



**DESIGN-BUILD SERVICES AGREEMENT**

**THE TEXAS FACILITIES COMMISSION**

**AND**

**SLSCO LTD**

**FOR**

**DESIGN-BUILD SERVICES FOR TEXAS BORDER INFRASTRUCTURE – CONSTRUCTION  
PHASE  
(TBI)**

**TFC CONTRACT 23-039-000**

**RFQ NO. 303-2-00365**

**PROJECT NO. 22-003-2535**

TABLE OF CONTENTS

ARTICLE 1. DEFINITIONS ..... 3

ARTICLE 2. CONTRACT DOCUMENTS ..... 8

ARTICLE 3. TFC RESPONSIBILITIES, INFORMATION, AND APPROVALS..... 9

ARTICLE 4. PRECONSTRUCTION PHASE ..... 12

ARTICLE 5. DEVELOPMENT OF THE DB’S PROPOSAL..... 18

ARTICLE 6. CONTRACT SUM. .... 21

ARTICLE 7. GUIDELINES FOR DEVELOPING THE DB’S PROPOSAL AND TFC’S  
EVALUATION..... 22

ARTICLE 8. CONSTRUCTION PHASE SERVICES ..... 26

ARTICLE 9. PAYMENT. .... 35

ARTICLE 10. RECORDS, AUDIT, PROPRIETARY INFORMATION AND PUBLIC  
DISCLOSURE ..... 39

ARTICLE 11. BONDS AND INSURANCE..... 43

ARTICLE 12. INDEMNITY ..... 43

ARTICLE 13. DISPUTE RESOLUTION. .... 44

ARTICLE 14. TERMINATION AND SUSPENSION..... 46

ARTICLE 15. SPECIAL PROVISIONS. .... 46

ARTICLE 16. MISCELLANEOUS PROVISIONS. .... 52

EXHIBITS. The following Exhibits are attached to this Agreement and fully incorporated herein by reference:

- Attachment 1. Stipulated Sum
- Exhibit A. 2015 Uniform General Conditions
- Exhibit B. 2018 Supplementary General Conditions
- Exhibit C. Special Conditions of this Agreement
- Exhibit D. Design-Build Proposal
- Exhibit D-1. Design Build Proposal Hughes Ranch Del Rio/Maverick County
- Exhibit E. Intentionally Omitted
- Exhibit F. Criminal Background Checks and Application Guidelines
- Exhibit G. Approved HUB Subcontracting Plan
- Exhibit G-1. HUB Subcontracting Plan Form
- Exhibit G-2. Progress Assessment Report Form
- Exhibit H. Project Insurance Requirements
- Exhibit I. Form Intentionally Omitted
- Exhibit J-1. Form of Performance Bond
- Exhibit J-2. Form of Payment Bond
- Exhibit K. Tactical Infrastructure Design Standards, Version 5, August 2020
- Exhibit L. Intentionally Omitted
- Exhibit M. Design Criteria Package
- Exhibit M-1. Hughes Ranch Map

**AGREEMENT BETWEEN  
THE TEXAS FACILITIES COMMISSION  
AND  
DESIGN-BUILD FIRM**

This Design-Build Agreement (this “**Agreement**”) is made as of the Effective Date, by and between:

**TEXAS FACILITIES COMMISSION (“TFC”)**, an agency of the State of Texas  
1711 San Jacinto Boulevard  
Austin, Texas 78701

as “**Owner**” (as is defined in UGC Section 1.28), and

the **Design-Build Firm** (the “**DB**” or “**Design-Build Firm**”):

**SLSCO Ltd., Federal Services Division**  
6702 Broadway  
Galveston, TX 77550  
Telephone: (713) 204-2070

For the following **Project** (the “**Project**”):

Design-Build Services for the Texas Border Infrastructure (TBI)

**Project Architect/Engineer (the “A/E”)**

**Benham Design, LLC**  
Attn: Adam West, Sr. Vice President  
1400 Quail Spring Parkway, Suite 500  
Oklahoma City, OK, 73134  
Office: (405) 478-5353

TFC and DB agree as follows:

## ARTICLE 1. DEFINITIONS

Unless specifically provided otherwise, all words and phrases in this Agreement in initial caps shall have the meanings set out in this Article 1. All undefined and capitalized terms used herein shall have the meaning given to them in the UGC. In the event of any conflict between the definitions in the UGC, the 2018 Supplementary General Conditions (the “**Supplementary General Conditions**”), and the Special Conditions, or in any other document that is referenced herein and incorporated for all purposes, and the definitions in this Agreement, the definitions used in this Agreement shall control.

**Agreement** means this agreement between TFC and Design/Build Contractor whereby Design Build Contractor agrees to provide Preconstruction Services, Design Services, and Construction Services for the Project in order to fully complete the Work as set forth herein and in the Contract Documents, as modified by the parties and executed below, together with the Exhibits listed herein and attached hereto.

**Applicable Law or Law(s)** means any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders now in force or hereafter enacted by Authorities Having Jurisdiction, relating to or affecting the Project or arising from this Agreement, including those governing labor, equal employment opportunity, safety, and environmental protection, and further including (i) applicable building, fire, and life safety codes and zoning requirements of Authorities Having Jurisdiction; (ii) accessibility laws, codes, and ordinances including but not limited to the Texas Accessibility Standards of the Architectural Barriers Act, *Tex. Gov’t. Code Ch. 469*, Elimination of Architectural Barriers, and the Americans with Disabilities Act of 1990 (*42 U.S.C. § 12181*); (iii) occupational safety acts and requirements applicable to the Project, including United States Occupational Safety and Health Administration (“**OSHA**”) requirements and related federal and state regulations; (iv) requirements under Title VII of the Civil Rights Act of 1964, as amended; (v) requirements of the Fair Labor Standards Act and applicable state wage and hour laws including *Tex. Gov’t. Code § 2258.001 et seq.*, (vi) Environmental Laws, including all storm water, street, utility, and other related infrastructure requirements, (vii) all requirements related to the use, removal, storage, transportation, disposal and remediation of Hazardous Materials; and (viii) any other applicable local, state or federal laws respecting the Project.

**Authority Having Jurisdiction** shall have the meaning set forth in UGC Section 1.5., including railroads.

**A/E** shall have the meaning set forth in UGC Section 1.4.

**Baseline Schedule** means the initial time schedule of Work for the entire Project prepared by the DB in accordance with the requirements set forth in UGC Section 1.6.

**Basic Services** means all responsibilities assigned to the A/E in this Agreement, excluding extra services and special cases, if any. The Basic Services include those services which are necessary or appropriate to fully design all aspects of the Project.

**Bid Bond** has the same meaning as Security Bond as described in UGC Sections 5.1 and 5.1.2 and shall be in the form of an approved surety bond, cash, or other immediately available funds.

**Budget** means the preconstruction, design, and construction budget for the Project as set out in the RFQ, and as may be amended from time to time by TFC.

**Bridging Documents** means documents that consist of procurement and contracting requirements, planning criteria (technical services and functional requirements), specifications, performance requirements, standards, and preliminary drawings organized in accordance with a standard

classification system that convey design and construction requirements and convey the scope, quality and intent of the project to Design-Build teams bidding the project. The *Bridging Documents* for this Agreement are entitled, *Project 5, for Hughes Ranch, Del Rio, DRT04 Border Infrastructure Project, Maverick County issued June 23, 2023 (DCP-005 Sta 10+00 to Station 218+68.76)*, and include any amendments thereto as approved by the parties and incorporated as Exhibit M-1, Map in this Agreement.

**C&A** means any and all clarifications and/or assumptions made by DB in the preparation of its DB's Proposal, as defined below, to supplement the information provided by TFC via the PMF as contained in the Bridging Documents.

**CAD** means AutoCAD DWG format.

**Certificate of substantial Completion** means the certificate as defined in UGC Section 1.8, signed by the DB, PMF, A/E, and TFC establishing the date of Substantial Completion, as defined in UGC Section 1.44, for the applicable part of the Work and identifying responsibilities for security and maintenance as set out in UGC Section 12.1.1.2.

**Close-Out Documents** has the same meaning as defined in UGC Section 1.10 and includes the DB's marked-up "as-builts" and Record Drawings.

**Communication Protocol** means the communication and tracking procedures to be utilized for interaction and reporting between TFC, A/E, DB, and its Subcontractors, including but not limited to, the use of any EPMCS, as defined herein, utilized by TFC for the Project.

**Consultant** means a person or entity providing professional services for the DB directly, or by or through the A/E, for all or a portion of the Work. "Consultant" is referred to throughout the Contract Documents as if singular in number. To the extent required by the relevant jurisdiction, the Consultant shall be lawfully licensed to provide the required professional services.

**Construction Administration Services** are those certain services provided by A/E pursuant to its agreement with DB and upon issuance of the Design-Build Proposal, if any, to assist in the administration of the Work under the Design-Build Proposal as further described in Section 8.3 and as otherwise expressly provided in the Contract Documents.

**Construction Documents** means, collectively, the Drawings, Specifications, details, and other documents prepared by the DB or its Consultants, by or through the A/E or its Consultants, and by TFC's other consultants that describe the scope and quality of the Project and the materials, supplies, equipment, systems, and other elements required for the Work that are acceptable to TFC.

**Construction Services** means the coordination, implementation and execution of the construction of the Work for the Project required by the Contract Documents, and as further described in Article 8.

**Contract Documents** are identified in Article 2.1.

**Contract Sum** means the total of the Stipulated Sum and the Controlled Allowance.

**Contract Time** is defined in UGC Section 1.20 and includes the plural "Days".

**Day** is defined in UGC Section 1.15 and includes the plural, "Days".

**DB Project Manager** means the individual designated by DB, and approved by TFC, as the contact person with specific authority to supervise and direct the duties and responsibilities of the DB, pursuant to the terms and conditions of this Agreement, and who shall have decision-making authority to bind the DB with respect to the performance of the Work.

**DB Proposal** is the certain price proposal(s) by the DB to TFC that includes necessary pricing and basis information as required in Section 5.2 herein for agreed upon scopes of work.

**Deliverables** means any and all Drawings, Specifications, photos, designs, studies, sketches, computer programs, reports, and other Design Services, which are specified to be delivered by DB pursuant to the terms of this Agreement.

**Design Criteria Package**, if applicable, is set out in the Bridging Documents.

**Design-Build Firm or "DB"** means that entity designated on the cover page of this Agreement who shall, subject to the provisions of UGC Section 1.21, provide the Preconstruction, Design, and Construction Services as set forth in this Agreement. The terms "Design-Build Firm" or "DB" are interchangeable with each other and with the term "Design-Build firm" other similar terms used in the various parts of the Contract Documents, including the UGC.

**Design Services** means all (i) professional architectural services and/or (ii) professional engineering services as defined in *Tex. Gov't. Code § 2254.002* necessary or required to be performed in order for the DB to fully perform the Work under this Agreement. DB is responsible for Design Services; however, they will be performed by or through the A/E or such other separate design professional consultants retained by the DB with TFC's prior written consent.

**Design Program** means the overall goals and design objectives of the Project, the aesthetic considerations, and the functional requirements including allocations of space with uses and adjacency relationships for all areas/spaces, operational objectives and such standards of design that TFC may require for all architectural and engineering disciplines in the design and construction of the Project and shall include the A/E Design Guidelines.

**Drawings** means the plans, drawings, profiles, cross-sections, and supplemental drawings, or reproductions thereof, prepared by the A/E and approved by TFC, which show the locations, character, dimensions, and details of the Work for the Project.

**Environmental Laws** means any local, state, or federal law, rule, or regulation pertaining to environmental regulation, contamination, clean-up or disclosure, including, as may be amended from time to time including: (i) the Resource Conservation and Recovery Act of 1976 ("RCRA") (42 U.S.C. § 6901 *et seq.*), as amended by the Used Oil Recycling Act of 1980 (*Pub. L. No. 96-463, 94 Stat. 2055 (1980)*), the Solid Waste Disposal Act Amendments of 1980 (*Pub. L. No. 96-482, 94 Stat. 2334 (1980)*), and the Hazardous and Solid Waste Amendments of 1984 (*Pub. L. No. 98-d1d, 98 Stat. 3221 (1984)*), and regulations promulgated thereunder; (ii) the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA") (42 U.S.C. § 9601 *et seq.*), as amended by the Superfund Amendments and Reauthorization Act of 1986 (*Pub. L. No. 99-499, 100 Stat. 1613 (1986)*), and regulations promulgated thereunder; (iii) the Toxic Substances Control Act (75 U.S.C. § 2d01 *et seq.*); (iv) the Endangered Species Act of 1973 (15 U.S.C. § 1531 *et seq.*) and its amendments; (v) laws, statutes, ordinances, rules, regulations, orders, or determinations relating to "wetlands," including without limitation those set forth in the Federal Water Pollution Control Act (commonly referred to as the "Clean Water Act") (33 U.S.C. § 1251 *et seq.*); (vi) the Texas Water Code; and (vii) the Texas Solid Waste Disposal Act (*Tex. Health & Safety Code Ann. §§ 361.001—361.345 (West 2018)*).

**EPMCS** means the TFC's electronic project management control system, "Projectmates".

**Final Inspection** means the process and procedure described in UGC Section 12.1.

**Good Faith Efforts** are steps taken to achieve a Contract Goal which, by their scope, intensity and usefulness, demonstrates the bidder's responsiveness to fulfill the business opportunity objective when bidding on a contract as well as the contractor's responsibility to put forth measures to meet or exceed Contract Goal throughout the duration of the contract.

**Hazardous Materials** means (i) any "hazardous waste" as defined by RCRA, and regulations promulgated thereunder; (ii) any "hazardous substance" as defined by CERCLA, and regulations promulgated thereunder; (iii) any toxic substance as defined under or regulated by the Toxic Substances Control Act; (iv) asbestos, polychlorinated biphenyls, radon, or explosive or radioactive materials; (v) underground and above ground storage tanks, whether empty, filled or partially filled with any substance, including without limitation any petroleum product or any other "hazardous substance"; (vi) any substance the presence of which at the Project is prohibited by any Environmental Laws; and (vii) any other substance which by any Environmental Laws requires special handling or notification of any Authority Having Jurisdiction in its collection, storage, treatment, or disposal.

**HUB Compliance Reporting System** means the Texas Facilities Commission Historically Underutilized Business ("HUB") online reporting system located at <https://www.tfc.texas.gov/divisions/commissionadmin/prog/hub/>. The HUB Compliance Reporting System is used to maintain business records documenting compliance with the HUB Subcontracting Plan ("HSP") by submission of monthly Progress Assessment Reports ("PARs").

**Master Schedule** means the Critical Path Method schedule, if any, developed and maintained by the PMF incorporating all items of administrative process, procurement, Owner approvals, permitting, and the construction Baseline Schedule as updated with DB's Work Progress Schedule.

**Notice to Proceed or "NTP"** means the written notice to be issued to DB by TFC, which shall inform DB of, among other things, the date on which DB shall commence a particular phase or the particular services for the Project.

**Person** means an individual and includes a corporation, an organization, a business trust, an estate, a trust, a partnership, an association, or any other legal entity.

**Preconstruction Phase Services** means the collective Preconstruction Services and Design Services.

**Preconstruction Services** are those certain services and deliverables to be performed by DB in accordance with Article 4 herein, other than Design Services.

**Program** means the collection of one or more Projects over which PMF is retained by TFC to provide PM Services.

**Program Management Firm or "PMF"** means the service provider, if any, with whom TFC enters into a Program Management Agreement (the "PMF Agreement") for the purpose of the PMF providing certain Program management services ("PM Services") for TFC which may include, among other services, general Program management, strategic Project planning, Project site planning, operational planning, capital expenditure planning, budgetary impact analysis, and/or



Program cost controls. DB acknowledges and agrees that the PMF shall have no authority to act for or on behalf of TFC or the State of Texas except as expressly provided for in this Agreement and the PMF Agreement, a copy of which TFC will provide to DB upon the DB's request.

**PM Services** means Program management services provided by the PMF to the TFC as further described in the PMF Agreement.

**Project** means all Work(s) required of the DB by this Agreement and the Contract Documents.

**Project Manual**, if applicable, is set out in the Bridging Documents.

**Project Team** means TFC, Using Agency, DB, A/E, and its consultants, TFC Project Manager, PMF (if any), any separate contractors employed by TFC, and other consultants employed for the purpose of programming, design, and construction of the Project. The members of the Project Team will be designated by TFC and may be modified from time to time by TFC.

**Record Drawings** are those final, compiled drawings, prepared and approved by the A/E after review of the DB's notes and drawings of the on-site changes to the Drawings provided in the Record Documents.

**Request for Proposal or "RFP"** means a solicitation requesting submittal of a proposal in response to the required scope of services.

**Site** means the lands or areas indicated in the Contract Documents as being furnished by TFC upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by TFC which are designated for the use of DB.

**Specifications** is defined in UGC Section 1.41.

**Standard of Care** means that certain standard by which all Design Services hereunder shall be performed to, as prescribed by *Tex. Gov't. Code § 2254.0031* (incorporating *Tex. Local Gov't. Code § 271.904(d)*), to wit: (i) with the professional skill and care ordinarily provided by competent architects or engineers (as applicable) practicing under the same or similar circumstances and professional license, and (ii) as expeditiously as is prudent considering the ordinary professional skill and care of a competent architect or engineer.

**Stipulated Sum** means the lump sum, fixed price compensation to which TFC and the DB agrees for timely delivery of all services, labor, materials and the Work, described in the Agreement.

**Subcontract** means any agreement between DB and a Subcontractor.

**Subcontractor** is defined in UGC Section 1.42.

**Substantial Completion** shall have the meaning as set forth in UGC, except as otherwise provided in the Special Conditions, if any. References to "Substantial Completion of the Work" in the Contract Documents shall mean the Substantial Completion of the entire Work required under this Agreement, except as otherwise expressly provided therein.

**Tactical Infrastructure and Design Guidelines** means Version 5, August 2020, attached hereto and incorporated herein for all purposes as "**Exhibit K**".

**Term of this Agreement** means the Effective Date of this Agreement terminating on December 31,

2024, or thirty (30) Days after expiration of the Contractor's Warranty Period set forth in UGC Article 13, whichever comes later, unless otherwise provided by mutual written agreement of the parties.

**TFC Project Manager** means the individual designated by TFC as the contact person for TFC with the direct responsibility to properly supervise the design and construction of the Project, and the services being provided pursuant to this Agreement on behalf of TFC, including, but not limited to, serving as the point of contact between TFC, the Using Agency, as defined below, (if any), PMF, and DB, and supervising TFC's review and approval of the construction management services. For the avoidance of confusion, the TFC Project Manager shall be the same person as the Owner's Designated Representative (or ODR) as defined in UGC Section 1.29.

**Uniform General Conditions** or "**UGC**" shall mean the Uniform General Conditions for Construction Contracts issued by the State of Texas, published date of 2015, as may be amended from time to time, a copy of which is published on TFC's website and as may be modified by this Agreement and the Special Conditions.

**Using Agency** has the same meaning as defined in *Tex. Gov't. Code § 166.001(10)*.

**Utilities** means water, sewer, gas, electric, telecom, cable, and like services.

**Utility Providers** means any and all entities that TFC desires to provide Utilities to the Project.

**Work** means, in addition to those items set forth in UGC Section 1.48, the provision of all, labor, materials, supplies, and equipment that are required of the DB to design, manage, implement, and fully construct the Project in accordance with the requirements of this Agreement and the Contract Documents. The Work includes, without limitation, the Preconstruction, Design, and Construction Services described in Articles 4 and 6 and all additional work required by any Change Orders, and any other work reasonably inferable from the Contract Documents. The term "reasonably inferable" includes the understanding of the parties that some minor details of the Work may not be shown on the Drawings or included in the Specifications, but they are included in the Work if they are usual and customary components of the Work for a project of the type depicted in the Contract Documents and they are needed to produce a complete and useable facility.

**Work Progress Schedule** is defined in UGC Section 1.49, and shall include all Preconstruction Phase Services, including the deadlines in terms of a fixed number of Days after a preceding deadline for completion and delivery of discrete portions of the Design Services, and Construction Services for the Project. The Work Progress Schedule may subsequently be modified by mutual agreement between TFC and DB to reflect any refinement in its requirements.

## **ARTICLE 2. CONTRACT DOCUMENTS**

2.1 **Contract Documents**. The Contract Documents consist of:

- 2.1.1 This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement and expressly incorporated herein;
- 2.1.2 The Uniform General Conditions, as modified by this Agreement;
- 2.1.3 The Supplementary General Conditions;
- 2.1.4 The Special Conditions (the "**Special Conditions**"), if any;

2.1.5 Bridging documents, if any, provided by the PMF, comprised of specifications, drawings, sketches, narratives, studies, reports, analyses and other information, that generally describe the scope and quality of the Project.

2.1.6 The Drawings, Specifications, details, and other documents developed by the DB and issued for construction with TFC's approval;

2.1.7 All Addenda issued prior to the Effective Date;

2.1.8 The Design-Build Amendment, if any, signed by both parties when finalized and incorporated into this Agreement;

2.1.9 All Change Orders issued after the Effective Date;

2.1.10 The HSP as approved by TFC; and

2.1.11 DB Proposal including all C&A and Prebid questions and answers.

2.2 **The Contract / Integration.** These Contract Documents form the entire and integrated Agreement between TFC and DB and supersede all prior negotiations, representations, or agreements, written or oral. Neither this Agreement nor any of its provisions can be waived, modified, amended or altered except by a written document signed by TFC and DB.

2.3 **Conflict Between Contract Documents.** If, and to the extent of, any inconsistency, ambiguity, or discrepancy in the Contract Documents, precedence shall be given to the Contract Documents in the following order of priority: (1) written amendments to this Agreement entered into in accordance with the requirements hereof after execution of this Agreement with the amendment bearing the latest date taking precedence; (2) the DB's proposal which includes the C&As, (3) this Agreement, including the exhibits attached hereto and incorporated fully herein; (4) the UGC; (5) the final Drawings and Specifications developed by the DB and such other TFC consultants incorporated into the Contract Documents; (6) the Bridging Documents incorporated into the Contract Documents, with those bearing the latest date taking precedence; To clarify the foregoing, the terms of the Agreement (and its Exhibits) shall control over the UGC and the terms of the Agreement (and its Exhibits) and the UGC shall control over any terms in the Drawings or Specifications developed by the A/E and such other TFC consultants inconsistent therewith.

2.4 **In General.** DB shall perform all Preconstruction, Design, and Construction Services as defined herein by providing all labor, materials, equipment, tools, transportation and supplies necessary to complete the Work described in and reasonably inferable from the Contract Documents for the Project. The DB accepts the relationship of trust and confidence established between it and TFC by this Agreement and agrees to furnish its best skill, attention and judgment to, and cooperate with TFC in furthering the interests of the Project. The DB shall use its best efforts to perform the Work in the most expeditious, economical, and thorough manner consistent with the interests of the TFC and the Project.

### **ARTICLE 3. TFC RESPONSIBILITIES, INFORMATION, AND APPROVALS**

3.1 **Information and Documents to be Provided by TFC.** TFC shall, with reasonable promptness, provide DB a copy of, or reasonable access to, the following information and documentation regarding the Project:

3.1.1 The Contract Documents;

3.1.2 Sample copies of the Agreement and payment and performance bond forms;

3.1.3 Bidding information and instructions;

3.1.4 Minimum wage rates;

3.1.5 The PAR for inclusion in the Specifications;

3.1.6 Any maps, surveys, and Drawings in the possession of TFC that reflect or depict Site boundaries, recorded easements, topography, utility locations, and such other documents in the possession of TFC that reflect Site conditions and/or restrictions which may impact the design and/or construction of the Project;

3.1.7 Any soil reports, environmental reports, flood plain analyses, or traffic impact studies in the possession of TFC which may impact the design and/or construction of the Project;

3.1.8 The Budget;

3.1.9 The Master Schedule, if any;

3.1.10 The Communication Protocol, which includes the communication and tracking procedure to be utilized for interaction and reporting for the Project;

3.1.11 **Bridging Documents.** Information regarding requirements for, and limitations of, the Project including a written program which shall set forth TFC's objectives, constraints, and criteria including schedule, space requirements and relationships, flexibility and expandability, special equipment, systems sustainability, site access, and site requirements;

3.1.12 Intentionally deleted; and

3.1.13 Any other information or services provided under UGC Section 3.1 and under TFC's control that are relevant to the DB's performance of the Work, upon receipt of DB's reasonable written request.

3.2 **No Warranties by TFC.** DB ACKNOWLEDGES THAT ANY AND ALL TESTS, MAPS, REPORTS, AND DRAWINGS IN THE POSSESSION OF TFC THAT REFLECT OR DEPICT SITE BOUNDARIES, RECORDED EASEMENTS, TOPOGRAPHY, UTILITY LOCATIONS, AND OTHER SITE CONDITIONS AND/OR RESTRICTIONS WHICH MAY IMPACT THE DESIGN AND/OR CONSTRUCTION OF THE PROJECT WERE PREPARED SOLELY FOR TFC'S BENEFIT AND FOR INFORMATION ONLY PURPOSES, AND THAT DB SHALL HAVE THE RIGHT TO REASONABLY RELY UPON SUCH INFORMATION. DB SHALL VERIFY SUCH INFORMATION AND WILL NOTIFY TFC OF ANY CHANGE IF DB DISCOVERS THAT ANY OF THE TESTS, MAPS, REPORTS, OR DRAWINGS CONTAIN ERRORS OR OMISSIONS THAT MAY IMPACT THE DESIGN OR CONSTRUCTION OF THE PROJECT.

3.3 **A/E.** DB has retained the A/E to provide certain Design Services for the Project, including: (i) professional architectural services and/or (ii) professional engineering services as defined in *Tex. Gov't. Code Ch. 2254, Subchapter A.*

3.4 **PMF.** TFC may designate a PMF for the Program to provide certain PM Services in addition to those provided by TFC Project Manager. The PMF will provide management of overall Program which scope is further defined in the PMF definition above and in the PMF Agreement, but whose scope may include, but

shall not be limited to, the following deliverables:

- 3.4.1 Planning, management, and coordination of the Program as further defined in the PMF Agreement, a copy of which shall be provided upon request to DB;
- 3.4.2 Providing an initial Program scope and strategy for implementation of the scope;
- 3.4.3 Review of solicitation documents and other contractual templates and provide recommendations;
- 3.4.4 Development and management of the Program cost control system;
- 3.4.5 Development of the Master Schedule and coordinating and monitoring of Work Progress Schedule within the Master Schedule including integration with Program cost control system;
- 3.4.6 Development of the Program's quality control plan;
- 3.4.7 HUB/S/M/WBE outreach and compliance consultation;
- 3.4.8 Functional programming services;
- 3.4.9 Estimating services;
- 3.4.10 Development of the Design Program referenced in Section 4.2.1 below;
- 3.4.11 Peer review of designed systems, including MEP, architectural and structural systems and utilities and civil site development;
- 3.4.12 Reporting on Project progress and conformance with the Program scope; and
- 3.4.13 Such other deliverables as may be developed or assigned to PMF by TFC.

DB shall, at all times, work collaboratively with PMF and the TFC Project Manager as well as other members of the Project Team, and shall work to help integrate its Services with those of the PMF and TFC Project Manager throughout the Project.

3.5 **TFC Approvals.** Any provisions in this Agreement to the contrary notwithstanding, all consents and/or approvals by TFC shall be in its sole and absolute discretion and must be in writing.

- 3.5.1 No changes to the scope of the Construction Services or Compensation shall be valid or enforceable unless evidenced by a fully executed written amendment to this Agreement.
- 3.5.2 To the extent that TFC approval is required to authorize incurring any costs, written approval must be acquired prior to incurring any such costs. The parties shall exercise good faith efforts to identify all such costs prior to execution of the Design-Build Proposal.
- 3.5.3 DB is not authorized to commence providing any Preconstruction Services or Construction Services to TFC or any Using Agency with respect to the Project unless and until the appropriate Notice to Proceed is delivered by TFC. TFC may, should it find it necessary, extend any of the deadlines set out in this Agreement through written approval executed by the TFC Project Manager.
- 3.5.4 No inspections of the Project conducted by TFC or A/E during the course of construction, either singularly or in the aggregate, shall reduce the level or extent of DB's responsibilities arising pursuant

to this Agreement. Neither the approval and/or final acceptance of the Project or any documents prepared by DB, the payment of any pay application, or the issuance of any Certificates of Final or Substantial Completion by TFC shall constitute, nor be deemed, a release of DB's obligation to perform and deliver the Construction Services in a manner consistent with: (i) industry standards; and (ii) as required by the Contract Documents. No approvals or acceptances by, or on behalf of, TFC shall be deemed to be an assumption of any responsibility by TFC for any defect, error, or omission in any documents prepared by DB or in any of the Construction Services provided by DB.

## **ARTICLE 4. PRECONSTRUCTION PHASE**

The "Preconstruction Phase" shall commence on the date specified in a NTP with Preconstruction Services and/or Design Services issued by TFC. DB is not entitled to reimbursement for any costs incurred for Preconstruction or Design Services performed before issuance of the Notice to Proceed. Preconstruction Phase Services may overlap with Construction Phase Services. Compensation for Preconstruction Phase Services is set forth in Section 4.3, below.

- 4.1 **Preconstruction Services.** In addition to the Work defined in that certain Design-Build Services Agreement dated August 5, 2023, TFC Contract No. 23-022-000, the DB shall perform and complete the following tasks as a part of the Preconstruction Services:

### **4.1.1 Limited Pre-Construction Services.**

4.1.1.1 Upon receipt of TFC's limited Notice to Proceed, DB shall commence the performance of the services set forth in "**Exhibit D**".

4.1.1.2 DB's compensation for the limited pre-construction services shall be as set for in Section 4.3 of this Agreement. DB shall have no further performance obligations under this Agreement beyond expending the amount set forth in Section 4.3 of this Agreement.

4.1.1.3 Upon commencement of the limited Notice to Proceed, DB and TFC shall begin negotiations of an amended Agreement for additional Work.

4.1.1.4 Attend and actively participate in Project Team meetings at regularly scheduled intervals throughout the Preconstruction Phase. Frequent Project Team meetings are anticipated prior to TFC's acceptance of the DB's Proposal and during completion of the Construction Documents phase of the design.

4.1.1.5 Visit the site and inspect the existing facilities, systems and conditions and become thoroughly familiar with the existing conditions to ensure an accurate understanding of how the Project can proceed. DB's visual investigation and understanding of these conditions is instrumental in preparing DB's Proposal for the Work. If any portion of the site cannot be accessed prior to contract execution, DB shall access site once allowed. After inspection, DB will be given the opportunity to resolve, price, and adjust contract time, if needed, for any potential impacts that were not shown on the contract documents.

4.1.1.6 Consult with TFC staff, any representatives of the Using Agency and A/E as may be directed by TFC, and provide information and recommendations to the Project Team on the following issues and on all other issues not listed that are in the normal and customary province of a construction contractor for a Project of similar size and scope:

- 4.1.1.6.1 suitability of the Site and proposed improvements;

- 4.1.1.6.2 building equipment, systems, and construction feasibility;
- 4.1.1.6.3 time requirements for procurement, installation, and construction scheduling issues, including phased construction and potential accelerated or fast-track scheduling;
- 4.1.1.6.4 availability and selection of materials and labor;
- 4.1.1.6.5 time requirements for construction and equipment installation;
- 4.1.1.6.6 safety issues and available precautions related to work under consideration;
- 4.1.1.6.7 selection and installation of temporary Project facilities, equipment, materials, and services needed for common use of the DB and TFC separate contractors (if any);
- 4.1.1.6.8 cost factors, including costs of alternative materials, construction methods, life-cycle data, and design;
- 4.1.1.6.9 conceptual budgets and possible cost savings available in alternative approaches or designs;
- 4.1.1.6.10 identification and resolution of conflicts in the proposed Drawings and Specifications as they evolve;
- 4.1.1.6.11 identification of appropriate DB staff to receive instruction regarding the use of the EPMCS to be utilized by TFC;
- 4.1.1.6.12 methods of delivering and handling materials, systems, and equipment;
- 4.1.1.6.13 traffic, parking and materials and equipment storage in and around the site; and
- 4.1.1.6.14 at TFC's request, attend public meetings and hearings concerning the development and scheduling of the Project.

#### 4.1.2 Schedules.

4.1.2.1 **Baseline Schedule and Work Progress Schedule.** As part of DB's Preconstruction Services, DB shall prepare the Baseline Schedule for TFC's approval. In addition to the requirements in the UGC, the Baseline Schedule shall (i) coordinate and integrate activities on the Project, including Preconstruction Services, Design Services, Construction Services, and the work of other consultants and suppliers, and (ii) shall include other detailed schedule activities such as TFC-managed work under separate contracts such as equipment, furniture and furnishings, telephones, project security, property protection, life-safety systems, integration with central campus monitoring systems, information and instructional technology data-transmission systems, and computer technology systems. Further, throughout the DB's performance of Preconstruction Services, DB shall manage and timely update the Baseline Schedule pursuant to UGC Article 9 and in preparation of submitting the Work Progress Schedule as part of the DB's Proposal.

4.1.2.2 **Procurement Schedule.** DB will prepare, for TFC's review and acceptance, a procurement schedule for items that must be ordered in advance of commencement of construction. Throughout Preconstruction Services, DB shall timely update this schedule with information necessary to expedite and coordinate the ordering and delivery of products and materials in advance of construction.

#### 4.1.3 Construction Planning and Bid Package Strategy. During this phase of Preconstruction Services, DB shall:

4.1.3.1 Identify equipment or materials requiring extended delivery times and advise TFC on means and methods for expedited procurement of those items. Update the procurement schedule timely to track this information.

4.1.3.2 Advise TFC on the preparation of performance specifications and requests for technical proposals for the procurement and installation of systems and components and for the procurement of long lead items.

4.1.3.3 For Work the DB plans to subcontract make recommendations to the Project Team regarding organization of the Construction Documents to facilitate the bidding and awarding of subcontracts in a manner that promotes the interests of the Project and TFC. These recommendations shall take into consideration such factors as time and duration of performance, type and scope of work, availability of labor and materials, overlapping trade jurisdictions, provisions for temporary facilities, comparisons of factory and on-site production costs, shipping costs, code restrictions, TFC's goals for HUB subcontractor participation, and other related issues. These recommendations may include ideas for phased or staged construction or multiple separate contracts.

4.1.3.4 Provide Construction Documents without areas of conflict and overlap in the work to be self-performed, performed by the various Subcontractors or TFC's separate contractors.

4.1.3.5 Develop bidder's interest in the Project. DB will develop and refine a bid/proposal package strategy that addresses scopes of Work for which DB plans to subcontract and for each phase and stage of the Project. Identify all bid/proposal packages on which the DB intends to submit a self-performance bid/proposal. The overall bid/proposal packaging strategy shall be reviewed and approved by the TFC Project Manager and PMF, if one is retained with the acceptance of a Stipulated Sum proposal.

4.1.3.6 Assist all members of the Project Team in obtaining all applicable risk management, building and design code, and regulatory agency reviews and approvals for the Project.

4.1.3.7 Refine, implement, and monitor required HUB Subcontracting Plans to promote equal employment opportunity in the provision of goods and services to TFC for the Project. Improve upon the target goals where possible. HUB requirements are a goal of the project and good faith efforts are required to meet this goal. If the goal cannot be met, provide reasonable evidence showing why the HUB requirements cannot be met.

4.1.3.8 The DB contractor is responsible for all testing required by the contract to ensure all work incorporated into the project meets the quality and contract requirements. In addition to the above that the DB contractor performs, the contractor must also provide TFC with a totally separate Third (3d) Party recommended testing consultant and testing laboratory including their certifications and qualifications. Upon TFC approval, DB contractor shall retain the approved consultant and approved laboratory and include their itemized services in the DB Schedule of Values. Payment applications of the consultant and laboratory should be included in the DB payment applications to TFC. The consultant and laboratory are to submit their test reports and laboratory results directly to the PMF and TFC. The Third-Party Testing Lab and Consultant is required to perform 25% additional testing to ensure contract verification.

4.1.3.9 Provide Construction Documents that contain adequate provisions for all temporary facilities necessary for performance of the Work, and provisions for all of the job site facilities necessary to manage, inspect, and supervise construction of the Work, even when these services involve third parties.

4.1.3.10 Provide an analysis of the types and quantities of labor required for the Project and review the appropriate categories of labor required in critical phases or stages. Make recommendations that minimize the adverse effects of labor shortages.



4.1.3.11 Provide analysis of the different types and quantities of materials required for the Project and review and monitor the cost of such materials on an ongoing basis. Make recommendations that minimize the adverse effects of material shortages and price volatility of materials.

4.1.3.12 Consult with and make recommendations to TFC on the acquisition and delivery schedules for fixtures and equipment. Include such activities on the Baseline Schedule to ensure that they do not delay timely completion of the Project.

#### 4.1.4 **Safety.**

4.1.4.1 DB shall plan, initiate, maintain, and supervise all safety precautions and programs in connection with the Work of the Project prior the start of construction. The DB's safety program shall comply with all applicable requirements of the UGC, OSHA, and all other applicable federal, state and local laws and regulations. The DB shall be solely responsible for on-site safety. Neither TFC nor any other member of the Project Team shall have responsibilities for on-site safety except for safety issues arising solely from their own negligent acts or omissions.

4.1.4.2 DB shall provide recommendations and information to TFC regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. The DB shall verify that appropriate safety considerations and provisions are included in the Construction Documents and that the Work envisioned does not include any unnecessary safety risks.

#### 4.2 **Design Services.**

4.2.1 **Evaluation of Design Program.** The DB shall schedule and conduct meetings with TFC and any other necessary members of the Project Team to discuss and review the Design Program and other information provided by TFC pursuant to Section 3.1, above. The DB shall thereafter again meet with TFC to discuss a preliminary evaluation of Design Program. The preliminary evaluation shall address possible alternative approaches to design and construction of the Project and include the DB's recommendations, if any, with regard to accelerated or fast-track scheduling, procurement, or phased construction. The preliminary evaluation shall consider cost information, constructability, and procurement and construction scheduling issues.

4.2.1.1 After the DB meets with TFC and presents the preliminary evaluation, the DB shall provide a written report to TFC, summarizing the DB's evaluation of Design Program. The report shall also include:

4.2.1.1.1 allocations of program alignments, detailing each alignment and their location, linear mileage and acreage;

4.2.1.1.2 a preliminary schedule, which shall include proposed design milestones; dates for receiving additional information from, or for work to be completed by, TFC; including easements and Authorities having Jurisdiction, and dates of periodic design review sessions with TFC; and

4.2.1.1.3 List developed by TFC and DB of all regulatory permits, clearances, authorities with jurisdiction and other administrative procedures

necessary to proceed with construction of the program. These activities shall be included in the preliminary schedule and updated on no less than a monthly basis.

4.2.1.2 TFC shall review the DB's written report and, if acceptable, provide the DB with written consent to proceed within five (5) business days, to the development of the Construction Documents as described in Section 4.2.5. The consent to proceed shall not be understood to modify Design Program unless TFC and DB execute a Change Order.

#### 4.2.2 Construction Documents.

4.2.2.1 Based on the Bridging Documents and any further adjustments in the scope and quality of the Project or in the Budget, DB shall prepare Construction Documents for approval by TFC. Construction Documents shall consist of Drawings and Specifications setting forth in detail the quality levels of materials and systems to be incorporated into the construction of the Project, including a full fixture and equipment schedule, where requested and procurement package. Such details shall comply with TFC written requirements and in accordance with *Exhibit K, Tactical Infrastructure Design Standards, Version 5, August 2020*, the most recent TI standards at time of award, excluding GFM. In accordance with the Baseline Schedule, updated Construction Documents will be submitted to TFC, reviewed, and any comments incorporated in accordance with the below.

4.2.2.1.1 Sixty-five percent (65%) completion of the Construction Documents;

4.2.2.1.2 Ninety percent (90%) completion of the Construction Documents;  
and

4.2.2.1.3 One hundred percent (100%) completion of the Construction Documents.

4.2.2.2 The Construction Documents shall be consistent with the Contract Documents and shall be in compliance with all Applicable Laws, including but not limited to applicable building codes, mechanical, electrical, life safety, accessibility and zoning codes, and standards promulgated by ADA/TAS and ANSI. All electronic data shall include an organized indexing system and/or a table of contents sufficiently detailed as to each discrete subject matter so as to allow for easy identification and location of each file or page of information. In conjunction with the most current TI Standard at time of contract award, Construction Document Drawings shall be produced on a CAD system as part of Basic Services. TFC will define the CAD drawing requirements and the final media for the CAD data. Any drawing revisions shall be investigated and coordinated with other design documents Any redesign required as a result of conflict and/or comparison with other design documents, shall be provided by DB. DB shall incorporate the design requirements of Governmental Authorities into the Construction Documents.

4.2.2.2.1 DB shall provide with each review submittal a coordination document set. The DB shall provide all designs and shall not use design performance documents, unless approved by TFC.

4.2.2.2.2 All Drawings and Specifications must, in conspicuous text, expressly prohibit any electrical systems or equipment from being energized or otherwise activated without a minimum of twenty-four (24) hour advance notice to TFC. All Drawings and Specifications shall be appropriately signed, sealed,

and dated by the responsible architect(s) and engineer(s).

4.2.2.2.3 Each Deliverable shall be submitted via disk (unless another media is directed or authorized by the TFC Project Manager) and shall be appropriately labeled to include identification of the software program (and version thereof) utilized. All Drawings shall be organized within the layering system (including format and names) in accordance with industry standards.

4.2.2.2.4 All electronic data shall include an organized indexing system and/or a table of contents sufficiently detailed as to each discrete subject matter so as to allow for easy identification and location of each file or page of information.

4.2.2.2.5 Construction Documents shall be based upon reliable and accurate calculations that appropriately determine all architectural and engineering components of the Project, and shall include, but not be limited to the following:

4.2.2.2.5.1 Design criteria for clearing and grubbing, on-site and off-site drainage and erosion control, and for any other grade and subgrade Site preparation and erosion control required by any Authorities Having Jurisdiction;

4.2.2.2.5.2 Design criteria for connection to all proposed temporary and permanent on-site and off-site Utilities;

4.2.2.2.5.3 Design criteria for the proposed structural system, including the rationale for all determinations, all applicable structural loads;

4.2.2.2.5.4 Design criteria for the proposed electrical system including reserve capacity;

4.2.2.2.5.5 Copies of all manufacturers' documentation that illustrates the proposed materials, equipment and warranties to be specified for the Project.

4.2.2.3 DB shall submit all documents required for PMF to secure approval of all Authorities Having Jurisdiction on behalf of TFC. All direct costs associated with storm water permits, air permits, spill permits and fees shall be included in the Stipulated Sum.

4.2.2.4 Prior to releasing the Construction Documents "For Construction", the DB shall provide a document that summarizes all design code requirements and provide written certification that the Construction Documents meet all Applicable Laws and the Tactical Infrastructure and Design Guidelines, **Exhibit K**, DB shall further certify in writing that no asbestos or lead containing materials have been specified or approved by DB for installation into the Project.

4.2.2.5 Only in the instance DB is no longer performing work for TFC and upon written request by TFC, DB shall provide TFC the Construction Document in whatever form they exist at the time of DB's contract termination.

4.2.2.6 Concurrently with the development of the design based on the Bridging Documents, DB will reconfirm the alignment. No Construction Documents shall be issued, delivered, or released for any purpose without the prior written consent of TFC. Unless otherwise instructed by TFC, DB shall deliver an electronic copy and three (3) sets of the approved Construction Documents to TFC, any additional copies of which shall be considered a reimbursable expense.

4.3 **Pre-Construction Phase Compensation.** In addition to the Work defined in that certain Design-Build Services Agreement dated August 5, 2023, TFC Contract No. 23-022-000, DB shall perform additional and necessary pre-construction activities in accordance with the scope and infrastructure alignments described in “**Exhibits D and M**”. Such additional and necessary pre-construction activities are included in the Stipulated Sum.

4.3 **Payment.** Payments for DB’s Services shall be made monthly based on the services actually performed in the month for which an Application for Payment is submitted, in accordance with and subject to the limitations of UGC Article 10. All payment requests for Preconstruction, Design and Construction Services shall be submitted on an Application for Payment and Schedule of Values form approved by TFC and shall include all documents set forth in UGC Article 10 required as conditions precedent to payment.

