |              |               |             |
| Project:   | Description of project: Solar pumps, solar energy generation system and site improvements for Charpentier |                   |              |               |             |
| Location:  | Subproject Name, City, Department: Charpentier Solar Pump Station Quick Impact Project , Cayes , Sud      |                   |              |               |             |
| Price Schedule Contract<br>Line Item Number<br>(CLIN)                  | DESCRIPTION   | CONTRACT QUANTITY |              | Unit contract | Total Price |
|  |   | Qty               | Unit         | Unit Price    | Item Price  |
| 1  | Mobilization  | 1                 | Lump Sum     |               |             |
| 2  | Cleaning and Waste Management   | 1                 | Lump Sum     |               |             |
| 3  | Photovoltaic Collectors   | 1                 | Lump Sum     |               |             |
| 4  | Submersible Centrifugal Well Pumps  | 1                 | Lump Sum     |               |             |
| 5  | Structural Steel Framing  | 1                 | Lump Sum     |               |             |
| 6  | Site Water Utility Distribution Piping  | 1                 | Lump Sum     |               |             |
| 7  | Cast-in-place Concrete  | 51.6              | cubic meter  |               |             |
| 8  | Chain Link Fences and Gates   | 92                | ml           |               |             |
| 9  | Painting  | 1                 | Lump Sum     |               |             |
| 10   | Clearing and Grubbing   | 5600              | square meter |               |             |
| 11   | Temporary Project Signage   | 2                 | each         |               |             |
| 12   | Diaphragm-type Metering Pumps.  | 1                 | Lump Sum     |               |             |
| 13   | Composite Fence and Gates   | 300               | ml           |               |             |
| 14   | Excavation and Fill   | 436               | cubic meter  |               |             |
| 15   | Channel Outlet Grates   | 2                 | each         |               |             |
| 16   | Demobilization  | 1                 | Lump Sum     |               |             |
|  |   |                   |              | <b>Total</b>  |             |

## **APPENDIX H: GENERAL SPECIFICATIONS**

### **General Specifications and General Conditions**

1. Unless otherwise specified in the Subcontract Documents, the Subcontractor shall submit to the Engineer for approval, four (4) sets of plans of the equipment, material and apparatus included under this Subcontract
2. Nothing herein shall relieve the Subcontractor of his responsibility to prepare, furnish and deliver any O & M
3. The Subcontractor shall furnish to the Engineer a tabulated list of the equipment for which plans may not be required, showing the name of the manufacturer and the catalog number and type of equipment proposed, together with such dimensions, specifications, samples, or other data, as may be required to permit intelligent judgement of the acceptability of the same.
4. Machinery, equipment, accessories or parts to be furnished under this Subcontract must be of current manufacture unless otherwise specified. Such material, whose manufacture has been discontinued or is scheduled to be discontinued within the life of the Subcontract or the duration of the maintenance bond, will not be accepted unless otherwise specified.
5. The Subcontractor shall upon request furnish a certified statement from the manufacturer that any equipment, accessories or parts being furnished under the Subcontract are in current production and that there are no present or near future plans to discontinue production of the item or items in question.
6. All equipment and materials and parts thereof furnished under the Subcontract shall, for purposes of interchangeability and general maintenance, comply with the most widely accepted standards currently in use in United States industry, unless such compliance would conflict with other specifications contained in the Contract.
7. In the event that the Subcontractor requests approval of a substitution for any requirement of this Contract, his change order request must be accompanied with the following information:
  - a. Technical data demonstrating the quality performance equivalency from that requirement which is specified.
  - b. A cost proposal indicating the price adjustment to the Subcontract if the substitution is approved.
  - c. A statement that the substitution, if approved, will be made with no change in the

Subcontract time.

- d. Subcontractor shall attest that he/she has personally investigated proposed product or method, and has determined that it is equal or superior in all respects to that specified and that it shall perform the function for which it is intended.
- e. Subcontractor shall provide the same guarantee for the substitute item as for the product or method specified.

If the Subcontractor requests the approval of an "or equal" rather than the particular process, material, device, detail or part that is specified, then his request must include sufficient technical data to demonstrate the quality and performance equivalency of the proposed process, material, device detail or part. The Engineer reserves the right to require the Subcontractor to provide such testing and inspection as is necessary to verify the quality and performance equivalency, all at the Subcontractor's own expense.