4.3.1 **Payments to Consultants and Subcontractors.** For all services rendered by DB’s Consultants and Subcontractors, DB shall make payment to such Consultants within ten (10) Days after receipt of payment from TFC. Should it become necessary, and after five (5) Days' written notice to DB, TFC may issue joint checks to DB and such Consultants with DB’s consent.

4.4 **Design Program.** DB shall provide all design Services required of DB as designated in the Design Program. DB shall report in writing to TFC any deviations between TFC-provided information or programs and the final Construction Documents presented.

4.5 **Insurance for Preconstruction Phase Services.** Within ten (10) calendar days after the Effective Date and for the duration of this Agreement, including the Preconstruction Phase, the DB shall maintain in effect insurance policies providing the coverages and with the policy limits as required by TFC and as detailed in “**Exhibit H**”. TFC will designate the policies and policy limits required Work performed. Payment and performance bonds will be required for the Work as dictated by the UGC and Texas law.

4.6 **Suspension/Termination of Preconstruction Phase Services.** TFC may suspend or terminate the performance of Preconstruction Phase Services with or without cause, or for TFC’s convenience, as provided in Article 14 below, which provisions are hereby incorporated and applied to Preconstruction Services. DB shall not be held accountable and will be waived of all design liability for preconstruction design phase services if Suspension/Termination is enacted.

## **ARTICLE 5. DEVELOPMENT OF THE DB’s PROPOSAL**

When TFC and PMF determines a meaningful quantity of alignment is obtained for construction and a Design Criteria Package has been issued to DB, and no later than the dates set forth in this Article 5, DB shall prepare and submit the DB’s Stipulated Sum Proposal to TFC for review and acceptance. The process includes preparation of the DB’s Proposal, consideration of the DB’s Proposal, and acceptance or rejection of the DB’s Proposal, as set forth in this Article 5.

### **5.1 DB’s Proposal Preparation.**

5.1.1 Within 30 Days of receipt of a Design Criteria Package and upon completion of the

site visit activities described in section 4.1.1.5 above, DB shall submit to TFC a DB's Proposal; the parties shall work in good faith to mutually agree on a short time period.

5.1.2 The DB's Proposal, submitted in digital form, shall include the following:

5.1.2.1 A list of C&A created by DB in the preparation of the DB's Proposal, including any assumptions to supplement information provided in the Bridging Documents. C&As will be incorporated into this Agreement by amendment prior to execution as part of the DB's proposal;

5.1.2.2 INTENTIONALLY OMITTED

5.1.2.3 The Statement of the Stipulated Sum of compensation including a narrative that summarizes the major elements of the Work included in the DB's Proposal identifying those portions the DB intends to self- perform;

5.1.2.4 The proposed date of Substantial Completion of the Work and of Final Completion of the Work;

5.1.2.5 The initial Work Progress Schedule that specifies the timeline for performance of the Work, in digital format, together with the following details:

5.1.2.5.0 Dates of delivery of A/E services, with A/E's input and concurrence;

5.1.2.5.1 Coordination and integration of DB's services, A/E's services, and all other TFC contractors' services, TFC's responsibilities, and identification of items that could affect the Project's timely completion;

5.1.2.5.2 The components of the Work including: (i) times of commencement and completion required of each Subcontractor; (ii) ordering and delivery of materials and other items to be incorporated into the Work, including those that must be ordered well in advance of construction ("long lead items"); (iii) a clear delineation of the critical path; and (iv) all milestone dates of completion of particular portions of the Work and Date of Substantial Completion and of Final Completion of the totality of the Work;

5.1.2.6 An updated list of DB's supervisory personnel and Subcontractors;

5.1.2.7 An updated HSP;

5.1.2.8 A statement of all authorized Work;

5.1.2.9 The amount of liquidated damages; and

5.1.2.10 The deadline on which the DB's Proposal will automatically expire which shall not be less than sixty (60) Days from the date TFC receives it.

**5.1.3 Coordination with DB, A/E and PMF.** In developing the DB's Proposal, the DB shall coordinate efforts with the DB, A/E and PMF to identify qualifications, clarifications, assumptions, exclusions, value engineering and any other factors relevant to establishment of the Proposal. The DB shall review the DB's Proposal on an ongoing basis from the beginning of Preconstruction Services to address clarifications of scope and pricing, distribution of contingencies, schedule, assumptions, exclusions, and other matters relevant to the establishment of the Proposal such that the DB's Proposal will be complete in all respects.

5.1.4 In submitting the DB's Proposal, the DB represents that it will provide every item, system or element of Work that is identified, shown or specified in the DB's Proposal or the supporting documents, along with all necessary materials and equipment to install each of them completely and make each fully operational, unless specifically excluded by TFC.

**5.1.5 Consideration of the DB's Proposal.** DB shall meet with TFC and PMF to review the DB's Proposal. In the event that TFC and PMF discover any inconsistencies or inaccuracies in the information presented, they shall promptly notify DB, who shall make appropriate adjustments to the DB's Proposal, its basis, or both. All bids and DB's recommendations shall be reviewed by TFC and, with advice of DB and PMF, TFC shall identify exceptions that may result in changes to the DB's Proposal.

5.2 **Acceptance/Rejection of the DB's Proposal.** TFC may accept or reject DB's Proposal or attempt to negotiate its amount and its terms and conditions with DB.

**5.2.1 Acceptance of DB's Proposal by TFC.** If TFC accepts in writing the DB's Proposal, or a negotiated variant of it, the DB shall prepare the Stipulated Sum Proposal, in a form acceptable to TFC.

5.2.1.1 Any provisions in UGC Sections 9.3 and 10.1 to the contrary notwithstanding, at or prior to the execution of the Stipulated Sum Proposal, if any, DB shall deliver to TFC for review and approval, certain items identified herein, including but not limited to, the following: (i) the Schedule of Values in accordance with UGC Section 10.1, and (ii) all proof of insurance as required by this Agreement prior to the Notice to Proceed.

5.2.1.2 At such time that the Stipulated Sum Proposal, if any, has been executed, TFC shall release the Security Bond to DB. In the event DB fails to timely deliver the required insurance policies for the construction phase as required by "Exhibit H", in accordance with Section

5.2.1.3 TFC shall be entitled, upon the failure of DB to cure following ten (10) Days written notice, and without further action or notice, to collect on the Security Bond.

5.2.1.4 If the Stipulated Sum has been accepted and TFC requires that another bid or proposal from a trade contractor or subcontractor be accepted, TFC shall compensate DB by a change order for any additional cost and risk that DB may incur because of TFC's requirement that another bid or proposal be accepted. This provision shall not apply in the event TFC objects to, or otherwise requires the removal or substitution of, any trade contractor or subcontractor pursuant to the terms of this Agreement including, but not limited to including, but not limited to Section 8.2.1.2 below.

5.2.1.5 DB shall not incur any costs to be reimbursed as part of the Stipulated Sum prior to the commencement of the Construction Phase of the Project to be established by a Notice to Proceed with Construction Services, unless TFC provides prior written authorization for such costs.

5.2.1.6 Upon execution of the DB Proposal, the DB shall not be entitled to any increase in the Stipulated Sum due to the continued refinement of the Construction Documents or the absence or addition of any detail or specification that may be required in order to complete the construction of the Project as described in and reasonably inferable from the DB's Proposal or the supporting documents used to establish the Stipulated Sum.

5.2.2 **Rejection of the DB's Proposal by TFC.** If TFC rejects DB's Proposal or the parties are unable or unwilling to agree on a negotiated variant of it, TFC may terminate this Agreement. TFC shall then have no further duties, responsibilities, or financial obligations to the DB provided that DB has been paid for the limited NTP/pre-construction services to date. After such a termination of this Agreement, TFC will be free to abandon or pursue this Project in any manner as it sees fit without any obligation to DB. If the TFC rejects the DB proposal or the parties are unwilling to agree on a negotiated variant of it, and the TFC proceeds with the procurement of the project utilizing the Construction Documents prepared by DB, the total liability of DB, whether in contract, warranty, tort (including, without limitations, negligence or patent infringement) or otherwise, arising out of, connected with, resulting from TFC's utilization of the Construction Documents prepared by the DB shall not exceed \$1.

## ARTICLE 6. CONTRACT SUM

6.1 **Contract Sum.** Subject to the terms and provisions of Section 4.3 of this Agreement, DB's performance of the entire Work as described in this Agreement, TFC shall pay the DB the Contract Sum in current funds as set forth herein. The Contract Sum is the total amount of all compensation payable to the DB for the Project and shall not exceed the Stipulated Sum unless approved by TFC as a change order or similar equitable adjustment. Any Project costs that exceed the Stipulated Sum that are not authorized by TFC shall be borne solely by DB without reimbursement from TFC.

6.1.1 For DB's performance of preliminary Work described in Exhibit D-1 and including Schedule Development, Surveys, 35% Design, Limited SWPPP, Permitting, Laydown Area Preparation, Site Offices and Access Road Improvements for an alignment described as approximately 1.8 miles, described as follows in Exhibit D, Exhibit M-1, Map, and any other related costs and expenses incurred or expended, DB's total compensation shall be the Stipulated Sum of Three Million Three Hundred Seventy-Three Thousand One Hundred Twenty-Seven and No/100 Dollars (\$3,373,127.00).

6.1.2 The Contract Sum includes a TFC controlled allowance of One Hundred Thirty-Six Million Nine Hundred Sixty-Two Thousand, Six Hundred Eighty-Three and No/100 Dollars (\$136,962,683.00) (the "Controlled Allowance") to be applied at TFC's sole reasonable discretion to additional DB Stipulated Sum proposals for additional alignments of border infrastructure which amount will be the subject of a subsequent amendment to this Agreement.

6.1.3 The total compensation for this Agreement is **One Hundred Thirty-Seven Million, Three Hundred Thousand and No/100 Dollars (\$137,300,000.00)** which includes a Stipulated Sum of Three Million Three Hundred Seventy-Three Thousand One Hundred Twenty-Seven and No/100 Dollars (\$3,373,127.00) for design, construction services and all other work for the wall alignment described in 6.1.1 above, and the Controlled Allowance of \$136,962,683.00 to be applied at TFC's sole discretion to DB's Stipulated Sum proposals for additional alignments of border infrastructure which amount will be the subject of a subsequent amendment to this Agreement.

6.1.4 **TFC Allowances.** Items to be provided for through TFC special cash allowances, if appropriate, shall be clearly identified in the Construction Documents and the DB's Proposal. The use of any allowance shall be determined and authorized at TFC's sole discretion following

acceptance of a Stipulated Sum proposal from DB.

6.2 **Savings**. This Agreement is a Stipulated Sum contract. Savings realized through the execution of the Work, and throughout completion of the project as described in the Bridging Documents are retained by the DB.

6.3 **Changes in the Work**. The Stipulated Sum price is not subject to additions and/or deductions for the project described in the Bridging Documents. At TFC's sole discretion, additions and/or deductions to the scope described in the Bridging Documents or exercise of allowances may be executed only by Change Order and the Contract Time shall be subject to adjustments only as provided in the Contract Documents.

6.4 **Enforceability of Changes**. In order to be valid and enforceable, changes to the scope and/or Stipulated Sum must be executed in accordance with a contract amendment. No course of conduct or dealings between the parties, nor express or implied acceptance of alterations, or additions to the Work, and no claim that TFC has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any claim to any increase in any amounts due under the Contract Documents or a change in any period provided for in the Contract Documents.

6.4.1 Adjustments to the Stipulated Sum. When adjustments to the Stipulated Sum are necessary, TFC may, in its sole discretion, fund the Work through a Change Order and/or contingency.

6.4.2 Change Order Pricing. DB may include DB proposed profit and overhead on all DB Change Order work negotiated. The DB proposed profit and overhead shall supplant the references to overhead and profit imposed by UGC Section 11.8.1.

## **ARTICLE 7. GUIDELINES FOR DEVELOPING THE DB'S PROPOSAL AND TFC'S EVALUATION**

The items below shall guide the DB during the Proposal stage to develop a fair and reasonable cost for the Stipulated Sum and any change orders and for TFC's evaluation of the Proposal. DB is entitled to receive payment for costs of a stipulated sum proposal incurred only after receipt of TFC's written authorization to commence the Construction Phase Work through Final Completion of the Work. DB is not entitled to reimbursement for costs incurred for a stipulated sum proposal before receipt of TFC's written authorization. Costs incurred for a stipulated sum proposal shall be at rates set forth in DB's Proposal as accepted by TFC, except as otherwise approved by TFC. References in the UGC to adjustments in "cost" or "costs" mean the items set forth in this Section, Stipulated Sum Costs.

7.1 **Cost of the Work**. For preparation of the Stipulated Sum proposal, categories of cost for the proposal and the schedule of values for payment shall include a category for "Cost of the Work" that shall include the following:

### **7.1.1 Labor Costs.**

7.1.1.1 Wages of construction workers directly employed by DB to perform construction of the Work at the Site or at approved off-site workshops which shall be paid in compliance with prevailing wage rates requirements of *Tex. Gov't. Code § 2258*.

7.1.1.2 Costs paid or incurred by DB for taxes, contributions, assessments, and benefits required by law or collective bargaining agreements and, for personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided that such costs are based on wages and salaries identified in



the Cost of the Work.

**7.1.2 Subcontract and A/E's Design, Documentation and Construction Administration Services Costs.**

7.1.2.1 Payments made by DB to Subcontractors and their vendors or suppliers for the subcontract work in accordance with the Contract Documents and the requirements of the subcontracts with the Subcontractors, vendors or suppliers. Such costs may include taxes, insurance, contributions, assessments and benefits required by law or collective bargaining agreements and, for Subcontractor personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided such costs are based on the wages for such construction workers and comply with the prevailing wage rate requirements of this Agreement.

7.1.2.2 Payments earned by DB for self-performed subcontract work, other than General Conditions work, in accordance with the Contract Documents and the terms of this Agreement and approved by TFC.

7.1.2.3 Payments made to the A/E for Construction Administration Services.

**7.1.3 Costs of Materials, Consumable Supplies, and Equipment Incorporated into the Completed Project, including:**

7.1.3.1 Costs (including transportation and storage) of materials, consumable supplies, and equipment required by the Contract Documents to be used or incorporated into the completed Project.

7.1.3.2 Costs of materials in excess of those actually installed or incorporated to allow for reasonable waste and spoilage.

**7.1.4 Cost of Other Materials and Equipment, Temporary Facilities, and Related Items, including:**

7.1.4.1 Reasonable and necessary costs of renting motorized or engine-power or other specialized items of construction equipment or temporary facilities that are necessary to perform the Work at the Site. Rental rates may include transportation, installation, and minor maintenance costs, and removal costs. For tools, machinery or construction equipment rented directly from the DB, the rental rate, including freight and delivery costs and all operating expenses except labor, shall be approved in advance by TFC and shall be in accordance those established by (i) the "Contractor's Equipment Cost Guide," latest edition published by the Associated General Contractors of America, or (ii) the lowest of three (3) competitive bids obtained from equipment leasing companies that have been approved by the TFC before any commitments are made. Such rental costs shall in no event be charged at higher than competitive rental rates prevailing in the county where the Work is to be performed for similar equipment. In no event shall the aggregate rental cost to TFC exceed the purchase price and maintenance cost of the item.

7.1.4.1.1 The aggregate rental cost of any item charged to TFC shall not exceed ninety percent (90%) of the purchase price and maintenance cost of the item. If the anticipated aggregate rental cost for an item of equipment exceeds ninety percent (90%) of the purchase and maintenance price, DB shall purchase the equipment and turn it over to TFC upon Final Completion of the Work or, at

TFC's option, credit TFC with the fair market resale value of the item.

7.1.4.2 Reasonable and necessary costs of furnishing hand tools, instruments and other devices (except for those customarily owned by construction workers) that are necessary to use at the Site to perform the Work; provided that TFC has approved the rentals and the rental rates in advance and all other such costs must be based on fair market value less any fair market salvage value or credit for the sale or return thereof.

7.1.5 **Miscellaneous Costs.** Miscellaneous costs, which shall include the following.

7.1.5.1 Sales, use or similar taxes imposed by an Authority Having Jurisdiction that are related to the Work and for which DB is liable except those for which exemption is allowed under the Applicable Law.

7.1.5.2 Fees and assessments for any building permit and for other permits, licenses and inspections for which DB is required to be paid by the Contract Documents.

7.1.5.3 Fees of laboratories for tests required by the Contract Documents and the UGC, except those related to defective or nonconforming Work for which reimbursement is excluded by UGC Section 8.2.3.5 or by other provisions of the Contract Documents, and which do not fall within the scope of Section 7.2 below.

7.1.5.4 Intellectual property royalty and license fees paid for the use of a particular design, process, or product required by the Contract Documents which are, or will be incorporated into the Work.

7.1.6 **Emergency Costs.** Emergency costs, which shall include the following.

7.1.6.1 Costs incurred in taking action to prevent threatened damage, injury or loss in case of an emergency affecting the safety of persons and property as provided in UGC Sections 7.3 and 11.7.4.

7.1.6.2 Costs of repairing damaged Work performed by DB or Subcontractors, provided that such damaged Work was not caused by any negligence, or failure to fulfill a specific responsibility, of DB or Subcontractors and only to the extent that the cost of repair is not covered by DB's insurance, sureties, Subcontractors, or others.

7.2 **General Conditions Costs.** For preparation of the Stipulated Sum proposal, categories of cost for the proposal and the schedule of values for payment shall include a category for "General Conditions" that are incurred between the issuance of a Notice to Proceed with Construction Services requiring the performance of Construction Services, and thirty (30) calendar days after the date of Substantial Completion of DB's Work. General Conditions Cost items are generally identified below and in the Special Conditions, "**Exhibit C**".

7.2.1 **Supervisory Personnel Costs.** The actual wages based on wage rates for DB's hourly employees and monthly salary rates of DB's salaried personnel engaged in Project management, supervisory, support and administrative roles and who are identified to TFC in advance and in writing but only for the time actually stationed at the Project site. DB shall include these rates in an exhibit providing wage/salary and benefits information for the specific staffing proposed by the DB for the proposal. The specific personnel and salary rates included in DB's proposal along with additional staffing and salary rates that TFC and DB mutually agree to be necessary for the competent management and successful completion of the Work shall be provided as part of the DB's Proposal. The DB Project Manager's monthly salary rate may be included in the General Conditions Costs only.

when the DB Project Manager is directly managing the Project. Except as may otherwise be provided in the Special Conditions, "**Exhibit C**", all personnel costs are subject to audit to determine the actual cost of the wages, salaries, allowable employer contributions, and labor burden incurred by the DB for services performed with respect to the Project.

7.2.2 Costs of long-distance telephone calls, postage, package delivery and courier service, hardwired telephone service, construction documentation, and reasonable expenses of DB's jobsite office if incurred at the Project site and directly and solely in support of the Work.

7.2.3 Miscellaneous jobsite costs relating to transportation and personnel, including transportation, parking, background checks and employee identification materials, costs of the safety program, temporary barriers, signage and controls, and cleaning and waste disposal.

7.2.4 Permit and inspection fees that are not subject to exemption. Permit and inspection fees paid by DB where TFC is exempt will not be reimbursed by TFC.

7.2.5 Premiums for insurance and bonds to the extent directly attributable to this Project. Notwithstanding the foregoing, premiums for subcontractor payment and performance bonds and/or subcontractor default insurance shall NOT be reimbursable as a General Conditions Cost or Cost of the Work.

7.2.6 Governmental sales and use taxes directly attributable to the General Conditions Costs that are not subject to exemption. Taxes paid on materials or services that were entitled to tax exemption will not be reimbursed by TFC as Costs of the Work.

7.3 **Items Excluded from the Cost of the Work**. For preparation of the Stipulated Sum Proposal, the Cost of the Work shall NOT include the following items:

7.3.1 Salaries or other compensation of DB's personnel stationed at the DB's principal office or offices, except as may be specifically provided in Section 7.2.1 above, or as may be provided in UGC Article 11.

7.3.2 Expenses of the DB's principal office and other offices, other than those members of DB's principal office which perform work or services directly related to this Project.

7.3.3 Overhead and general expenses, except as may be expressly included in Sections 7.2 above.

7.3.4 DB's capital expenses, including interest on the DB's capital employed for the Work.

7.3.5 Except as provided in Section 7.1.6.2 of this Agreement, costs due to the negligence or failure of DB, Subcontractors, or anyone directly or indirectly employed or engaged by any of them, to fulfill a specific responsibility under this Agreement.

7.3.6 Costs of acceleration of the Work arising as a result of delay to the extent caused by the negligence of DB, or its Subcontractor or other persons over whom DB or any Subcontractor exercises control or is legally responsible, including any and all overtime wages, unabsorbed home office overhead, or other consequential loss incurred by DB.

7.3.5 Any and all costs not otherwise expressly authorized to be charged as a Cost of the Work herein, including, without limitation.

7.3.6 Premium costs/charges for or relating to subcontractor payment and performance bonds and/or subcontractor default insurance.

7.3.7 Any cost not specifically and expressly identified in Sections 7.1 to 7.2 above.

7.3.8 Costs for services incurred during the Preconstruction Phase of the Project (these are paid as Preconstruction Services).

## **ARTICLE 8. CONSTRUCTION PHASE SERVICES**

The “Construction Phase” of the Project shall be deemed to commence upon the date specified in a NTP with Construction Services issued by TFC after executing the Design-Build Proposal and shall continue until Final Completion of all Work. Upon receipt of the NTP, DB shall proceed with the Work and timely deliver to TFC the Construction Services for the Project as is specified in UGC Section 3.3, and as is set forth in this Article.

TFC reserves the right to (i) direct the Construction Phase to commence prior to completion of the Preconstruction Services, in which case the services will proceed concurrently as set forth in Section 4.5 herein; or (ii) to complete the Project in phases.

8.1 **Performance.** DB shall furnish all Construction Services in a good and workmanlike manner, in strict compliance with the Contract Documents and all Applicable Laws, within the time parameters provided under the approved Work Progress Schedule, and within the Contract Sum. DB shall maintain work progress and products consistent with the Work Progress Schedule. DB will provide its best efforts to complete the Project in an expeditious and economical manner consistent with TFC’s interests and in the best interest of the Project. TFC reserves the right to impose liquidated damages as to the timely completion of all or distinct portions of the Project.

8.1.1 **Ongoing Responsibilities.** DB shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and all other facilities and services necessary for the proper execution and completion of the Work in accordance with the requirements of the Contract Documents, including this Agreement. DB, not TFC, shall be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. DB shall coordinate, monitor and inspect the work of Subcontractors to ensure conformance with the Contract Documents. DB will thoroughly review and closely scrutinize the performance, means, methods, constructability, schedules, and costs of all of its Subcontractors and suppliers as is relevant to each Subcontractor’s discipline.

8.1.2 **Compliance with Prevailing Wage Rates.** DB will, at all times pertinent to this Agreement, comply with UGC Article 2 concerning prevailing wage rates.

8.1.3 **Multiple Completion Times.** DB agrees to timely deliver the services described in this Agreement whether the Project is to be completed as a single package or in multiple combinations of packages. DB will cooperate fully if TFC decides to “Fast Track” and establish multiple completion dates. If TFC elects these approaches, DB shall organize and perform its services to be most appropriate and efficient for each stage of Project development. In these circumstances, each stage of the Project may have a unique schedule for completion and specific cost limitations agreed to in writing by the DB and TFC.

8.1.4 **Force Majeure.** Any delays in or failure of performance by either party, except in respect of the obligation of payments under this Agreement, shall not constitute default hereunder if and to the extent such delays or failure of performance are caused solely by occurrence(s) beyond the reasonable control of the party affected, and which by the exercise of due diligence such party is unable to prevent, herein called “Force Majeure” including, but not limited to, acts of God or the public enemy,

sabotage, war, mobilization, revolution, civil unrest, riots, strikes, lockouts, fires, accidents breakdowns, or floods, earthquakes, hurricanes, or any other natural disaster, and governmental actions or orders concerning pandemics or epidemics, but not otherwise.

8.1.4.1 **Notice.** In any such event, the party claiming force majeure shall notify the other of the Force Majeure event in writing within seventy-two (72) hours of the earlier of (a) the commencement of the Force Majeure event or (b) the entry of any order by an Authority Having Jurisdiction of an emergency or Force Majeure event. In the event DB fails to timely provide said notice, such failure shall constitute, without further notice or action, a waiver of the right to claim Force Majeure for such event. If possible, such notice shall set forth the extent and duration thereof. TFC shall determine the termination of the Force Majeure event in the exercise of reasonable discretion and based upon any applicable order entered by an Authority Having Jurisdiction.

8.1.4.2 **Due Diligence.** DB shall exercise due diligence to prevent, eliminate, or overcome any Force Majeure event where it is reasonably possible to do so and resume performance of Design Services at the earliest possible date. However, if nonperformance continues for more than thirty (30) Days, TFC may terminate this Agreement immediately upon written notification to DB.

8.1.5 **Risk of Loss.** DB shall bear all losses, unless identified as a change of condition, resulting on account of the amount and/or character of the Work.

8.2 **DB's Project Administration.** DB shall establish and maintain an on-site organization of competent, full-time personnel to coordinate the administration of the construction of the Work, provide budgeting and cost control measures, scheduling, review of shop drawings and submittals, establish and maintain safety controls, provide input into permits and testing, and provide a general and responsible staff to manage and complete the Construction Services in accordance with this Agreement and the UGC.

8.2.1 **Key Personnel.** DB shall designate in writing to the Project Team those key employees and representatives who are authorized to act on the DB's behalf with respect to the Project.

8.2.1.1 **Designation.** DB shall designate one or more DB Project Manager(s) and Project superintendents who are responsible for the day-to-day management of the Construction Services. The DB Project Manager (or one of them as designated by DB and approved by TFC) shall be authorized to act on behalf of and bind the DB in all matters related to Construction Services including, but not limited to, execution of Change Orders and submission of Applications for Payment. The DB Project Manager, and all superintendents, Project engineers, and other representatives, their titles, and a brief description of the limitations of each representative's authority shall be included as an exhibit (the "DB List of Key Personnel") to the Design-Build Proposal. After any said list is integrated into this Agreement, DB shall not change their assignments without TFC's written consent, which consent shall not be unreasonably withheld. DB shall not assign or retain on the Project any person or entity to whom TFC reasonably objects.

8.2.1.2 **Replacement.** The DB Project Manager and Project superintendents must be committed to the Project on a full-time basis. TFC reserves the right to request that the DB Project Manager and the Project superintendents, and any of DB's employees and Subcontractors (and their Project Managers), be removed and replaced if, in the sole opinion of TFC, their performance on this Project or any other Projects, is and/or was not adequate or their continued involvement with the Project

will, is, or has become, detrimental to the timely and successful completion of the Project, including but not limited to, for such reasons as: (i) any past or present violation of any statute, rule, regulation, or ordinance of any city, county, the State of Texas or the United States, or any other Applicable Laws; (ii) TFC's reasonable belief that failure to obtain an acceptable criminal background check will occur; (iii) prior unsatisfactory performance on other TFC projects; and (iv) any other like reasons. DB shall bear the costs associated with the replacement of any of its staff listed on the DB List of Key Personnel.

### 8.2.3 Schedule Control.

8.2.3.1 **Procurement Schedule.** DB shall prepare, for A/E's review and TFC's review and acceptance, a procurement schedule for items that must be ordered in advance of commencement of construction.

8.2.3.1.1 DB shall timely expedite and coordinate the ordering and delivery of products and materials that must be ordered in advance of construction.

8.2.3.1.2 Upon TFC's issuance of a Notice to Proceed with any Construction Services, DB shall (i) assume full responsibility for all materials and equipment assigned to DB by TFC for Project-related items purchased by TFC, and (ii) obtain and bind all insurance coverages, including builder's risk insurance, as required by "**Exhibit H**".

8.2.3.2 **Work Progress Schedule.** DB shall, at all times, comply with the scheduling requirements in UGC Article 9. DB shall adhere to the Work Progress Schedule established in accordance with the terms and conditions of this Agreement, as it may be amended from time to time. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise may be stated in the Contract Documents, all Work at the Site shall be performed Monday through Friday, from 7:00 a.m. until 6:00 p.m. DB shall not permit the performance of Work on any other day or time without TFC's prior written consent, which consent shall not be unreasonably withheld. DB understands and agrees that work, installation or any other service performed without the prior written authorization of the TFC Project Manager is work outside the scope of this Agreement and shall be performed exclusively at DB's risk.

8.2.3.3 **Inspections and Testing Coordination.** DB shall plan for and develop the Work Progress Schedule to accommodate necessary inspections and testing of electrical systems. DB is strictly prohibited from energizing or otherwise activating any electrical systems or equipment at the Site without a minimum of twenty-four (24) hour advance notice to TFC. Any provisions in the Contract Documents to the contrary notwithstanding, TFC reserves the right to deny and/or revoke DB's authority to energize or otherwise activate any electrical systems or equipment at the Site. DB will not be entitled to receive additional compensation for any such denial or revocation.

8.2.4 **Communication and Reporting.** DB shall cooperate with all members of the Project Team and endeavor to further the interests of TFC and the Project. DB will establish procedures for effective communication and coordination among the Project Team, Subcontractors, separate contractors, and others regarding the construction of the Project, and implement and continuously modify such procedures as necessary. To the extent of an apparent conflict in the sequencing of Work or services with another service provider, DB shall report the concern to the TFC Project Manager. DB shall coordinate delivery and installation of TFC-procured

material and equipment and shall cooperate with any commissioning agent engaged by TFC.

8.2.4.1 **Meetings.** DB shall actively participate in all meetings and/or teleconferences to bring the full measure of DB's collective experience, expertise and recommendations to the Project as it pertains to the overall Project or to a specific discipline including, but not limited to, all explanatory presentations with the A/E as may be requested by TFC, and matters concerning the proposed site use and improvements, selection of materials, and building systems and equipment. DB shall attend TFC regularly scheduled and any interim Project progress meetings and fully advise the Project Team of the Project status including progress, schedule, costs, quality and changes.

8.2.4.2 **Reporting.**

8.2.4.2.1 **Monthly.** On a monthly basis, or as otherwise agreed in writing by TFC, DB shall submit written progress reports to TFC, PMF, and A/E, reporting DB's assessment of percentages of completion and other information required by TFC. Unless otherwise provided by the A/E or PMF, or the DB in the absence of the A/E or PMF, DB shall record and distribute the minutes of each monthly and interim Project meeting to each Project Team member. The minutes shall identify critical activities that require action, the person/entity responsible to complete the action and the dates by which each action must be completed.

8.2.4.2.2 **Daily Log.** Unless and until instructed otherwise in writing by TFC, DB shall also prepare a daily log (the "Daily Log") containing: (i) a record for each day's weather (unless otherwise provided by the A/E or PMF); (ii) a statement of which days since the previous monthly report are claimed by DB to be subject to Force Majeure, as defined in Section 8.1.4 of this Agreement, portions of the Work in progress; (iii) number of workers on the Site; (iv) identification of all equipment on the Site; (v) problems that might affect progress of the work; and (vi) all accidents, injuries, and any other information that may be requested by TFC from time-to-time, and upload said Daily Log into EMPCS as directed by TFC, by the end of each next business day. In the event DB fails to timely and properly identify and upload any Force Majeure days, DB shall be deemed, without further notice, to have automatically waived any claims of Force Majeure as to those days.

8.2.5 **RFIs, Submittals, and Maintenance of Documents.**

8.2.5.1 **Affirmation as to Submittals.** Upon submittal to TFC of any documentation or data that was created or modified by DB, including but not limited to Drawings, Specifications, and the Budget, all representations contained therein shall be true and accurate as to each such creation or modification.

8.2.5.2 **Documents.** All documents prepared by DB shall be: (i) completed and delivered in a timely manner and in a manner consistent with industry standards; (ii) conform to or exceed the specifications set forth in the Contract Documents; and (iii) be fit for ordinary use, of good quality, and with no material defects. Where Shop Drawings or a sample is required by the Contract Documents or the Submittal Register, as defined in UGC Section 1.43, any related Work performed prior to A/E's review and approval of the pertinent submittal will be at the sole expense and responsibility of DB.

8.2.5.3 **Electronic Project Management Control System and Tracking.** DB shall use TFC's designated project management software system to correspond and maintain project related

correspondence and documentation throughout the life of the Project including Project close-out and final payments. DB will establish and maintain a numbering and tracking system for all Project records, including changes, requests for information, submittals, and supplemental instructions and provide updated records at each TFC's meeting and at other times when requested. DB certifies and represents that it is proficient in the use of CAD systems and will collaborate with TFC in the use of TFC's EPMCS.

8.3 **A/E's Construction Administration Services.** A/E's Construction Administration Services shall include those designated in the A/E Agreement, but shall at least include, but not be limited to the following: (i) visits to the Project site, with reasonable notice, at intervals appropriate to the type and stage of construction progress, but not less than monthly, to observe the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents; (ii) attendance at regular progress, pencil draw, and special meetings scheduled by TFC; (iii) interpretation and clarification of technical intent and scope of the Construction Documents; (iv) review of submittals, DB's proposed procurement schedule, and DB's Work Progress Schedule; (v) consulting with PMF and TFC Project Manager to review Change Order requests and pricing; (vi) preparing proposed changes to Drawings and Specifications, responses to RFIs, and A/E's ASIs; (vii) administration and close out of DB's punch lists and participation in punch list finalization walks; (viii) inspections for certification of Substantial Completion and Final Completion; (ix) preparation of final Record Drawings; and (x) review of DB's submission of final Close-Out Documents and other items listed as required for Final Payment.

8.4 **Permits and Approvals.** DB shall assist TFC in obtaining building permits and special permits for permanent improvements as required by law, regulation or the Construction Documents. DB shall assist TFC in obtaining all approvals required from authorities having jurisdiction over the Project.

8.5 **Testing.** DB shall coordinate and provide access for all testing and testing by separate contractors/providers) operations at the site and coordinate the receipt and proper distribution of all testing results. All testing initiated by the DB shall be paid by the DB. To the extent that this provision conflicts with UGC Article 8.2 (Testing), this provision shall control. All corrective measures necessary for a product or system to meet the requirements of the Contract Documents and any necessary re-testing shall be paid by DB.

8.6 **Use of the Site.**

8.6.1 **Operations.** DB shall confine all construction operations within the limits of construction indicated on the Drawings or otherwise agreed to in writing by TFC, and use due care in placing construction tools, equipment, materials, and supplies to cause the least possible damage to property and interference with traffic. If additional easements for its operations are needed, due to DB's means and methods, DB is solely responsible for acquisition and maintenance of the easement.

8.6.2 **No Smoking.** All facilities where work is to be performed are nonsmoking buildings. DB's employees and Subcontractors are prohibited from smoking in all areas except in areas designated for smoking.

8.6.3 **Review of Contract Documents and the Site.** DB acknowledges that it has had an opportunity to visually examine, and prior to the submission of its DB's Proposal will have carefully examined, all of the Contract Documents including, but not limited to, the Drawings and the Specifications, and has fully acquainted itself with the scope of Work, design, availability of materials, existing facilities, the general topography, soil structure, substructure conditions, obstructions, and all other conditions pertaining to the Work, the site of the Work and its surrounding, as made possible during limited site visit Once entire site is made



available, DB will acknowledge that it has made all visual investigations essential to a full understanding of the difficulties which may be encountered in performing the Work and that anything in any of the Contract Documents or in any representations, statements or information made or furnished by TFC or its representatives notwithstanding, DB will, regardless of any such known conditions pertaining to the Work, the site of the Work, or its surroundings, complete the Work for the compensation stated in this Agreement.

8.6.4 **Hazardous Materials.** In the event DB discovers the presence of other Hazardous Materials during the Construction Phase of the Project, DB shall promptly, but in no event later than seven (7) Days after each such discovery, provide written notice thereof to TFC and A/E. DB shall not disturb said conditions. Any remediation of such Hazardous Materials shall be considered outside the scope of Work unless specifically included in the Design- Build Proposal.

8.7 **Completion of the Work and Inspections.** DB will fully comply with inspections and timely submittal of Punchlists as required for pre- and post- inspections for Substantial and Final Completion.

8.7.1 **Completion Deadlines.** DB shall achieve Substantial Completion and Final Completion within the time periods specified in the Design-Build Proposal. In the event the Project is to be constructed in phases (or with interim construction milestones), each phase (or with interim construction milestones) must be constructed within the period of time specified by TFC.

8.7.2 **As-Builts/Record Documents.** No later than ten (10) Days prior to the date of the Substantial Completion inspection, DB must deliver to TFC, DB's marked-up Record Documents, and a preliminary copy of each instructional manual, maintenance and operating manual, parts catalog, wiring diagrams, spare parts, specified written warranties, and like publications or parts for all installed equipment, systems, and like items as described in the Contract Documents for the Work that is the subject of the Substantial Completion Inspection.

8.7.3 **Certifications are Conditions Precedent.** Issuance of a Certificate of Substantial Completion is a condition precedent to DB's right to issue notice that the Work will be ready for Final Inspection. Issuance of a Certificate of Final Completion is a condition precedent to DB's right to receive Final Payment.

8.7.4 **Site Conditions.** Prior to Substantial Completion of the Work, DB shall clean the Site and the Work and make it ready for utilization by TFC. At Substantial Completion of the Work, DB shall store and secure all tools, appliances, construction equipment and machinery, and surplus materials necessary to allow for beneficial occupancy by the Using Agency and shall restore all property not designated for alteration by the Contract Documents to original condition. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable supplier, except as otherwise may be provided in this Agreement.

8.7.5 **Fees.** In the event any fees, and/or other direct and/or liquidated damages are charged to, or incurred by, TFC by reason of DB's failure to timely correct and/or complete the items within reasonable time, DB shall be liable to TFC for such fees and/or damages. At Final Completion, DB shall remove all tools, appliances, construction equipment and machinery, and surplus materials from the Site.

8.8 **Warranties.** DB will fully comply with the Warranty provisions set forth in UGC Article 13. However, the creation of DB's general one (1) year warranty set forth in UGC Section 13.2 shall not be

construed to constitute a waiver of DB's obligation to correct, or otherwise be responsible for, any latent defects beyond the above-mentioned one (1) year corrective period. Any provision in the UGC to the contrary notwithstanding, no warranty periods shall commence unless and until a Certificate of Substantial Completion has been issued for the corresponding Work or portion thereof. All warranties and guarantees required by the Specifications shall expressly run to the benefit of TFC.

8.9 **Safety.** DB shall carefully adhere to the requirements of the Contract Documents for safety and quality control, including UGC Article 7 Safety and Article 8 regarding Quality Control. Further, DB shall provide recommendations and information to TFC and A/E regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. The DB shall verify that appropriate safety considerations and provisions are included in the Construction Documents and that the Work envisioned does not include any unnecessary safety risks.

8.9.1 **Electrical Energy Control, Lockout/Tag-out Procedure.** DB and Subcontractors shall inform the TFC Project Manager of their Hazardous Electrical Energy Control, Lockout/Tag-out Procedure. DB's procedure must meet or exceed TFC's procedure as determined by the TFC Project Manager. Work or services shall not be done on energized electrical circuits, components or equipment. When de-energizing is impractical due to possible harm to personnel, equipment or facility damage, negative onsite or offsite environmental impact, or business interruption, DB must follow OSHA requirements as detailed in OSHA Regulations 29 CFR §§ 1910.331 — 1910.399.

8.9.2 **Safety Stand-Down Orders.** TFC may at any time, in its sole discretion and in writing with reasonable notice, order a temporary stand-down of DB's performance of the services ("Safety Stand- Down Order") as a result of any one (1) or more safety incidents, whereupon DB shall immediately direct all DB Personnel to stop all services while DB conducts a comprehensive review of DB's safety management plan and any Site conditions affecting safety at any Project Site for the purpose of: (i) identifying any safety hazards and unsafe working conditions; (ii) conducting safety training of the DB personnel involved in performance of the services who were or may have been exposed to harm in connection with such safety incident(s); and (iii) taking any corrective action that DB determines to be necessary and appropriate to fulfill its obligations in accordance with this Agreement. Upon receipt of TFC's Safety Stand-Down Order, DB shall not resume performance of the services until it has issued to TFC a written report, which shall be due within forty-eight (48) hours of the receipt of TFC's Safety Stand-Down Order, detailing the course of action that DB has taken, or plans to take, to resolve the safety incident(s) described therein, and to prevent the recurrence thereof. After reviewing such course of action with TFC, DB shall, in the exercise of the DB's reasonable judgment, propose the date by which DB will complete all corrective action. Services shall resume only upon TFC's delivery of further written notice to DB withdrawing the TFC's Safety Stand-Down Order, which notice of withdrawal shall not be issued until TFC is reasonably satisfied that DB has sufficiently implemented all appropriate corrective action as necessary to enable DB to safely resume services, fulfill its contractual obligations set forth in this Agreement, and thereby avoid recurrence of the safety incident(s). DB shall not be entitled to an adjustment of the DB's Compensation, or Work Progress Schedule, as the result of TFC's issuance of a Safety Stand-Down Order. If DB fails to implement the corrective action in the manner proposed by DB and determined by TFC to be reasonably acceptable, such failure shall be deemed a material breach of this Agreement and TFC may, without further notice, terminate this Agreement for cause. In responding to any Safety Stand-Down Order, DB's evaluation of the need for, and its plan of, corrective action shall be undertaken as an independent contractor, pursuant to Section 12.3 of this Agreement and nothing herein shall be construed or interpreted to mean that TFC has assumed or agreed to assume any duty of care to the DB Personnel, or to provide guidance or instruction as to the

DB's means and methods for managing safety as required by this Agreement. Any action taken by TFC hereunder to enforce TFC's rights to require DB to fulfill its safety obligations under this Agreement shall be deemed to be undertaken solely for the purpose of fulfilling TFC's contractual expectation of results in terms of delivery of the Projects without causing injury or harm to persons or property.

8.9.3 **OSHA.** A/E, its Consultants of every tier, and all of their employees shall comply with all OSHA rules and regulations provided by the Department of Labor, OSHA, Code of Federal Regulations Chapter 29. Employees of A/E and its Consultants of every tier, and all of their employees and subcontractors shall be trained in accordance with OSHA Chapter 29. A/E and subcontractors and its Consultants shall inform the TFC Project Manager of their Hazardous Electrical Energy Control, Lockout/Tag-out Procedures. A/E's procedure must meet or exceed TFC's procedure as determined by the TFC Project Manager. Details provided by A/E or its Consultants regarding de-energization of equipment must comply with OSHA Regulations 1910.331 — 1910.399.

8.10 **Historically Underutilized Businesses.** DB will proactively comply with TFC's established policies regarding the utilization of HUBs and all other applicable administrative rules and statutes relating to utilization of HUB's by TFC for the Project, including, without limitation, (i) as described in the HUB Subcontracting Plan Form, a copy of which is attached hereto as "Exhibit G-1" and incorporated herein for all purposes, and (ii) the HUB Compliance Reporting System as described in UGC Article 4. When required, including, without limitation, (a) as part of the DB's Proposal, (b) prior to issuance of a Notice to Proceed for any Work; and (c) prior to issuance of a Notice to Proceed for Construction Services, DB shall submit an updated HSP for TFC's approval. Upon TFC approval of HSP update(s), such update(s) shall become, without further notice or action, a part of the incorporated "Exhibit G." DB shall provide the HUB program of TFC with pertinent details of any participation by a HUB in fulfilling the duties and obligations arising hereunder on the PARs form, a copy of which is attached hereto as "Exhibit G-2" and incorporated herein for all purposes. No changes to the HSP can be made by the DB without the written approval of TFC. HUB requirements are a goal of the project and good faith efforts are required to meet this goal. If the goal cannot be met, provide reasonable evidence showing why the HUB requirements cannot be met.

8.10.1 Requirement to Utilize HUB Compliance Reporting System. Pursuant to *Tex. Admin. Code Title 34 §§ 20.285(f) and 20.287(b)*, TFC administers monthly HSP to include the PARs compliance monitoring through a HUB Compliance Reporting System known as B2G. DB and DB's Subcontractors must submit required PARs information into the B2G system as a condition of payment. When delays occur in the timely submission of PARs information into the B2G system, TFC reserves the right to treat such delays as a deficiency resulting in suspension of DB's payment request until such deficiency has been resolved.