- 8. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" or "Quality Control" articles of the technical specifications, the subcontractor shall upon request by the Engineer demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- 9. Unless otherwise instructed, the Subcontractor shall submit to the Engineer for examination three prints of each plan required in the Technical Specifications, and, as far as possible, all plans of any particular part of the structures or equipment, and of parts connected therewith, shall be submitted at the same time. After the plans have been examined as above mentioned, one print of each plan will be returned to the Subcontractor by the Engineer with his indication of no exception taken, thereon, or marked with notations or corrections and changes that may be required. All plans having exceptions taken by the Engineer shall be corrected or revised by the Subcontractor. No orders for any work, materials or equipment shown on any plans shall be given by the Subcontractor without the written indication of the Engineer that he/she takes no exceptions, prior to the time when such plans or equipment have been reviewed by him as specified. Plans, calculations, and procedures for all temporary structures, including sheeting and bracing for excavations, shall be approved prior to the start of related field work. Prior to the review of any such plans, any work which the Subcontractor may do on the structures or equipment covered by the same shall be at his own risk.
- 10. When unit prices are specified, all measurements of quantities for payment under the unit price item or items of this Subcontract shall be made by the Engineer in the manner specified, and the price or prices paid shall include the furnishing, delivering, erecting and connecting up of all tools, materials, equipment, apparatus and appurtenances; the furnishing of all labor and performance of all work required for the installation; and all plans, testing, painting, Subcontractor's bond or maintenance bonds where required, and collateral work necessary to complete the work as specified in the Technical Specifications. The cost of performing all work specified in the General Specifications and General Conditions shall be included in the unit and/or lump sum price or prices specified in the Agreement (unless otherwise directly specified) and no additional payment will be made by the Contractor to the Subcontractor for performing said specified work. No "extra" or "customary" allowances for payment will be made under any item, unless directly specified therein, and no additional payment for work included under any item of this Subcontract will be made under other items unless directly so specified.

11. **Intent of Specifications and Plans** The specifications and plans are intended to cover the complete installation. It is not the intent to give every detail in the specifications and plans. The Subcontractor will not be responsible for the absence of any detail the Subcontractor may require, or for any special construction work, equipment, material or labor which may be found necessary as the work progresses. No additional compensation will be allowed the Subcontractor for any such special construction work, equipment, material or labor which may be found necessary for performing or completing any work hereunder unless it can be clearly shown, to the satisfaction of the Engineer, that such special construction work, equipment, material or labor is beyond the intent and scope of the plans and specifications, or is not included under the lump sum or unit prices specified in the Subcontract. If this is shown, the payment for such special construction work, equipment, material or labor shall be made after the additional cost has been agreed upon and a written change order by the Engineer has been issued.
12. **Ground Surface and Underground Conditions:** Where existing ground conditions are shown on the plans hereto attached, the elevations are believed to be reasonably correct but are not guaranteed to be absolutely so, and, together with any schedule of quantities, are presented only as an approximation. The Subcontractor shall satisfy himself, however, by actual examination of the site of the work, as to the existing elevations and the amount of work required under this Contract.
13. **Cleaning Work Sites and Restoration:** The Subcontractor shall keep the site of the work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove from any portion of the site, if, in the opinion of the Engineer, such material, debris or rubbish that interferes with the operation of the existing plant or other subcontractors, constitutes a nuisance, or is objectionable in any way to the public. The Subcontractor further agrees to remove all machinery, materials, implements, barricades, staging, false work, debris and rubbish connected with or caused by said work immediately upon the completion of the same and to clean all structures and work constructed under this Subcontract to the satisfaction of the Engineer, re-grade all areas which have been rutted or disturbed so that the areas will drain without pockets; and to leave the premises, upon completion of the Contract, in at least as good condition as when he entered upon them. Restoration work shall follow construction as the work progresses and be completed as soon as possible. Restoration work shall not be delayed, and shall be completed no later than thirty (30) days after the work is in place, or as directed by the Engineer. Any testing or further inspection necessary for final completion and inspection of the work shall not be cause for any delay of restoration work required under this Contract. This provision for restoration shall include all public, private, and Owner property which was affected by the Subcontractor's construction operations. Such final restoration that cannot be performed within the thirty-day period due to adverse weather conditions may, upon written request including a proposed procedure and time schedule, be performed as approved by the Engineer. Any delayed restoration will be contingent upon providing suitable safe temporary facilities without inconvenience or nuisance in the interim. The Subcontractor shall maintain existing surface and subsurface drainage conditions in all areas along the line of the work, including highway ditches, storm sewers, culverts, natural terrain, field tile systems, etc.
14. **The Subcontractor shall determine the procedure and methods and also design and furnish all** temporary structures, sheeting, bracing, tools, machinery, implements and other equipment and plant to be employed in performing the work hereunder, and shall promptly submit layouts and schedules of his proposed methods of conducting the work to the Engineer for his approval. The use of inadequate or unsafe procedures, methods, structures or equipment will not be permitted, and the Engineer may disapprove and reject any of same which seem to him to be unsafe for the work hereunder, or for other work being carried on the vicinity or for work which has been completed or for the public or for any workmen, engineers and inspectors employed thereon, or that interferes with