8.11 **Copyrights/Trademarks/Instruments of Service.** Drawings, Specifications and other documents prepared by A/E, its consultants, other consultants retained by TFC for the Project, or by DB, that describe the Work to be executed by the DB are instruments of service and shall remain the property of their authors (or TFC as may be provided in the respective contractual agreements between TFC and the respective design professional). These documents are for use on the Project only and the DB and its Subcontractors shall not use the documents on any other projects. The DB shall be permitted to retain one record set of such documents. All other copies of the documents shall be returned to their respective authors or suitably accounted for. The DB and its Subcontractors are authorized to reproduce and use portions of the documents as necessary and appropriate for the execution of the Work. Submission or distribution of the documents to meet official regulatory requirements or for other purposes in connection with the Project shall not diminish the author's rights.

8.11.1 DB agrees that all instruments of service prepared by DB pursuant to this Agreement are subject

to the rights of TFC in effect on the date of execution of this Agreement. These rights include the right to use, duplicate and disclose such subject matter and data, in whole or in part, in any manner for alterations, additions, remodels or maintenance; and to have others do so including production of the instruments of service in response to a public information request pursuant to *Tex. Gov't. Code Ch. 552*. If the instruments of service produced by DB are subject to copyright protection, DB hereby grants to TFC a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such and to authorize others to do so. TFC shall be further authorized to make subsequent use of any instruments of service for any and all future renovations, modifications, alterations, maintenance, repairs, and the like, of the Project. DB shall include appropriate provisions to achieve these purposes in all Subcontracts entered into that produce information subject to copyright protection.

8.11.2 DB shall promptly provide copies of all instruments of service in DB's possession to TFC upon completion, termination, or cancellation of this Agreement for any reason, including all copies in any form or medium specified by TFC in this Agreement, whether written, digital, or electronic.

8.11.3 **No Use of TFC's Name or Trademark.** DB agrees not to make any written use of or reference to TFC or the Using Agency names or registered or unregistered trademarks for any marketing, public relations, advertising, display or other business purpose or make any use of TFC's or Using Agency's facilities for any activity related to the express business purposes and interests of TFC/Using Agency pursuant to this Agreement, without the prior written consent of TFC/Using Agency which consent may be withheld or granted in TFC and/or Using Agency's sole discretion. DB shall not advertise that it is doing business with TFC or use this Agreement as any sort of marketing or sales tool without the prior written consent of TFC.

8.12 **Work Made for Hire.** All Work performed by DB and its Subcontractors and consultants shall constitute the exclusive property of TFC. All right, title and interest in and to said Work shall automatically and without further notice or action vest in TFC upon creation and shall be deemed to be a work for hire and made in the course of the services rendered pursuant to this Agreement. To the extent that title to any such Work may not, by operation of law, vest in TFC, or such Work may not be considered a work made for hire, all rights, title and interest therein are hereby irrevocably and unconditionally assigned to TFC. TFC shall also have the right to obtain and to hold in its name any and all patents, copyrights, registrations or such other protection as may be appropriate to the subject matter, and any extensions and renewals thereof. DB must give TFC and/or the State of Texas, as well as any person designated by TFC and/or the State of Texas, all assistance reasonably necessary to effectuate the intent of this section and to perfect the rights and interests defined herein without any charge or expense to TFC beyond those amounts payable to DB for the services rendered under this Agreement.

## ARTICLE 9. PAYMENT

9.1 **Construction Phase Payments.** Payments for Construction Services shall be made in conformance with UGC Article 10, subject to the conditions and terms of this Agreement.

9.1.1 **Schedule of Values.** All payment requests shall be submitted on an Application for Payment which shall be based on the Schedule of Values approved by TFC pursuant to UGC Section 10.1 and shall include all required attachments. DB shall also submit a submittal schedule with the Schedule of Values that provides progress updates for Pay Items. as shown on the approved construction schedule.

9.1.2 **Initial Pay Application.** The submission of the initial pay application must be preceded by the submission and approval of the Schedule of Values, as defined by UGC Section 1.34, at least twenty-one (21) Days prior thereto, as provided in UGC Section 10.1.1.

**9.1.3 Progress Payments.** Payments to DB will be based on Applications for Payment submitted to the PMF and TFC Project Manager in conformance with the requirements below and in UGC Section 10.2.

9.1.3.1 Payments for Subcontractor work shall not exceed the percentage of Work allocated to that Subcontractor for any particular work classification and shall not exceed the total value of the subcontract amount.

9.1.3.2 Intentionally Deleted.

9.1.3.3 Intentionally Deleted.

9.1.3.4 Intentionally Deleted.

9.1.3.5 Change Orders shall be listed separately on the Application for Payment form. Payment for approved Change Orders shall be made as part of the DB's Application for Payment.

9.1.3.6 Payments not in dispute shall not be unreasonably withheld.

**9.1.4 Additional Pay Application Requirements.** Pay application must also include the following additional documentation.

9.1.4.1 An updated Work Progress Schedule, as defined in UGC Section 1.49, including the executive summary and all required schedule reports, as provided in UGC Sections 8.3.1.3 and 10.2.1.2.

9.1.4.2 Intentionally Deleted.

9.1.4.3 A PAR monthly compliance report, as provided in UGC Sections 4.2.5.1 and 10.2.1.3.

9.1.4.4 All test results and reports from all Subcontractors and/or otherwise under DB's possession or subject to DB's control.

9.1.4.5 A duly executed Conditional Waiver and Release on Progress Payment from each Subcontractor that complies with *Tex. Prop. Code § 53.284(b)*. Proof of satisfaction of DB's obligation to timely upload the DB's Daily Log to the EPMCS.

9.1.4.6 Any other information or documentation as may be requested by TFC.

**9.1.5 Pay Application Certifications.**

9.1.5.1 Each submission of a pay application shall also constitute DB's certification that: (i) as of the date of the Application for Payment, DB is in compliance with UGC Section 2.2.1; (ii) DB has updated all expired insurance policies as required by UGC Section 5.2; (iii) DB has updated the Record Documents, as required by UGC Section 6.2.3; (iv) DB has updated the Submittal Register, as defined in UGC Section 1.43, and pursuant to UGC Section 8.3.1.2; and (v) the sums contained in the pay application that represent amounts owed to Subcontractors and/or suppliers are, in fact, due and owing to said Subcontractors and/or suppliers, without any deductions or offsets.

9.1.5.2 DB's submitted Applications for Payments (including DB's Final Application for Payment) shall be certified by the A/E and PMF as described below. To the extent of a conflict between the terms and conditions of this Section 9.1.5.2 and the terms and conditions of the UGC related to Applications for Payment (and certification thereof), this Section shall control.

9.1.5.2.1 The A/E shall, as appropriate to the type and stage of construction progress and as otherwise required by this Agreement, but not less than monthly, conduct on-site observations of the Work to review the progress and quality of the Work, to determine in general if the Work is proceeding in accordance with the Contract Documents, and or to guard TFC against defects and deficiencies in the Work. On the basis of such onsite observations, the A/E will certify all formal Applications for Payment. Certifications shall constitute a representation by the A/E to TFC, based on the A/E's observations at the site and on the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the A/E's knowledge, information and belief, the quantity and quality of the work is in accordance with the Contract Documents. However, the certification of the Application for Payment by A/E shall not be a representation that the A/E has made exhaustive inspections of the Work or has attempted to ascertain how and for what purpose the DB has used the funds previously paid on account of the Contract Sum.

9.1.5.2.2 PMF will work collaboratively with the A/E and the TFC Project Manager to certify and issue certificates for payment (each a "Certificate for Payment"). After the A/E has reviewed the Application for Payment, the TFC Project Manager and PMF will review it. The PMF will issue a Certificate for Payment if it finds that all requirements have been met. The PMF's issuance of a Certificate for Payment shall constitute a representation by the PMF, based on its observations at the site, that the Work has progressed to the point indicated and that the payment requested reasonably corresponds to the quantity of the Work performed as observed by the PMF. The issuance of a Certificate for Payment by the PMF will not be a representation that the PMF has made any examination to ascertain how or for what purpose the DB has used money previously paid on account of the Contract Sum.

9.1.5.2.3 The certifications by A/E in and issuance by the PMF of a Certificate for Payment shall constitute a recommendation to TFC in respect to the amount to be paid. This recommendation is not binding on TFC if, in TFC's opinion, legitimate reasons for nonpayment exist including, but not limited to the reasons set out in Section 9.6, below. If TFC declines to make payment upon a Certificate for Payment, TFC shall promptly notify the DB of the reasons therefor.

9.1.6 Intentionally Omitted.

9.1.7 Intentionally Omitted.

9.2 **Prompt Payment.** DB shall be paid in accordance with *Tex. Gov't. Code Ch. 2251*, also known as the "Prompt Payment Act" and the provisions set out in UGC Article 10, subject to any Special Conditions.

9.3 **Payments to Subcontractors.** For all services rendered, DB's payment to Subcontractors is due within ten (10) Days after receipt of payment from TFC and shall be in accordance with the Prompt Payment Act.

#### 9.4 **Intentionally Deleted.**

9.5 **Liquidated Damages.** The DB acknowledges and agrees that time is of the essence in completing the Work required hereunder, that the DB's failure to meet the deadlines set forth in this Agreement shall be a material breach of the Agreement, and that TFC will incur substantial damages due to any failure by the DB to achieve Substantial Completion on or before the required date(s). If the DB fails to achieve Substantial Completion of the Work by the date(s) set forth in Section 8.7, as such date(s) may be modified in accordance with the terms of the Contract Documents, the DB shall pay TFC reasonable liquidated damages, and not as a penalty, in the amount as specified in the DB Proposal per calendar day until Substantial Completion of the Work is achieved. If the DB fails to achieve Substantial Completion of certain construction milestones(s) by the date(s) set forth in Section 8.7, as such date(s) may be modified in accordance with the terms of the Agreement, the DB shall pay TFC reasonable liquidated damages, and not as a penalty or forfeiture, in the amount as specified in the DB Proposal per calendar day until Substantial Completion of such construction milestone is achieved. There shall be a seven (7) calendar day grace period after written notice applied to the dates for Substantial Completion of the Work and each construction milestone before such liquidated damages are assessed.

9.5.1 TFC may deduct any liquidated damages from any amounts due the DB under this Agreement, and/or TFC may require the DB to pay any liquidated damages, within ten (10) Days after TFC's request should the available contract funds be insufficient to cover the liquidated damages assessed against the DB. If liquidated damages are actually recovered by TFC, the above-stated liquidated damages provided for herein shall be TFC's exclusive damages remedy for the DB's unexcused failure to achieve Substantial Completion of the Work or Substantial Completion of any construction milestone, but such damages shall in no way limit TFC's other rights (e.g., termination) under the Agreement or TFC's entitlement to damages for any other injury, damage or loss, other than for delay to achieving Substantial Completion of the Work or Substantial Completion of certain construction milestone (s), for which the DB may be responsible pursuant to the terms of this Agreement or Applicable Law.

9.5.2 In determining the amount(s) of liquidated damages set forth in the DB Proposal, TFC will carefully considered the following categories of damages and has thoughtfully determined such amount(s) accordingly: increased financing charges, cost of relocation of personnel to alternative space, costs for managing an extended schedule, costs for the A/E's extended involvement, costs of storage of TFC-provided fixtures and equipment, lease extension costs, and other numerous damages. Further, the DB acknowledges and agrees that as of the date this Agreement and the DB Proposal are executed (i) the amount of damages TFC will incur due to the DB's failure to achieve Substantial Completion of the Work or Substantial Completion of certain construction milestone(s) as required by this Agreement are impossible or difficult to estimate, (ii) the liquidated damages set forth in the DB Proposal will be a reasonable pre-estimate of damages that TFC will incur as a result of a delay in achieving Substantial Completion of the Work or Substantial Completion of certain construction milestone(s) as required by this Agreement, (iii) that the liquidated damages contemplated at the time of this Agreement are uncertain and difficult to determine with exactness, (iv) that the liquidated damages contemplated at the time of the DB Proposal will be uncertain and difficult to determine with exactness, and (v) that the liquidated damages set forth in the DB Proposal will not be out of all proportion to the probable loss.

9.5.3 This Section 9.5 survives the termination of the Agreement. In the event this liquidated damage provision is held to be unenforceable or void (except when the holding is the result of a challenge by TFC), TFC shall be allowed to recover actual damages caused by the DB's failure to achieve the applicable Contract Time requirements.

9.6 **Reductions/Withholdings.** TFC may reduce any Application for Payment after reasonable

advance written notice to DB to protect TFC from loss or damage on account of actions and/or inactions of DB as set forth in this Article 9, in UGC Section 10.3.3, or based on any of the following additional circumstances:

9.6.1 To protect TFC against any loss or damage which actually results from negligence by DB or any Subcontractor or failure of DB or any Subcontractor to perform their obligations under this Agreement;

9.6.2 The payment request includes services that are not performed in accordance with the Contract Documents; provided, however, TFC shall pay for those services performed in accordance with the Contract Documents;

9.6.3 The payment request has insufficient documentation to support the amount of payment requested for Project costs; provided, however, TFC shall pay for allowable Project costs for which there is sufficient documentation;

9.6.4 DB is in violation of the Prevailing Wage requirements or has failed to make payments promptly to Subcontractors or other third parties used in connection with any services or materials for which TFC has made payment to DB; or

9.6.5 DB fails to obtain, maintain or renew insurance coverage as required by this Agreement.

9.7 **Partial Payment.** No partial payment made by the TFC shall constitute, or be construed to constitute, final acceptance or approval of the work to which the partial payment relates or of the documentation provided in support of the partial payment. No partial payment made by the TFC shall constitute, or be construed to constitute, a release of DB from any of its obligations or liabilities with respect to the Work.

9.8 **Close-Out and A/E Record Drawings.** No later than thirty (30) Days after issuance of a Certificate of Final Completion and prior to DB's delivery of the application for Final Payment, A/E shall:

9.8.1 Obtain, review and inspect all Close-Out Documents, guarantees, bonds and all other fiscal surety instruments, and all other documentation required of the DB by the Contract Documents to ensure full and complete compliance. Within five (5) Days of such confirmation, A/E shall transmit the above-described documentation to the TFC Project Manager and TFC.

9.8.2 Furnish the Record Documents to the TFC Project Manager and TFC.

9.8.3 Furnish one (1) digital copy of all Construction Documents to the TFC Project Manager and TFC. Each disk shall be appropriately labeled to include identification of the software program (and version thereof) utilized. Drawings shall be in CAD format and shall be organized within the layering system.

9.8.3.1 All electronic data shall include an organized indexing system and/or a table of contents sufficiently detailed as to each discrete subject matter so as to allow for easy identification and location of each file or page of information.

9.8.3.2 It is expressly acknowledged and agreed that the original disks remain the property of the A/E. If differences between the TFC versions and the A/E versions should subsequently be discovered, the A/E versions shall be deemed originals, absent any fraud, malfeasance, or mutual mistake.

9.9 **Final Payment.** Final Payment shall not be made until (i) all Work is completed and all requirements



of the Contract Documents have been satisfied; (ii) all inspections required have been performed and accepted; (iii) the PMF has inspected and accepted the Work in accordance with the PMF Agreement; (iv) all documentation required by Article 12 or as otherwise required by this Agreement has been provided; and (v) the TFC Project Manager issues its final Certificate for Payment in accordance with Section 9.1.5.2, above.

9.9.1 TFC shall have no obligation to make Final Payment until a complete pay application has been submitted by DB and has been verified by TFC. Nothing contained herein shall require the TFC to pay the DB an aggregate amount for Construction Services that exceed the Stipulated Sum.

9.10 **Construction Funds.** All payments to DB shall be subject to the provisions of the *Tex. Prop. Code Ch. 162*, concerning Construction Payments, Loan Receipts, and Misapplication of Trust Funds.

9.11 **Taxes.** TFC is an agency of the State of Texas and materials and services utilized in the construction of the Project may be exempted from state and local taxes. DB is responsible for taking full advantage of all tax exemptions applicable to the Project. TFC will deduct from the Applications for Payment and from the Request for Final Payment any taxes paid for materials or services that were entitled to tax exemption.

9.12 **Debts or Delinquencies Owed to the State.** Any payment due under this Agreement may be withheld and applied toward payment of any debt that is owed to the State of Texas including, but not limited to, delinquent taxes and child support pursuant to *Tex. Gov't. Code § 403.055*.

9.13 **State Funding.** This Agreement shall not be construed as creating any debt on behalf of the State of Texas and/or TFC in violation of the *Texas Constitution, Art. III, § 49*. In compliance with the *Texas Constitution, Art. VIII, § 6*, it is understood that all obligations of TFC hereunder are subject to the availability of state funds. If such funds are not appropriated or become unavailable, this Agreement may be terminated. In that event, the parties shall be discharged from further obligations, subject to the equitable settlement of their respective interests accrued up to the date of termination. Furthermore, any damages due under this Agreement should not exceed the amount of funds appropriated for payment under this Agreement, but not yet paid to DB, for the fiscal year budget in existence at the time of the breach.

## **ARTICLE 10. RECORDS, AUDIT, PROPRIETARY INFORMATION AND PUBLIC DISCLOSURE**

10.1 **Books and Records.** DB shall keep and maintain under Generally Accepted Accounting Principles full, true and complete records, as are necessary to fully disclose to TFC or the United States Government, or their authorized representatives, upon audits or reviews, sufficient information to determine compliance with the terms and conditions of this Agreement and all Applicable Laws. Such records shall include, but are not limited to, detailed documentation of costs and expenditures for materials, labor, or for any other expenditures. DB shall notify TFC within five (5) Days of identification of any item or portion of the Project that DB contends is not within the scope of the Project, or if DB contends that an adjustment to the Stipulated Sum or the Contract Time should be made due to a deviation from the established performance criteria.

10.2 **Audit Rights.** TFC shall have the right to verify and audit, with advance written notice of seven (7) calendar days, by (i) inspecting the books and records of DB relevant to this agreement, during normal business hours; (ii) examining any reports with respect to this Project; (iii) interviewing DB's employees; (iv) visiting the Project site; and (5) any other reasonable action. DB's records shall be organized and maintained in its files by each Application for Payment period and shall be kept on the basis of Generally Accepted Accounting Principles and in conformance with the Texas State Auditor's Office requirements. This provision shall survive any termination of this Agreement.

10.3 **Records Retention.** All records relevant to this Agreement shall be retained for a minimum of seven (7) years. This retention period runs from the date of Final Payment for the relevant goods or services by TFC, or from the date of termination of this Agreement, whichever is later. Retention time shall be extended when an audit is scheduled or in progress for a period reasonably necessary to complete an audit and/or to complete any administrative proceeding or litigation which may ensue.

10.4 **Confidentiality Provisions Applicable to DB.** The following confidentiality provision shall apply to DB.

10.4.1 Protection of Confidential Information. DB hereby acknowledges, understands and agrees: (i) that in the course of conducting its due diligence regarding the provision of services to TFC, certain Confidential Information (as defined below) will be disclosed to DB; and (ii) that whether developed by TFC or others employed by or associated with TFC, all Confidential Information is, and shall remain, the exclusive and confidential property of TFC, and shall be at all times regarded, treated and protected as such by DB in accordance with this Agreement. Failure to mark any information “Confidential” shall not affect the confidential nature of such information.

10.4.2 Definition of Confidential Information. “Confidential Information” shall mean all information, whether or not originated by TFC, which is used in, or a part of, TFC’s business and operations and is: (i) proprietary to, about, or created by TFC; (ii) gives TFC some competitive advantage or the opportunity of obtaining such advantage or the disclosure of which could be detrimental to the interests of TFC; (iii) designated as Confidential Information by TFC, or from all the relevant circumstances should reasonably be assumed by DB to be confidential and proprietary to TFC; or (iv) not generally known by DB. Confidential Information shall not include information that: is or becomes available to the public generally, other than as a result of disclosure by DB in breach of the terms of this Agreement; (ii) becomes available to DB from a source (other than TFC) which source is not, to the best of DB’s knowledge, subject to any legally binding obligation to keep the same confidential; or (iii) has been independently acquired or developed by DB. Such Confidential Information includes, but is not limited to, the following types of information and other information of a similar nature (whether or not reduced to writing or designated as Confidential):

10.4.2.1 Architectural and engineering drawings and specifications in any format including, but not limited to, CAD files, building information management and modeling (BIM) systems and technological system plans (e.g., information technology systems, security systems, fire controls and building automated systems).

10.4.2.2 Work product resulting from, or related to, work, projects, or services performed or to be performed by TFC for DB and/or for actual and potential Using Agencies that are related to the business and/or operations of TFC, including but not limited to, methods, processes, procedures, analysis, techniques, and audits used in connection therewith.

10.4.2.3 Computer software of any type or form in any stage of actual or anticipated research and development, including, but not limited to, programs and program modules, routines and subroutines, processes, algorithms, design concepts, design specifications (design notes, annotations, documentation, flowcharts, coding sheets, and the like), source code, object code and load modules, programming, program patches, and system designs.

10.4.2.4 Information relating to TFC’s proprietary rights prior to any public disclosure thereof, including but not limited to, the nature of the proprietary rights, production data, technical and engineering data, test data and test results, the status and details of research and development of products and services, and information regarding acquiring, protecting, enforcing and licensing proprietary rights (including patents, copyrights, and trade secrets).

10.4.2.5 Internal personnel and financial information, vendor names and other vendor information (including vendor characteristics, services, and agreements), customer lists and contacts, business plan(s), purchasing and internal cost information, internal services and operational manuals, pricing, marketing, and all other manner and methods of conducting TFC's business.

10.4.2.6 Marketing and development plans, price and cost data, price and fee amounts, pricing and billing policies, quoting procedures, marketing techniques and methods of obtaining business, forecasts and forecast assumptions and volumes, and future plans and potential strategies of TFC which have been or are being discussed.

10.4.2.7 Any information obtained from TFC regarding its pursuit or negotiation of agreements with any potential "Contracting Person" regarding a potential "Qualifying Project" as those terms are defined in the Tex. Gov't. Code § 2267.001, as the same may be amended from time to time, including, but not necessarily limited to: (i) the names of the Contracting Person, including their representatives (collectively referred to as "Business Customers"); (ii) the parties to and substance of any agreements between TFC and said Business Customers; (iii) services and data provided, or to be provided, by or to said Business Customers; and (iv) the type, quantity and specifications of products and services purchased, leased, licensed or received, or to be purchased, leased, licensed or received, by Business Customers.

10.4.2.8 In accordance with 13 TAC § 6.94(a)(9), DB shall provide to TFC the descriptions of its business continuity and disaster recovery plan as it regards TFC's vital state records as defined in Tex. Gov't. Code § 441.180(13).

10.4.3 Covenants. As a consequence of DB's acquisition or anticipated acquisition of Confidential Information, DB will occupy a position of trust and confidence to TFC with respect to TFC's affairs and business. In view of the foregoing and of the mutual consideration to be provided to each party, DB agrees that it is reasonable and necessary that it make the following covenants.

10.4.3.1 Both during and forever after the performance of its due diligence investigation, DB will not disclose Confidential Information to any Person or entity other than as necessary in carrying out its duties on behalf of TFC and/or due diligence investigation, without first obtaining TFC's prior, written consent, and DB will take all reasonable precautions to prevent inadvertent disclosure of such Confidential Information. This prohibition against DB's disclosure of Confidential Information includes, but is not limited to, disclosing the fact that any similarity exists between the Confidential Information and information independently developed by another Person or entity, and DB understands that such similarity does not excuse DB from abiding by its covenant or other obligations pursuant to this Agreement.

10.4.3.2 Both during and after the conduct of its due diligence investigation, DB will not use, copy, or transfer Confidential Information other than as necessary in carrying out its duties on behalf of TFC and/or due diligence investigation, without first obtaining prior written consent of TFC, and will take all reasonable precautions to prevent inadvertent use, copying, or transfer of such Confidential Information. This prohibition against DB's use, copying, or transfer of Confidential Information includes, but is not limited to, selling, licensing, or otherwise exploiting, directly or indirectly, any products or services, including software in any form, that embody or are derived from Confidential Information.

10.4.3.3 DB agrees not to utilize, either directly or indirectly, any Confidential Information in order to facilitate or create direct business relationships with Business Customers of TFC.

10.5 **Confidentiality Provisions Applicable to TFC.** Subject to the provisions of Section 10.6 below, TFC shall keep confidential all information, in whatever form, produced, prepared, or observed by DB to the extent that such information is confidential by law.

10.6 **Public Records.** Notwithstanding any provisions of this Agreement to the contrary, DB understands that TFC will comply with the Texas Public Information Act, *Tex. Gov't. Code Ch. 552*. If contacted by TFC, DB will cooperate with TFC in the production of documents responsive to the request. DB agrees to provide the documents responsive to the request in the format and within the time frame specified by TFC. DB may request that TFC seek an opinion from the Office of the Attorney General of Texas. However, the final decision whether to seek a ruling from the Office of the Attorney General of Texas will be made by TFC in its sole discretion to comply with the legal requirements of the Texas Public Information Act. Additionally, DB will notify TFC's general counsel within twenty-four (24) hours of receipt of any third-party requests for information written, produced, collected, assembled, or maintained in connection with this Agreement and/or any amendment to this Agreement. This Agreement and/or any amendment to this Agreement and all data and other information generated or otherwise obtained in its performance is subject to the Texas Public Information Act. DB agrees to maintain the confidentiality of information received from the State of Texas during the performance of this Agreement, including information which discloses confidential personal information particularly, but not limited to, social security numbers. Furthermore, DB is required to make any information created or exchanged with the State pursuant to this Agreement, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public as specified by TFC at no additional charge to the State.

10.7 **Technology Access Clause.** DB expressly acknowledges that state funds may not be expended in connection with the purchase of an automated information system unless that system meets certain statutory requirements relating to accessibility by persons with visual impairment.

10.8 **Cybersecurity Training Required.** If DB has "access," as that term is defined in 7 *Tex. Admin. Code § 202.1*, to any state computer system or database, then, pursuant to *Tex. Gov't Code § 2054.5192*, DB and its subcontractors, officers, and employees shall complete a cybersecurity training program certified under *Tex. Gov't Code § 2054.519*. The cybersecurity training program must be completed by the DB and its subcontractors, officers and employees during the term and any renewal period of this Agreement. DB shall verify completion of the training program to TFC pursuant to, and in accordance with, *Tex. Gov't Code § 2054.5192*.

## **ARTICLE 11. BONDS AND INSURANCE**

11.1 **In General.** In addition to the Bond and Insurance requirements set forth in UGC Article 5, DB shall comply with the requirements set forth in this Article 11.

### **Bonds**

11.2.1 **Performance and Payment Bonds.** DB shall provide Performance and Payment Bonds in accordance with the UGC, each with penal sums of one hundred percent (100%) of the value of the Stipulated Sum, in accordance with the requirements of *Tex. Gov't. Code § 2269.311* and *§ 2253.001 et seq.*, and in such form attached hereto as "**Exhibit J-1**," and "**Exhibit J-2**", respectively. The Payment and Performance Bonds will be provided as dictated by the UGC and Texas law. No Notice to Proceed shall be issued until the bonds are received and approved by TFC. At all times, DB's Performance and Payment Bonds will cover the Stipulated Sum as set forth in the Design-Build Proposal. To the extent a Notice-to-Proceed is issued under Section 4.5, and DB has not provided a performance and payment bond under *Tex. Gov't. Code § 2269.311(b)*, Payment and Performance bonds with penal sums equal to the authorized dollar amount shall be provided. Without limiting any other requirements or obligations of the surety, the Performance Bond shall

cover DB's warranty obligations for a period not to exceed one (1) year from the date of the TFC's issuance of the Certificate of Substantial Completion and shall include coverage for any liquidated damages for which DB may be liable under this Agreement.

11.2.2 In addition to the above requirements, all bonds shall be issued with the TFC as the named obligee and shall be executed by a corporate surety company authorized to do business in the State of Texas and which shall hold a certificate of authority from the United States Department of Treasury to qualify as a surety on obligations permitted or required under federal law. All bonds shall have a Power of Attorney attached. Performance and Payment bonds shall be provided before any Construction Services are provided.

11.3 **Insurance.** DB shall maintain in effect, and shall require its Subcontractors to maintain in effect, at all times during the full Term of this Agreement, including Preconstruction Services, insurance policies providing the coverages specified in UGC Section 5.2 and as supplemented in "**Exhibit H**". Each policy shall be written with limits equal to those set forth in UGC Section 5.2 or "**Exhibit H**", whichever is higher. DB will comply and will require its Subcontractors comply fully with all requirements of UGC Section 5.2 and "**Exhibit H**", however DB shall have the sole responsibility for the determination of coverage types and limits required based on industry standards and subcontractors scope of work. Notwithstanding anything set forth herein to the contrary, DB is not required to maintain in effect insurance policies applicable to the Work as defined in this Agreement and in "**Exhibit D**" after completion of the Work as defined in this Agreement. Additional DB Stipulated Sum proposals for additional alignments of border infrastructure will require submission of insurance policies with coverages as set out above.

## **ARTICLE 12. INDEMNITY**

**12.1 DB SHALL INDEMNIFY AND HOLD HARMLESS TFC, USING AGENCY, THE STATE OF TEXAS AND THEIR OFFICERS, AGENTS, EMPLOYEES, REPRESENTATIVES, ASSIGNEES AND DESIGNEES ("INDEMNITEES"), AS PROVIDED IN UGC ARTICLE 3 AND AS SET FORTH IN ANY SPECIAL CONDITIONS OR SUPPLEMENTAL GENERAL CONDITIONS.**

**12.2 WITHOUT LIMITING THE INDEMNITY REQUIRED ABOVE, THE DB SHALL INDEMNIFY AND HOLD HARMLESS TFC, USING AGENCY, THE STATE OF TEXAS AND THEIR OFFICERS, AGENTS, EMPLOYEES, AND REPRESENTATIVES FROM LIABILITY OF ANY NATURE OR KIND, INCLUDING COST AND EXPENSE, FOR OR ON ACCOUNT OF INFRINGEMENT OR USE OF ANY PATENTED OR OTHERWISE PROTECTED INVENTION, PROCESS, DOCUMENT, OR ARTICLE IN THE PERFORMANCE OF THIS AGREEMENT, INCLUDING ITS USE BY TFC.**

12.3 **Survival.** The indemnities contained herein shall survive any termination, completion, and/or expiration of this Agreement and shall not be limited in any way by the amount of type of insurance obtained by TFC or any agency of the State of Texas.

## **ARTICLE 13. DISPUTE RESOLUTION**

13.1 **Dispute Resolution.** In addition to the requirements in UGC Article 15, the below dispute resolution process and requirements shall be used by TFC and the DB in an attempt to resolve any unresolved claim for breach of contract arising under this Agreement and made by the DB:

13.1.1 **Texas Government Code Chapter 2260.** Except to the extent *Tex. Civ. Prac. & Rem. Code Ch. 114* applies to any such unresolved claim, in accordance with *Tex. Gov't Code § 2260.004*, the

dispute resolution process provided for in *Tex. Gov't. Code Ch. 2260* shall be used by the parties to resolve a dispute under this Agreement. TFC hereby designates general counsel as its officer for examining, negotiating and resolving claims and counterclaims in accordance with *Tex. Gov't. Code Ch. 2260.052(a)*.

13.1.1.1 **Mediation.** The Parties hereby agree to mediate any claim or dispute arising under this Agreement in accordance with *Tex. Gov't. Code § 2260.056*. TFC's administrative rules located at *1 Tex. Admin. Code, Part 5, § 111.31* apply to this Agreement and govern the mediation of any dispute arising from this Agreement.

13.1.2 **Texas Civil Practice & Remedies Code Chapter 114.** In accordance with *Tex. Gov't. Code § 2260.002(3)* and/or in the event *Tex. Civ. Prac. & Rem. Code Ch. 114* applies to any such unresolved claim, the parties shall follow the below dispute resolution process (referenced as the "Alternative Dispute Resolution Process" in UGC Section 15.2):

13.1.2.1 **Claims for Breach of Contract and Counterclaims.** DB may make a claim against TFC for breach of contract between TFC and DB. TFC may assert a counterclaim against DB.

13.1.2.1.1 DB must provide written notice to TFC of a claim for breach of contract not later than one hundred eighty (180) Days after the date of the event giving rise to the claim. The notice must state with particularity: (i) the nature of the alleged breach; (ii) the amount DB seeks as damages; and (iii) the legal theory of recovery.

13.1.2.1.2 TFC must assert, in a writing delivered to DB, any counterclaim not later than the sixtieth (60th) Day after the date of notice of claim under Section 13.1.2.1.1 above.

13.1.2.2 **Negotiation.** Counsel for TFC shall examine the claim and any counterclaim and negotiate with DB in an effort to resolve them. The negotiation must begin no later than one hundred twenty (120) Days after the date the claim is received. TFC's administrative rules located at *Texas Admin. Code Title 1, Part 5, § 111.31* apply to this Agreement and govern the negotiation of any dispute arising from this Agreement. In the event negotiation results in the resolution of some disputed issues by agreement or in a settlement, the parties shall reduce the settlement to writing, and each party shall sign the settlement. A partial settlement or resolution of a claim does not waive a party's rights as to the parts of the claim that are not resolved.

13.1.2.3 **Mediation.** Before the one hundred twentieth (120th) Day after the date the claim is filed with TFC and before the expiration of any extension of time mutually agreed upon, the parties may agree to mediate a claim made under this Agreement. TFC's administrative rules located at *Texas Admin. Code Title 1, Part 5, § 111.31* apply to this Agreement and govern the mediation of any dispute arising from this Agreement.

13.1.2.4 **Adjudication.** On or after the two hundred seventieth (270th) Day following the date the claim is filed with TFC, unless the parties agree in writing to an extension of time, DB may adjudicate any claim in accordance with and to the extent permitted under the *Tex. Civ. Prac. & Rem. Code Ch. 114* or *Tex. Gov't. Code Ch. 2260*.

13.1.2.5 **Other Provisions.** In addition to the requirements of Sections 13.1.2.1 to 13.1.2.4 above, all other provisions and requirements of *Tex. Civ. Prac. & Rem. Code Ch. 114* shall apply to such unresolved claims. To the extent the terms and conditions of *Tex. Civ. Prac. & Rem. Code Ch. 114* conflicts with the terms or conditions contained in Section 13.1.2, the terms

and conditions of *Tex. Civ. Prac. & Rem. Code Ch. 114* shall control and apply.

**13.1.3 Delay Damages.** An extension of the Contract Time shall be the remedy of DB for delays in performance of the Work, whether or not such delays are foreseeable, except for delays to the extent caused by acts or omissions of TFC that constitute intentional interference with DB's performance of the Work to the extent DB notifies TFC in writing of such interference. For delays caused by the intentional interference of TFC, DB shall be entitled to an equitable adjustment to the Contract Sum and Contract Time. TFC's good faith exercise of its remedy under the Contract to order correction of the Work shall not be construed as intentional interference with DB's performance of the Work.

13.1.3.1 The amount of any claim for damages asserted by DB for a delay caused by TFC's sole intentional interference shall be submitted to TFC for review. If delay is found to have merit, TFC will issue an equitable adjustment based on all costs incurred, not to exceed the sum calculated as follows: costs incurred during the period of delay plus original bid margin and related escalations to home office overhead and home office charges. All recoverable Costs must be shown to have been caused by TFC.

13.1.3.2 The following are exceptions to this Section subject to DB submitting claims to TFC and TFC's review and consideration of same in the manner stated by the Agreement. DB shall be entitled to an equitable adjustment of the Contract Time, issued via change order, for delays including but not limited to: (a) Failure of Owner to have secured property, right-of-way or easements necessary for Work to begin or progress; (b) Changes in the Work that affect activities identified in DB's schedule as "critical" to completion of the entire Work, if such changes are ordered by ODR; (c) Suspension of Work for unexpected natural events, Force Majeure (sometimes called "acts of God"), civil unrest, strikes or other events which are not within the reasonable control of DB; (d) Suspension of Work for convenience of ODR, which prevents DB from completing the Work within the Contract Time; or (e) Administrative delays caused by activities or approval requirements related to an authority having jurisdiction, including railroads.

13.1.3.3 Contractor's relief in the event of the delays in Section 13.1.3.2 is the time impact to the critical path as determined by analysis of Contractor's schedule. If DB incurs additional direct costs because of the excusable delays described in Subparagraphs 13.1.3.2(a) through 13.1.3.2(e), inclusive, the Contract Sum and Contract Time are to be equitably adjusted by TFC pursuant to the provisions of 13.1.3.1 above. For the avoidance of doubt, direct costs include, but are not limited to, DB on site staff and craft (inclusive of buildup rate components), on site DB owned and/or rented equipment, land leases, site utilities, office and yard rental (Inclusive of all monthly services), escalations resulting from delays, and Subcontractor direct cost.

## **ARTICLE 14. TERMINATION AND SUSPENSION**

14.1 **Termination for Cause during Preconstruction Phase.** This Agreement may be terminated during the Preconstruction Phase by either party upon fifteen (15) Days written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination, and such failure to perform is not cured within such fifteen (15) Day period.

14.2 **Termination Subsequent to Establishment of DB Proposal.** Following execution of the Design-Build Proposal, this Agreement may be terminated: (i) as provided in UGC Sections 14.3 to 14.6; and/or when an existing material breach by DB of any other contract between DB and TFC has remained unresolved for at least fifteen (15) Days. If this Agreement is terminated by TFC in accordance with UGC Section 14.3, TFC shall have the right, but not the obligation, to take possession of the Site and of all materials,

equipment, tools, construction equipment, and machinery thereon owned by DB under any of the following circumstances, each one of which shall be considered a material breach of this Agreement.

14.2.1 In the event TFC terminates this Agreement for cause pursuant to UGC Section 14.3, TFC reserves the either re-solicit or re-award this Agreement to the next best responsive and responsible respondent. The terminated DB will not be considered in the re-solicitation and may not be considered in future solicitations for the same type of work.

### 14.3 **Suspension of Work.**

14.3.1 **For Cause, TFC's Convenience, or Force Majeure Event.** If TFC determines that a Force Majeure event has occurred, TFC may suspend all or a portion of the Work upon written notice to DB. DB shall be entitled to payment for Work properly executed in accordance with the Contract Documents prior to the effective date of suspension, including (a) the percentage of the Stipulated Sum based on the percentage of Work performed prior to TFC's suspension and (b) the direct, actual and unavoidable (by exercise of reasonable care) costs incurred by reason of the demobilization including fencing and other jobsite utilities/security measures for Project during the suspension period (unless covered directly by TFC) and storage of materials, and, when the suspension is lifted, direct remobilization costs, and (c) margin, overhead, and any related escalations. No extended General Conditions Costs or other indirect or consequential costs or damages will be paid unless specifically agreed in advance by TFC.

## ARTICLE 15. SPECIAL PROVISIONS

15.1 **Compliance with Laws.** DB has determined what licenses, patents and permits are required under this Agreement and shall procure and maintain for the duration of this Agreement any state, county, city, or federal license, authorization, insurance, waiver, permit, qualification or certification required by statute, ordinance, law, or regulation to be held by DB to provide the goods or services required by this Agreement. DB will be responsible to pay all taxes, assessments, fees, premiums, permits as set forth in Subsection 4.2.2.3, and licenses required by law. DB agrees to be responsible for payment of any such government obligations not paid by its Subcontractors during performance of this Agreement. As part of its delivery of the Construction Services, DB shall make itself familiar with and at all times give all notices required by, and shall observe and comply with, all Applicable Laws that in any manner affect performance under this Agreement.

15.1.1 Neither DB, nor any firm, corporation, partnership, or institution represented by DB, or anyone acting for them has: (i) violated the antitrust laws of the State of Texas under the *Tex. Bus. & Com. Code Ch. 75* or the federal antitrust laws; or (ii) communicated directly or indirectly its response to the RFP for this Project to any competitor or any other person engaged in such line of business during the procurement process for this Agreement.

15.1.2 TFC reserves the right, in its sole discretion, to unilaterally amend this Agreement throughout its term to incorporate any modifications necessary to address TFC's or DB's required compliance with all Applicable Laws.

15.2 **Responses to RFO.** All statements, representations and certifications contained in, or otherwise set out in, DB's response(s) to the RFQ for this Project were true and correct when made and shall remain true and correct throughout the Term of this Agreement.

15.3 **Certification of No Asbestos Containing Materials or Work.** DB shall comply with the requirements of the UGC (see Article 13) concerning Asbestos Certification. DB shall provide a certification statement, included with each materials submittal, stating that no asbestos containing materials or work is included within the scope of the proposed submittal. All materials used shall be certified as non-Asbestos



Containing Building Materials (ACBM).

15.3.1 The DB shall insure compliance with the following acts from all of its Subcontractors and assigns:

15.3.1.1 Asbestos Hazard Emergency Response Act (*AHERA—#0 CFR 763-99(7)*);

15.3.1.2 National Emission Standards for Hazardous Air Pollutants (*NESHAP—APA 40 CFR 61, National Emission Standard for Asbestos*); and

15.3.1.3 Texas Asbestos Health Protection Rules (*TAHRP—Sex. Admin. Code Title 25, Part 1, Ch. 295C, Asbestos Health Protection*).

15.3.2 **Licensing.** DB shall insure that Texas Department of State Health Services licensed individuals, consultants or companies are used for any required asbestos work including asbestos inspection, asbestos abatement plans/specifications, asbestos abatement, asbestos project management and third-party asbestos monitoring.

15.3.3 **Affidavit Required.** DB shall provide at Substantial Completion, a notarized certification statement in accordance with *Tex. Admin. Code, Rule § 295.34(c) (1)* certifying that no ACBM was used during construction of the Project. Prior to submitting this affidavit, every Subcontractor and supplier shall have provided a notarized statement to DB that no ACBM has been provided, used, or left on this Project (which shall be provided to TFC upon request). DB shall take whatever measures that may be necessary to ensure that all employees, suppliers, fabricators, material men, subcontractors, or their assigns comply with this requirement.

15.3.4 Provision of SDS. DB shall provide, in hard copy and electronic form, all necessary Safety Data Sheets (“SDS”) of all products used in the construction of the Project to the Texas Department of State Health Services licensed inspector or to the A/E who will compile the information from the SDS and, finding no asbestos in any of the products, make a certification statement.

15.4 **General and Criminal Background Checks.**

15.4.1 DB represents and warrants that DB and DB’s employees have not been convicted of a felony criminal offense, or of a crime involving moral turpitude, or that, if such a conviction has occurred, DB has fully advised TFC as to the facts and circumstances surrounding the conviction.

15.4.2 All of DB’s employees and Subcontractors that will perform any work on-site at a State-owned property shall be subject to a criminal background check. Any expense associated with such criminal background check shall be borne by DB.

15.4.3 All criminal background check forms for all of DB’s employees and Subcontractors that will initially commence any work on-site must be fully completed and submitted to TFC within fifteen (15) Days of the date of the appropriate notice of award, and the process thereafter must be diligently pursued by DB. All criminal background checks must be completed before any employee or Subcontractor performs any services at the Site.

15.4.4 All criminal background checks must be accomplished by the Texas Department of Public Safety (hereinafter referred to as “DPS”), which includes fingerprint processing by an independent third-party company selected by DPS. Upon receipt of the fingerprints of DB’s employees and/or Subcontractors, DPS, or TFC, will adjudicate the results of the criminal background searches in accordance with the criteria set forth in the Texas Facilities Commission Criminal Background Checks

and Guidelines, the link for which is provided in the attached “**Exhibit F**” and incorporated herein for all purposes. DB’s or any Subcontractor’s failure to timely secure criminal background check clearance shall not be considered a legitimate delay in the Work Progress Schedule.

15.5 **Drug-Free Work Place.** DB, DB’s employees, and Subcontractors shall comply with the applicable provisions of the Drug-Free Work Place Act of 1988 (*Public Law No. 100-690, Title V, Subtitle D; 41 U.S.C. 701 et seq.*) and maintain a drug-free work environment; and the final rule, government-wide requirements for drug-free work place (grants), issued by the Office of Management and Budget and the Department of Defense (*32 CFR Part 280, Subpart F*) to implement the provisions of the Drug-Free Work Place Act of 1988 is incorporated by reference and DB, DB’s employees, and Subcontractors shall comply with the relevant provisions thereof, including any amendments to the final rule that may hereafter be issued.

15.6 **E-Verify.** By entering into this Agreement, DB certifies and ensures that it utilizes and will continue to utilize, for the Term of this Agreement, the U.S. Department of Homeland Security’s E-Verify system, in accordance with the U.S. Department of Homeland Security’s rules, to determine the eligibility of: (i) all persons employed to perform duties within the State of Texas, during the Term of this Agreement; and (ii) all persons (including subcontractors) assigned by the DB to perform work pursuant to this Agreement, within the United States of America. DB shall provide, upon request of TFC and if available, an electronic or hardcopy screenshot of the confirmation or tentative non-confirmation screen containing the E-Verify case verification number for attachment to the Form I-9 for the three (3) most recent hires that match the criteria above, by the DB, and DB’s subcontractors, as proof that this provision is being followed. If this certification is falsely made, this Agreement may be immediately terminated, at the discretion of TFC, and at no fault to TFC, with no prior notification. DB shall also be responsible for the costs of any re-solicitation that TFC must undertake to replace the terminated Agreement. For persons not eligible for E-Verify screening, DB (including Subcontractors and sub-subcontractors of any tier) shall provide, upon request by TFC, another form of documentation of proof of eligibility to work in the United States of America.

15.7 **Equal Opportunity.** DB shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, or national origin. DB shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, national origin, age, disability, political affiliation, or religious belief. Such action shall include, but not be limited to, the following: (i) employment, upgrading, demotion, or transfer; (ii) recruitment or recruitment advertising; (iii) layoff or termination; (iv) rates of pay or other forms of compensation; and (v) selection for training, including apprenticeship. DB shall post in conspicuous places, available to employees or applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination subsection. DB shall include the above provisions in all Subcontracts pertaining to the services to be provided under this Agreement.

15.8 **Nondiscrimination.** In their execution of this Agreement the parties and others acting by or through them shall comply with all federal and state laws prohibiting discrimination, harassment, and sexual misconduct. To the extent not in conflict with federal or state law, the parties agree not to discriminate on the basis of race, color, national origin, age, sex, religion, disability, veterans’ status, sexual orientation, gender identity or gender expression. Any breach of this covenant may result in termination of this Agreement.

15.9 **Immigration Reform.** The Immigration Reform and Control Act of 1986 (Pub. L. 99-603, 100 Stat. 3445 (1986)), as amended, the Immigration Act of 1990 (Pub. L. 101—649, 104 Stat. 4978 (1990)), and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, (Pub. L. 104—208 110 Stat. 3009- 546 (1996)), require that all employees hired since 1986 provide proof of identity and employment eligibility before they can work in the United States. TFC is committed to complying with all applicable immigration laws of the United States and requires compliance by all contractors and Subcontractors who

contract with the State. DB shall not place any employee of DB at a worksite, nor shall DB permit any employee, nor any Subcontractor, to perform any work on behalf of, or for the benefit of, TFC without first confirming said employee's authorization to lawfully work in the United States. DB warrants that DB: (i) maintains and follows an established policy to verify the employment authorization if its employees and to ensure continued compliance for the duration of employment; (ii) has verified the identity and employment eligibility of all employees in compliance with applicable law; (iii) has established internal safeguards and reporting policies to encourage its employees to report any suspected violations of immigration policies or of immigration law promptly to DB's senior management; and (iv) is without knowledge of any fact that would render any employee or Subcontractor ineligible to legally work in the United States. DB further acknowledges, agrees, and warrants that DB: (i) has complied, and shall at all times during the Term of this Agreement comply, in all respects with the Immigration Reform and Control Act of 1986 and 1990, the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, and all of the laws, rules, and regulations relating thereto; (ii) has properly maintained, and shall at all times during the Term of this Agreement properly maintain, all records required by the Department of Homeland Security, Immigration and Customs Enforcement, including, without limitation, the completion and maintenance of the Form I-9 for each of DB's employees; and (iii) has responded, and shall at all times during the Term of this Agreement respond, in a timely fashion to any inspection requests related to such I-9 Forms. During the Term of this Agreement, DB shall, and shall cause its directors, officers, managers, agents and employees to, fully cooperate in all respects with any audit, inquiry, inspection or investigation that may be conducted by TFC or any state agency of DB or any of its employees. DB acknowledges, agrees and warrants that all Subcontractors permitted by it to perform work will be required to agree to these same terms as a condition to being awarded a Subcontract for such work.

15.10 **Human Trafficking Prohibition.** Pursuant to *Tex. Gov't. Code § 2155.0061*, DB certifies that it is not ineligible to receive this Agreement and acknowledges that this Agreement may be terminated and payment withheld if DB's certification in this matter is inaccurate. TFC may not award a contract, including a contract for which purchasing authority is delegated to a state agency, that includes proposed financial participation by a person who, during the five-year (5) period preceding the date of the award, has been convicted of any offense related to the direct support or promotion of human trafficking.

15.11 **Family Code Certification.** By signing this Agreement DB is certifying, pursuant to *Texas Fam. Code § 231.006*, that it is not ineligible to receive the award of or payments under this Agreement by reason of its Family Support requirements and acknowledges that this Agreement may be terminated and/or payments may be withheld if this certification is inaccurate.

15.12 **Franchise Tax Certification.** By signature hereon, DB hereby certifies that it is not currently delinquent in the payment of any Franchise Taxes due under *Tex. Tax Code Ch. 171*, or that it is exempt from the payment of such taxes, or that it is an out-of-state corporation or limited liability company that is not subject to the Texas Franchise Tax, whichever is applicable.

15.13 **Entities that Boycott Israel.** Pursuant to *Tex. Gov't. Code § 2271.002*, DB certifies that either (i) it meets an exemption criteria under *Tex. Gov't. Code § 2271.002*, or (ii) it does not boycott Israel and will not boycott Israel during the Term of this Agreement. DB shall state any facts that make it exempt from the boycott.

15.14 **Prohibition Against Contracting with Companies Engaged in Business with Iran, Sudan, or Foreign Terrorist Organizations.** In accordance with *Tex. Gov't. Code § 2252.152* and *§2270.002*, TFC is prohibited from entering into a governmental contract (as defined in *Tex. Gov't. Code § 2252.151(3)*) with a company that is identified on a list prepared and maintained under *Tex. Gov't. Code § 806.051, 807.051, or 2252.153*. If DB is on the above-referenced list this Agreement will be considered void or voidable and TFC will not be responsible to pay DB for any work performed.

15.15 **Domestic Iron and Steel Certification.** Pursuant to *Tex. Gov't. Code § 2252 201-2252.205*, DB shall require that any iron or steel product produced through a manufacturing process and used in the Project is produced in the United States. DB will require that the bid documents provided to all bidders and each applicable subcontract include this same requirement.

15.16 **Buy Texas.** If DB is authorized to make purchases under this Agreement, DB certifies that DB will buy Texas products, services, and materials when available at a comparable price and in a comparable period of time pursuant to *Tex. Gov't. Code Ch. 2155*.

15.17 **Use of State Property.** DB is prohibited from using State Property for any purpose other than performing services authorized under this Agreement. State Property includes, but is not limited to: TFC's office space, identification badges, TFC information technology equipment and networks (e.g., laptops, portable printers, cell phones, iPads, external hard drives, data storage devices, any TFC issued software, and the TFC Virtual Private Network (VPN client)), and any other resources of TFC. DB shall not remove State Property from the continental United States. In addition, DB may not use any computing device to access TFC's network or e-mail while outside of the continental United States. DB shall not perform any maintenance services on State Property unless this Agreement expressly authorizes such services. During the time that State Property is in the possession of DB, DB shall be responsible for (i) all repair and replacement charges incurred by TFC that are associated with loss of State Property or damage beyond normal wear and tear; and (ii) all charges attributable to DB's use of State Property that exceeds the scope of this Agreement. DB shall fully reimburse such charges to TFC within ten (10) Days of DB's receipt of TFC's notice of amount due. Use of State Property for a purpose not authorized by agreement shall constitute breach of contract and may result in termination of the agreement and the pursuit of other remedies available to TFC under contract, at law or in equity.

15.18 **Eligibility Certifications.**

15.18.1 **No Financial Participation in preparing specifications or RFP.** By signing this Agreement DB certifies that, pursuant to *Tex. Gov't. ode § 2155.004*, the individual or business entity named in this Agreement is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

15.18.2 **Disaster Relief Contract Violation.** Under *Tex. Gov't. Code § 2155.006 and § 2261.053*, DB certifies that the individual or business entity named in the response or this Agreement is not ineligible to receive this Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

15.18.3 **Excluded Parties.** DB certifies that it is not listed on the federal government's terrorism watch list as described in Executive Order 13224.

15.18.4 **Suspension and Debarment.** DB certifies that it and its principals are not suspended or debarred from doing business with the state or federal government as listed on the State of Texas Debarred Vendor List maintained by the Texas Comptroller of Public Accounts and the System for Award Management (SAM) maintained by the General Services Administration.

15.18.5 **No Conflicts.** DB represents and warrants that DB has no actual or potential conflicts of interest in providing services to the State of Texas under this Agreement and that DB's provision of services under this Agreement would not reasonably create an appearance of impropriety.

15.19 **Family Code Disclosure of Ownership.** Pursuant to the requirements of the *Tex. Fam. Code § 231.006*, regarding delinquent child support, the individual or business entity named in this Agreement is not ineligible to receive payment under this Agreement and, if applicable, DB has provided, prior to its

execution of this Agreement, the name and social security number of each such person (sole proprietors, firm owners, partners, or shareholders) holding at least twenty-five percent (25%) ownership of the business entity entering into this Agreement. DB acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

15.20 **Deceptive Trade Practices Act: Unfair Business Practices Disclosures.** DB represents and warrants that it has not been found liable of Deceptive Trade Practices Act violations under *Tex. Bus. & Com. Code Ch. 17* or of any unfair business practice in any administrative hearing or court suit. DB further certifies that it has no officers who have served as officers of other entities who have been found liable of Deceptive Trade Practices violations or of any unfair business practices in an administrative hearing or court suit. In the event that allegations of Deceptive Trade Practices violations under *Tex. Bus. & Com. Code Ch. 17* or of any unfair business practices against either DB or any of DB's officers have occurred or are currently pending in an administrative proceeding or in a lawsuit filed with any court, then DB has disclosed all such matters to TFC and provided a brief description of each allegation, information regarding the administrative body or court before which the matter is pending, and the current status of the matter.

15.21 **Antitrust and Assignment of Claims.** DB represents and warrants that neither DB nor any firm, corporation, partnership, or institution represented by DB, or anyone acting for such firm, corporation or institution has (i) violated the antitrust laws of the State of Texas under *Tex. Bus. & Com. Code Ch. 15*, or the federal antitrust laws; or (ii) communicated directly or indirectly the proposal to any competitor or any other person engaged in such line of business during the procurement process for this Agreement. DB assigns to the State of Texas all of DB's rights, title, and interest in and to all claims and causes of action DB may have under the antitrust laws of Texas or the United States for overcharges associated with this Agreement.

15.22 **Disclosure of Former State Executives.** Pursuant to the *Tex. Gov't. Code § 669.003* relating to contracting with an executive of a state agency, no person who, in the past four (4) years served as an executive of TFC or any other state agency was involved with or has any interest in this Agreement or any contract resulting from this Agreement. If DB employs or has used the services of a former executive head of TFC or any other state agency, then DB has provided the name of the former executive, the name of the state agency, the date of separation from the state agency, the position held with DB, and the date of employment with DB.

15.23 **Certification Concerning Restricted Employment for Former State Officers or Employees Under Tex. Gov't. Code § 572.069.** DB certifies that it has not employed and will not employ a former TFC or state officer who participated in a procurement or Agreement negotiation for TFC involving DB within two (2) years after the state officer or employee left state agency employment or service. This certification only applies to former state officers or employees whose service or employment ceased on or after September 1, 2015.

15.24 **Financial Interests/Gifts.** Pursuant to *Tex. Gov't. Code § 572.051 and § 2255.001* and *Tex. Penal Code § 36.09*, DB has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Agreement. In addition, pursuant to *Tex. Gov't Code Ch. 573 and § 2254.032*, if applicable, DB certifies that DB knows of no officer or employee of TFC, nor any relative within the second degree of consanguinity or affinity of an officer or employee of TFC, that has a financial interest in DB's company or corporation. DB further certifies that no partner, corporation, or unincorporated association which employs, retains or contracts with, or which may employ, retain, or contract with any of the above, has a financial interest in any entity with which DB will be dealing on behalf of TFC.

15.25 **Prior Employment.** DB knows of no officer or employee of TFC, nor any relative within the second degree of consanguinity or affinity of an officer or employee of TFC, that has a financial interest in DB's firm or corporation. DB further certifies that no partner, corporation, or unincorporated association that

employs, retains or contracts with, or which may employ, retain, or contract with any of the above, has a financial interest in any entity with which DB will be dealing on behalf of TFC pursuant to the *Tex. Gov't. Code Ch. 573 and § 2254.032*. Furthermore, DB certifies and agrees that if it employs any former employee of TFC, such employee will perform no work in connection with this Agreement during the twelve (12) month period immediately following the employee's last date of employment at TFC.

15.26 **Disclosure of Interested Parties.** DB certifies that, if the value of this Agreement or the anticipated value of the DB Proposal exceeds \$1 Million or more or is awarded a contract that would require the DB to register as a lobbyist under *Texas Government Code Chapter 305*, it has complied with *Tex. Gov't. Code § 2252.908 and Part 1 Tex. Admin. Code § 46.1 to 46.3* as implemented by the Texas Ethics Commission ("TEC"), if applicable, and has provided the TFC with a fully executed TEC Form 1295, certified by the TEC and signed and notarized by the DB.

15.27 **Nondiscrimination Against Energy Companies.** Pursuant to *Tex. Gov't. Code § 2274.002*, DB certifies that either (i) it has received written notification from the Owner that *Tex. Gov't. Code § 2274.002* does not apply to the Owner, or (ii), it does not boycott companies that engage in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and do not commit or pledge to meet environmental standards beyond applicable federal and state law ("Energy Companies") and will not boycott Energy Companies during the Term of this Agreement. DB shall state any facts that make it exempt from verification.

15.28 **Nondiscrimination Against Firearm Entities.** Pursuant to *Tex. Gov't. Code § 2274.002*, DB certifies that either (i) it meets an exemption criteria under *Tex. Gov't. Code § 2274.002*, or (ii), it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association (as defined under *Tex. Gov't Code § 2274.001*) and will not discriminate during the Term of this Agreement against a firearm entity or firearm trade association. DB shall state any facts that make it exempt from verification.

15.29. **Covid-19 Vaccine Passport Prohibition.** Under Section 161.0085 of the Texas Health and Safety Code, DB certifies that it does not require its customers to provide any documentation certifying the customer's COVID-19 vaccination or post-transmission recovery on entry to, to gain access to, or to receive service from the DB's business. DB acknowledges that such a vaccine or recovery requirement would make DB ineligible for a state-funded contract.

## ARTICLE 16. MISCELLANEOUS PROVISIONS

16.1 **Time Is of the Essence.** Time is of the essence with respect to this Agreement; provided however, in the event that any of the deadlines set forth herein end on a Saturday, Sunday, or legal state or federal holiday, such deadline shall automatically be extended to the next day which is not a Saturday, Sunday, or legal state or federal holiday.

16.1.1 **Notices.** All notices, demands, and requests required under this Agreement shall be in writing and shall be deemed to have been properly delivered and received: (i) three (3) business days after deposit in a regularly maintained receptacle for the United States mail, certified mail, return receipt requested and postage prepaid; or (ii) one (1) business day after deposit with Federal Express or comparable overnight delivery service for overnight delivery with all costs prepaid. All notices, demands and requests hereunder shall be addressed as follows:

If to TFC:

Stephen M. Foster, General Counsel  
Texas Facilities Commission  
1711 San Jacinto Boulevard, Suite 400

Austin, Texas 78701  
Telephone: (512) 475-2400  
Email: [Stephen.Foster@tfc.texas.gov](mailto:Stephen.Foster@tfc.texas.gov)

With copies to:

John S. Raff, Deputy Executive Director  
Texas Facilities Commission  
1711 San Jacinto Boulevard, Suite 200  
Austin, Texas 78701  
Telephone: (512) 463-3567  
Email: [John.Raff@tfc.texas.gov](mailto:John.Raff@tfc.texas.gov)

If to DB:

Christopher Lankford, Division President  
SLSCO Ltd., Federal Services Division  
6702 Broadway  
Galveston, TX 77550  
Email: [clankford@slco.com](mailto:clankford@slco.com)  
Telephone: (713) 204-2070

Bridget Frabotta, Sr. Contracts Administrator  
SLSCO Ltd., Federal Services Division  
6702 Broadway  
Galveston, TX 77550  
Email: [bfrabotta@slsco.com](mailto:bfrabotta@slsco.com)  
Telephone: (409)795-7273

Any party may make reasonable changes in the person or place designated for receipt of notices upon five (5) business days advance written notice to the other party.

16.2 **Name and Organizational Changes.** DB must provide TFC with written notification of all name changes and organizational changes relating to the DB including, but not limited to, merger, acquisition, or sale, no later than ten (10) Days of such change. DB, in its notice, shall describe the circumstances of the name change or organizational change, state its new name, provide the new Tax Identification Number, and describe how the change will impact its ability to perform under this Agreement. If the change entails personnel changes for personnel performing the responsibility of this Agreement for DB, DB shall identify the new personnel and provide resumes to TFC, if resumes were originally required by the solicitation. TFC may request other information about the change and its impact on this Agreement and DB shall supply the requested information within seven (7) Days of receipt of the request. All written notifications of organizational change must include a detailed statement specifying the change and supporting documentation evidencing continued right of DB or successor entity, as applicable, to maintain its status as a party to this Agreement. TFC may terminate this Agreement due to any change to DB that materially alters DB's ability to perform under this Agreement.

16.3 **No Assignment or Delegation by DB.** DB shall neither assign, transfer, nor delegate any rights, obligations, or duties under this Agreement without the prior written consent of TFC. Notwithstanding the foregoing, it is mutually understood and agreed that DB may subcontract with third parties for some or all of the Construction Services to be performed. In any approved Subcontracts, DB shall legally bind such Subcontractor to perform and make such Subcontractor subject to all the duties, requirements, and obligations of DB specified herein. Nothing herein shall be construed to relieve DB of the responsibility for

ensuring that the goods delivered and/or the services rendered by DB and/or any of its Subcontractors comply with all the terms and provisions of this Agreement. DB will provide written notification to TFC of any such Subcontractor performing work under this Agreement, including the name and taxpayer identification number of Subcontractor, the task(s) being performed, and the number of Subcontractor employees expected to work on the task.

16.4 **Relationship of the Parties.** DB is associated with TFC only for the purposes and to the extent specified in this Agreement, and with respect to performance of the contracted services pursuant to this Agreement, DB is and shall be an independent contractor. Nothing contained in this Agreement shall be deemed or construed to create a partnership or joint venture, to create relationships of an employer-employee or principal-agent, or to otherwise create any liability for TFC whatsoever with respect to the indebtedness, liabilities, and obligations of DB or any other party. DB shall be solely responsible for, and TFC shall have no obligation with respect to the following: (i) withholding of income taxes, FICA, or any other taxes or fees; (ii) industrial or workers' compensation insurance coverage; (iii) participation in any group insurance plans available to employees of the State of Texas; (iv) participation or contributions by the State to the State Employees Retirement System; (v) accumulation of vacation leave or sick leave; and (vi) unemployment compensation coverage provided by the State.

16.5 **Entire Agreement: Modifications.** This Agreement supersedes all prior agreements, written or oral, between DB and TFC and shall constitute the entire Agreement and understanding between the parties with respect to the Project. This Agreement and each of its provisions shall be binding upon the parties and may not be waived, modified, amended or altered except by a writing signed by DB and TFC.

16.6 **Governing Law and Venue.** This Agreement and the rights and obligations of the parties hereto shall be governed by, and construed according to, the laws of the State of Texas, exclusive of conflicts of law provisions. Venue of any suit brought pursuant to this Agreement shall be in a court of competent jurisdiction in Travis County, Texas. DB hereby irrevocably waives any objection, including any objection to personal jurisdiction or the laying of venue or based on the grounds of *forum non conveniens*, which it may now or hereafter have to the bringing of, or responding to, any action or proceeding in such jurisdiction with respect to this Agreement or any document related hereto.

16.7 **Waivers.** No delay or omission by either party in exercising any right or power arising from non-compliance or failure of performance by the other party with any of the provisions of this Agreement shall impair or constitute a waiver of any such right or power. The failure of a party to insist at any time upon the strict performance of any covenant or agreement or to exercise any option, right, power, or remedy contained in this Agreement shall not be construed as a waiver or a relinquishment thereof for the future. Notwithstanding any provision of this Agreement, nothing herein constitutes a waiver of the constitutional, statutory or common law rights, privileges, defenses or immunities of the parties.

16.8 **No Waiver of Sovereign Immunity.** Nothing in this Agreement shall be construed as a waiver of sovereign immunity; nor constitute or be construed as a waiver of any of the privileges, rights, defenses, remedies, or immunities available to the State of Texas, TFC, or the Using Agency. The failure to enforce, or any delay in the enforcement, of any privileges, rights, defenses, remedies, or immunities available to the State of Texas under this Agreement or under applicable law shall not constitute a waiver of such privileges, rights, defenses, remedies, or immunities or be considered as a basis for estoppel.

16.9 **No Third-Party Beneficiaries.** This Agreement is made solely and specifically among and for the benefit of the parties named herein and the Using Agency, and their respective successors and assigns, and no other Person shall have any right, interest, or claims hereunder or be entitled to any benefits pursuant to or on account of this Agreement as a third-party beneficiary or otherwise, except as otherwise provided herein for the benefit of TFC only.

16.10 **No Presumptions for Ambiguities.** Each party hereby represents and warrants that although the



initial draft of this Agreement may have been prepared by one party, both parties have been given the opportunity to review this Agreement with counsel of their choice, and have made additions, revisions, and amendments hereto. Therefore, each party hereby covenants and agrees that they are co-drafters of this Agreement such that any ambiguities cannot be construed against any party.

16.11 **Binding Effect**. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

16.12 **Unenforceable or Invalid Term / Severability**. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

16.13 **Multiple Counterparts**. This Agreement may be executed in any number of counterparts, each of which shall be an original, and each such counterpart shall together constitute but one and the same agreement.

16.14 **Captions**. The captions of paragraphs in this Agreement are for convenience only and shall not be considered or referred to in resolving questions of interpretation or construction.

16.15 **Survival**. Termination of the Agreement for any reason shall not release DB from any liability or obligation set forth in the Agreement that is expressly stated to survive any such termination or by its nature would be intended to be applicable following any such termination, including the provisions regarding confidentiality, indemnification, transition, records, audit, property rights, dispute resolution and invoice and verification.

16.16 **Further Assurances**. DB shall take such actions and execute such other and additional documents as are reasonably necessary or desirable in order to carry out the purposes and intent of this Agreement.

16.17 **False Statements: Breach of Representations**. By signature to this DB, DB makes all the representations, warranties, guarantees, certifications and affirmations included in this Agreement. If DB signs this Agreement with a false statement or it is subsequently determined that DB has violated any of the representations, warranties, guarantees, certifications or affirmations included in this Agreement, DB shall be in default under this Agreement, and TFC may terminate or void this Agreement for cause and pursue other remedies available to TFC under this Agreement and applicable law.

16.18 **Authority to Execute the Agreement**. The parties hereto represent and warrant that the Person executing this Agreement on behalf of each party has full power and authority to enter into this Agreement. DB acknowledges that this Agreement is effective for the period of time specified in this Agreement. Any services performed by DB before this Agreement is effective or after it ceases to be effective are performed at the sole risk of DB.

16.19 **Licensure of Architects**. The Texas Board of Architectural Examiners, 333 Guadalupe, Suite 2-350, Austin, Texas 78701, Phone (512) 305-9000, has jurisdiction over individuals licensed under the Regulation of the Practice of Architecture Law, *Tex. Occ. Code § 1051*.

16.20 **Licensure of Engineers**. The Texas Board of Registration for Professional Engineers, 1917 IH35 South, Austin, Texas 78741, Phone (512) 440-7723, has jurisdiction over individuals licensed under the Texas Engineering Registration Law, *Tex. Occ. Code § 1001*.

IN WITNESS WHEREOF, the Parties have executed and bound themselves to this Agreement effective as of the date the last party signs this Agreement (the "Effective Date").

**DESIGN-BUILDER:**

**SLSCO**

DocuSigned by:  
*Christopher Lankford*  
By: \_\_\_\_\_  
42CAB53C60FE418...  
Christopher Lankford  
President, SLSCO Federal Services Division

Date signed: 09/04/2023 | 5:24 PM EDT

**OWNER:**

**THE TEXAS FACILITIES COMMISSION**

DocuSigned by:  
*Mike Novak*  
By: \_\_\_\_\_  
07CFE7E055204CB...  
Mike Novak  
Executive Director

Date signed: 09/04/2023 | 4:29 PM CDT

Approved:

DocuSigned by:  
*Stephen M. Foster*  
By: \_\_\_\_\_  
BDEC1C9725194A6...  
Stephen M. Foster/ctg  
General Counsel

DocuSigned by:  
*STEVEN E. HALPIN*  
By: \_\_\_\_\_  
66C9764A893E4EA...  
Steven E. Halpin  
Deputy General Counsel

DocuSigned by:  
*JOHN RAFF*  
By: \_\_\_\_\_  
1EE68C4A1B4748A...  
John S. Raff  
Deputy Executive Director

**TFC Contract No. 23-039-000**

**SLSCO LTD**

**ATTACHMENT 1**

**Stipulated Sum**

TFC Contract No. 23-039-000  
SLSCO Ltd.  
**ATTACHMENT 1**  
**Stipulated Sum**

<b>Document</b>	<b>Contract Sum</b>	<b>Description</b>	<b>Stipulated Sum</b>	<b>Resulting Controlled Allowance</b>	<b>Incorporated Proposals / Attachment(s)</b>
Original Contract TFC No. 23-039-000	\$137,300,000.00	Hughes Ranch, Del Rio, DRT04 Border Infrastructure Project, Maverick County issued June 23, 2023 (DCP-005 Sta 10+00 to Station 218+68.76)	\$3,373,127.00	\$133,926,873.00	Exhibit D-1  Exhibit M-1
<b>Total:</b>	<b>\$137,300,000.00</b>		<b>\$3,373,127,000</b>	<b>\$133,926,873.00</b>	

**EXHIBIT A**

**2015 UNIFORM GENERAL CONDITIONS**

[\[https://www.tfc.texas.gov/divisions/facilities/prog/construct/  
formsindex/2015%20UGC%2003.07.2017.Final.pdf\]](https://www.tfc.texas.gov/divisions/facilities/prog/construct/formsindex/2015%20UGC%2003.07.2017.Final.pdf)

**EXHIBIT B**

**2018 SUPPLEMENTARY GENERAL CONDITIONS**

[\[2018 Supplementary Modifications to Article 5 3-23-2018 \(003\).pdf \(texas.gov\)\]](#)

**EXHIBIT C**  
**SPECIAL CONDITIONS OF THE AGREEMENT**

[See attached – 1 page]

**EXHIBIT C****SPECIAL CONDITIONS OF THE AGREEMENT**

The following Special Conditions amend and/or supplement the 2015 edition of the Uniform General Conditions for Construction Contracts, and any Supplementary General Conditions, as follows:

**Article 9. Construction Schedules**

## 9.11 Liquidated Damages.

Section 9.11 is supplemented to add the following subsections:

9.11.1 Owner is entitled to full and beneficial occupancy and use of the completed Work by the Completion Date. If Contractor fails to timely achieve Substantial Completion of the Work unless extended in accordance with the terms of the Contract Documents, Owner will incur substantial damages as a result of such failure. If Contractor neglects, fails, and/or refuses to achieve Substantial Completion of the Work by the Substantial Completion Date, subject to any proper extension granted by Owner, Contractor shall pay TFC liquidated damages, and not as a penalty or forfeiture, in the amount as defined in paragraph 9.11.2 per calendar day until Substantial Completion achieved. There shall be a seven (7) calendar day grace period applied to the dates for Substantial Completion of the Work before such liquidated damages are assessed.

## 9.11.2 LIQUIDATED DAMAGES SCHEDULE

**Liquidated Damages for the Entire Work:** Pursuant to Section 9.5 of the Agreement, the liquidated damages for failure to achieve Substantial Completion of the entire Work shall be as set forth below:

<b>Days Beyond Substantial Completion</b>	<b>Liquidated Damages</b>
1 – 7 Calendar Days	\$0 to allow for a seven (7) calendar-day grace period
8+ Calendar Days	\$1,000 per calendar day



**EXHIBIT D**  
**DESIGN-BUILD PROPOSAL**

**TFC Contract No. 23-039-000**

**SLSCO LTD**

**Exhibit D-1**

**Design Build Proposals Hughes**

**Ranch (9 pages)**

**CONFIDENTIAL**

**REDACTED FOR SB 20**

**POSTING**

**EXHIBIT E**

**INTENTIONALLY OMITED**

**EXHIBIT F**

**CRIMINAL BACKGROUND CHECK AND APPLICATION GUIDELINES**

**[\[TEXAS FACILITIES COMMISSION CRIMINAL BACKGROUND 2016.pdf\]](#)**

**EXHIBIT G**

**APPROVED HUB SUBCONTRACTING PLAN**

**(See attached – 39 Pages)**

**Texas Facilities Commission (TFC) - HUB Program  
EVALUATION OF RESPONDENT'S HUB SUBCONTRACTING PLAN (HSP)**

**Instructions:** This evaluation must be completed for each response before it can be considered further. Please complete a separate evaluation sheet for each response within five (5) business days after the opening date of the solicitation.

**Section I: Name of Respondent:** SLSCO, Ltd.

**Name of Project:** Design-Build Services for Texas Border Infrastructure (TBI)

**Contract #** \_\_\_\_\_ **Req #:** 303-2-00365 **PO #:** \_\_\_\_\_ **PROJECT/WO #:** \_\_\_\_\_

**RFQ #:** 303-2-00365 **RFP #:** \_\_\_\_\_ **IFB #:** \_\_\_\_\_

**SERVICES**  **AE:**  **CMR**  **RC**  **IDIQ** **Assignment #:** \_\_\_\_\_

**Amendment #:** \_\_\_\_\_ **GMP#:** \_\_\_\_\_ **POCN#:** \_\_\_\_\_

TFC HUB Coordinator has reviewed the above referenced HSP response to this solicitation and finds that the HSP:

**complies with**

**does not comply with**

Method Used to Achieving HUB Compliance:

HSP – Solicitation GFE – Respondent is compliant to requirement of solicitation process to 3 HUBs, 2 Trade Organizations and allowed 7 working days for a response. (per TAC 20.285(d)(D)(i))

Print/Type Name:

Yolanda Strey

TFC HUB Coordinator/Date:

**Section II: Does the respondent intend to subcontract?**  **YES**  **NO**  **N/A**

**Instructions:** If “Yes,” do not proceed to the following questions. If “No,” proceed to the next question.

Comments:

Did the respondent verify that no subcontractors would be used in the performance of the work (verification must be provided on the form prescribed in the solicitation).

**YES**

**NO**

**N/A**

**Section III: Respondents who DO intend to subcontract:**  **YES**  **NO**

1. Did the respondent divide the work into reasonable portions, consistent with prudent industry practices (Identified the areas of subcontracting)?

Comments:

**Texas Facilities Commission (TFC) - HUB Program**  
**EVALUATION OF RESPONDENT'S HUB SUBCONTRACTING PLAN (HSP)**

2. Did the respondent provide notice to HUBs of the work that the respondent intends to subcontract, in accordance with 1 T.A.C. Section 111.14?      **YES**       **NO**       **N/A**
- Comments:

3. Did the respondent include an executed Mentor Protégé Agreement (per Section 2161.065 Government Code), registered with TPASS? Does the HUB subcontracting plan identify the area(s) of subcontracting the protégé will perform? (Submission of a protégé as a subcontractor constitutes a good faith effort for the particular area to be subcontracted with the protégé).      **YES**       **NO**       **N/A**
- Comments:

4. Did the respondent provide written justification of the selection process if a non-HUB subcontractor was selected by a process other than by competitive bidding, or a HUB bid was the best value responsive bidder to a competitive bid invitation, but was not selected?      **YES**       **NO**       **N/A**
- Comments:

5. Did the respondent provide notice to minority or women trade organizations or development centers to assist in identifying HUBs by disseminating subcontracting opportunities to their membership/participants? Did the notice in all instances, include the scope of the work, specifications, and identify a contact person? Did Respondent provide notice to organizations or development centers no less than five (5) working days for construction contracts prior to submission of the response (bid, proposal, offer, or other applicable expression of interest)?      **YES**       **NO**       **N/A**
- Comments:



# HUB Subcontracting Plan (HSP)

In accordance with Texas Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, all respondents, including State of Texas certified Historically Underutilized Businesses (HUBs) must complete and submit this State of Texas HUB Subcontracting Plan (HSP) with their response to the bid requisition (solicitation).

**NOTE: Responses that do not include a completed HSP shall be rejected pursuant to Texas Gov't Code §2161.252(b).**

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the 2009 State of Texas Disparity Study. The statewide HUB goals defined in 34 Texas Administrative Code (TAC) §20.284 are:

- **11.2 percent for heavy construction other than building contracts,**
- **21.1 percent for all building construction, including general contractors and operative builders' contracts,**
- **32.9 percent for all special trade construction contracts,**
- **23.7 percent for professional services contracts,**
- **26.0 percent for all other services contracts, and**
- **21.1 percent for commodities contracts.**

**- - Agency Special Instructions/Additional Requirements - -**

*In accordance with 34 TAC §20.285(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only the aggregate percentage of the contracts expected to be subcontracted to HUBs with which the respondent **does not** have a **continuous contract\*** in place for **more than five (5) years** shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.*

In accordance with 34 TAC §20.284, the goal below are applicable for the Texas Facilities Commission.

The HUB Goal for this solicitation has been identified as: **BUILDING CONSTRUCTION: 21.1%**

- Respondents shall submit a completed HUB Subcontracting Plan (HSP) to be considered responsive. Failure to submit a completed HSP shall result in the bid, proposal or other expression of interest to be considered non-responsive.

- Prime Contractor Progress Assessment Report (PAR) shall be submitted with each request for payment as a condition of payment.

- Cursory reviews requests and questions can be sent to: [HUB@tfc.state.tx.us](mailto:HUB@tfc.state.tx.us)

## SECTION 1: RESPONDENT AND REQUISITION INFORMATION

- a. Respondent (Company) Name: SLSCO, Ltd. State of Texas VID #: 1208780114300  
 Point of Contact: Josh Hulen, Senior Vice President Phone #: 843-814-9294  
 E-mail Address: jhulen@slsco.com Fax #: 713-880-2427
- b. Is your company a State of Texas certified HUB?  - Yes  - No
- c. Requisition #: RFQ #303-2-00365 Bid Open Date: 10/15/2021  
(mm/dd/yyyy)



Enter your company's name here: SLSCO, Ltd.Requisition #: RFQ #303-2-00365**SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS**

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, **including contracted staffing, goods and services will be subcontracted**. Note: In accordance with 34 TAC §20.282, a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

- **Yes**, I will be subcontracting portions of the contract. (If **Yes**, complete Item b of this SECTION and continue to Item c of this SECTION.)

- **No**, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods and services. (If **No**, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <b>do not</b> have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to HUBs with which you have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to Non-HUBs.
1	Design Engineering & Architecture Consulting	5 %	0 %	20 %
2	Surveying	4 %	0 %	0 %
3	Land Planning Engineering Consulting	5 %	0 %	20 %
4	Geotechnical Testing	2 %	0 %	0 %
5		%	%	%
6		%	%	%
7		%	%	%
8		%	%	%
9		%	%	%
10		%	%	%
11		%	%	%
12		%	%	%
13		%	%	%
14		%	%	%
15		%	%	%
Aggregate percentages of the contract expected to be subcontracted:		16 %	0 %	40 %

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at <https://www.comptroller.texas.gov/purchasing/vendor/hub/forms.php>.)

c. Check the appropriate box (Yes or No) that indicates whether you will be using **only** Texas certified HUBs to perform **all** of the subcontracting opportunities you listed in SECTION 2, Item b.

- **Yes** (If **Yes**, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)

- **No** (If **No**, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract **with Texas certified HUBs** with which you **do not** have a **continuous contract\*** in place with for **more than five (5) years**, **meets or exceeds** the HUB goal the contracting agency identified on page 1 in the "Agency Special Instructions/Additional Requirements."

- **Yes** (If **Yes**, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)

- **No** (If **No**, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed.)

**\*Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.

Enter your company's name here: SLSCO, Ltd. Requisition #: RFQ #303-2-00365

**SECTION 3: SELF PERFORMING JUSTIFICATION** (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.) If you responded "No" to SECTION 2, Item a, in the space provided below **explain how** your company will perform the entire contract with its own employees, supplies, materials and/or equipment.

N/A

**SECTION 4: AFFIRMATION**

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.
- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/ProgressAssessmentReportForm.xls>).
- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.

 _____ Signature	<b>Josh Hulen</b> _____ Printed Name	Senior Vice President _____ Title	<b>10/15/2021</b> _____ Date (mm/dd/yyyy)
---	--	---	--

**Reminder:**

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.
- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.

# HSP Good Faith Effort - Method B (Attachment B)

Rev. 2/17

Enter your company's name here: SLSCO, Ltd.Requisition #: RFQ #303-2-00365

**IMPORTANT:** If you responded "No" to **SECTION 2, Items c and d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf>.

**SECTION B-1: SUBCONTRACTING OPPORTUNITY**

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: 1 Description: Design Engineering & Architecture Consulting**SECTION B-2: MENTOR PROTÉGÉ PROGRAM**

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in **SECTION B-1**, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

- Yes (If *Yes*, continue to SECTION B-4.)

- No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

**SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY**

When completing this section you **MUST** comply with items **a, b, c and d**, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/HUBSubcontractingOpportunityNotificationForm.pdf>.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

- a.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.
- b.** List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID <small>(Do not enter Social Security Numbers.)</small>	Date Notice Sent <small>(mm/dd/yyyy)</small>	Did the HUB Respond?
Civiltech Engineering, Inc.	1760527524100	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
Perez Consulting Engineers, LLC	1742982934800	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
Tolunay-Wong Engineers	1760409302500	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No

- c.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to **two (2)** or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at <https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php>.
- d.** List **two (2) trade organizations or development centers** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent <small>(mm/dd/yyyy)</small>	Was the Notice Accepted?
National Association of Minority Contractors	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No
Texas Association of Historically Underutilized Businesses	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No

# HSP Good Faith Effort - Method B (Attachment B) Cont.

Enter your company's name here: SLSCO, Ltd. Requisition #: RFQ #303-2-00365

**SECTION B-4: SUBCONTRACTOR SELECTION**

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b**, of the completed HSP form for which you are completing the attachment.

- a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: 1 Description: Design Engineering & Architecture Consulting

- b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/passcmbllsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
Benham Engineering, LLC	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No		\$ 2,000,000	10 %
Lloyd Engineering, Inc.	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No		\$ 2,000,000	10 %
Tolunay-Wong Engineers	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No	1760409302500	\$ 1,000,000	5 %
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

- c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is **not** a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

Benham Engineering and Lloyd Engineering have been our design engineers on past border wall pursuits. They are highly experienced and efficient and can handle the complexity and volume of work required for this project. They will be excellent mentors and guiding engineers for the HUB group selected for this portion of work.

**REMINDER:** As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.



# HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of \$100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

## SECTION A: PRIME CONTRACTOR'S INFORMATION

Company Name: SLSCO, Ltd.  
 Point-of-Contact: Josh Hulen  
 E-mail Address: jhulen@slsco.com

State of Texas VID #: 1208780114300  
 Phone #: 843-814-9294  
 Fax #: 713-880-2427

## SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: Texas Facilities Commission  
 Point-of-Contact: Rico Gamino, Jr.  
 Requisition #: RFQ #303-2-00365

Phone #: 512-936-3567  
 Bid Open Date: 10/15/2021  
(mm/dd/yyyy)

## SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

### 1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,

we must receive your bid response no later than 5:00pm on 10/14/2021.  
Central Time Date (mm/dd/yyyy)

*In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).*

*(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)*

### 2. Subcontracting Opportunity Scope of Work:

Structural design engineering consulting for Texas border infrastructure design/build services

### 3. Required Qualifications:

Appropriate licensing in Texas, experience with design/build projects, government facility design/construction experience

- Not Applicable

### 4. Bonding/Insurance Requirements:

To be determined

- Not Applicable

### 5. Location to review plans/specifications:

<http://www.txsmartbuy.com/esbddetails/view/303-2-00365>

- Not Applicable

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** [eshackelford@tweinc.com](mailto:eshackelford@tweinc.com); [RCONCHA@ESSCOGROUP.ORG](mailto:RCONCHA@ESSCOGROUP.ORG); [ac@premier-ce.com](mailto:ac@premier-ce.com)  
**Subject:** HUB Engineering Land Planning Subcontracting Opportunity  
**Date:** Monday, October 4, 2021 11:47:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Land Planning Engineering Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified your firm as a potential for land planning engineering services.

We have attached a subcontracting opportunity form for your review, which also includes the solicitation number and web address for the solicitation.

Please let us know if you are interested by the time and date on the opportunity form.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** ["info@texashubs.org"](mailto:info@texashubs.org); ["info@namctexas.org"](mailto:info@namctexas.org)  
**Subject:** HUB Subcontracting Opportunities  
**Date:** Monday, October 4, 2021 11:59:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Design Engineering Subcontracting.pdf](#)  
[Border Wall Geotechnical Subcontracting.pdf](#)  
[Border Wall Land Planning Architecture Subcontracting.pdf](#)  
[Border Wall Land Planning Engineering Subcontracting.pdf](#)  
[Border Wall Surveying Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified multiple HUB subcontracting opportunities for this pursuit.

We have attached subcontracting opportunity forms for your review. Please pass these opportunities on to any of your members that may be interested.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

# HSP Good Faith Effort - Method B (Attachment B)

Rev. 2/17

Enter your company's name here: SLSCO, Ltd.Requisition #: RFQ #303-2-00365

**IMPORTANT:** If you responded "No" to **SECTION 2, Items c and d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf>.

**SECTION B-1: SUBCONTRACTING OPPORTUNITY**

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: 2 Description: Surveying**SECTION B-2: MENTOR PROTÉGÉ PROGRAM**

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in **SECTION B-1**, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

- Yes (If *Yes*, continue to SECTION B-4.)

- No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

**SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY**

When completing this section you **MUST** comply with items **a, b, c and d**, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/HUBSubcontractingOpportunityNotificationForm.pdf>.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

- a.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.
- b.** List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID <small>(Do not enter Social Security Numbers.)</small>	Date Notice Sent <small>(mm/dd/yyyy)</small>	Did the HUB Respond?
Action Surveying, LLC	1473375527700	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
Landtech, Inc.	1760421016500	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
CME Testing & Engineering, Inc.	1742911671200	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No

- c.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to two (2) or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at <https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php>.
- d.** List two (2) trade organizations or development centers you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent <small>(mm/dd/yyyy)</small>	Was the Notice Accepted?
National Association of Minority Contractors	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No
Texas Association of Historically Underutilized Businesses	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No



# HSP Good Faith Effort - Method B (Attachment B) Cont.

Enter your company's name here: SLSCO, Ltd. Requisition #: RFQ #303-2-00365

**SECTION B-4: SUBCONTRACTOR SELECTION**

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b**, of the completed HSP form for which you are completing the attachment.