the work of the Contractor or other Subcontractors, or that will not provide for the completion of the work within the specified time, or that is not in accordance with all the requirements herein specified. The Subcontractor shall employ and assign to work only on this Subcontract a qualified technical engineer, satisfactory to the Engineer, to act as contact with the Engineer.

15. Openings and Cutting and Fitting: The Subcontractor shall provide all openings and recesses in the concrete, brickwork and other parts of the work that may be required for any class or part of the work to be furnished or performed hereunder, or that are ordered by the Engineer. He shall do all drilling, cutting, fitting, patching and finishing that may be required to make the various classes and kinds of work hereunder go together in a proper, workmanlike and finished manner. All such work shall be performed with proper and suitable tools in a workmanlike manner. No cutting will be allowed except by the permission of and subject to the direction or approval of the Engineer. Where holes are to be cut through concrete walls or floor slabs, a core drill or saw shall be used to prevent spalling of the concrete. The Subcontractor shall cut all openings required for setting inserts in concrete or brick masonry placed under other contracts. All cutting shall be confined closely within the limits required for installing the inserts. Any concrete or brick masonry removed beyond the required limits and any damage to existing structures or equipment resulting from the cutting of concrete or brick masonry, shall be promptly replaced or repaired by the Subcontractor at his own expense in such a manner as ordered by the Engineer. Inserts shall be grouted in, and the cutting shall be done so that t
16. The cost of making all pipe connections to work performed under other contracts shall be included as part of the work under the appropriate unit and lump sum items of this subcontract unless otherwise specified
17. The Subcontractor shall arrange for his own water supply, which shall be quality to be approved by the Engineer, free from contamination. The Subcontractor, if he so desires, will be permitted to use water from the Owner mains where it is available and does not interfere with the work of the Owner or the requirement of other subcontractors on the site. The Contractor, however, will not be responsible for any interruption of service, or possible inadequacy of the supply. The Subcontractor will be required to pay for the water so used to the Owner for purchase of water, if such usage exceeds 100 liters/day. He will be required to make such temporary connections as he may need, subject to the approval of the Engineer, and to restore all existing facilities prior to the completion of the work at no additional expense to the Contractor. The Subcontractor shall arrange for his own supply of power unless otherwise provided for in the Detail Specifications
18. Upon completion of the work under this Contract, the Subcontractor shall furnish to the Contractor one complete set of As-Built drawings, or as indicated in the Subcontract Technical Specifications. The original reproducible Subcontract Drawings will be made available to the Subcontractor by the Engineer upon which the Subcontractor shall make the necessary additions and corrections to show the As-Built conditions. The changes shall be made by using opaque black ink and standard drafting

techniques. Each drawing changed or unchanged shall bear the notation "AS-BUILT" near the title block and shall be signed as to its correctness by the Subcontractor and submitted to the Engineer for approval.

19. The Subcontractor shall keep and maintain at the construction site a working set of plans for recording as-built conditions. This set of record drawings shall be kept up to date and available for the Engineer's use. It shall have marked or noted thereon all field information, properly dated; recording as-built conditions that may differ from the plans. These drawings shall be utilized to prepare the As-Built Drawings as herein specified. The Subcontractor shall include in the appropriate pay

items of this Contract, all engineering and drafting costs required to produce these Prior to the start of construction, the Subcontractor shall erect two 4' x 8' signs on the job site for public viewing at locations designated by the Engineer. These signs shall be erected in accordance with regulations of USAID.