- a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: 2 Description: Surveying

- b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
Landtech, Inc.	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No	1760421016500	\$ 400,000	2 %
CME Testing & Engineering, Inc.	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No	1742911671200	\$ 400,000	2 %
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

- c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is **not** a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

N/A

**REMINDER:** As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.



# HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of \$100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

## SECTION A: PRIME CONTRACTOR'S INFORMATION

Company Name: SLSCO, Ltd. State of Texas VID #: 1208780114300  
 Point-of-Contact: Josh Hulen Phone #: 843-814-9294  
 E-mail Address: jhulen@slsco.com Fax #: 713-880-2427

## SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: Texas Facilities Commission Phone #: 512-936-3567  
 Point-of-Contact: Rico Gamino, Jr. Bid Open Date: 10/15/2021  
 Requisition #: RFQ #303-2-00365 (mm/dd/yyyy)

## SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

### 1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,

we must receive your bid response no later than 5:00pm on 10/14/2021.  
 Central Time Date (mm/dd/yyyy)

*In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).*

*(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)*

### 2. Subcontracting Opportunity Scope of Work:

Surveying services for Texas border infrastructure design/build project

### 3. Required Qualifications:

- Not Applicable

Appropriate licensing in Texas, land and structural surveying experience with design/build projects

### 4. Bonding/Insurance Requirements:

- Not Applicable

To be determined

### 5. Location to review plans/specifications:

- Not Applicable

<http://www.txsmartbuy.com/esbddetails/view/303-2-00365>

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** [accounts@actionsurveying.com](mailto:accounts@actionsurveying.com); [pkwan@landtech-inc.com](mailto:pkwan@landtech-inc.com); [dori@cmetesting.com](mailto:dori@cmetesting.com)  
**Subject:** HUB Surveying Subcontracting Opportunity  
**Date:** Monday, October 4, 2021 11:45:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Surveying Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified your firm as a potential for surveying services.

We have attached a subcontracting opportunity form for your review, which also includes the solicitation number and web address for the solicitation.

Please let us know if you are interested by the time and date on the opportunity form.

Thank you.



**Josh Hulen**  
Senior Vice President | **SLSCO**  
**P:** [\(843\) 814-9294](tel:(843)814-9294)  
**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** ["info@texashubs.org"](mailto:info@texashubs.org); ["info@namctexas.org"](mailto:info@namctexas.org)  
**Subject:** HUB Subcontracting Opportunities  
**Date:** Monday, October 4, 2021 11:59:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Design Engineering Subcontracting.pdf](#)  
[Border Wall Geotechnical Subcontracting.pdf](#)  
[Border Wall Land Planning Architecture Subcontracting.pdf](#)  
[Border Wall Land Planning Engineering Subcontracting.pdf](#)  
[Border Wall Surveying Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified multiple HUB subcontracting opportunities for this pursuit.

We have attached subcontracting opportunity forms for your review. Please pass these opportunities on to any of your members that may be interested.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

**From:** [Jack Lind](#)  
**To:** [Josh Hulen](#); [Paul Evans](#)  
**Subject:** Texas Border Infrastructure Design/Build Project  
**Date:** Monday, October 4, 2021 5:00:41 PM  
**Attachments:** [Letter of Interest for Geot Services for Texas Border Infrastructure.pdf](#)

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Please find attached our Letter of Interest for consideration as a HUB certified subcontractor for the above listed project. If you have any questions or comments, please contact our office.

Thank you for the opportunity to provide this information to you. ***Have a great day!***

Jack C. Lind, P.E.  
Sr. Engineer  
CME Testing & Engineering, Inc.  
320 Graham Road  
College Station, Texas 77845  
979-229-3600

# HSP Good Faith Effort - Method B (Attachment B)

Rev. 2/17

Enter your company's name here: SLSCO, Ltd.Requisition #: RFQ #303-2-00365

**IMPORTANT:** If you responded "No" to **SECTION 2, Items c and d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf>.

**SECTION B-1: SUBCONTRACTING OPPORTUNITY**

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: 3 Description: Land Planning Engineering Consulting**SECTION B-2: MENTOR PROTÉGÉ PROGRAM**

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in **SECTION B-1**, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

- Yes (If *Yes*, continue to SECTION B-4.)

- No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

**SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY**

When completing this section you **MUST** comply with items **a, b, c and d**, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/HUBSubcontractingOpportunityNotificationForm.pdf>.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

- a.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbldsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.
- b.** List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID <small>(Do not enter Social Security Numbers.)</small>	Date Notice Sent <small>(mm/dd/yyyy)</small>	Did the HUB Respond?
Tolunay-Wong Engineers	1760409302500	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
Essco International, Inc.	1562368793400	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
Premier Civil Engineering, LLC	1900186199600	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No

- c.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to two (2) or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at <https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php>.

- d.** List two (2) trade organizations or development centers you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent <small>(mm/dd/yyyy)</small>	Was the Notice Accepted?
National Association of Minority Contractors	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No
Texas Association of Historically Underutilized Businesses	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No

# HSP Good Faith Effort - Method B (Attachment B) Cont.

Enter your company's name here: SLSCO, Ltd. Requisition #: RFQ #303-2-00365

**SECTION B-4: SUBCONTRACTOR SELECTION**

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b**, of the completed HSP form for which you are completing the attachment.

- a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: 3 Description: Land Planning Engineering Consulting

- b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/passcmbllsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
Benham Engineering, LLC	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No		\$ 2,000,000	10 %
Lloyd Engineering, Inc.	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No		\$ 2,000,000	10 %
Tolunay-Wong Engineers	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No	1760409302500	\$ 1,000,000	5 %
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

- c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is **not** a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

Benham Engineering and Lloyd Engineering have been our design engineers on past border wall pursuits. They are highly experienced and efficient and can handle the complexity and volume of work required for this project. They will be excellent mentors and guiding engineers for the HUB group selected for this portion of work.

**REMINDER:** As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.



# HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of \$100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

## SECTION A: PRIME CONTRACTOR'S INFORMATION

Company Name: SLSCO, Ltd. State of Texas VID #: 1208780114300  
 Point-of-Contact: Josh Hulen Phone #: 843-814-9294  
 E-mail Address: jhulen@slsco.com Fax #: 713-880-2427

## SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: Texas Facilities Commission Phone #: 512-936-3567  
 Point-of-Contact: Rico Gamino, Jr. Bid Open Date: 10/15/2021  
 Requisition #: RFQ #303-2-00365 (mm/dd/yyyy)

## SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

### 1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,

we must receive your bid response no later than 5:00pm on 10/14/2021.  
 Central Time Date (mm/dd/yyyy)

*In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).*

*(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)*

### 2. Subcontracting Opportunity Scope of Work:

Land planning engineering consulting for Texas border infrastructure design/build services

### 3. Required Qualifications:

Appropriate licensing in Texas, experience with design/build projects, government facility design/construction experience

- Not Applicable

### 4. Bonding/Insurance Requirements:

To be determined

- Not Applicable

### 5. Location to review plans/specifications:

<http://www.txsmartbuy.com/esbddetails/view/303-2-00365>

- Not Applicable



**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** [eshackelford@tweinc.com](mailto:eshackelford@tweinc.com); [RCONCHA@ESSCOGROUP.ORG](mailto:RCONCHA@ESSCOGROUP.ORG); [ac@premier-ce.com](mailto:ac@premier-ce.com)  
**Subject:** HUB Engineering Land Planning Subcontracting Opportunity  
**Date:** Monday, October 4, 2021 11:47:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Land Planning Engineering Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified your firm as a potential for land planning engineering services.

We have attached a subcontracting opportunity form for your review, which also includes the solicitation number and web address for the solicitation.

Please let us know if you are interested by the time and date on the opportunity form.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** ["info@texashubs.org"](mailto:info@texashubs.org); ["info@namctexas.org"](mailto:info@namctexas.org)  
**Subject:** HUB Subcontracting Opportunities  
**Date:** Monday, October 4, 2021 11:59:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Design Engineering Subcontracting.pdf](#)  
[Border Wall Geotechnical Subcontracting.pdf](#)  
[Border Wall Land Planning Architecture Subcontracting.pdf](#)  
[Border Wall Land Planning Engineering Subcontracting.pdf](#)  
[Border Wall Surveying Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified multiple HUB subcontracting opportunities for this pursuit.

We have attached subcontracting opportunity forms for your review. Please pass these opportunities on to any of your members that may be interested.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

# HSP Good Faith Effort - Method B (Attachment B)

Rev. 2/17

Enter your company's name here: SLSCO, Ltd.Requisition #: RFQ #303-2-00365

**IMPORTANT:** If you responded "No" to **SECTION 2, Items c and d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf>.

**SECTION B-1: SUBCONTRACTING OPPORTUNITY**

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: 4 Description: Geotechnical Testing**SECTION B-2: MENTOR PROTÉGÉ PROGRAM**

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in **SECTION B-1**, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

- Yes (If *Yes*, continue to SECTION B-4.)

- No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

**SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY**

When completing this section you **MUST** comply with items **a, b, c and d**, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/HUBSubcontractingOpportunityNotificationForm.pdf>.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

- a.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbldsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.
- b.** List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID <small>(Do not enter Social Security Numbers.)</small>	Date Notice Sent <small>(mm/dd/yyyy)</small>	Did the HUB Respond?
Beyond Engineering & Testing, LLC	1823229512300	10/04/2021	<input type="checkbox"/> - Yes <input checked="" type="checkbox"/> - No
CME Testing & Engineering, Inc.	1742911671200	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No
Geotech Engineering & Testing	1760609157100	10/0/4/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No

- c.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to **two (2)** or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at <https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php>.
- d.** List **two (2) trade organizations or development centers** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent <small>(mm/dd/yyyy)</small>	Was the Notice Accepted?
National Association of Minority Contractors	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No
Texas Association of Historically Underutilized Businesses	10/04/2021	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No

**HSP Good Faith Effort - Method B (Attachment B) Cont.**

Rev. 2/17

Enter your company's name here: SLSCO, Ltd.Requisition #: RFQ #303-2-00365**SECTION B-4: SUBCONTRACTOR SELECTION**

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b**, of the completed HSP form for which you are completing the attachment.

- a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: 4 Description: Geotechnical Testing

- b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
CME Testing & Engineering, Inc.	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No	1742911671200	\$ 200,000	1 %
Geotech Engineering & Testing	<input checked="" type="checkbox"/> - Yes <input type="checkbox"/> - No	1760609157100	\$ 200,000	1 %
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

- c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is **not** a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

N/A

**REMINDER:** As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.



# HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of \$100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

## SECTION A: PRIME CONTRACTOR'S INFORMATION

Company Name: SLSCO, Ltd.  
 Point-of-Contact: Josh Hulen  
 E-mail Address: jhulen@slsco.com

State of Texas VID #: 1208780114300  
 Phone #: 843-814-9294  
 Fax #: 713-880-2427

## SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: Texas Facilities Commission  
 Point-of-Contact: Rico Gamino, Jr.  
 Requisition #: RFQ #303-2-00365

Phone #: 512-936-3567  
 Bid Open Date: 10/15/2021  
(mm/dd/yyyy)

## SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

### 1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,

we must receive your bid response no later than 5:00pm on 10/14/2021  
Central Time Date (mm/dd/yyyy)

*In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).*

*(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)*

### 2. Subcontracting Opportunity Scope of Work:

**Geotechnical services for Texas border infrastructure design/build project**

### 3. Required Qualifications:

- Not Applicable

Appropriate licensing in Texas, geotechnical testing experience with design/build projects

### 4. Bonding/Insurance Requirements:

- Not Applicable

To be determined

### 5. Location to review plans/specifications:

- Not Applicable

<http://www.txsmartbuy.com/esbddetails/view/303-2-00365>

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** [winteryao@beyondet.com](mailto:winteryao@beyondet.com); [dori@cmetesting.com](mailto:dori@cmetesting.com); [de@geotecheng.com](mailto:de@geotecheng.com)  
**Subject:** HUB Geotechnical Subcontracting Opportunity  
**Date:** Monday, October 4, 2021 11:43:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Geotechnical Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified your firm as a potential for geotechnical testing services.

We have attached a subcontracting opportunity form for your review, which also includes the solicitation number and web address for the solicitation.

Please let us know if you are interested by the time and date on the opportunity form.

Thank you.



**Josh Hulen**  
Senior Vice President | **SLSCO**  
**P:** [\(843\) 814-9294](tel:(843)814-9294)  
**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

**From:** [Josh Hulen](#)  
**To:** [Josh Hulen \(jhulen@slsco.com\)](mailto:jhulen@slsco.com)  
**Bcc:** ["info@texashubs.org"](mailto:info@texashubs.org); ["info@namctexas.org"](mailto:info@namctexas.org)  
**Subject:** HUB Subcontracting Opportunities  
**Date:** Monday, October 4, 2021 11:59:00 AM  
**Attachments:** [image001.png](#)  
[Border Wall Design Engineering Subcontracting.pdf](#)  
[Border Wall Geotechnical Subcontracting.pdf](#)  
[Border Wall Land Planning Architecture Subcontracting.pdf](#)  
[Border Wall Land Planning Engineering Subcontracting.pdf](#)  
[Border Wall Surveying Subcontracting.pdf](#)

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Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified multiple HUB subcontracting opportunities for this pursuit.

We have attached subcontracting opportunity forms for your review. Please pass these opportunities on to any of your members that may be interested.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

**From:** [Jack Lind](#)  
**To:** [Josh Hulen](#); [Paul Evans](#)  
**Subject:** Texas Border Infrastructure Design/Build Project  
**Date:** Monday, October 4, 2021 5:00:41 PM  
**Attachments:** [Letter of Interest for Geot Services for Texas Border Infrastructure.pdf](#)

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Please find attached our Letter of Interest for consideration as a HUB certified subcontractor for the above listed project. If you have any questions or comments, please contact our office.

Thank you for the opportunity to provide this information to you. ***Have a great day!***

Jack C. Lind, P.E.  
Sr. Engineer  
CME Testing & Engineering, Inc.  
320 Graham Road  
College Station, Texas 77845  
979-229-3600



**From:** [Vicky Bonds](#)  
**To:** [Josh Hulen](#)  
**Subject:** FW: HUB Geotechnical Subcontracting Opportunity  
**Date:** Monday, October 4, 2021 12:34:19 PM  
**Attachments:** [image001.png](#)  
[Border Wall Geotechnical Subcontracting.pdf](#)

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Josh,

Always happy to team up on a project. Let me know what you need from me to complete your RFQ package. I will send it over to you.

And thanks for the opportunity.

Vicky Bonds  
Office Manager  
Geotech Engineering and Testing  
17407 US Highway 59 N  
Houston, Texas 77396  
Tel.: 713-699-4000  
Fax: 713-699-9200  
E-mail: [vb@geotecheng.com](mailto:vb@geotecheng.com)  
[www.geotecheng.com](http://www.geotecheng.com)



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**From:** David Eastwood <david.eastwood@geotecheng.com>  
**Sent:** Monday, October 4, 2021 11:07 AM  
**To:** Vicky Bonds <vb@geotecheng.com>  
**Subject:** FW: HUB Geotechnical Subcontracting Opportunity

**David A. Eastwood, P.E., D.GE., DFE, C.A.P.M., F.FPA, F.ASCE**  
**President**

**Geotech Engineering and Testing**

17407 US Highway 59 North

Houston, Texas 77396

Phone: 713-699-4000

Fax: 713-699-9200

Cell: 713-305-4144

email: [de@geotecheng.com](mailto:de@geotecheng.com)



**From:** Josh Hulen <>

**Sent:** Monday, October 4, 2021 10:43 AM

**To:** Josh Hulen <[jhulen@slsco.com](mailto:jhulen@slsco.com)>

**Subject:** HUB Geotechnical Subcontracting Opportunity

Good morning.

SLSCO, Ltd. intends to submit a bid to the Texas Facilities Commission for its Design/Build Services for Texas Border Infrastructure solicitation. We have identified your firm as a potential for geotechnical testing services.

We have attached a subcontracting opportunity form for your review, which also includes the solicitation number and web address for the solicitation.

Please let us know if you are interested by the time and date on the opportunity form.

Thank you.



**Josh Hulen**

Senior Vice President | **SLSCO**

**P:** [\(843\) 814-9294](tel:(843)814-9294)

**E:** [jhulen@slsco.com](mailto:jhulen@slsco.com) **W:** [www.slsco.com](http://www.slsco.com)

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1742982934800 / 87470
<b>Vendor Name</b>	PEREZ CONSULTING ENGINEERS, LLC
<b>Vendor Address</b>	808 DALLAS AVE MCALLEN, TX 78501-2714 USA
<b>County</b>	HIDALGO
<b>Contact</b>	Monique Fuentes
<b>Phone/Fax</b>	956-631-4482 / 956-682-1545
<b>Email Address</b>	<a href="mailto:mf@perezce.com">mf@perezce.com</a>
<b>Website</b>	
<b>Business Description</b>	CIVIL ENGINEERING & CIVIL CONSULTING PROFESSIONAL SERVICES
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	30-JUN-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	12-JAN-2022
<b>HUB Eligibility</b>	<u>HI ( Hispanic American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 6,7,9,12,13,14,15,16,17,18,20,21,22,23,24

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1742982934800 / 87470
<b>Vendor Name</b>	PEREZ CONSULTING ENGINEERS, LLC
<b>Vendor Address</b>	808 DALLAS AVE MCALLEN, TX 78501-2714 USA
<b>County</b>	HIDALGO
<b>Contact</b>	Monique Fuentes
<b>Phone/Fax</b>	956-631-4482 / 956-682-1545
<b>Email Address</b>	<a href="mailto:mf@perezce.com">mf@perezce.com</a>
<b>Website</b>	
<b>Business Description</b>	CIVIL ENGINEERING & CIVIL CONSULTING PROFESSIONAL SERVICES
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	30-JUN-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	12-JAN-2022
<b>HUB Eligibility</b>	<u>HI ( Hispanic American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 6,7,9,12,13,14,15,16,17,18,20,21,22,23,24

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1760409302500 / 09320
<b>Vendor Name</b>	TOLUNAY-WONG ENGINEERS, INC.
<b>Vendor Address</b>	10710 S SAM HOUSTON PKWY W SUITE 100 HOUSTON, TX 77031-3054 USA
<b>County</b>	HARRIS
<b>Contact</b>	Esperanza Shackelford
<b>Phone/Fax</b>	713-722-7064 / 713-722-0319
<b>Email Address</b>	<a href="mailto:eshackelford@tweinc.com">eshackelford@tweinc.com</a>
<b>Website</b>	<a href="http://www.tweinc.com">http://www.tweinc.com</a>
<b>Business Description</b>	We provide geotechnical engineering and testing, construction materials testing, environmental field services, geophysical, and deep foundations testing services.
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>N</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	12-AUG-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	30-NOV-2021
<b>HUB Eligibility</b>	<u>AS ( Asian-Pacific American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 12,16,18,20

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1473375527700 / 517580
<b>Vendor Name</b>	ACTION SURVEYING LLC
<b>Vendor Address</b>	10210 FUQUA ST HOUSTON, TX 77089-1412 USA
<b>County</b>	HARRIS
<b>Contact</b>	Pres./Ben Jauma
<b>Phone/Fax</b>	713-941-8600 /
<b>Email Address</b>	<a href="mailto:accounts@actionsurveying.com">accounts@actionsurveying.com</a>
<b>Website</b>	
<b>Business Description</b>	We are a full service Land Surveying Company that provides commercial land surveying services for new construction and existing features.
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	11-SEP-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	12-NOV-2023
<b>HUB Eligibility</b>	<u>HI ( Hispanic American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 12

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1760421016500 / 08061
<b>Vendor Name</b>	LANDTECH, INC.
<b>Vendor Address</b>	2525 NORTH LOOP WEST SUITE 300 HOUSTON, TX 77008-1094 USA
<b>County</b>	HARRIS
<b>Contact</b>	Paul P Kwan RPLS President
<b>Phone/Fax</b>	713-861-7068 / 713-861-4131
<b>Email Address</b>	<a href="mailto:pkwan@landtech-inc.com">pkwan@landtech-inc.com</a>
<b>Website</b>	<a href="http://www.landtech-inc.com">http://www.landtech-inc.com</a>
<b>Business Description</b>	Established in 1985, Landtech, Inc. is a land surveying firm founded by Paul Kwan, RPLS with locations in Houston and El Paso, Texas. Our surveyors provide data for the development of engineering, architectural and construction plans.
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	29-AUG-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	07-APR-2024
<b>HUB Eligibility</b>	<u>AS ( Asian-Pacific American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1742911671200 / 35305
<b>Vendor Name</b>	CME TESTING AND ENGINEERING, INC.
<b>Vendor Address</b>	320 GRAHAM RD COLLEGE STATION, TX 77845-9657 USA
<b>County</b>	BRAZOS
<b>Contact</b>	President/Dorinda J. Evans
<b>Phone/Fax</b>	979-690-3600 / 979-690-3668
<b>Email Address</b>	<a href="mailto:dori@cmetesting.com">dori@cmetesting.com</a>
<b>Website</b>	<a href="http://www.cmetesting.com">http://www.cmetesting.com</a>
<b>Business Description</b>	Construction Materials Testing and Engineering
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	29-MAR-2023
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	02-APR-2022
<b>HUB Eligibility</b>	<u>WO ( American Woman )</u>
<b>HUB Gender</b>	<u>E</u>
	Commodity items shown above are available for district(s) 1,2,9,10,11,12,13,14,17,18,19,20,23



<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1562368793400 / 36442
<b>Vendor Name</b>	ESSCO INTERNATIONAL, INC.
<b>Vendor Address</b>	1000 NEWMAN ST EL PASO, TX 79902-4813 USA
<b>County</b>	EL PASO
<b>Contact</b>	ROBERT CONCHA JR.
<b>Phone/Fax</b>	915-533-1102 / 915-533-1103
<b>Email Address</b>	<a href="mailto:RCONCHA@ESSCOGROUP.ORG">RCONCHA@ESSCOGROUP.ORG</a>
<b>Website</b>	
<b>Business Description</b>	PROFESSIONAL CIVIL ENGINEERING AND SUBSURFACE UTILITY ENGINEERING SERVICES TX16529
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	24-MAY-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	02-JUN-2024
<b>HUB Eligibility</b>	<u>HI ( Hispanic American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1900186199600 / 50647
<b>Vendor Name</b>	PREMIER CIVIL ENGINEERING, L.L.C.
<b>Vendor Address</b>	1302 CALLE DEL NORTE STE 2 LAREDO, TX 78041-6043 USA
<b>County</b>	WEBB
<b>Contact</b>	Adrian Castillo
<b>Phone/Fax</b>	956-717-1199 / 956-717-1196
<b>Email Address</b>	<a href="mailto:ac@premier-ce.com">ac@premier-ce.com</a>
<b>Website</b>	<a href="http://www.premier-ce.com">http://www.premier-ce.com</a>
<b>Business Description</b>	CIVIL/TRANSPORTATION ENGINEERING, MUNICIPAL, WATER, SANITARY ENGINEERING, BOUNDARY & CONSTRUCTION SURVEYING
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	26-AUG-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	03-DEC-2023
<b>HUB Eligibility</b>	<u>HI ( Hispanic American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 7,15,16,21,22

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1823229512300 / 508258
<b>Vendor Name</b>	BEYOND ENGINEERING AND TESTING, LLC
<b>Vendor Address</b>	3801 DORIS LN SUITE B ROUND ROCK, TX 78664-6103 USA
<b>County</b>	WILLIAMSON
<b>Contact</b>	Winter Yao
<b>Phone/Fax</b>	512-358-6048 / 888-629-1608
<b>Email Address</b>	<a href="mailto:winteryao@beyondet.com">winteryao@beyondet.com</a>
<b>Website</b>	<a href="http://www.BeyondET.com">http://www.BeyondET.com</a>
<b>Business Description</b>	Beyond is a civil engineering consulting firm specialized in geotechnical investigation and engineering, laboratory testing on soil, concrete, aggregate and asphalt, as well as construction material testing/inspection services.
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	26-MAY-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	30-JUL-2022
<b>HUB Eligibility</b>	<u>AS ( Asian-Pacific American )</u>
<b>HUB Gender</b>	<u>F</u>
	Commodity items shown above are available for district(s) 5,6,7,8,12,13,14,15,17,24

<b>CMBL/HUB Vendor Detail</b>	
<b>Vendor ID / Vendor Number</b>	1760609157100 / 80529
<b>Vendor Name</b>	GEOTECH ENGINEERING & TESTING
<b>Vendor Address</b>	17407 HIGHWAY 59 N HUMBLE, TX 77396-3008 USA
<b>County</b>	HARRIS
<b>Contact</b>	David A Eastwood
<b>Phone/Fax</b>	713-699-4000 / 713-699-9200
<b>Email Address</b>	<a href="mailto:de@geotecheng.com">de@geotecheng.com</a>
<b>Website</b>	<a href="http://www.geotecheng.com">http://www.geotecheng.com</a>
<b>Business Description</b>	geotechnical, construction materials, environmental, forensic engineering, soil testing, drilling, asphalt, soils, concrete, cement
<b>Business Category</b>	<u>Architectural/Engineering And Surveying_(05)</u>
<b>Small Business</b>	<u>Y</u>
<b>Service Disabled Veteran</b>	<u>No</u>
<b>CMBL Status</b>	<u>Active Bidder</u>
<b>CMBL Expires</b>	01-OCT-2022
<b>HUB Status</b>	<u>Active Bidder ( A-Approved; Active Texas certified HUB )</u>
<b>HUB Expires</b>	21-JUL-2024
<b>HUB Eligibility</b>	<u>AS ( Asian-Pacific American )</u>
<b>HUB Gender</b>	<u>M</u>
	Commodity items shown above are available for district(s) 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25

**EXHIBIT G -1**

**HUB SUBCONTRACTING PLAN FORM**

**(See attached – 9 pages)**



# HUB Subcontracting Plan (HSP) QUICK CHECKLIST

While this HSP Quick Checklist is being provided to merely assist you in readily identifying the sections of the HSP form that you will need to complete, it is very important that you adhere to the instructions in the HSP form and instructions provided by the contracting agency.

- **If you will be awarding all of the subcontracting work you have to offer under the contract to only Texas certified HUB vendors, complete:**
  - Section 1 - Respondent and Requisition Information
  - Section 2 a. - Yes, I will be subcontracting portions of the contract.
  - Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors.
  - Section 2 c. - Yes
  - Section 4 - Affirmation
  - GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.
- **If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a continuous contract\* in place for more than five (5) years meets or exceeds the HUB Goal the contracting agency identified in the "Agency Special Instructions/Additional Requirements", complete:**
  - Section 1 - Respondent and Requisition Information
  - Section 2 a. - Yes, I will be subcontracting portions of the contract.
  - Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
  - Section 2 c. - No
  - Section 2 d. - Yes
  - Section 4 - Affirmation
  - GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.
- **If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors or only to Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a continuous contract\* in place for more than five (5) years does not meet or exceed the HUB Goal the contracting agency identified in the "Agency Special Instructions/Additional Requirements", complete:**
  - Section 1 - Respondent and Requisition Information
  - Section 2 a. - Yes, I will be subcontracting portions of the contract.
  - Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
  - Section 2 c. - No
  - Section 2 d. - No
  - Section 4 - Affirmation
  - GFE Method B (Attachment B) - Complete an Attachment B for each of the subcontracting opportunities you listed in Section 2 b.
- **If you will not be subcontracting any portion of the contract and will be fulfilling the entire contract with your own resources (i.e., employees, supplies, materials and/or equipment), complete:**
  - Section 1 - Respondent and Requisition Information
  - Section 2 a. - No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources.
  - Section 3 - Self Performing Justification
  - Section 4 - Affirmation

**\*Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service, to include under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.



# HUB Subcontracting Plan (HSP)

In accordance with Texas Gov't Code §2161.252, the contracting agency has determined that subcontracting opportunities are probable under this contract. Therefore, all respondents, including State of Texas certified Historically Underutilized Businesses (HUBs) must complete and submit this State of Texas HUB Subcontracting Plan (HSP) with their response to the bid requisition (solicitation).

**NOTE:** Responses that do not include a completed HSP shall be rejected pursuant to Texas Gov't Code §2161.252(b).

The HUB Program promotes equal business opportunities for economically disadvantaged persons to contract with the State of Texas in accordance with the goals specified in the 2009 State of Texas Disparity Study. The statewide HUB goals defined in 34 Texas Administrative Code (TAC) §20.284 are:

- **11.2 percent for heavy construction other than building contracts,**
- **21.1 percent for all building construction, including general contractors and operative builders' contracts,**
- **32.9 percent for all special trade construction contracts,**
- **23.7 percent for professional services contracts,**
- **26.0 percent for all other services contracts, and**
- **21.1 percent for commodities contracts.**

**- - Agency Special Instructions/Additional Requirements - -**

*In accordance with 34 TAC §20.285(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only the aggregate percentage of the contracts expected to be subcontracted to HUBs with which the respondent **does not** have a **continuous contract\*** in place for **more than five (5) years** shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.*

**SECTION 1: RESPONDENT AND REQUISITION INFORMATION**

- a. Respondent (Company) Name: \_\_\_\_\_ State of Texas VID #: \_\_\_\_\_  
 Point of Contact: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_ Fax #: \_\_\_\_\_
- b. Is your company a State of Texas certified HUB?  - Yes  - No
- c. Requisition #: \_\_\_\_\_ Bid Open Date: \_\_\_\_\_  
(mm/dd/yyyy)

Enter your company's name here: \_\_\_\_\_ Requisition #: \_\_\_\_\_

**SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS**

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, **including contracted staffing, goods and services will be subcontracted**. Note: In accordance with 34 TAC §20.282, a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

- Yes, I will be subcontracting portions of the contract. (If Yes, complete Item b of this SECTION and continue to Item c of this SECTION.)
- No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods and services. (If No, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <b>do not</b> have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to HUBs with which you have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to non-HUBs.
1		%	%	%
2		%	%	%
3		%	%	%
4		%	%	%
5		%	%	%
6		%	%	%
7		%	%	%
8		%	%	%
9		%	%	%
10		%	%	%
11		%	%	%
12		%	%	%
13		%	%	%
14		%	%	%
15		%	%	%
Aggregate percentages of the contract expected to be subcontracted:		%	%	%

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at <https://www.comptroller.texas.gov/purchasing/vendor/hub/forms.php>.)

c. Check the appropriate box (Yes or No) that indicates whether you will be using **only** Texas certified HUBs to perform **all** of the subcontracting opportunities you listed in SECTION 2, Item b.

- Yes (If Yes, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)
- No (If No, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract **with Texas certified HUBs** with which you **do not** have a **continuous contract\*** in place with for **more than five (5) years**, **meets or exceeds** the HUB goal the contracting agency identified on page 1 in the "Agency Special Instructions/Additional Requirements."

- Yes (If Yes, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for **each** of the subcontracting opportunities you listed.)
- No (If No, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed.)

**\*Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.



Enter your company's name here: \_\_\_\_\_ Requisition #: \_\_\_\_\_

**SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS (CONTINUATION SHEET)**

This page can be used as a continuation sheet to the HSP Form's page 2, Section 2, Item b. Continue listing the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

Item #	Subcontracting Opportunity Description	HUBs		Non-HUBs
		Percentage of the contract expected to be subcontracted to HUBs with which you <b>do not</b> have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to HUBs with which you have a <b>continuous contract*</b> in place for <b>more than five (5) years</b> .	Percentage of the contract expected to be subcontracted to non-HUBs.
16		%	%	%
17		%	%	%
18		%	%	%
19		%	%	%
20		%	%	%
21		%	%	%
22		%	%	%
23		%	%	%
24		%	%	%
25		%	%	%
26		%	%	%
27		%	%	%
28		%	%	%
29		%	%	%
30		%	%	%
31		%	%	%
32		%	%	%
33		%	%	%
34		%	%	%
35		%	%	%
36		%	%	%
37		%	%	%
38		%	%	%
39		%	%	%
40		%	%	%
41		%	%	%
42		%	%	%
43		%	%	%
Aggregate percentages of the contract expected to be subcontracted:		%	%	%

**\*Continuous Contract:** Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.

Enter your company's name here: \_\_\_\_\_ Requisition #: \_\_\_\_\_

**SECTION 3: SELF PERFORMING JUSTIFICATION** (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.) If you responded "No" to SECTION 2, Item a, in the space provided below **explain how** your company will perform the entire contract with its own employees, supplies, materials and/or equipment.

[Empty box for self-performing justification]

**SECTION 4: AFFIRMATION**

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.
- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/ProgressAssessmentReportForm.xls>).
- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.
- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.

Signature	Printed Name	Title	Date (mm/dd/yyyy)

**Reminder:**

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.
- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.

**HSP Good Faith Effort - Method A (Attachment A)**

Rev. 2/17

Enter your company's name here: \_\_\_\_\_ Requisition #: \_\_\_\_\_

**IMPORTANT:** If you responded “Yes” to **SECTION 2, Items c or d** of the completed HSP form, you must submit a completed “HSP Good Faith Effort - Method A (Attachment A)” for each of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-a.pdf>

**SECTION A-1: SUBCONTRACTING OPPORTUNITY**

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: \_\_\_\_\_ Description: \_\_\_\_\_

**SECTION A-2: SUBCONTRACTOR SELECTION**

List the subcontractor(s) you selected to perform the subcontracting opportunity you listed above in SECTION A-1. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code “A” signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

**REMINDER:** As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.

# HSP Good Faith Effort - Method B (Attachment B)

Rev. 2/17

Enter your company's name here: \_\_\_\_\_ Requisition #: \_\_\_\_\_

**IMPORTANT:** If you responded "No" to **SECTION 2, Items c and d** of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for **each** of the subcontracting opportunities you listed in **SECTION 2, Item b** of the completed HSP form. You may photo-copy this page or download the form at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf>.

**SECTION B-1: SUBCONTRACTING OPPORTUNITY**

Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: \_\_\_\_\_ Description: \_\_\_\_\_

**SECTION B-2: MENTOR PROTÉGÉ PROGRAM**

If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in **SECTION B-1**, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.

- Yes (If *Yes*, continue to SECTION B-4.)
- No / Not Applicable (If *No* or *Not Applicable*, continue to SECTION B-3 and SECTION B-4.)

**SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY**

When completing this section you **MUST** comply with items **a, b, c and d**, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person. When sending notice of your subcontracting opportunity, you are encouraged to use the attached HUB Subcontracting Opportunity Notice form, which is also available online at <https://www.comptroller.texas.gov/purchasing/docs/hub-forms/HUBSubcontractingOpportunityNotificationForm.pdf>.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

- a.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.
- b.** List the **three (3) Texas certified HUBs** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

Company Name	Texas VID <small>(Do not enter Social Security Numbers.)</small>	Date Notice Sent <small>(mm/dd/yyyy)</small>	Did the HUB Respond?
			<input type="checkbox"/> - Yes <input type="checkbox"/> - No
			<input type="checkbox"/> - Yes <input type="checkbox"/> - No
			<input type="checkbox"/> - Yes <input type="checkbox"/> - No

- c.** Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to **two (2)** or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at <https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php>.
- d.** List **two (2) trade organizations or development centers** you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

Trade Organizations or Development Centers	Date Notice Sent <small>(mm/dd/yyyy)</small>	Was the Notice Accepted?
		<input type="checkbox"/> - Yes <input type="checkbox"/> - No
		<input type="checkbox"/> - Yes <input type="checkbox"/> - No

# HSP Good Faith Effort - Method B (Attachment B) Cont.

Enter your company's name here: \_\_\_\_\_ Requisition #: \_\_\_\_\_

**SECTION B-4: SUBCONTRACTOR SELECTION**

Enter the item number and description of the subcontracting opportunity you listed in **SECTION 2, Item b**, of the completed HSP form for which you are completing the attachment.

- a. Enter the item number and description of the subcontracting opportunity for which you are completing this Attachment B continuation page.

Item Number: \_\_\_\_\_ Description: \_\_\_\_\_

- b. List the subcontractor(s) you selected to perform the subcontracting opportunity you listed in **SECTION B-1**. Also identify whether they are a Texas certified HUB and their Texas Vendor Identification (VID) Number or federal Employer Identification Number (EIN), the approximate dollar value of the work to be subcontracted, and the expected percentage of work to be subcontracted. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at <http://mycpa.cpa.state.tx.us/tpasscmbsearch/index.jsp>. HUB status code "A" signifies that the company is a Texas certified HUB.

Company Name	Texas certified HUB	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Approximate Dollar Amount	Expected Percentage of Contract
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%
	<input type="checkbox"/> - Yes <input type="checkbox"/> - No		\$	%

- c. If any of the subcontractors you have selected to perform the subcontracting opportunity you listed in **SECTION B-1** is **not** a Texas certified HUB, provide written justification for your selection process (attach additional page if necessary):

**REMINDER:** As specified in SECTION 4 of the completed HSP form, if you (respondent) are awarded any portion of the requisition, you are required to provide notice as soon as practical to **all** the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity it (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.



# HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of \$100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

## SECTION A: PRIME CONTRACTOR'S INFORMATION

Company Name: \_\_\_\_\_  
 Point-of-Contact: \_\_\_\_\_  
 E-mail Address: \_\_\_\_\_

State of Texas VID #: \_\_\_\_\_  
 Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

## SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

Agency Name: \_\_\_\_\_  
 Point-of-Contact: \_\_\_\_\_  
 Requisition #: \_\_\_\_\_

Phone #: \_\_\_\_\_  
 Bid Open Date: \_\_\_\_\_  
(mm/dd/yyyy)

## SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

### 1. Potential Subcontractor's Bid Response Due Date:

If you would like for our company to consider your company's bid for the subcontracting opportunity identified below in Item 2,

we must receive your bid response no later than \_\_\_\_\_ on \_\_\_\_\_  
Central Time Date (mm/dd/yyyy)

*In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting our bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).*

*(A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.)*

### 2. Subcontracting Opportunity Scope of Work:

### 3. Required Qualifications:

- Not Applicable

### 4. Bonding/Insurance Requirements:

- Not Applicable

### 5. Location to review plans/specifications:

- Not Applicable

**EXHIBIT G-2**

**PROGRESS ASSESSMENT REPORT FORM**

**(See attached – 1 Page)**



# HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report

Rev. 10/16

*This form must be completed and submitted to the contracting agency each month to document compliance with your HSP.*

Contract/Requisition Number: \_\_\_\_\_ Date of Award: \_\_\_\_\_ Object Code: \_\_\_\_\_  
 Contracting Agency/University Name: \_\_\_\_\_  
 Contractor (Company) Name: \_\_\_\_\_ State of Texas VID #: \_\_\_\_\_  
 Point of Contact: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 Reporting (Month) Period: \_\_\_\_\_ Total Amount Paid this Reporting Period to Contractor: \$ \_\_\_\_\_

## Report HUB and Non-HUB subcontractor information

When verifying subcontractors' HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized (HUB)

Directory Search located at: <http://mycpa.cpa.state.tx.us/tpasscmlsearch/index.jsp> HUB status code "A" signifies that the company is a Texas certified HUB.

Subcontractor's Name	Texas certified HUB (Yes or No)	Texas VID or federal EIN <small>Do not enter Social Security Numbers. If you do not know their VID / EIN, leave their VID / EIN field blank.</small>	Total Contract \$ Amount from HSP with Subcontractor	Total \$ Amount Paid this Reporting Period to Subcontractor	Total Contract \$ Amount Paid to Date to Subcontractor	Object Code <small>(Agency Use Only)</small>
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Signature: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_



**EXHIBIT H**

**PROJECT INSURANCE REQUIREMENTS**

**[See attached - 10 pages]**

## EXHIBIT H

### PROJECT INSURANCE REQUIREMENTS

#### A. INSURANCE REQUIREMENTS

Design-Build Firm shall purchase, maintain, and keep in full force and effect, and shall require its Architect, Consultants, and Subcontractors purchase, maintain and keep in full force and effect at all times during the term of this Agreement such lines of insurance coverage with policy limits set forth in this **Exhibit H**, unless higher limits are provided in UGC Section 5.2, such that the greater/higher limit is obtained. Each policy shall be written with limits not less than those set forth this **Exhibit H**. Design-Build Firm will comply and will require its Architect, Consultants, and Subcontractors comply fully with all requirements of this **Exhibit H** prior to the commencement of any Work for the Project. This **Exhibit H** and UGC §5.2 are intended to be mutually explanatory of each other; however, in the event of a conflict between this **Exhibit H** and UGC §5.2, this **Exhibit H** will control. The terms “TFC,” “Indemnatee,” “Indemnitees,” “Design-Build Firm,” “Architect”, and “Subcontractor” shall each have the meanings set forth in the Agreement. Where necessary, Design-Build Firm, Architect, Consultants, and Subcontractors will be collectively referred to as “Contracting Parties”.

1. Required Coverages. The Contracting Parties will obtain the following policies with the policy limits as indicated below:

[INTENTIONALLY LEFT BLANK – POLICY LIMITS FOLLOW]

Policy	Design Builder		Subcontractors	Design Professionals
	Preconstruction	Construction		
<b>Worker's Compensation</b>	Statutory	Statutory	Statutory	Statutory
<b>Employer's Liability Insurance:</b>				
Bodily Injury by Accident (accident)	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Bodily Injury by Disease (policy limit)	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Bodily Injury by Disease (each employee)	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
<b>Commercial General Liability</b> (\$500,000 limits can be supplemented with Umbrella/Excess Liability)	\$2,000,000 each occurrence \$4,000,000 annual general aggregate \$4,000,000 products-completed operations aggregate	\$2,000,000 each occurrence \$4,000,000 annual general aggregate \$4,000,000 products-completed operations aggregate	\$1,000,000 each occurrence \$2,000,000 annual general aggregate \$2,000,000 products-completed operations aggregate	\$1,000,000 each occurrence \$2,000,000 annual general aggregate \$2,000,000 products-completed operations aggregate \$1,000,000 personal and advertising injury
<b>Automobile Liability*</b> *coverage must include loading and unloading hazards	\$1,000,000 each accident	\$1,000,000 each accident	\$1,000,000 each accident	\$1,000,000 each accident
<b>Umbrella/Excess Liability</b>	\$14,000,000 each occurrence Same as each occurrence for aggregate	\$14,000,000 each occurrence Same as each occurrence for aggregate		\$5,000,000 each occurrence \$5,000,000 aggregate
<b>Cyber/Privacy Liability</b>	\$2,000,000 per claim/\$2,000,000 aggregate	\$2,000,000 per claim/\$2,000,000 aggregate		\$2,000,000 per claim/\$2,000,000 aggregate
<b>Pollution Liability</b>	\$5,000,000 each occurrence \$5,000,000 aggregate	\$5,000,000 each occurrence \$5,000,000 aggregate		N/A
<b>Professional Liability</b>	\$2,000,000 each claim \$2,000,000 annual aggregate	\$2,000,000 each claim \$2,000,000 annual aggregate		\$2,000,000 each claim \$2,000,000 annual aggregate
<b>Builder's Risk (including Installation Floater)</b>		100% of Stipulated Sum on a replacement cost basis		N/A

**2. Worker's Compensation/Employer's Liability.** Worker's Compensation insurance coverage must be provided for all workers at all tier levels and shall meet the statutory requirements of *Tex. Labor Code §401.011(44)* and, specific to construction projects for public entities, as required under *Tex. Labor Code §406.096*. In addition:

H.1 (a) **Certifications.** Design-Build Firm hereby certifies, pursuant to *Tex. Labor Code §406.096(a)*, that Design-Build Firm provides or will provide at, or prior to, execution of the Agreement, workers' compensation and employers' liability insurance for employees employed on

this public project with limits as indicated above. Pursuant to *Tex. Labor Code § 406.096(b)*, Design-Build Firm shall require Architect, Consultants, and Subcontractors to certify in writing to the Design-Build Firm that said entity provides workers' compensation and employers' liability insurance for its personnel employed on this public project. In keeping with *Tex. Gov't. Code § 5.2*, TFC is entitled, upon request and without expense, to receive copies of Subcontractor's written certifications. Design-Build Firm shall forward said certifications to TFC within ten (10) Days of the effective date of the Agreement.

H.2 (b) **Endorsements.** This policy must include an Other States Endorsement to include the TFC and the State of Texas if Design-Build Firm's business is domiciled outside the State of Texas. The policy will be endorsed to name TFC as the alternate employer.

H.3 (c) All policies shall be endorsed to include Waiver of Subrogation in favor of TFC and all Indemnitees.