20. The Subcontractor shall not dispose of any material, debris or rubbish by open burning on the site of the work or on any other site
21. All poles, trees, shrubbery, fences, pavements, railroads, sewer, water, gas or pipes, wires, conduits, culverts, drainage ditches, manholes, tunnels, tunnel shafts, buildings and all other structures and property at or adjacent to the site of the work shall be supported and protected from damage or injury by the Subcontractor during the construction until the completion of said work. The Subcontractor shall be liable for all damages to structures and property and shall save and keep the Subcontractor and Owner harmless from any liability or expense for damage or repairs to the same.
22. It shall be the Subcontractor's responsibility to furnish necessary training and instruction to make supervisory and operating personnel completely familiar with the operation and maintenance of all equipment installed under this Contract. This training and instruction must be completed prior to the start of any operation tests that are required on this Contract. This training and familiarization shall include coordination of new with existing controls. Such instruction may, when deemed necessary by the Engineer, include instruction by factory-trained representatives of the manufacturer. The costs for all necessary instruction shall be included in the price or prices to be paid under the terms of the Contract.
23. It is expressly understood and agreed by the parties hereto that where quantities of various classes of work to be done and material to be furnished under the Subcontract have been established and stated in the approximate bill of quantities in the proposal, said quantities are only approximate and are to be used solely for the purpose of comparing, on a uniform basis, the proposals offered for the work under this Subcontract. The subcontractor further agrees that the Contractor will not be held responsible if any of said quantities shall be found incorrect; and the subcontractor will not make any claim for damages or for the loss of profits or for an extension of time because of a difference between the quantities of the various classes of work as estimated and the work actually done. If any error, omission, or misstatement shall be discovered in the said estimated quantities, the same shall not invalidate this Subcontract or release the Subcontractor from execution and completion of the whole or any part of the work herein specified, to the satisfaction of the Engineer and in accordance with the specifications and plans and for the price or prices herein agreed upon and fixed therefore, or excuse him from any of the obligations or liabilities hereunder, or entitle him to any damages or compensation other than as specified in the Subcontract, except for such extra work as may be required, for the performance of which written orders must be given and received as herein specified.
24. It is the responsibility of the Subcontractor to ensure that construction and non-construction activities carried out to implement this project comply with applicable Haitian Government and any other regional government laws and regulations governing construction activities. This includes, environmental protection, procurement, taxes and levies, public health and safety standards regarding the safeguarding of the public, the Subcontractor's own workers and site health and safety. Stated United States Government (USG) and United States Agency for International Development (USAID) rules and regulations referenced in this contract also apply to the Work and to the Subcontractor's operations and activities.
25. All applicable standards and equipment manufacturer's instruction sheets, orders and circulars apply to the Work and Subcontractor operations.

26. Haitian Construction Permits, Building Codes and Structural Regulations: It is the Subcontractor's responsibility to ensure that all work and all activities comply with local permitting requirements. To this end, the Subcontractor is responsible to obtain at his cost any such permits.
27. Wherever reference is made in the Subcontract to specific standards and codes to which materials and other supplies shall comply, and according to work shall be performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the contract. Where such standards are national, or relate to a particular country or region, other authoritative standards, which ensure a substantially equal or higher performance than the standards and codes specified will be accepted subject to the Engineer's prior review and written approval. Differences between the standards specified and the proposed alternative standards must be fully described in writing by the Subcontractor and submitted to the Engineer at least 28 days prior to the date when the Subcontractor desires the Engineer's approval. In the event that the Engineer determines that such proposed deviations do not ensure equal or higher quality, the Subcontractor shall comply with the standards specified in the documents.
28. All materials and workmanship not fully specified herein or covered by an approved standard shall be of such kind as is used in first class work and suitable to the climate in the project area. Where the requirements of any such standard specification or regulation conflict with the requirements of this Specification or any item on the Drawings, then the Subcontractor should refer to the Engineer for clarification before proceeding with that section of the Works.
29. Any imperfect work that may be discovered before the final acceptance of the work shall be corrected immediately. The inspection of any work shall not relieve the Subcontractor of any of his obligations to perform proper and satisfactory work, as herein specified, and all work, which, during its progress may become damaged from any cause, or fails for any reason to satisfy the requirements of the specifications shall be removed and replaced by the good and satisfactory work without extra charge therefore.
30. The construction of the project could generate some impacts on the environment, health and security of people. In this regard, the Contractor agrees to comply with the environmental mitigation measures established in the EMMP (Environmental Mitigation and Monitoring Plan) and execute the requirements contained said document, which are an integral part of this document and the Contract. There is no additional payment for effectively developing, observing and maintaining the EMMP. All the costs associated with the EMMP must be included in the unit prices of the corresponding construction offer.
31. All work shown on the plans and included in the bill of quantities shall conform to the applicable standards, norms and codes listed in the Technical Specifications as provided in Appendix D. In all cases the determination of applicability shall be determined solely by the Engineer.

## **APPENDIX I: Environmental Mitigation and Monitoring Plan**



## **APPENDIX J OTHERS**