**3. Commercial General Liability.** Commercial General Liability coverage ("CGL") shall be provided by all Contracting Parties on ISO occurrence form CG 00 01 (or a substitute form providing equivalent coverage). The CGL insurance general aggregate limit shall apply separately to this Project and the Contracting Parties shall provide evidence of same through ISO Endorsement CG 25 03 05 09. The policy shall include endorsement CG2503, Amendment of Aggregate Limits of Insurance (per Project), or its equivalent. CGL insurance shall cover liability including, but not limited to, liability arising from premises, operations, independent contractors, products-completed operations, personal and advertising injury, electronic data liability (under endorsement ISO CG 04 37), property damage, and personal injury and death resulting therefrom. This policy shall provide for full separation of insureds and shall **not** include any insured v. insured exclusions or limitations. The following is a non-exclusive list of additional prohibited exclusions and limiting endorsements:

- Liability assumed by all Contracting Parties under a written agreement, including any contractual liability limitation endorsement restricting coverage to only liability that would exist in the absence of a contract, such as the ISO CG 21 39 or its equivalent, or any amendment of insured contract definition endorsement such as the ISO CG 24 26 or its equivalent.
- Explosion, collapse, underground property damage, blasting, blowouts, cratering, or the like, including any Explosion, Collapse And Underground Property Damage Hazard endorsement such as the ISO CG 21 42 or ISO CG 21 43 endorsements, or their equivalent.
- Cross-liability on claims between any insureds, other than claims between named insureds.
- Injury to independent contractors and employees of independent contractors.
- Any exclusion relating to damage to work performed by Subcontractors on behalf of Design-Build Firm (or Subcontractors on behalf of a Subcontractor) such as the ISO CG 22 94 or ISO CG 22 95, or their equivalent.
- Any type of classification or business description limitation endorsement.
- Any type of endorsement excluding coverage for construction defects in the completed operations phase.
- Any type of endorsement modifying the employer's liability exclusion.

- Any type of habitational or residential exclusion.
- Any type of punitive, exemplary or multiplied damages exclusion.
- Any type of subsidence exclusion if Design-Build Firm or any Subcontractor is engaged in any type of earth movement work, including but not limited to soil compaction, fill, or installation of storm or sewer drains.

TFC reserves the right to notify Design-Build Firm of any additional prohibited exclusions or endorsements in advance of placing the insurance. A copy of the CGL Schedule of Forms and Endorsement page(s) of the policy shall be provided to verify the coverages required, that the Endorsements required by these insurance requirements are included, and that none of the prohibited exclusions exist in the policy. TFC may require additional exclusions be removed. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs maintained by TFC. CGL insurance must be kept in force at all times during the course of this Agreement and until all claims arising out of the Work are barred by the statute of repose provided under Texas law.

**4. Automobile Liability Insurance.** Automobile liability insurance policies shall be provided by all Contracting Parties. This policy shall cover liability arising out of any auto (including owned, hired, and non-owned autos) used in connection with the Work on the Project and shall include coverage for loading and unloading hazards. Automobile liability coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01. No aggregate shall be permitted.

**5. Umbrella/Excess Liability Insurance.** An Excess or Umbrella liability insurance policy shall be provided by all Contracting Parties, each with limits as indicated in Paragraph 1. This policy shall be excess of the CGL, automobile liability, and employers liability insurance on a “following form” basis of underlying policies. This policy shall be excess over and be no less broad than the CGL, Automobile Liability, Employer’s Liability as described in these insurance requirements, including but not limited to the required additional insured status, designated project(s) and/or location(s), general aggregate, waiver of subrogation, notice of cancellation, and prohibited exclusions or limitations. The policy shall provide coverage where underlying primary insurance coverage limits are exhausted or otherwise unavailable or inadequate to cover a loss. Any excess or umbrella policy shall be kept in force at all times during the course of this Agreement and until all claims arising out of the Work are barred by the statute of repose provided under Texas law.

**6. Cyber/Privacy Liability Coverage.** Cyber/Privacy liability insurance shall be provided by Design-Build Firm, Architect, and each Subcontractor to cover risk of loss to electronic data. Each policy must include coverage for electronic vandalism to electronic data, including coverage for a third party’s willful alteration of data, introduction of viruses which impact electronic data, unauthorized use of electronic data, and denial of service to website or email destinations.

**7. Pollution Liability Coverage.** Design-Build Firm, Architect, and each Subcontractor will provide a pollution liability policy that covers a pollution event or release on the Project resulting from their activities under and during the term of this Agreement and for completed operations. The Pollution Liability policy shall provide coverage for “sudden & accidental” and gradual occurrences arising from the Work performed under this Agreement. The annual aggregate shall apply separately to this Project. Pollution liability insurance with coverage as specified herein shall be maintained until all claims arising out of the Work are barred by applicable statutes of limitation and repose.

H.4 Purchase of an extended discovery period or an extended reporting period will not be sufficient to comply with each entity's obligations hereunder. This policy shall include coverage for: (i) the full scope of the particular entity's operations (on-going and completed), as described in this Agreement or in any subcontract or separate agreement concerning the Project; (ii) losses arising from pollutants, including but not limited to fungus, bacteria, biological substances, mold, microbial matter, asbestos, lead, silica and contaminated drywall; (iii) third party liability for bodily injury, property damage, clean up expenses, and defense costs arising from the entity's operations; (iv) diminution of value and natural resources damages; (v) contractual liability; (vi) claims arising from use of any owned or non-owned disposal sites arising out of the insured entity's activities in connection with this Agreement; (vii) bodily injury to include physical injury, sickness, disease, death, mental anguish, medical monitoring and emotional distress sustained by any person; and (viii) all attorneys' fees, expenses and other costs that are related to or that arise out of or from the investigation or adjustment of any claim or in connection with any court, arbitration, mediation, state administrative hearing, or other proceeding of any kind that arise out of or that are related to a Pollution Condition(s). Coverage under this policy shall include a 7-day minimum occurrence period for emergency response costs. The Pollution Liability insurance policy shall not include any type of exclusion or limitation of coverage applicable to claims arising from any of the following:

- Insured vs. insured actions (however, an exclusion for claims made between insureds within the same economic family is acceptable).
- Impaired property that has not been physically injured.
- Materials supplied or handled by the named insured; any exclusionary language pertaining to materials supplied by the insured is subject to the TFC's review and approval.
- Property damage to the work performed by any of the Contracting Parties.
- Faulty workmanship as it relates to clean up costs.
- Punitive, exemplary or multiplied damages.
- Work performed by Subcontractors or subcontractors of any tier.
- Contractual liability incurred as a result of an injury to an employee of the insured.

H.5 "Pollution Condition(s)" means the discharge, dispersal, release or escape of any solid, liquid, gaseous or thermal irritant or contaminant, including, but not limited to, smoke, sewage, vapors, soot, fumes, acids, alkalis, toxic chemicals, medical waste, mold, silt, sedimentation, low-level radioactive material and waste materials into or upon land, the atmosphere or any watercourse or body of water, including groundwater, provided such conditions are not naturally present in the *environment* in the amounts or concentrations discovered.

**8. Professional Liability Coverage.** Contracting Parties will each provide Professional liability coverage ("PL") as will insure from and against all negligent acts, errors, and omissions in any services performed by the Contracting Party, its agents, representatives, employees, and lower-tier contractors. PL coverage shall provide full prior acts coverage or a retroactive date not later than the date the services are first performed by the entity in connection with the Project. This policy shall not include any type of exclusion or limitation of coverage applicable to claims arising from: (i) bodily injury or property damage where coverage is provided on behalf of design professionals or Subcontractors; (ii) habitational or residential operations; (iii) pollution, mold and/or microbial matter and/or fungus and/or biological substance; (iv) punitive, exemplary or multiplied damages; (v) professional liability of the Design-Build Firm arising out of the negligence of Design-Build Firm; or (vi) design/build services. This insurance shall

be maintained until all claims arising out of the Work are barred by applicable statutes of limitation and repose.

**9. Builder's Risk Coverage.** Builder's Risk coverage shall be purchased by the Design-Build Firm for the entire Project on an "all risk" completed value form at 100% of the Stipulated Sum with coverage automatically increasing to provide constant limits of insurance at full 100% of all insurable values as they are created during construction and to cover the amount of any Change Orders, TFC Change Directives, or Modifications that increase the replacement value of the Project. Coverage shall be at least as broad as an unmodified ISO Special Causes of Loss Form ISO CP 10 30 06 95 and shall include coverage for fire, extended coverage, vandalism and malicious mischief, theft, collapse, flood and earth movement, and named storm. Any exclusions to this Builder's Risk coverage form require TFC approval. Such insurance shall (a) designate the TFC and Indemnitees, Design-Build Firm, all Subcontractors of any tier (as their interests appear), and all loss payees and mortgagees (as their interests appear) as additional named insureds on the policy; and (b) be primary and non-contributing to any other insurance coverage available to the additional named insureds, as to whom their other insurance shall be excess, secondary and noncontributing to losses covered by Builder's Risk Insurance. The Builder's Risk Insurance shall not include any requirement that protective safeguards are in-place or maintained on the Project. The termination of coverage provision shall be endorsed to permit coverage to continue during any interim period of occupancy of the covered property while being constructed. This insurance shall be maintained in effect until the earlier of the following dates: (i) the date on which termination of coverage has been approved after final payment has been issued to and accepted by the Design-Build Firm, as provided for in the Contract Documents; or (ii) the date on which the insurable interests in the covered property of all insureds other than the TFC have ceased. Loss, if any, shall be adjusted with and made payable to TFC as trustee for the insureds. Such insurance shall cover at a minimum the following:

- All structure(s) under construction, including retaining walls, paved surfaces and roadways, bridges, glass, foundation(s), footings, underground pipes and wiring, excavations, grading, backfilling or filling.
- All temporary structures (e.g., fencing, scaffolding, cribbing, false work, forms, site lighting, temporary utilities and buildings) located at the site.
- All property including materials and supplies on site for installation and at other locations but intended for use at the site.
- All property including materials and supplies in transit to the site for installation by all means of transportation other than ocean transit.
- The cost of debris removal equal to the lesser of: (i) 25% of the amount of loss, or (ii) \$5,000,000 per occurrence.
- Other property for which an insured is liable in connection with the Project, including TFC furnished or assigned property.

- .1 For renovation projects or projects that involve portions of Work contained within an existing structure, the policy must also include coverage in the additional sum of \$1,000,000.00, or the value of the total Contract Sum, whichever is less. These policy limits are in addition to the Builder's Risk policy limit that is equal to the total Contract Sum for Existing Property and TFC-Furnished Items, if any, specified by TFC. For purposes herein, "Existing Property" means existing buildings or structures, as well as, all personal property contained therein, but does not include personal property owned or operated by Design-Build Firm or any Subcontractors.

- .2 For TFC-Furnished Items or materials that will be in care, custody or control of Design-Build Firm, Design-Build Firm shall be responsible for any and all damages and losses thereto.
- .3 **Sublimits**. For those properties located within a Tier 1 or 2 windstorm area, named storm coverage must be provided with limits as specified by TFC. For those properties in flood prone areas, floor insurance coverage must be provided with limits specified by TFC. TFC may specify additional sublimits applicable to the Project in the Special Terms and Conditions.
- .4 The policy shall include the following endorsements:
  - i. Builder's Risk insurance shall be specific as to coverage and not contributing insurance with any permanent insurance maintained on the property;
  - ii. The policy shall not contain an occupancy clause suspending or reducing coverage should TFC partially occupy the Site and before the parties have determined Substantial Completion; and
  - iii. Valuation of any loss for the renovation and any existing property (exclusive of building and existing structures) shall be at replacement cost.
- .5 **Deductibles**. Deductibles shall not exceed the following:
  - i. All risks of direct damage, \$25,000 per occurrence.
  - ii. Delayed Opening Waiting Period: 5 days.
  - iii. Earthquake and Earthquake Sprinkler Leakage, \$100,000 per occurrence.
  - iv. Flood. The deductible per occurrence shall be 5% of the value-at-risk-at-time-of-loss ("VARTOL") with a minimum VARTOL of \$250,000. If flood insurance is purchased through National Flood Insurance Program, the deductible shall be the maximum amount of insurance purchased thereunder.
- .6 The Builder's Risk policy shall remain in effect until the time TFC has approved the transfer of the risk of loss to the Project.
- .7 Additional requirements may be specified by TFC in the Special Terms and Conditions.

**10. Insurance Required of Subcontractors**. Each Subcontractor must provide all coverages identified above with limits as set forth in Paragraph 1 above. The limits of such insurance may be adjusted in accordance with the nature of each Subcontractor's operations but, if such adjustment is requested, it must be submitted to TFC for approval before the Subcontractor enters into an agreement or any Work commences under the agreement in question. Additionally, all Subcontractors shall comply with (i) UGC Section 5.2 as it concerns policies and Subcontractor requirements therein, and (ii) the provisions set forth in this Exhibit.

**11. Inclusion of Insurance Information in Bid Packages**. Design-Build Firm shall include required insurance information in trade bid/proposal packages and indicate on bid/proposal forms the insurance that bidders/proposers are to include in their responses. The Design-Build Firm shall not commence any phase of the Work under this Agreement until it has obtained all insurance required for that phase and until



evidence of the required insurance has been reviewed and approved by the TFC. TFC's review and approval of the insurance shall not affect the liability of either party.

**12. General Terms for All Insurance Policies.** All insurance coverages must be placed with carriers acceptable to TFC, licensed to do business in Texas and rated A-/VII or better by A.M. Best, confirmed by one or more insurance certificates on an Acord 25 form, with all information fully provided as required by the form. All insurance coverages shall be written on an occurrence basis (except Professional Liability) and shall be primary and not excess insurance vis-à-vis any coverage, any self-insurance, or other policy of insurance maintained by TFC. Any coverage underwritten on a claims-made basis must include a retroactive date for the policy and all renewals must be coincident with the effective date of the Agreement. Any premiums for this extended reporting period shall be paid by Design-Build Firm. Certificates of insurance and additional insured endorsements required herein shall provide that the policies shall be primary without right of contribution from any insurance carried by TFC. Each policy, other than Worker's Compensation/Employer's Liability and Professional Liability, shall contain a severability of interest clause stating, "*it is agreed that the insurance afforded by this policy shall apply separately to each insured against whom claim is made or suit is brought except with respect to the limits of the company's liability.*" Each policy shall provide for full separation of insureds and include no insured v. insured limitations or exclusions.

**13. Additional Insured Status.** TFC and Indemnitees (as defined in the Agreement) and their officers, directors, agents, and employees shall be included as additional insureds on policies procured by each of the Contracting Parties, except Worker's Compensation, Professional Liability, and Builder's Risk, using ISO Additional Insured Endorsements CG 20 10 10 01 (ongoing operations) and CG 20 37 10 01 (Completed Operations) or their equivalent, as approved by TFC. Additional named insured requirements for the Builder's Risk coverage are contained in Paragraph 10 above wherein TFC and the Indemnitees shall be listed as additional named insureds. All Contracting Parties shall provide additional insured endorsements demonstrating the additional insured status of TFC and the Indemnitees as provided herein on such forms as required by TFC.

**14. Waivers of Subrogation.** All Worker's Compensation, Employers' Liability, Automobile Liability, CGL, Excess Liability, Builder's Risk, and Pollution Liability insurance policies (including those procured by Architect, Consultants, and Subcontractors) must contain an endorsement to the effect that the issuer waives any claim or right of subrogation to recover against TFC and Indemnitees and their officers, directors, agents, and employees. With respect to all such policies, Design-Build Firm waives any and all rights of recovery or subrogation against TFC and its Indemnitees and their officers, directors, agents, and employees.

**15. Evidence/Proof of Insurance/Endorsements.** Evidence of the insurance coverage required of the Contracting Parties must be furnished to TFC before commencement of the Work (or, with respect to Architect, Consultants, and Subcontractors, before such entity begins its portion of the Work) and as coverage renews. Evidence of coverages shall be provided in certificates of insurance with a copy of the Commercial General Liability policies and all endorsements. The insurance policies shall provide or be endorsed to include a requirement for each insurer to give TFC notice at least thirty (30) Days prior to any (i) non-renewal; (ii) cancellation; or (iii) material change. "Material Change" includes, without limitation (i) a change in the policy period; (ii) a material revision to, or removal of, a coverage section; (iii) a reduction of the amount of limits of insurance, provided such reduction is not the result of payment of damages, medical expenses, or claim expenses; or (iv) an increase of the amount of any self-insured retentions. Similarly, the Commercial General Liability policy shall be endorsed to include a 10-day Notice of Non-Payment of Premium in favor of TFC.

**16. Notification to TFC.** Any and all policies, endorsements, approvals, certificates of insurance and/or notifications of cancellation, non-renewal, or material change shall be transmitted to:

The Texas Facilities Commission  
Attention: Insurance Specialist  
P.O. Box 13047  
Austin, Texas 78711  
[Insurance@tfc.texas.gov](mailto:Insurance@tfc.texas.gov)

**17. Deductibles, Retentions & Exclusions.** Insurance deductibles shall be paid by Design-Build Firm, Architect, Consultant, or Subcontractor without reimbursement by TFC. Any under-insurance, self-insurance, self-insured retentions (SIR), deductibles, and exclusions in coverage in the insurance policies required under this agreement to the extent applicable, shall be assumed by, for the account of and at the sole risk of Design-Build Firm, Architect, Consultant, and Subcontractors. All deductibles and self-insured retentions shall be disclosed to TFC before the placement of any insurance or commencement of the Work under the Agreement. No deductible or self-insured retention shall exceed **\$100,000.00**, without prior written approval of TFC.

**18.** If Design-Build Firm elects to self-insure or to maintain insurance required herein subject to deductibles and/or retentions exceeding the foregoing deductible amounts, Design-Build Firm shall be obligated to grant TFC all rights against Design-Build Firm to the same extent as if Design-Build Firm had maintained the insurance required hereunder with a commercial insurer, including but not limited to additional insured status (as to liability policies other than Workers' Compensation Insurance and Professional Liability Insurance), primary and non-contributory liability, waivers of rights of recovery, other insurance clauses, and any other extensions of coverage required herein. Design-Build Firm shall pay from its assets the costs, expenses, damages, claims, losses and liabilities, including attorney's fees and necessary litigation expenses at least to the same extent all of the foregoing would have been covered had Design-Build Firm maintained the insurance required hereunder with a commercial insurer.

**19. Design-Build Firm's Duty to Review.** Design-Build Firm represents and acknowledges it has carefully reviewed its insurance program with its legal and risk advisors and believes its insurance policies comply with the insurance requirements in this Agreement, and further acknowledges a continuing obligation to ensure its insurance policies remain compliant herewith. Within 48 hours of a written request by TFC, Design-Build Firm shall submit true and complete copies of Design-Build Firm's policies of insurance in electronic form by emailing true and complete of such policies to TFC's insurance analyst. The true and complete copies of all applicable insurance policies shall be submitted in a timely manner, as no contract will be executed without the receipt, review, negotiation, and TFC acceptance, of the submitted policies. The policies shall include therewith a letter provided by Design-Build Firm's broker, agent, or its applicable insurance carrier representative for each policy, certifying that the electronic copies of the policies as furnished are true and correct copies. In addition, upon conducting such review, if TFC's insurance analyst determines Design-Build Firm's insurance policies contain deficiencies that cause such policies to fail to comply with the insurance requirements of this Agreement, Design-Build Firm agrees to reimburse TFC for all costs and fees incurred in attempting to resolve such policy deficiencies by modification or special endorsement thereof. Design-Build Firm shall not cause or permit any required insurance to cancel or lapse prior to the expiration of all warranty periods, provided however, policy duration for Builder's Risk (or as applicable, an installation floater) is not governed by this provision. Design-Build Firm must update all expired policies prior to submission of any pay application.

**20. Right to Review.** TFC reserves the right to review all insurance requirements and to require deletion, revision, and/or modification of particular policy terms, conditions, limitations, or exclusions (except where policy provisions are established by law or regulations that are binding upon TFC, Design-Build Firm, or the underwriter) on any such policies when deemed necessary and prudent by TFC based

upon changes in statutory law, court decisions, or the claims history of the industry and/or of Design-Build Firm, provided however, such modifications must be commercially available to Design-Build Firm. TFC shall make an equitable adjustment to the Stipulated Sum for any additional cost resulting therefrom.

**21. Failure to Obtain or Maintain.** Failure to timely obtain and maintain the insurance coverages as required under this Agreement may subject Design-Build Firm to disqualification from eligibility to participate in any other or future projects with TFC and/or suspension or termination of Work for cause pursuant to UGC Article 14. Design-Build Firm shall provide TFC thirty (30) Days' written notice of erosion of any aggregate limits below the minimum amounts required by this Agreement. In the event Design-Build Firm fails to timely renew or pay any of the renewal premiums for any expiring policies, TFC shall have the right (but not the obligation) to: (i) make such payments; and/or (ii) acquire replacement coverage, and set off the amount(s) or costs thereof against the next payment(s) coming due to Design-Build Firm under this Agreement or under any other contract between TFC and Design-Build Firm. TFC may withhold any payments due to Design-Build Firm from this Project or any other TFC project until satisfaction is achieved.

**22. Enforceability of Requirements.** None of the requirements contained herein as to types, limits, or TFC's approval of insurance coverage to be maintained by Design-Build Firm, Architect, Consultants, or any Subcontractors is intended to and shall not in any manner limit, qualify, or quantify the liabilities and obligations assumed by Design-Build Firm under the Agreement or otherwise provided by law. All insurance coverages required by the Agreement, as amended by TFC, shall be written in strict conformance with these requirements to provide complete and full coverage to TFC for Design-Build Firm's, Architect's, Consultants', and Subcontractors' operations and completed operations. If coverages and/or specified endorsements are not available due to a change in Texas law, Design-Build Firm shall secure equivalent coverages, which shall be subject to approval by TFC. To the extent any provision of these insurance requirements is held to be void, voidable, invalid, or unenforceable, the remainder of these insurance requirements shall not be affected thereby and shall remain valid and fully enforceable.

**23. Losses Paid by Design-Build Firm.** Actual losses not covered by insurance as required by this Agreement shall be paid by Design-Build Firm. Design-Build Firm hereby waives all rights of recovery and releases, and shall cause the Architect, all Consultants, and its Subcontractors to release TFC from any and all claims or causes of action whatsoever which Design-Build Firm, Architect, Consultants, and/or Subcontractors might otherwise now or hereafter possess resulting in or from or in any way connected with any loss covered by insurance, or which should have been covered by insurance required herein, including the deductible and/or uninsured portion thereof, maintained and/or required to be maintained by Design-Build Firm, Architect, Consultants, or Subcontractors pursuant to this Agreement.

**24. TFC a Third-Party Beneficiary.** It is hereby acknowledged and agreed that, based on the Agreement into which this **Exhibit H** is incorporated, TFC is intended to be and hereby is a third-party beneficiary of any agreement(s) between Design-Build Firm, Architect, Consultants, and any and all Subcontractors and persons who procure, or cause to be procured any insurance policy and any renewals thereof, for the Project.

**25. Required Insurance Coverages No Effect On Indemnification.** The insurance and insurance limits required herein shall not be deemed as a limitation on Design-Build Firm's liability under the indemnifications granted to TFC.

**26. No Warranty That Insurance Limits Will Be Adequate to Fully Protect Design-Build Firm.** The insurance requirements set out herein shall not be interpreted as any representation or warranty that the insurance coverage and limits will necessarily be adequate to fully protect Design-Build Firm.

**EXHIBIT I**  
**INTENTIONALLY OMITTED**

**Exhibit J-1**  
**Form of Performance Bond**  
**(2 Pages)**

**EXHIBIT J-1**

**FORM OF PERFORMANCE BOND**

STATE OF TEXAS  
COUNTY OF \_\_\_\_\_

LET IT BE KNOWN BY THIS INSTRUMENT:

That we, \_\_\_\_\_ as principal  
and we \_\_\_\_\_ a corporation  
duly authorized to do business in this State, as Surety(s), are this date held and firmly  
bound unto the State of Texas in the amount of \_\_\_\_\_

\_\_\_\_\_ Dollars \$ \_\_\_\_\_

for payment of which indemnity, the said Principal and Surety, by this declaration, do firmly bind themselves, their heirs, executors, administrators, successors and assigns, jointly and individually.

Since a Contract, which by reference is made a part hereof, exists between Principal and the State of Texas, acting by and through the Texas Facilities Commission, and dated

\_\_\_\_\_ for the \_\_\_\_\_

The conditions of this obligation are, therefore, such that it shall remain in full force and effect unless and until the Principal shall faithfully perform the Contract in accordance with the Contract Documents.

In the event of Principal's failure, as defined by the Contract Documents, to faithfully perform the Contract, Surety(s) will within fifteen (15) Days of determination of default, assume full responsibility for completion of said Contract and become entitled to payment of the balance of the Contract amount.

The liabilities, rights, limitations, and remedies concerning this Bond shall be determined in accordance with the provisions of Chapter 2253 of the Texas Government Code, amended by Acts of 73<sup>rd</sup> Legislature, 1993 pursuant to which Bond is executed.

IN WITNESS TO THIS DECLARATION, the said Principal and Surety(s) have signed and sealed this instrument

this \_\_\_\_ day of \_\_\_\_\_

PRINCIPAL

SURETY

By \_\_\_\_\_ By \_\_\_\_\_

Bond Identification No. \_\_\_\_\_

\_\_\_\_\_  
Address of Attorney-In-Fact

\_\_\_\_\_  
Telephone No. of Attorney-In-Fact

**Exhibit J-2**  
**Form of Payment Bond**  
**(1 Page)**



**EXHIBIT J-2**

**FORM OF PAYMENT BOND**

STATE OF TEXAS  
COUNTY OF \_\_\_\_\_

LET IT BE KNOWN BY THIS INSTRUMENT:

That we, \_\_\_\_\_ as principal  
and we \_\_\_\_\_ a corporation  
duly authorized to do business in this State, as Surety(s), are this date held and firmly  
bound unto the State of Texas in the amount of \_\_\_\_\_

\_\_\_\_\_ Dollars \$ \_\_\_\_\_  
for payment of which indemnity, the said Principal and Surety, by this declaration, do firmly bind themselves,  
their heirs, executors, administrators, successors and assigns, jointly and individually.

Since a Contract, which by reference is made a part hereof, exists between Principal and the State of Texas,  
acting by and through the Texas Facilities Commission, and dated \_\_\_\_\_ for the \_\_\_\_\_

The conditions of this obligation are, therefore, such that it shall remain in full force and effect unless and until  
the Principal shall faithfully perform the Contract in accordance with the Contract Documents.

The liabilities, rights, limitations, and remedies concerning this Bond shall be determined in accordance with the  
provisions of Chapter 2253 of the Texas Government Code, amended by Acts of 73<sup>rd</sup> Legislature, 1993 pursuant  
to which Bond is executed.

IN WITNESS TO THIS DECLARATION, the said Principal and Surety(s) have signed and sealed this  
instrument

this \_\_\_\_ day of \_\_\_\_\_

PRINCIPAL

SURETY

By \_\_\_\_\_ By \_\_\_\_\_

Bond Identification No. \_\_\_\_\_

\_\_\_\_\_  
Address of Attorney-In-Fact

\_\_\_\_\_  
Telephone No. of Attorney-In-Fact

**EXHIBIT K**

**TACTICAL INFRASTRUCTURE DESIGN STANDARDS,**

**VERSION 5, AUGUST 2020**

**[See attached - 109 pages]**

# **APPENDIX B      WALL, FENCE & GATE STANDARD DETAILS**

**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

---

# **TACTICAL INFRASTRUCTURE (TI) WALL, FENCE & GATE STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**



**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

---

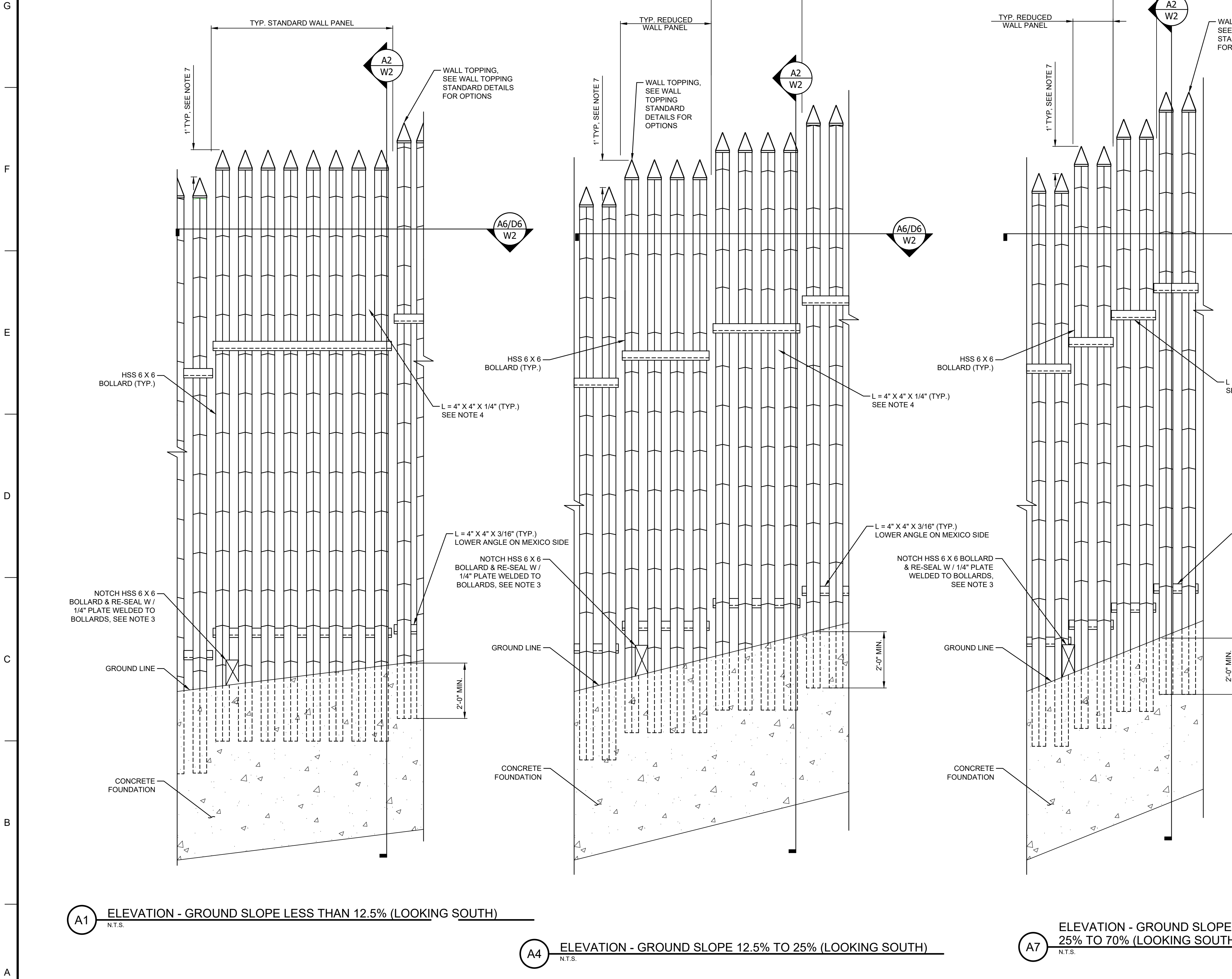
# **WALL STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**

APPROVED FOR PRIMARY & SECONDARY USE



US Army Corps of Engineers®



**A1** ELEVATION - GROUND SLOPE LESS THAN 12.5% (LOOKING SOUTH)  
N.T.S.

**A4** ELEVATION - GROUND SLOPE 12.5% TO 25% (LOOKING SOUTH)  
N.T.S.

**A7** ELEVATION - GROUND SLOPE 25% TO 70% (LOOKING SOUTH)  
N.T.S.

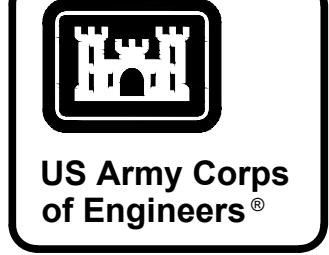
- NOTES:**
- THIS DRAWING PROVIDES GENERAL DESIGN AND CONSTRUCTION DETAILS. FINAL PLANS SHALL SHOW SPECIAL NOTES AND DETAILS WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREIN.
  - ADJACENT PANELS MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
  - AT LOCATIONS DIRECTED BY CBP, NOTCH TWO ADJACENT BOLLARDS 2 1/2" TO HEIGHT REQUIRED TO PROVIDE 8 1/2" X 11" CAT OPENING. LOCATIONS TO BE DETERMINED ON PROJECT BY PROJECT BASIS.
  - WHERE UPPER WALL SHEATHING IS REQUIRED, 4 X 4 ANGLE SHALL NOT BE REQUIRED.
  - ALL BOLLARDS WITHIN A PANEL SHALL BE EMBEDDED A MINIMUM OF 2'-0", TYPICAL ALL PANELS.
  - ALL BOLLARDS WITHIN A PANEL SHALL HAVE A MINIMUM OF 6" CLEARANCE FROM THE BOTTOM OF CONCRETE FOUNDATION, TYPICAL ALL PANELS.
  - WHERE STEP IS GREATER THAN 1-FT, AND ANTI-CLIMB PLATE IS SPECIFIED, PROVIDE ADDITIONAL ANTI-CLIMB PLATE HEIGHT EQUAL TO ADDITIONAL STEP HEIGHT TO THE BOTTOM OF THE ANTI-CLIMB PLATE.

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2020
SOLICITATION NO.:	
CONTRACT NO.:	
DESIGNED BY:	K. RUFFENNACH
DRAWN BY:	W. FRIDIS
CHECKED BY:	P. CAMPAGNOLA
SUBMITTED BY:	C. KARAM
SIZE:	ANSI D
DEPARTMENT OF HOMELAND SECURITY	
CUSTOMS AND BORDER PROTECTION	
UNITED STATES BORDER PATROL	
PROGRAM MANAGEMENT OFFICE DIRECTORATE	

TACTICAL INFRASTRUCTURE	
WALL, FENCE & GATE STANDARD DETAILS	
WALL STANDARD DETAILS	
VERSION V.5	
BOLLARD WALL	
SHEET 1 OF 2	

SHEET ID	
<b>W1</b>	



MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
DATE: C. KARAM	CONTRACT NO.:
PROGRAM MANAGEMENT OFFICE DIRECTORATE	ANSI D

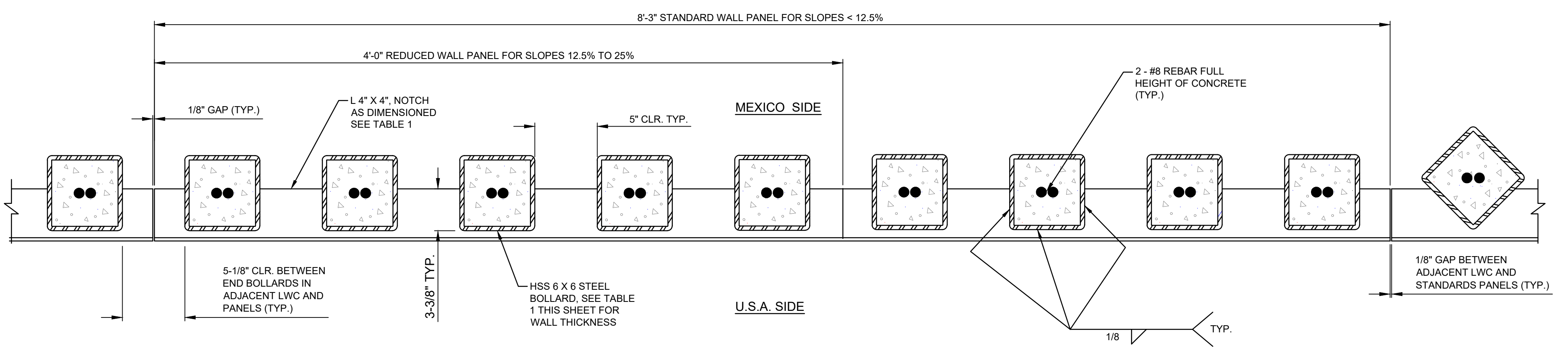
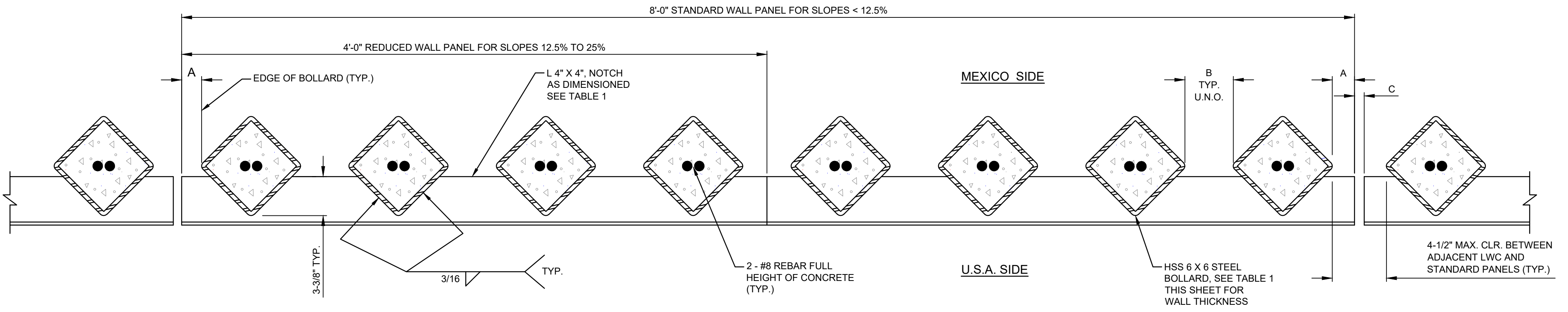
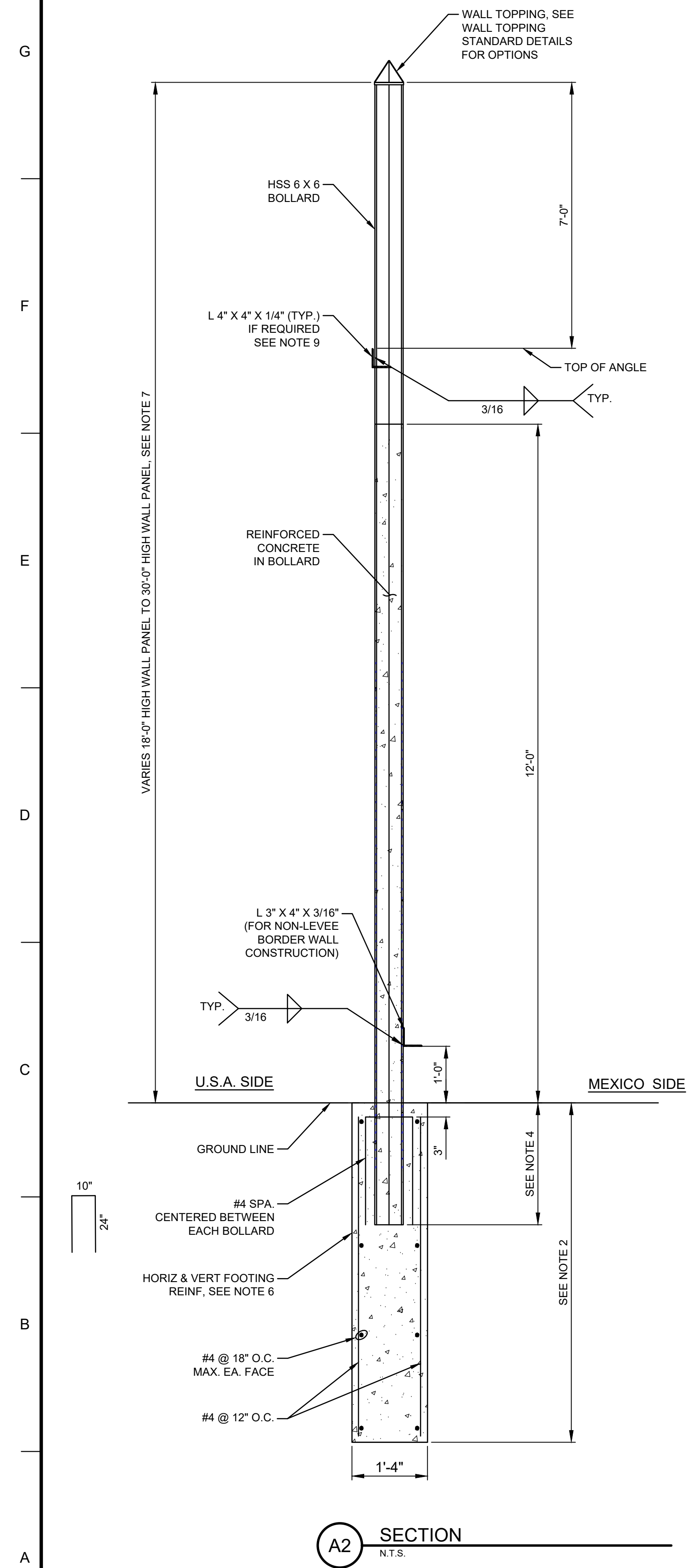
TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
BOLLARD WALL  
SHEET 2 OF 2

SHEET ID  
**W2**

- NOTES:
- FOUNDATION DETAILS SHOWN SHALL BE MINIMUM REQUIRED AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
  - MINIMUM DEPTH OF FOUNDATION FOR PRIMARY WALL SHALL BE 6'-0", CONTINUOUS ALONG ENTIRE WALL. MINIMUM DEPTH OF FOUNDATION FOR SECONDARY WALL SHALL BE 2'-6".
  - ALL BOLLARDS WITHIN A PANEL SHALL HAVE A MINIMUM OF 6" CLEARANCE FROM THE BOTTOM OF CONCRETE FOUNDATION, TYPICAL ALL PANELS.
  - ALL BOLLARDS WITHIN A PANEL SHALL BE EMBEDDED A MINIMUM OF 2'-0", TYPICAL ALL PANELS.
  - THIS DRAWING PROVIDES THE MINIMUM GENERAL DESIGN AND CONSTRUCTION DETAILS. FINAL PLANS SHALL SHOW SPECIAL NOTES AND DETAILS WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREIN.
  - ALL WALL FOOTINGS SHALL BE REINFORCED WITH GRADE 60 REINFORCING STEEL AND SHALL MEET ACI, LATEST EDITION, CRITERIA.
  - WALL VERTICAL HEIGHT DIMENSION IS FROM THE HIGHEST POINT ON GROUND TO TOP OF WALL WITHIN THE LIMITS OF EACH PANEL.
  - MAXIMUM VARIANCE IN GAP BETWEEN ADJACENT LWC & DIM C SHALL BE ± 1/16".
  - WHERE UPPER WALL SHEATHING IS REQUIRED, 4 x 4 ANGLE AT 7'-0" FROM TOP OF WALL SHALL NOT BE REQUIRED.

TABLE 1 WALL HSS DATA

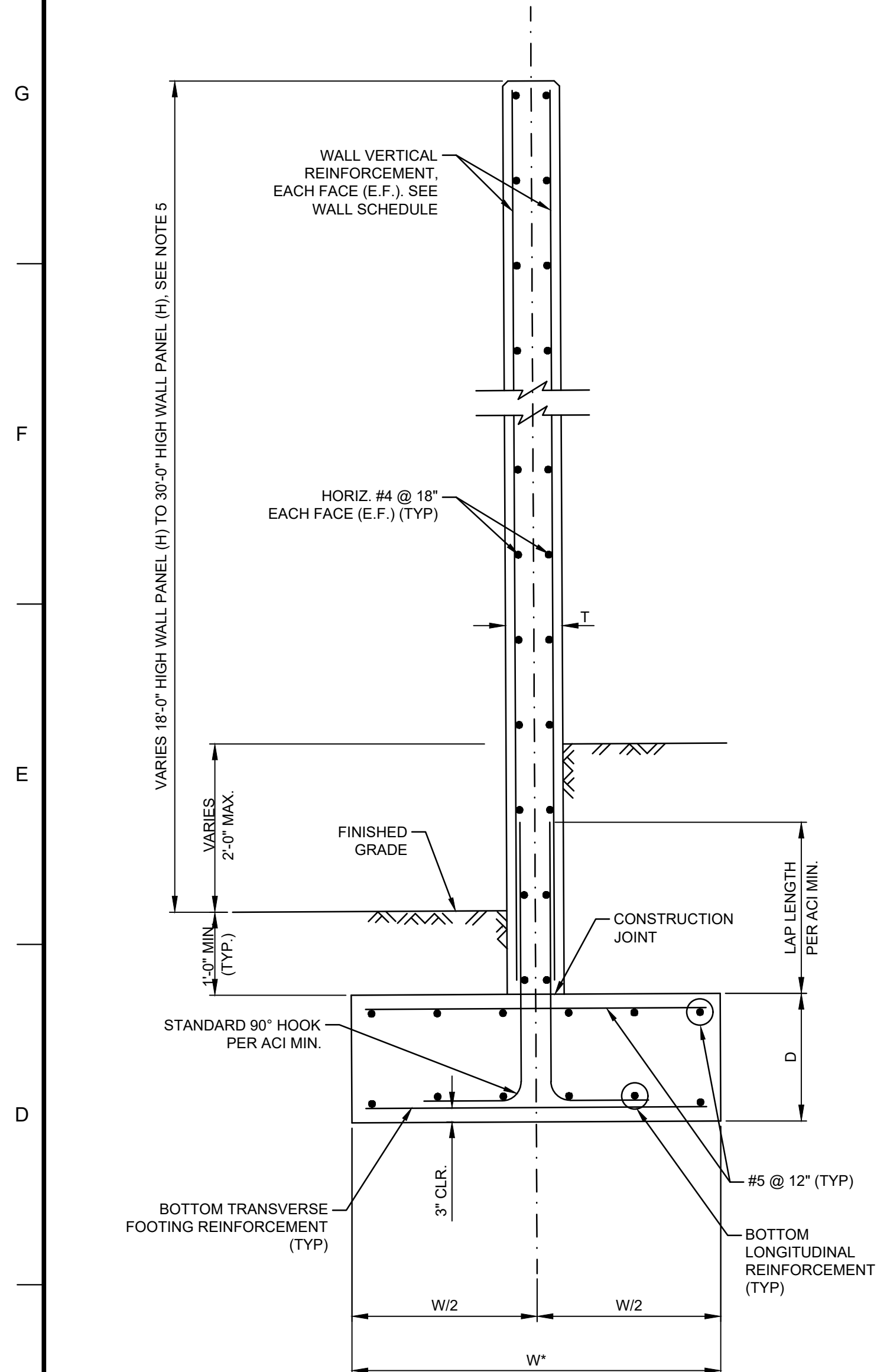
FENCE HEIGHT	WALL TYPE	TUBE THICKNESS	DIM A	DIM B	DIM C
UP TO 18'	PRIMARY	3/16"	EQ. EA. SIDE	3-7/8"	1/4"
>18' TO 30'	PRIMARY	1/4"	EQ. EA. SIDE	3-15/16"	1/8"
UP TO 30'	SECONDARY	3/16"	EQ. EA. SIDE	3-7/8"	1/4"





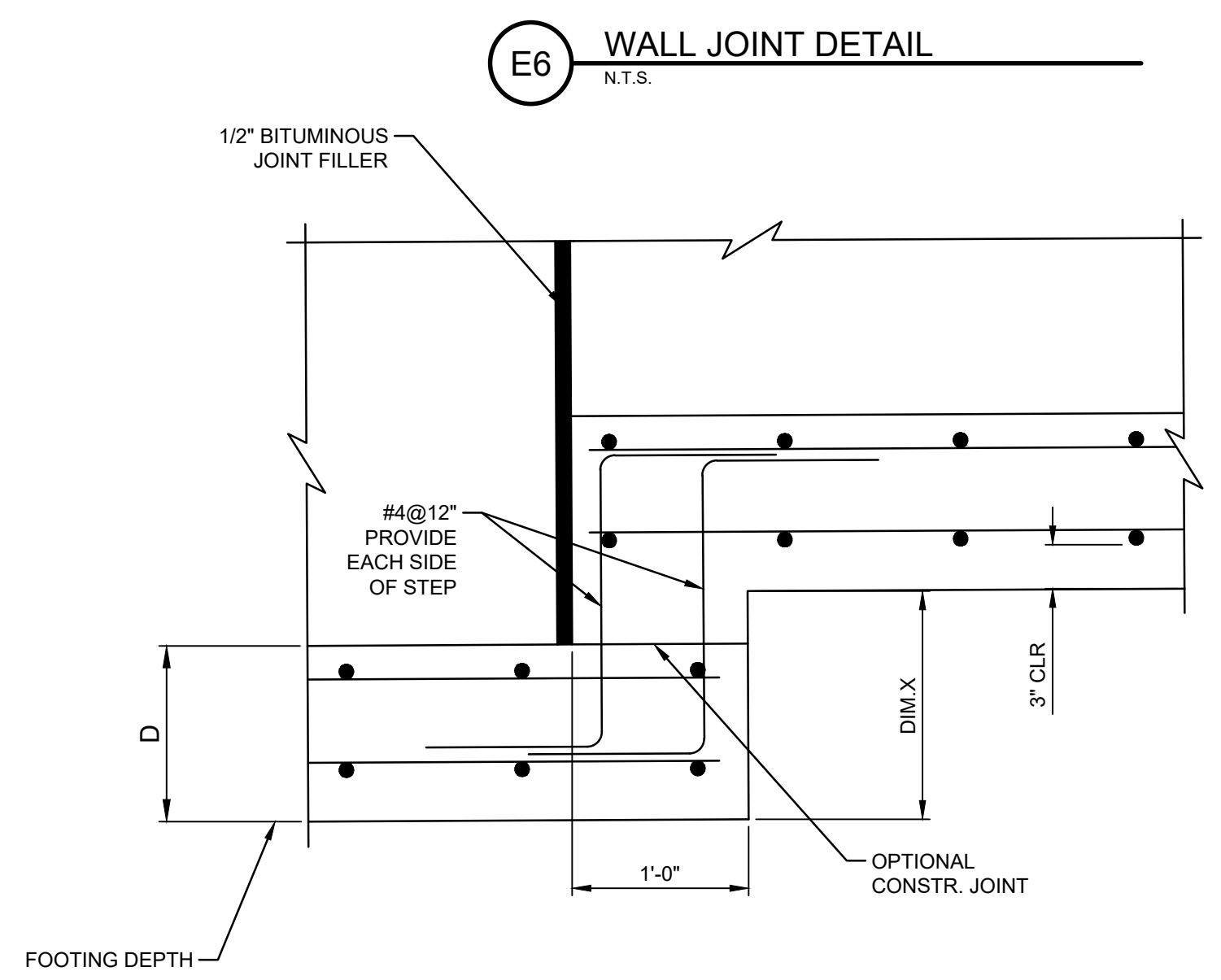
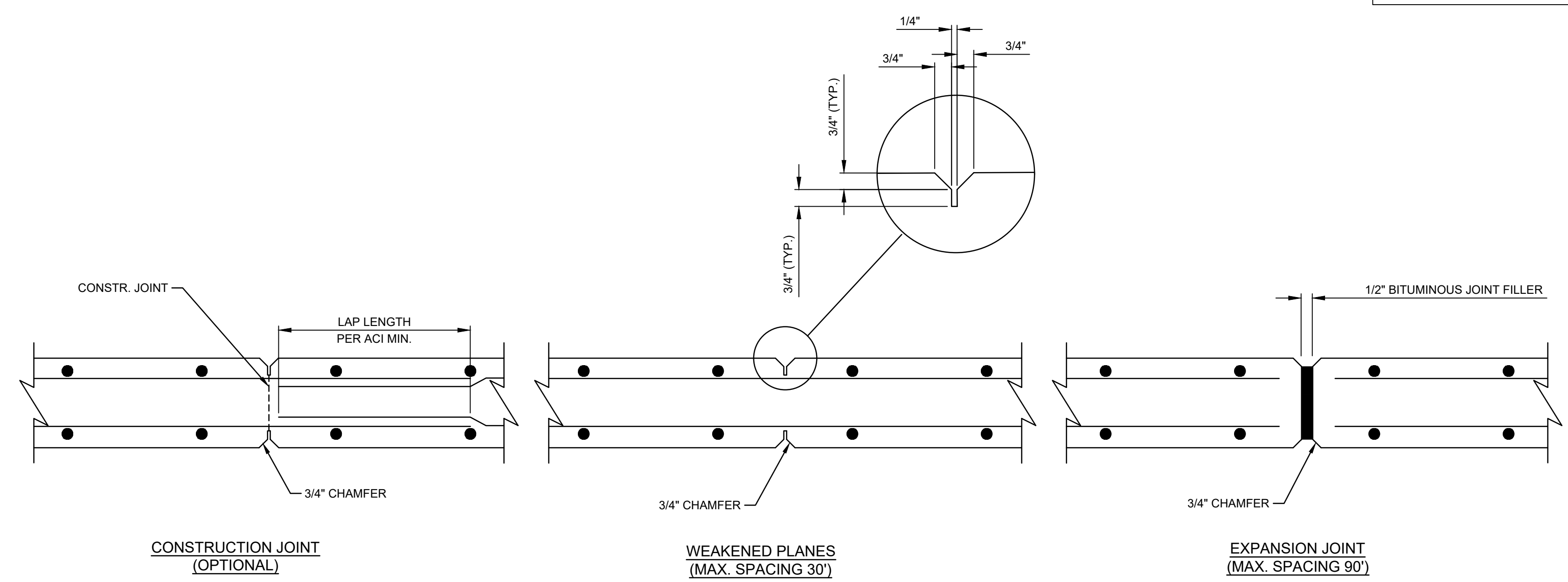


US Army Corps of Engineers®



NOTE:  
REFER TO WALL SCHEDULE FOR DIMENSIONS AND REINFORCEMENT CALL-OUTS NOT PROVIDED.

**C2** SECTION  
N.T.S.



**NOTES:**  
\*\* SEE PROJECT PLANS FOR LOCATION OF FOOTING STEPS AND DIM. X.  
\* SEE NOTE 4.

WALL SCHEDULE						
WALL HEIGHT H	WALL THICK T	WALL VERT. REINFORCING	FOOTING DEPTH D	FOOTING WIDTH W	FOOTING REINFORCING	
					BOTT TRANS	BOTT LONG
UP TO 20'-0"	12"	#5 @ 12"E.F.	1'-9"	6'-0"	#5 @ 12"	6 - #5
20'-1" TO 24'-0"	12"	#6 @ 12"E.F.	2'-3"	6'-6"	#5 @ 12"	6 - #6
24'-1" TO 28'-0"	13"	#7 @ 12"E.F.	2'-9"	7'-0"	#5 @ 12"	7 - #6
28'-1" TO 30'-0"	14"	#7 @ 12"E.F.	3'-0"	7'-3"	#5 @ 12"	7 - #6

**GENERAL NOTES:**

- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF (F'c = 3,000 PSI).
- ALL WALL CONCRETE SHALL BE REINFORCED WITH GRADE 60 REINFORCING STEEL AND SHALL MEET ACI, LATEST EDITION, CRITERIA.
- CHAMFER ALL EXPOSED CORNERS 3/4" UNLESS NOTED OTHERWISE.
- FOOTING DIMENSIONS AND REINFORCING TO BE COMPLETED BY ENGINEER BASED ON SITE AND GEOTECHNICAL REQUIREMENTS.
- WALL VERTICAL HEIGHT DIMENSION IS FROM THE HIGHEST POINT ON GROUND TO TOP OF WALL WITHIN THE LIMITS OF EACH PANEL.
- CONCRETE WALL DETAILS PROVIDED HEREIN REPRESENT MINIMUM REQUIREMENTS FOR SECONDARY WALLS NOT CONSTRUCTED WITHIN A FLOODPLAIN. CONCRETE WALLS CONSTRUCTED WITH FLOODPLAINS SHALL MEET U.S. ARMY CORP OF ENGINEERS REQUIREMENTS FOUND IN EM 1110-2-2502.

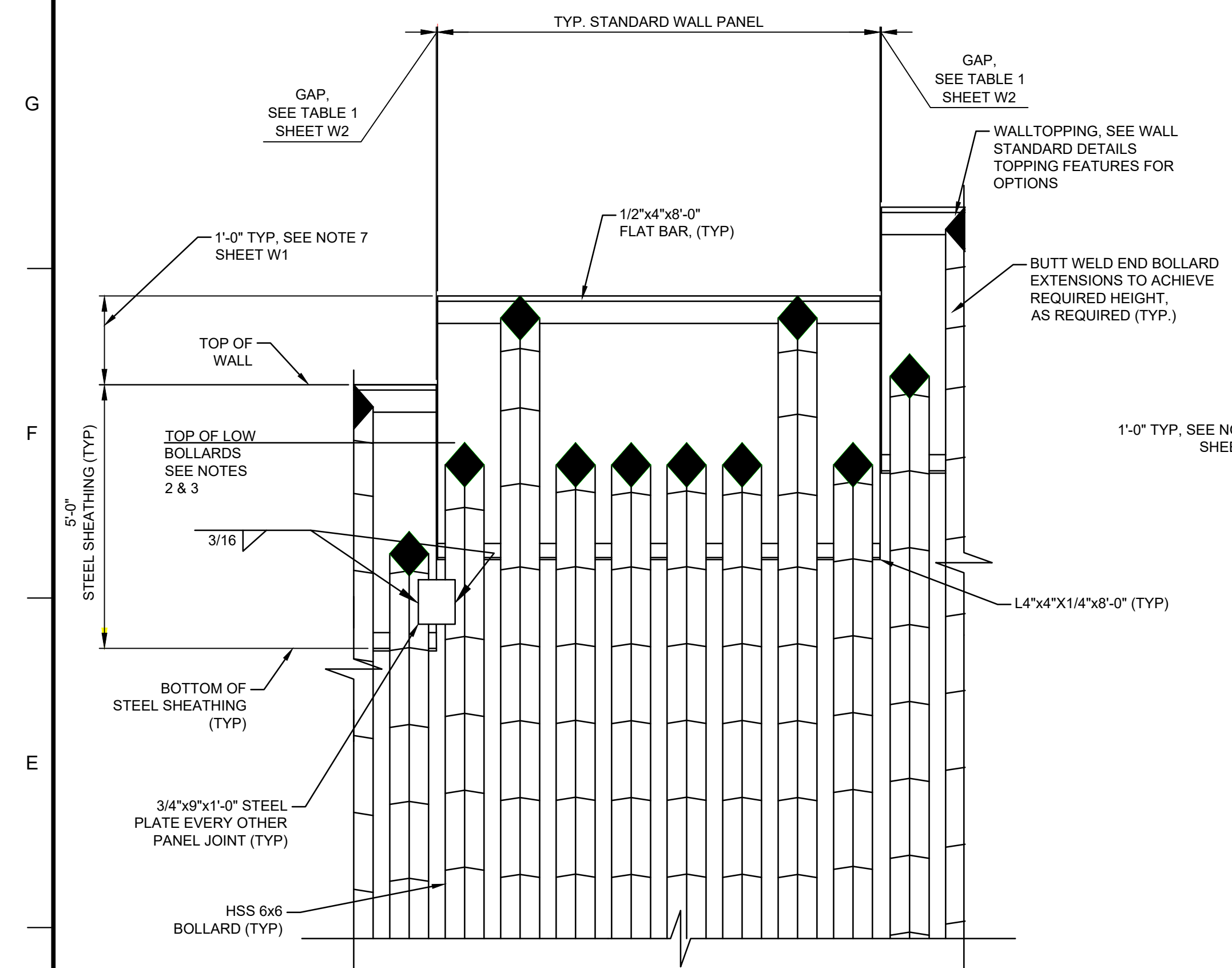
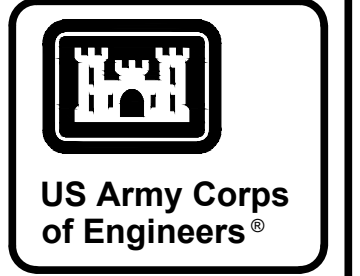
MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
CONTRACT NO.:	
PROGRAM MANAGEMENT OFFICE DIRECTORATE	
DEPARTMENT OF HOMELAND SECURITY	
CUSTOMS AND BORDER PROTECTION	
UNITED STATES BORDER PATROL	

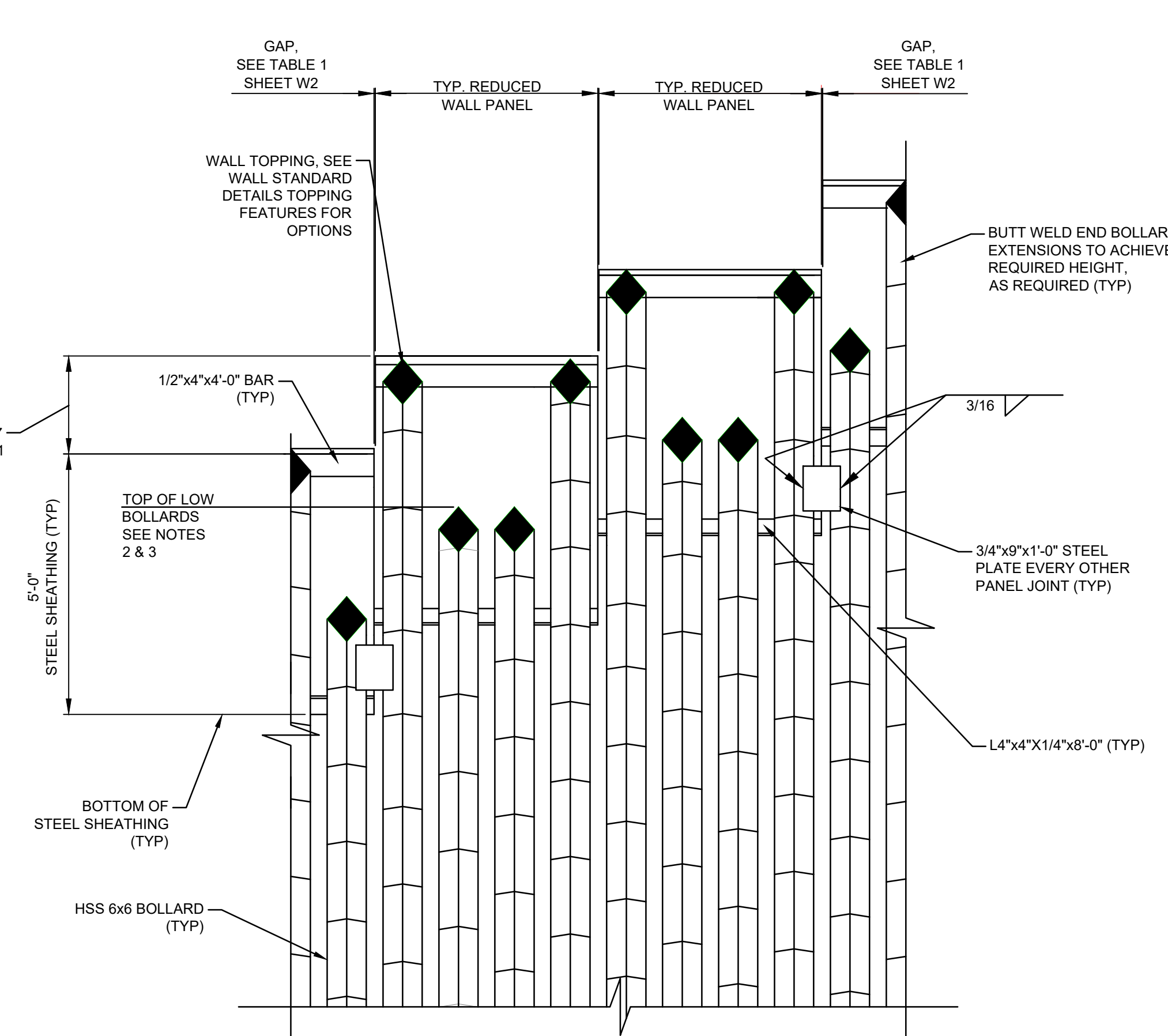
TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS WALL STANDARD DETAILS VERSION V.5	CONCRETE WALL DETAILS
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SHEET ID <b>W3</b>
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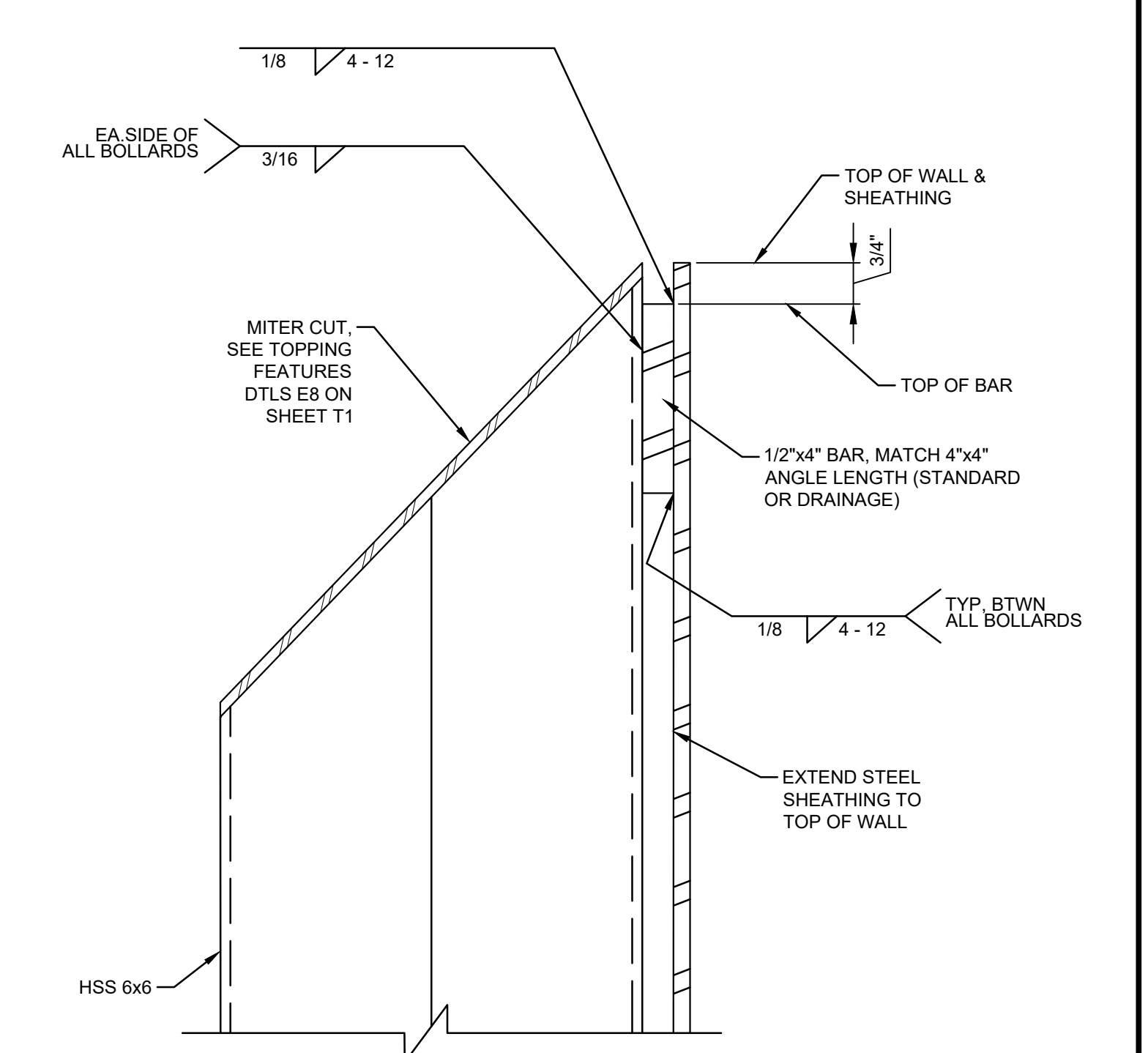
APPROVED FOR PRIMARY & SECONDARY USE



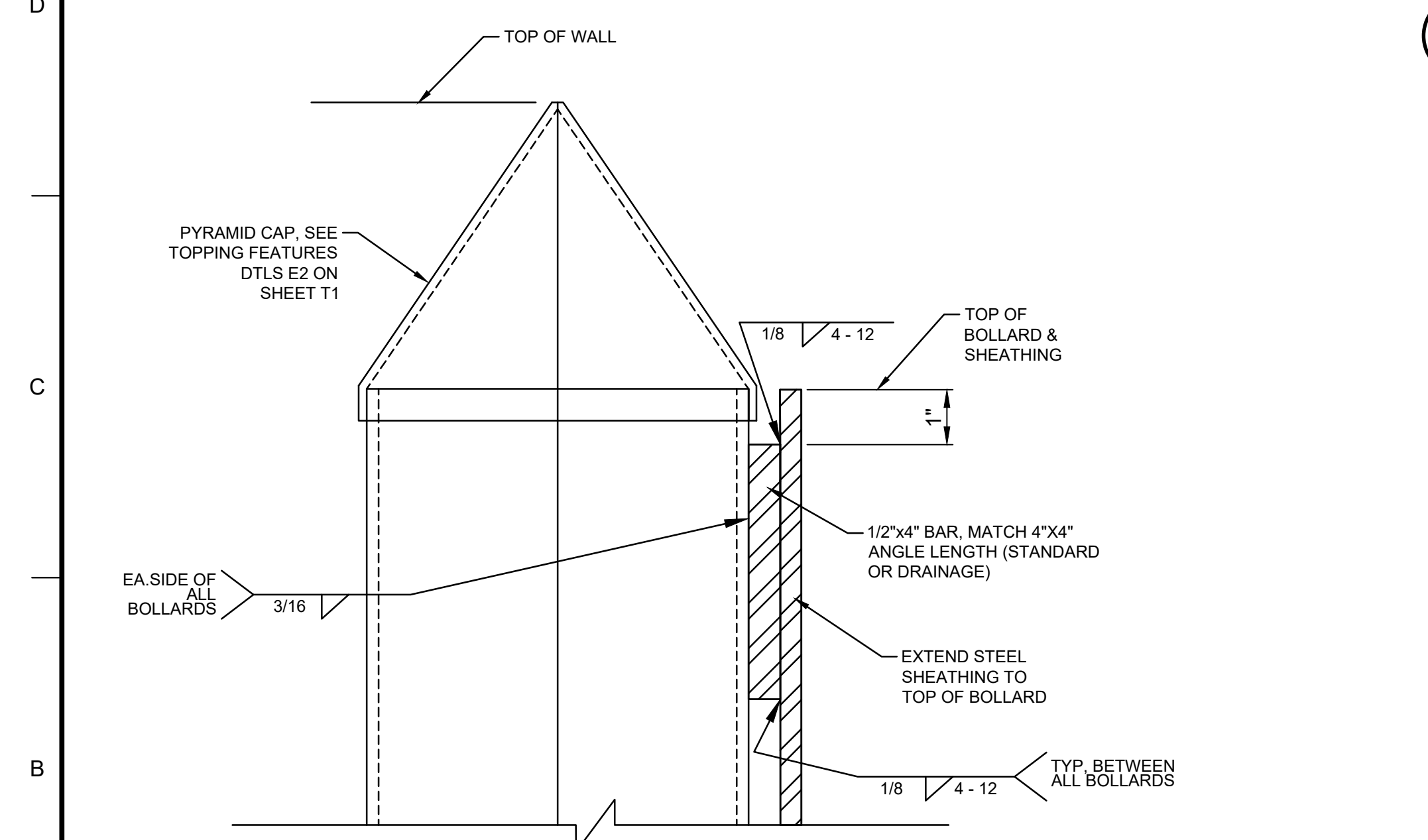
**D1** ELEVATION - GROUND SLOPE LESS THAN 12.5% (LOOKING SOUTH)  
N.T.S.



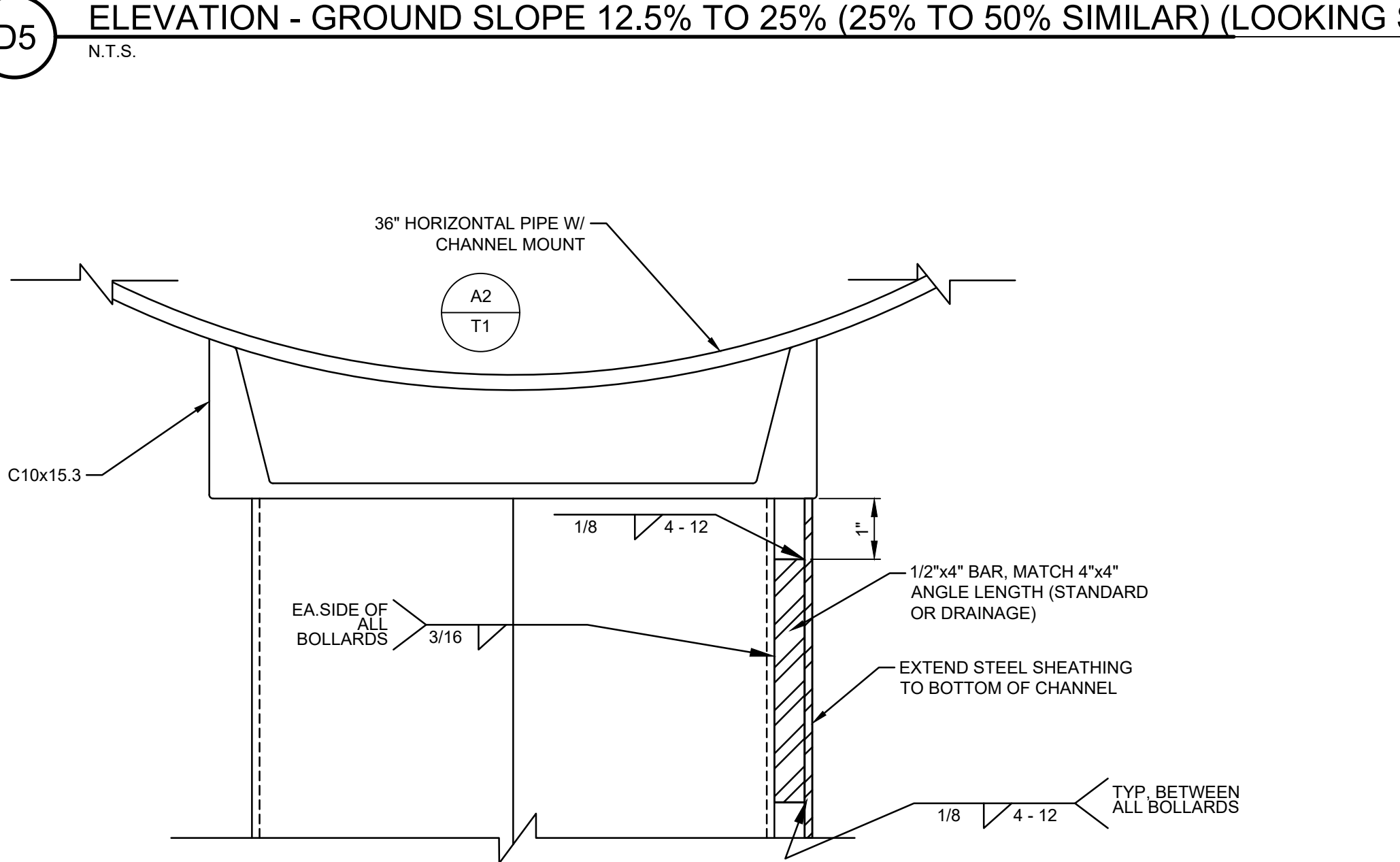
**D5** ELEVATION - GROUND SLOPE 12.5% TO 25% (25% TO 50% SIMILAR) (LOOKING SOUTH)  
N.T.S.



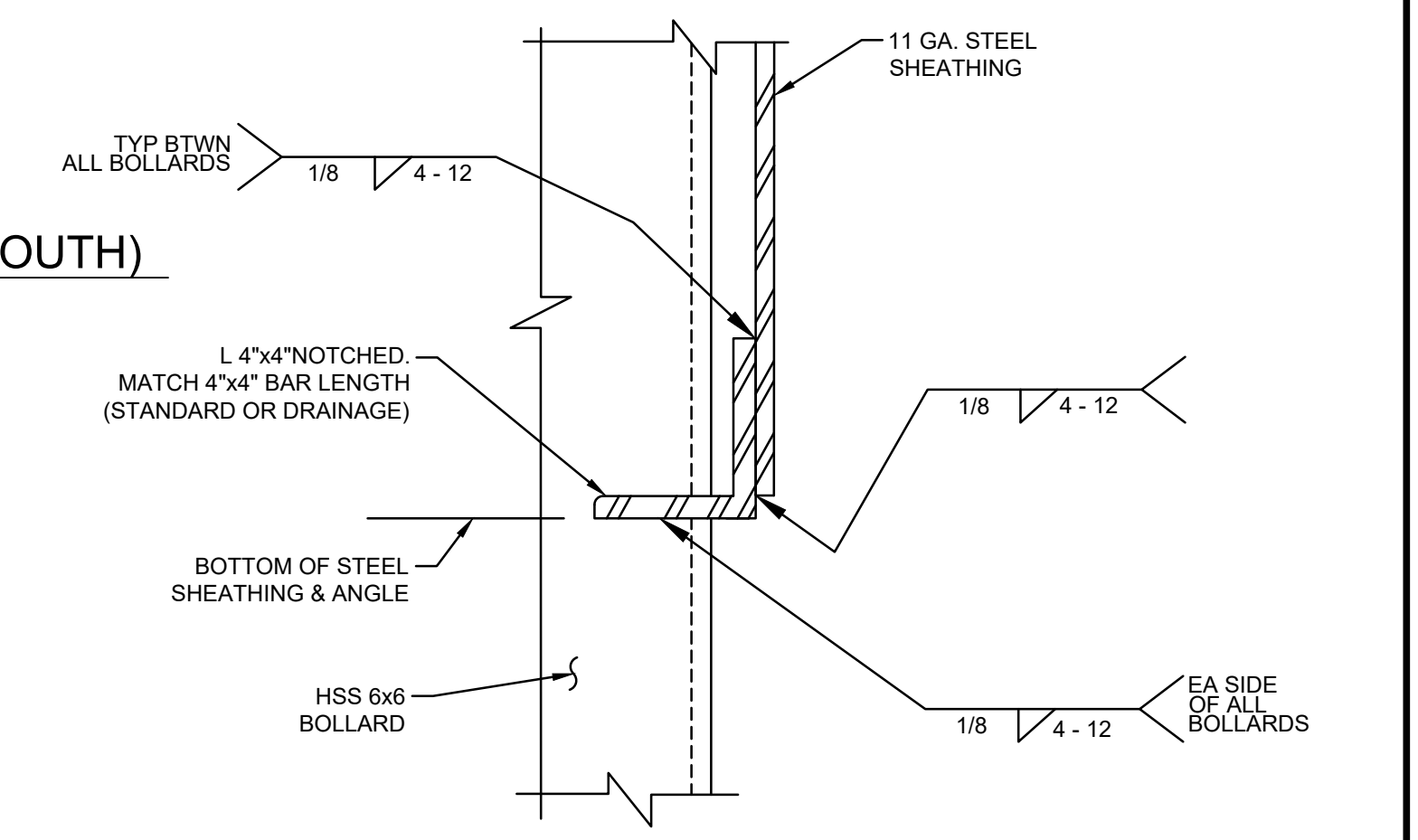
**E8** TOP OF SHEATHING CONNECTION DETAIL (W/ MITER)  
N.T.S.



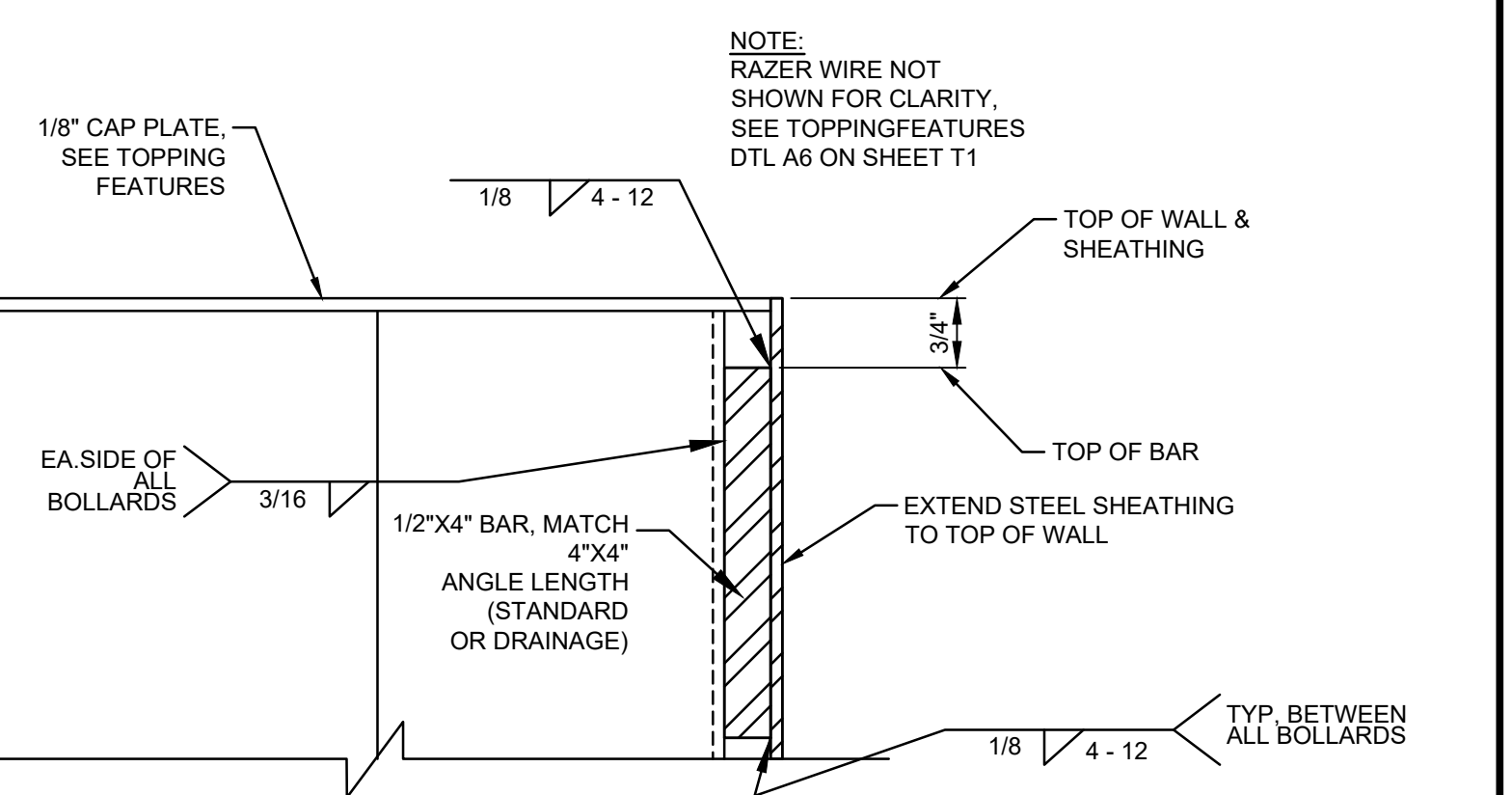
**B1** SHEATHING CONNECTION DETAIL - TOP OF WALL W/ PYRAMID CAP  
N.T.S.



**B4** SHEATHING CONNECTION DETAIL - TOP OF WALL W/ PIPE  
N.T.S.



**C8** BOTTOM OF SHEATHING CONNECTION DETAIL  
N.T.S.



**A8** SHEATHING CONNECTION DETAIL - TOP OF WALL W/ RAZOR WIRE  
N.T.S.

- NOTES:
- THIS DRAWING PROVIDES GENERAL DESIGN AND CONSTRUCTION DETAILS. FINAL PLANS SHALL SHOW SPECIAL NOTES AND DETAILS WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREIN.
  - FOR WALLS DESIGNED TO HAVE MITER CUT, RAZOR WIRE (ONLY), OR PYRAMID CAP TOPPING FEATURE, LOWER PANEL BOLLARDS SHALL BE NEAT & ORDERLY ACROSS THE PANEL. THE TOPS OF LOWER PANEL BOLLARDS SHALL BE INSTALLED BETWEEN 1'-0" & 2'-0" ABOVE THE BOTTOM OF THE STEEL SHEATHING. CUTTING OF LOWER PANEL BOLLARDS NOT REQUIRED.
  - FOR WALLS DESIGNED TO HAVE HORIZONTAL PIPE TOPPING FEATURE, TERMINATE TOPS FOR ALL BOLLARDS & STEEL SHEATHING AT BOTTOM OF PIPE CONNECTION CHANNEL.

MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2020	SOLICITATION NO.:	CONTRACT NO.:
DESIGNED BY: K. RUFFENACH	DRAWN BY: M. FLEIS	CHECKED BY: P. CAMPAGNOLA
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE	SUBMITTED BY: C. KARAM	SIZE: ANSI D

TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS VERSION V.5	UPPER WALL DETAILS
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SHEET ID	W4
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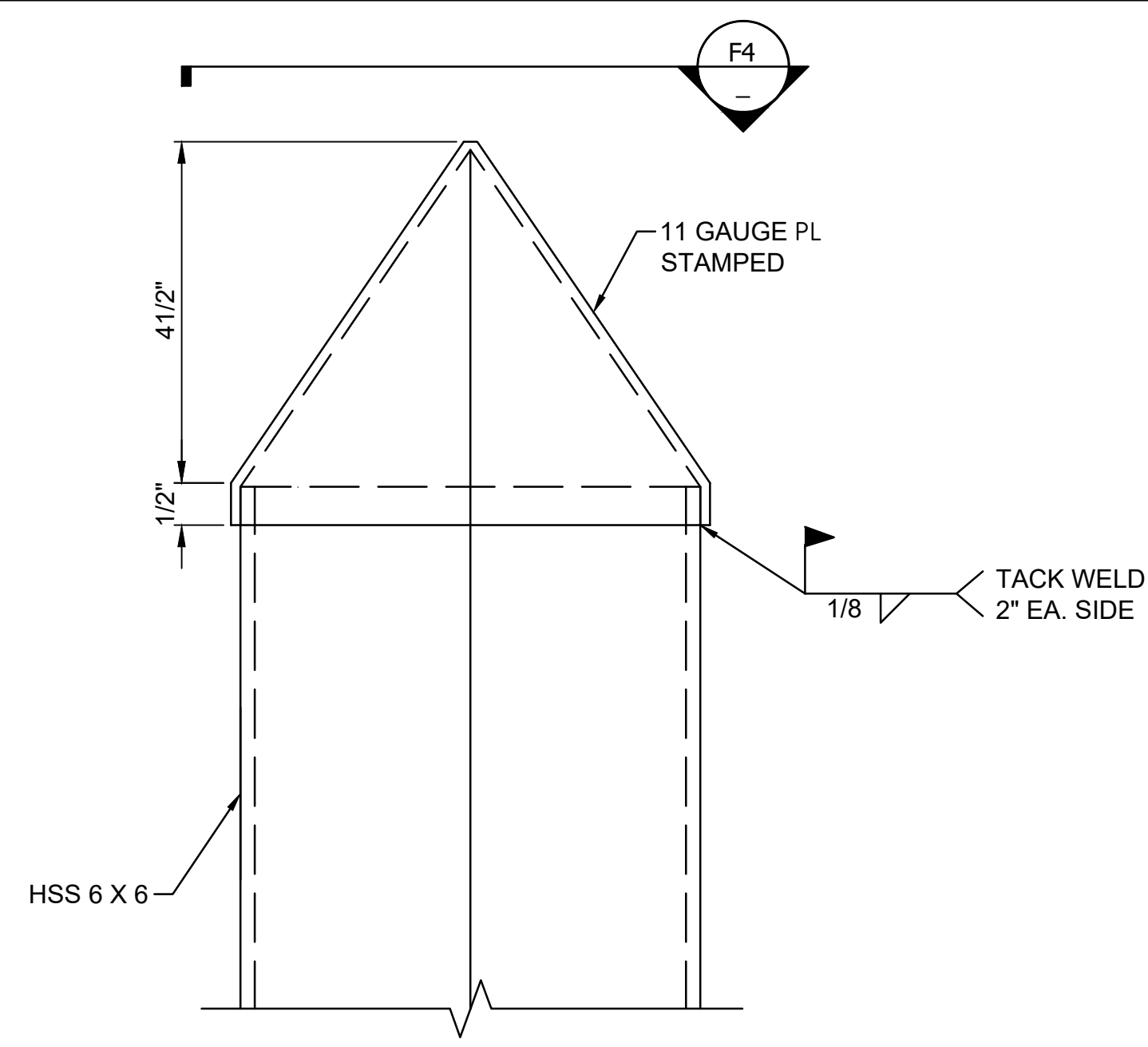
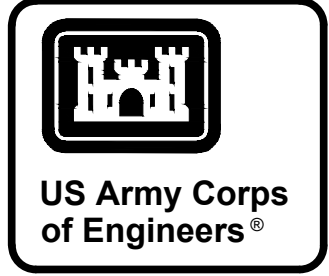
**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

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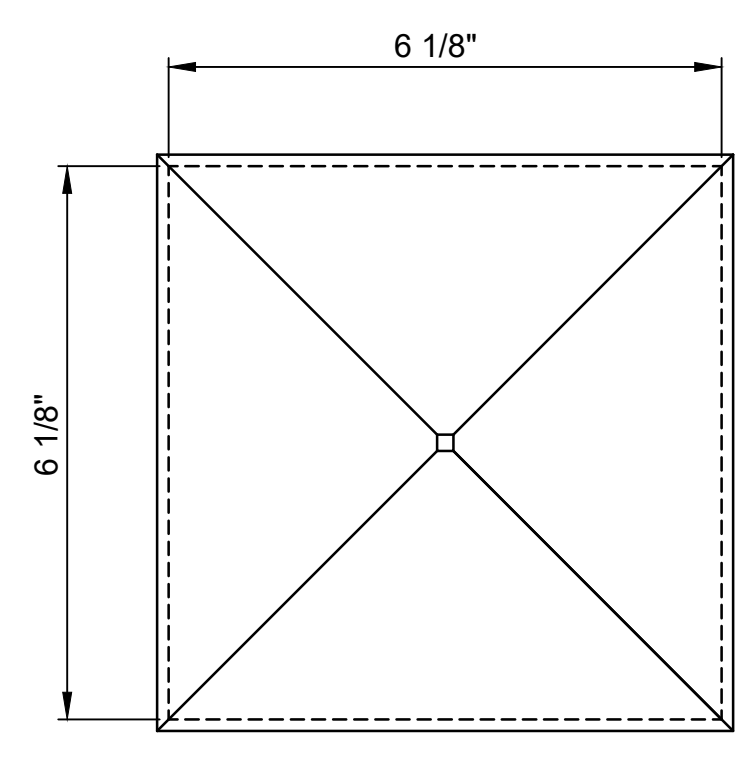
# **WALL TOPPING STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**

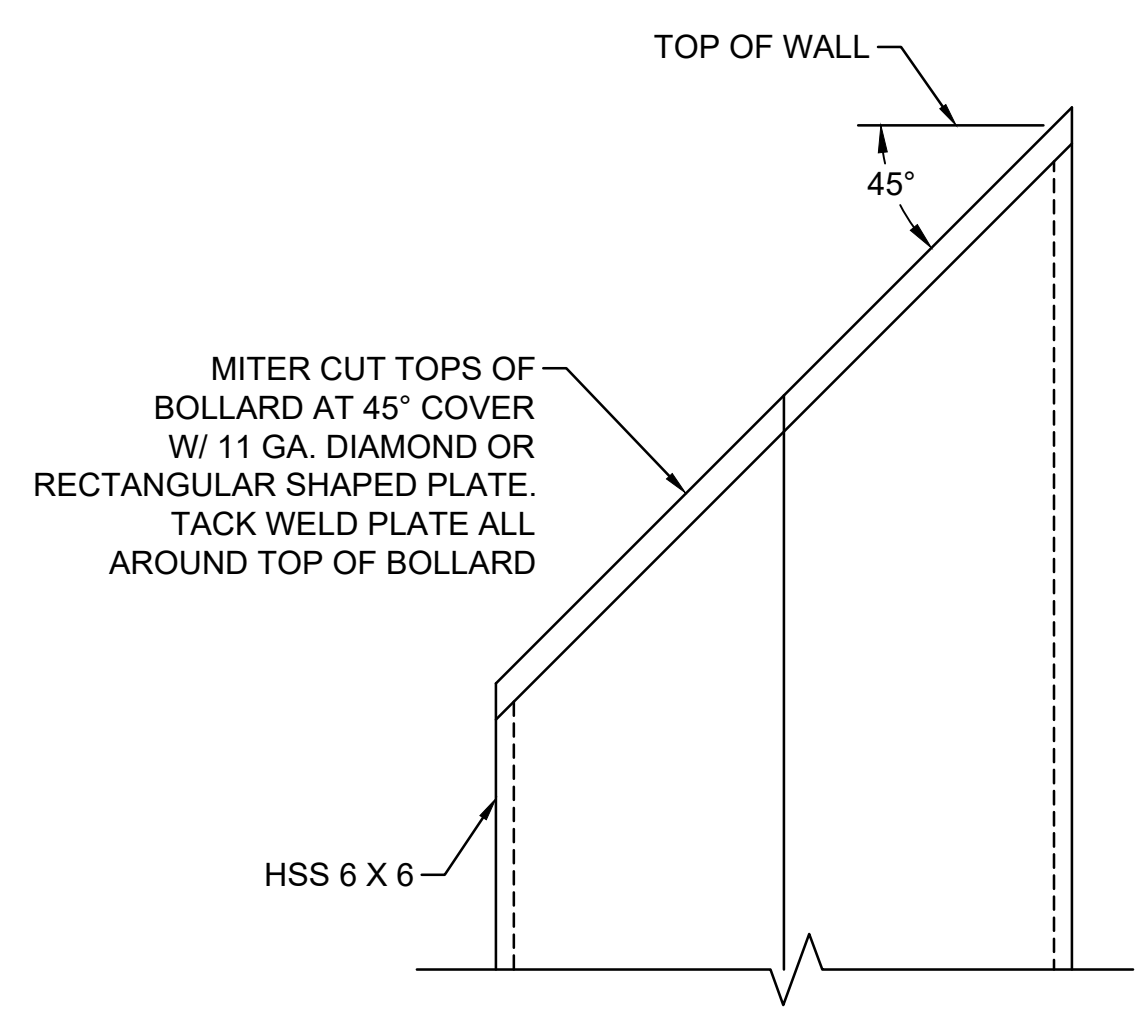
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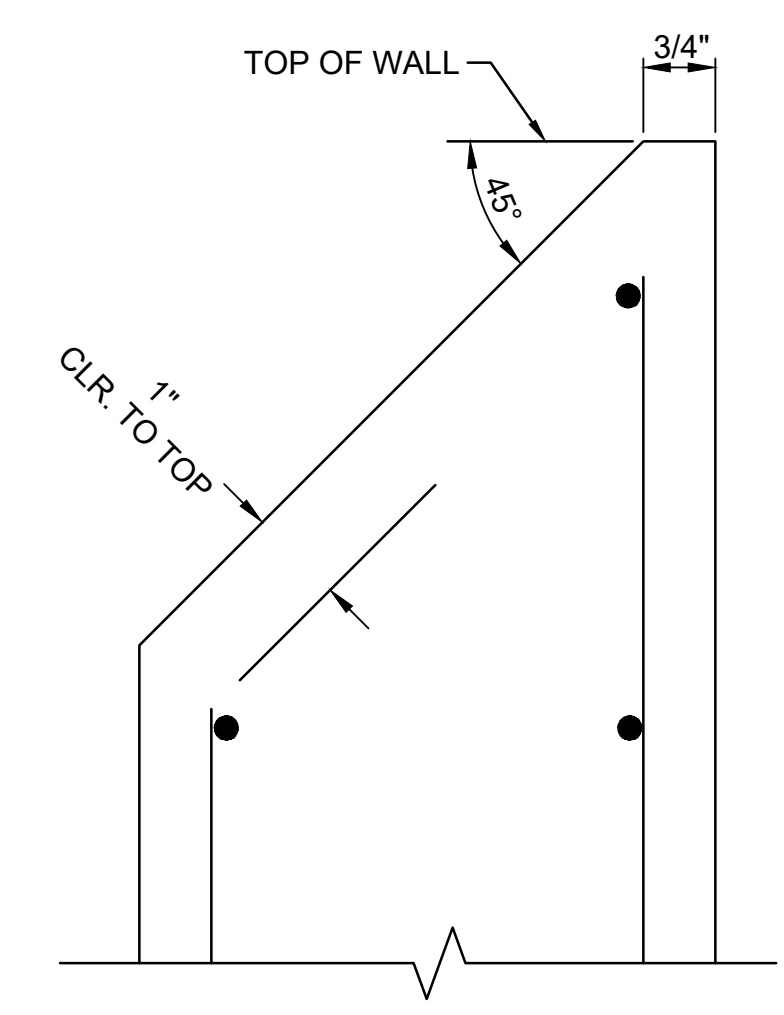
E1 ELEVATION  
N.T.S.



F4 SECTION  
N.T.S.



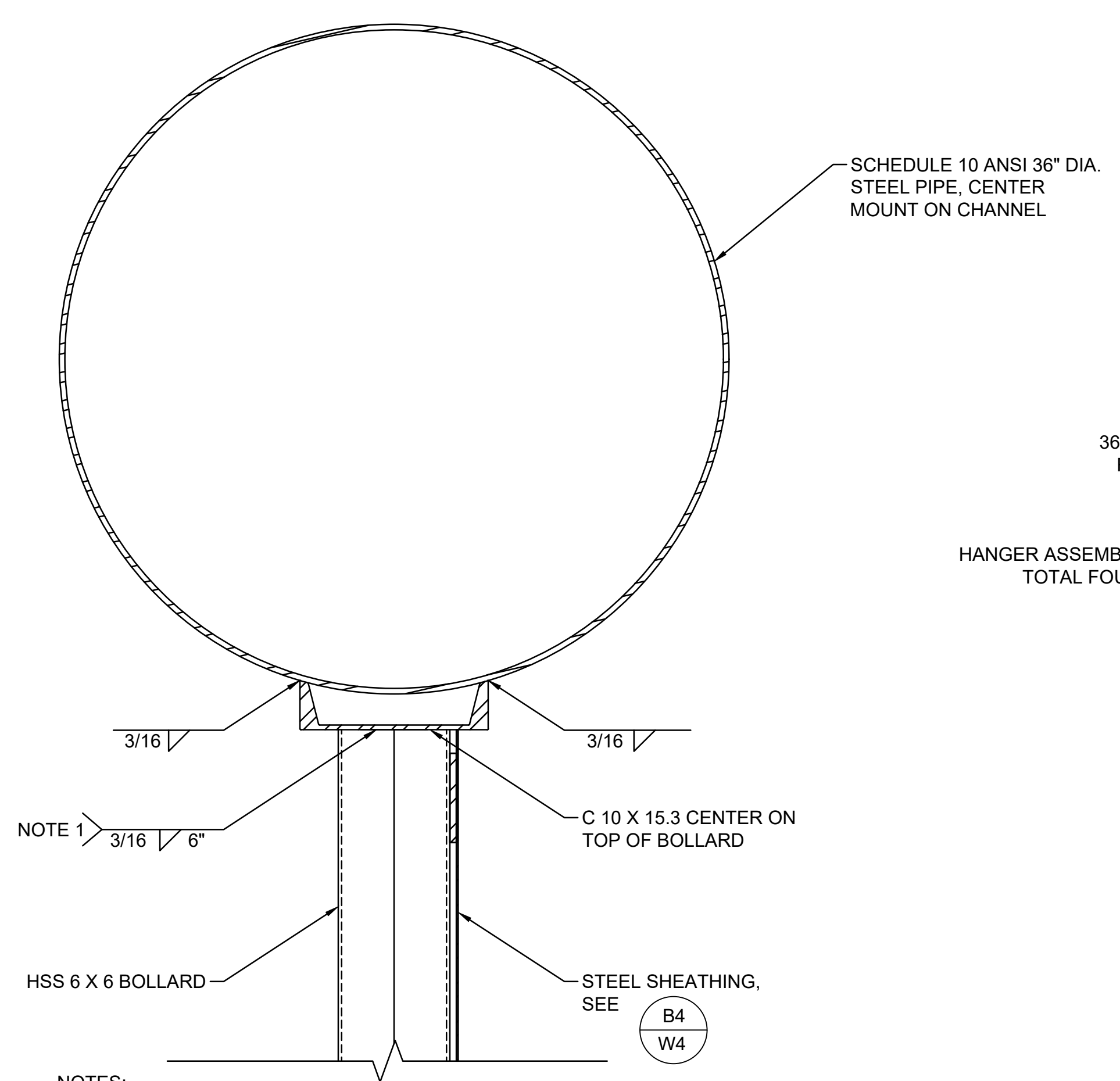
E7 BOLLARD WALL  
N.T.S.



E9 CONCRETE WALL  
N.T.S.

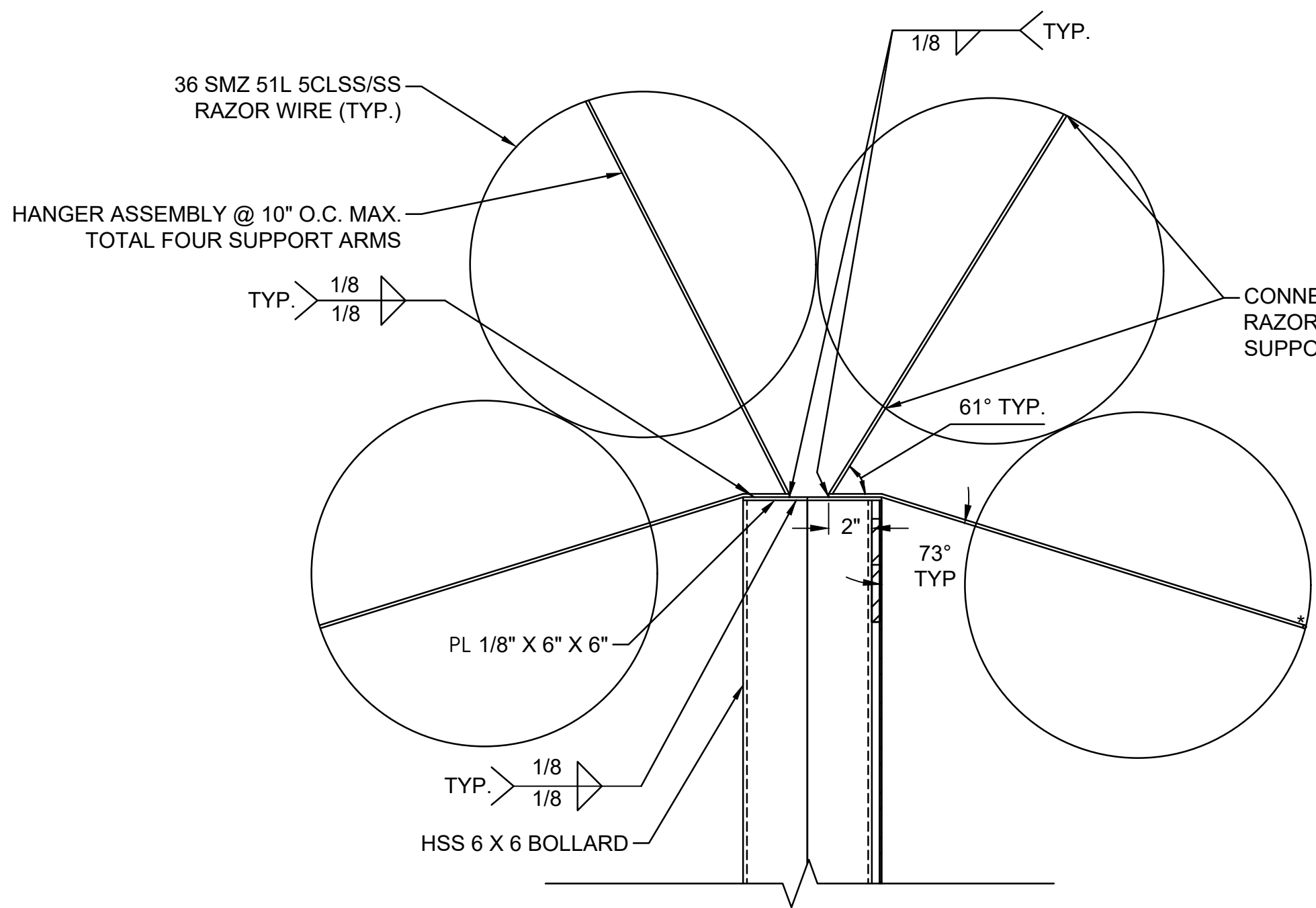
E8 TOPPING DETAIL - MITER CUT  
N.T.S.

E2 BOLLARD TOPPING DETAIL - PYRAMID CAP  
N.T.S.



- NOTES:
1. TWO NORTH/USA SIDES AT TYP PANELS; 3 SIDES AT DRAINAGE PANELS.
  2. CAP EACH END OF STEEL PIPE WITH 11 GAGE SHEATHING AND TACK WELD ALL AROUND TO SEAL.

A2 BOLLARD TOPPING DETAIL - HORIZONTAL PIPE  
N.T.S.



- NOTES:
1. FINAL BRACKET ASSEMBLY TO BE SELECTED. BASE CONFIGURATION SHOWN.
  2. OMIT PYRAMID CAP OR MITER CUT AT HANGER MOUNTING LOCATIONS ONLY. PROVIDE LEVEL TOP OF WALL FOR MOUNTING OF HANGER ASSEMBLY.
  3. WHEN 36" DIAMETER HORIZONTAL PIPE PRESENT, WELD SUPPORT ARM OF HANGER ASSEMBLY DIRECTLY TO HORIZONTAL PIPE AND OMIT 6 X 6 FLAT PLATE.

A6 BOLLARD TOPPING DETAIL - RAZOR WIRE  
N.T.S.

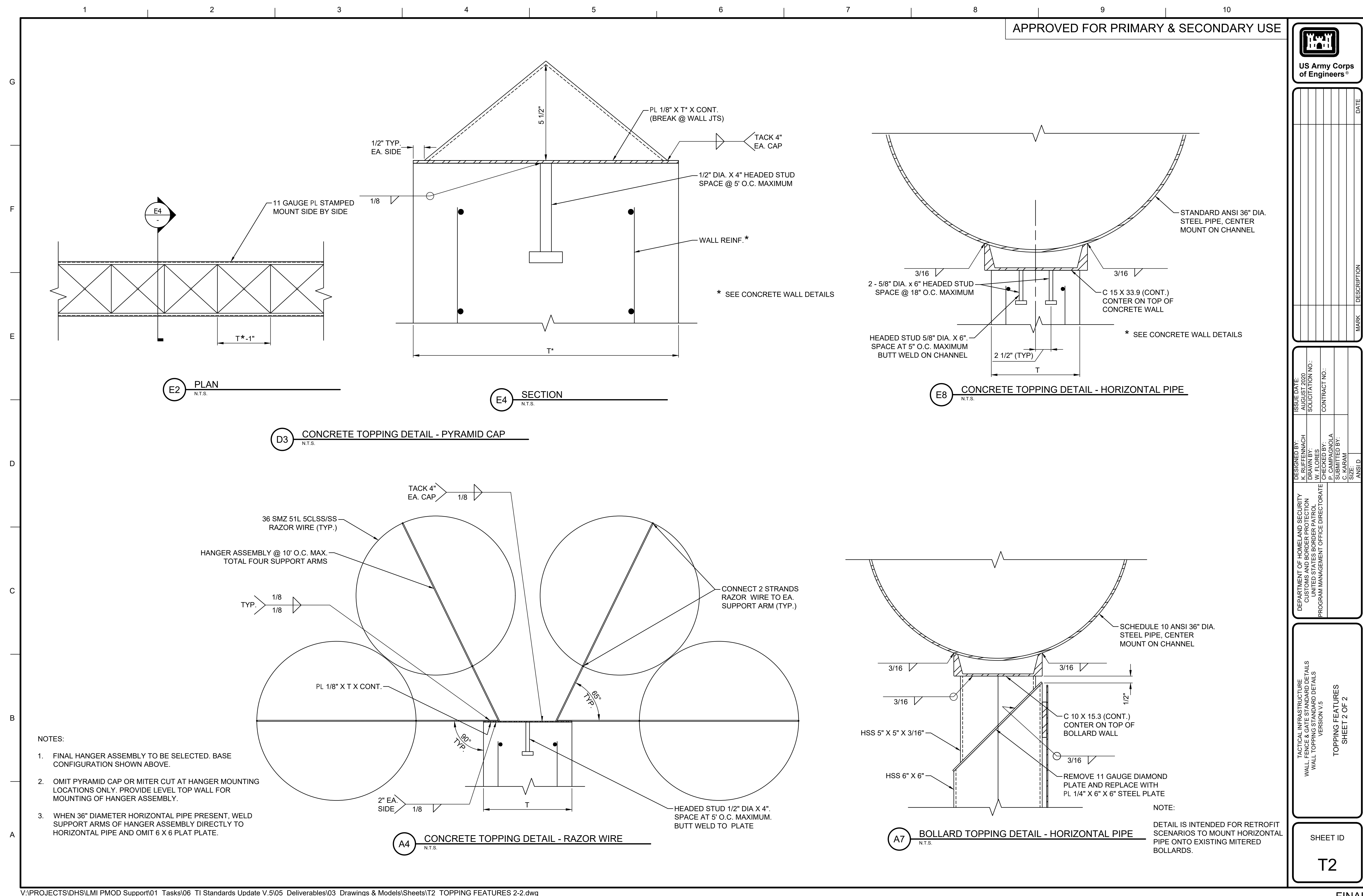
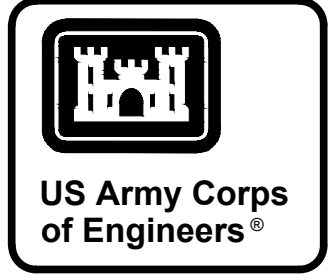
MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2020	CONTRACT NO.:
DESIGNED BY: K. RUFFENACH	CHECKED BY: P. CAMPAGNOLA
W. FLORES	SUBMITTED BY: C. KARAM
PROGRAM MANAGEMENT OFFICE DIRECTORATE	ANSI D:
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL	SIZE:
SOLICITATION NO.:	

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
WALL TOPPING STANDARD DETAILS  
VERSION V.5

TOPPING FEATURES  
SHEET 1 OF 2

SHEET ID  
T1



- NOTES:
1. FINAL HANGER ASSEMBLY TO BE SELECTED. BASE CONFIGURATION SHOWN ABOVE.
  2. OMIT PYRAMID CAP OR MITER CUT AT HANGER MOUNTING LOCATIONS ONLY. PROVIDE LEVEL TOP WALL FOR MOUNTING OF HANGER ASSEMBLY.
  3. WHEN 36" DIAMETER HORIZONTAL PIPE PRESENT, WELD SUPPORT ARMS OF HANGER ASSEMBLY DIRECTLY TO HORIZONTAL PIPE AND OMIT 6 X 6 PLAT PLATE.

MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020	SOLICITATION NO.:	CONTRACT NO.:
CHECKED BY: W. FLORES			

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
WALL TOPPING STANDARD DETAILS  
VERSION V.5

TOPPING FEATURES  
SHEET 2 OF 2

SHEET ID  
**T2**

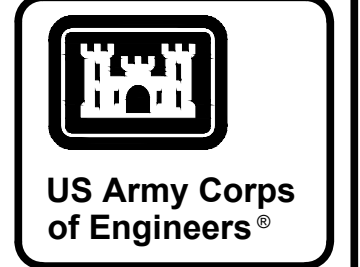
**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

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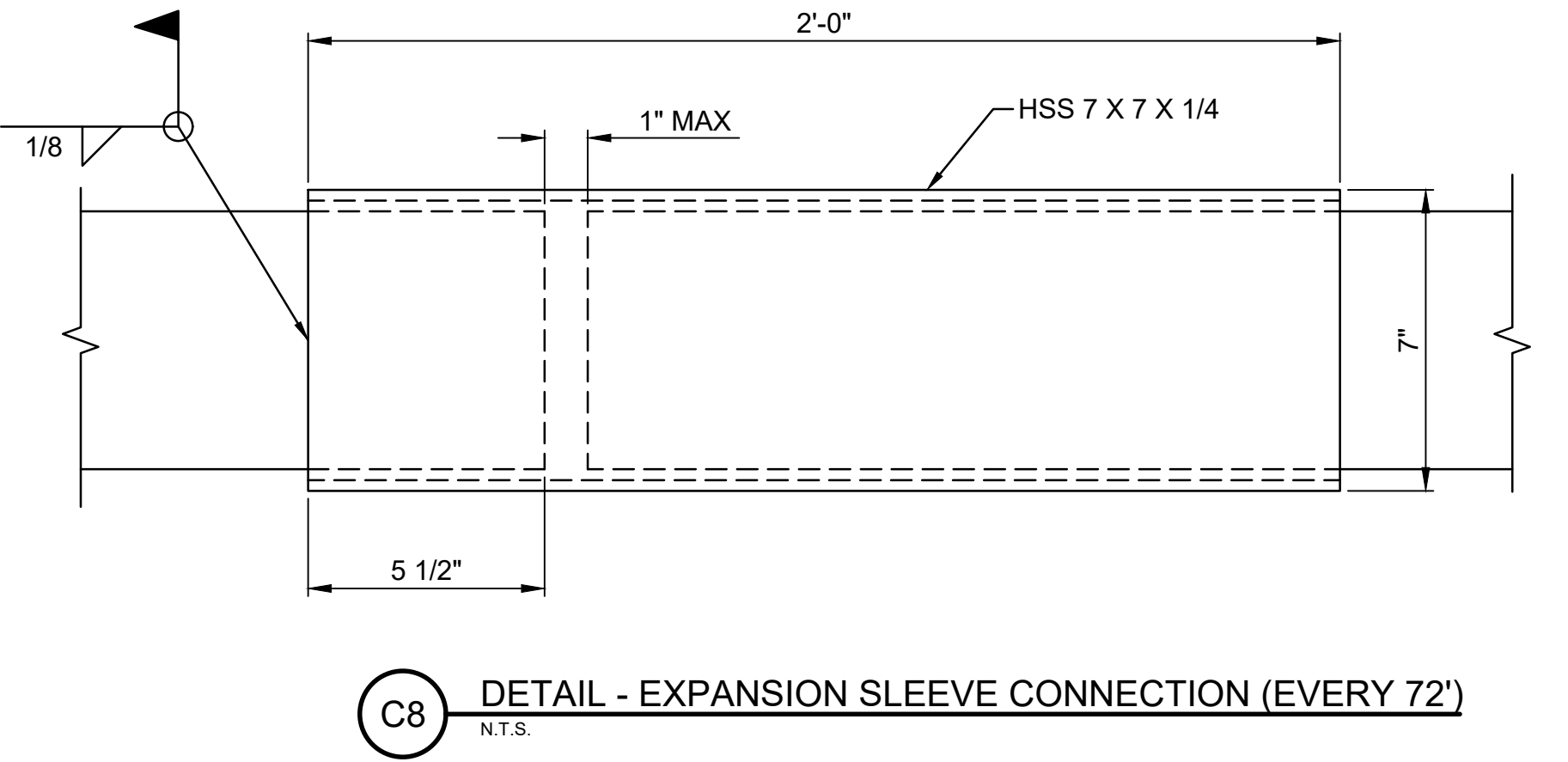
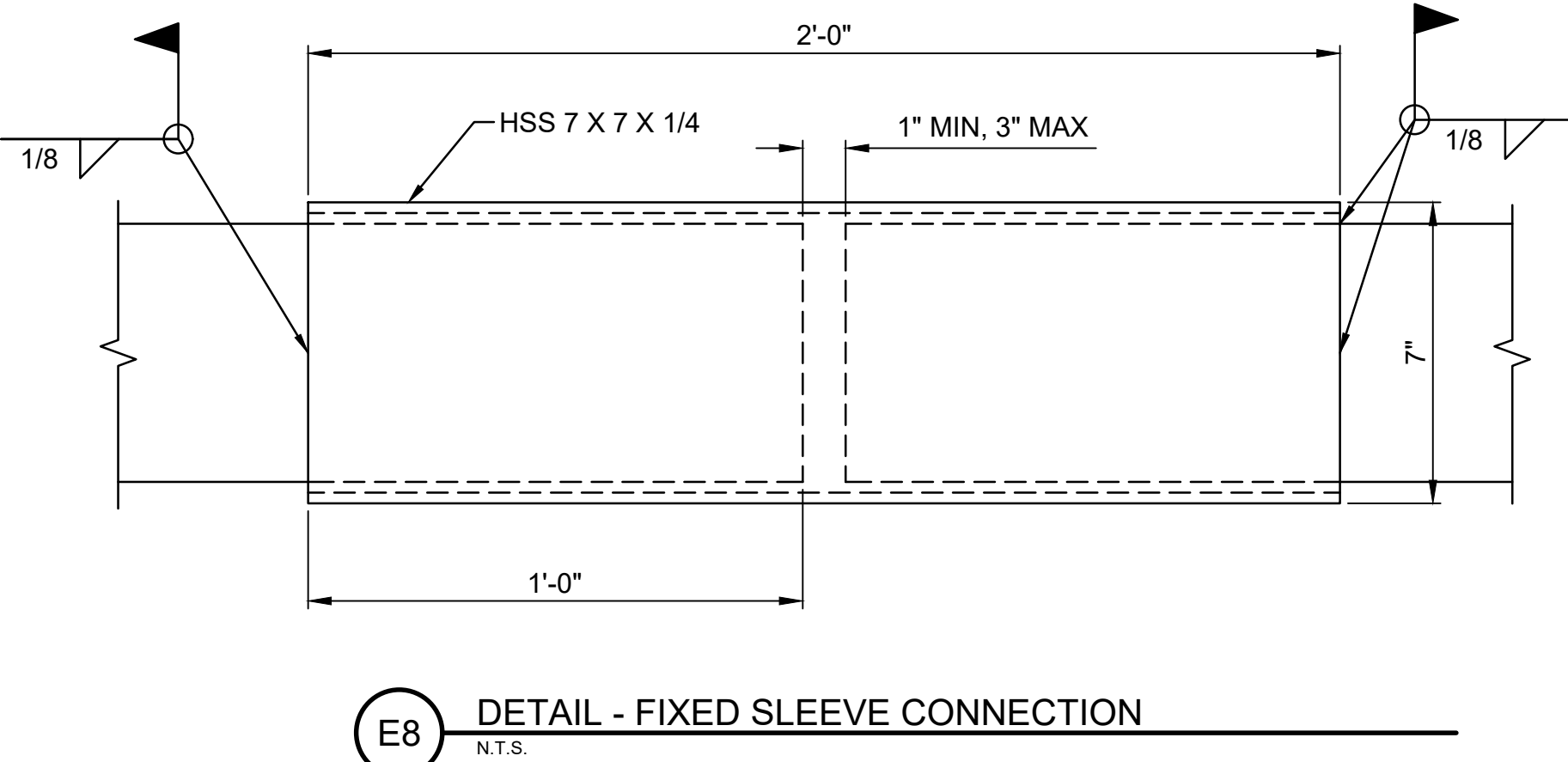
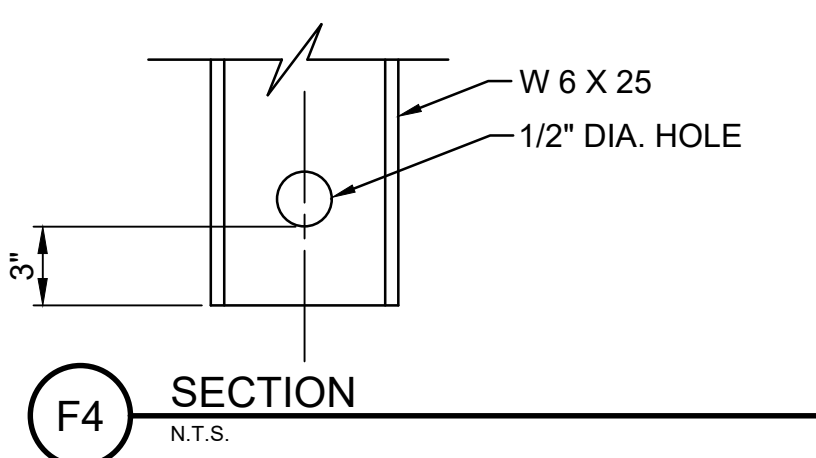
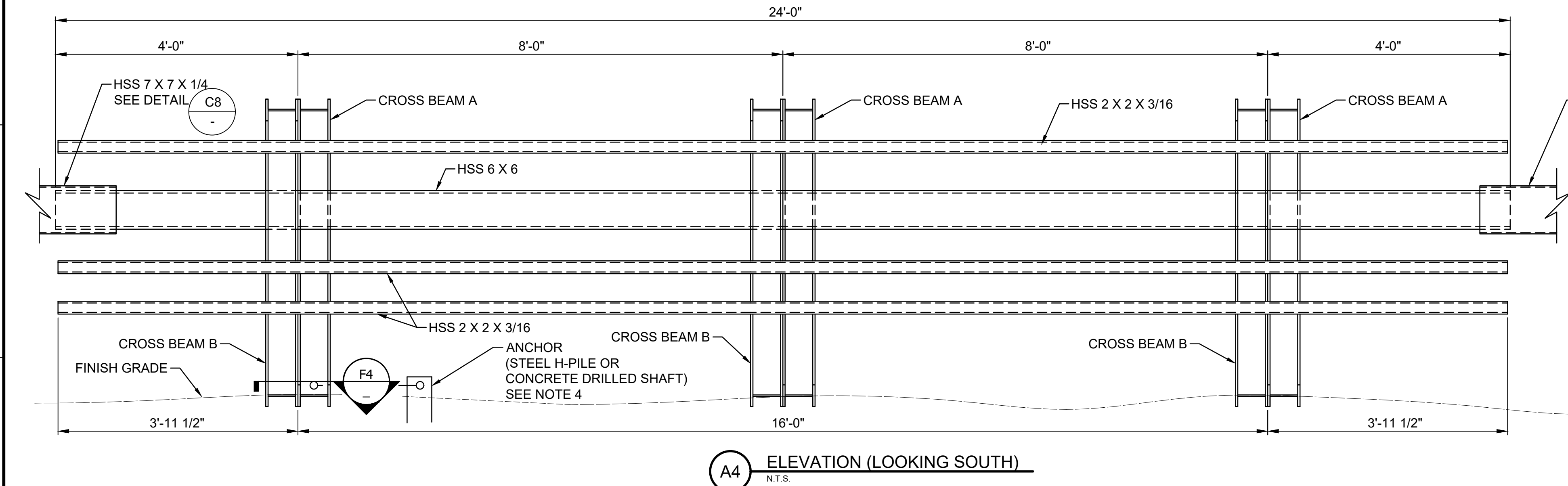
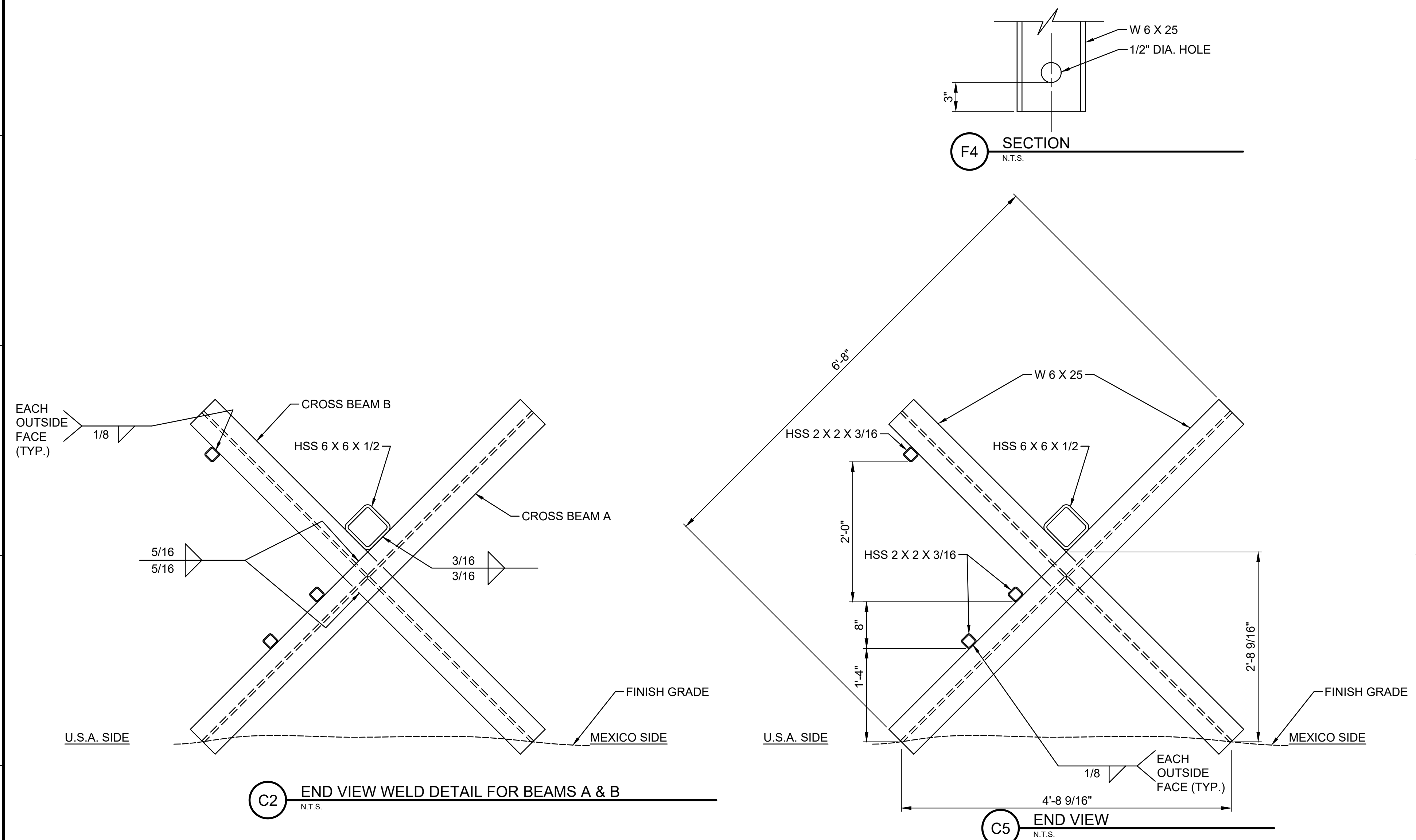
# **FENCE STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**

APPROVED FOR USE, ONLY AS DIRECTED



G  
F  
E  
D  
C  
B  
A



- NOTES:**
1. THIS DRAWING PROVIDES GENERAL DESIGN AND CONSTRUCTION DETAILS. FINAL PLANS SHALL SHOW SPECIAL NOTES AND DETAILS WHERE NECESSARY FOR CONDITIONS OTHER THAN THOSE INDICATED HEREIN.
  2. A MINIMUM OF 8 - 24' SEGMENTS MUST BE CONTINUOUSLY JOINED TO MEET THE DESIGN VEHICLE LOADING.
  3. CROSS BEAM A & CROSS BEAM B ARE BOTH 6'-8" LONG.
  4. ANCHOR ONLY REQUIRED THROUGH WASH CROSSING AND GRADES STEEPER THAN 20%. 1/2" DIA. HOLE USED TO TIE THE FENCE TO ANCHOR (H-PILE OR CONCRETE DRILLED SHAFT). EACH ANCHOR SHALL BE SPACED AT 24'-0" APART. THE FENCE WILL BE TIED TO THE ANCHOR BY 1/2" STEEL CABLE THROUGH THE EYE BOLT OR 1 1/2" HOLE. THE STEEL CABLE SHALL BE SWAGED TO FORM A CLOSED LOOP BY USING MANUFACTURER RECOMMENDED HARDWARE.
  5. ANCHOR SIZE AND EMBEDMENT DEPTH TO BE DETERMINED BY ENGINEER.

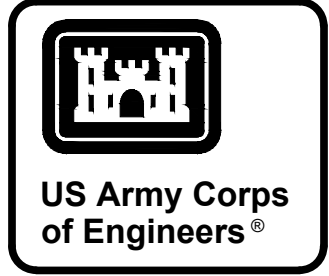
MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
W. J. WILSON	SOLICITATION NO.:
CHECKED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	ANSI D
SIZE:	

DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS FENCE STANDARD DETAILS VERSION V.5	NORMANDY FENCE SHEET 1 OF 2
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SHEET ID	F1
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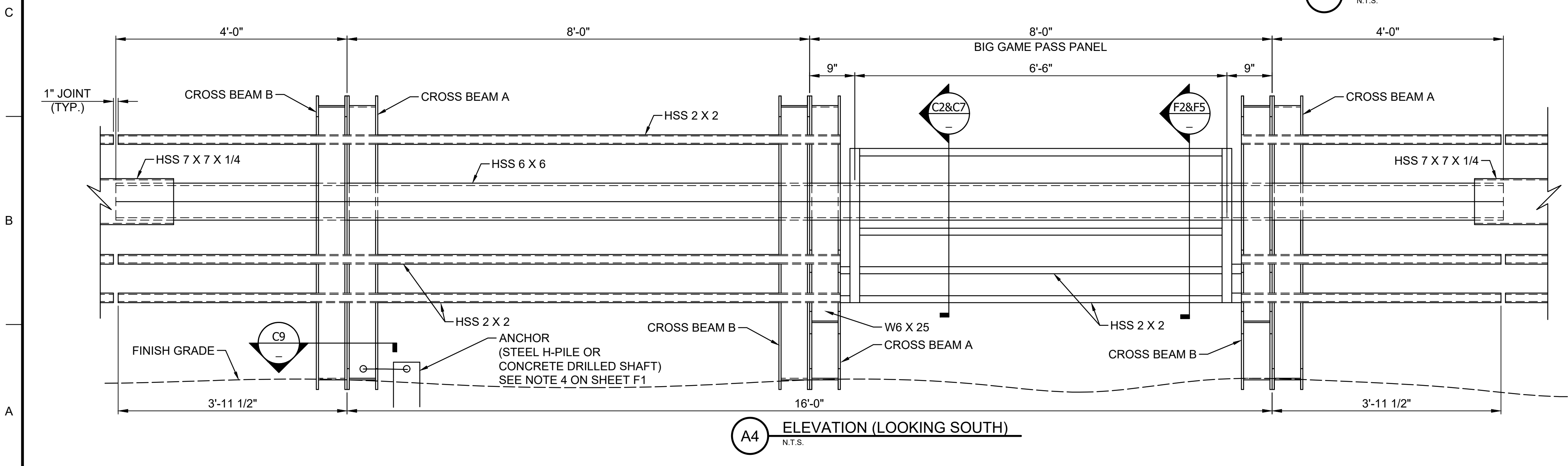
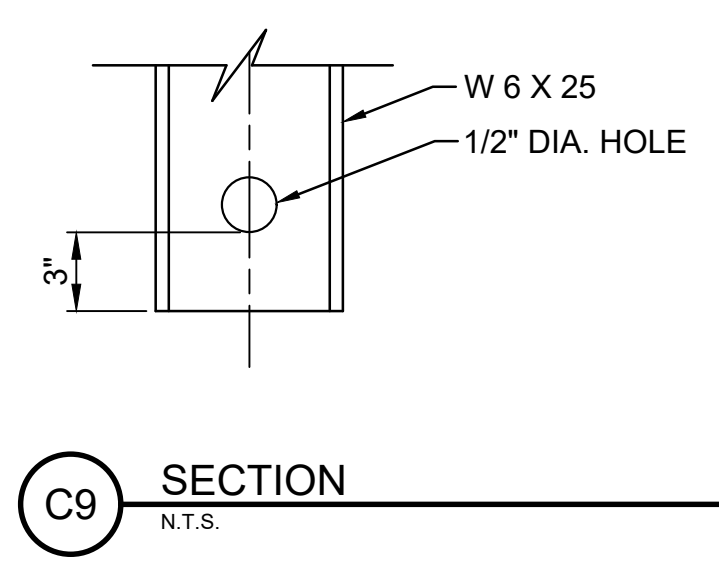
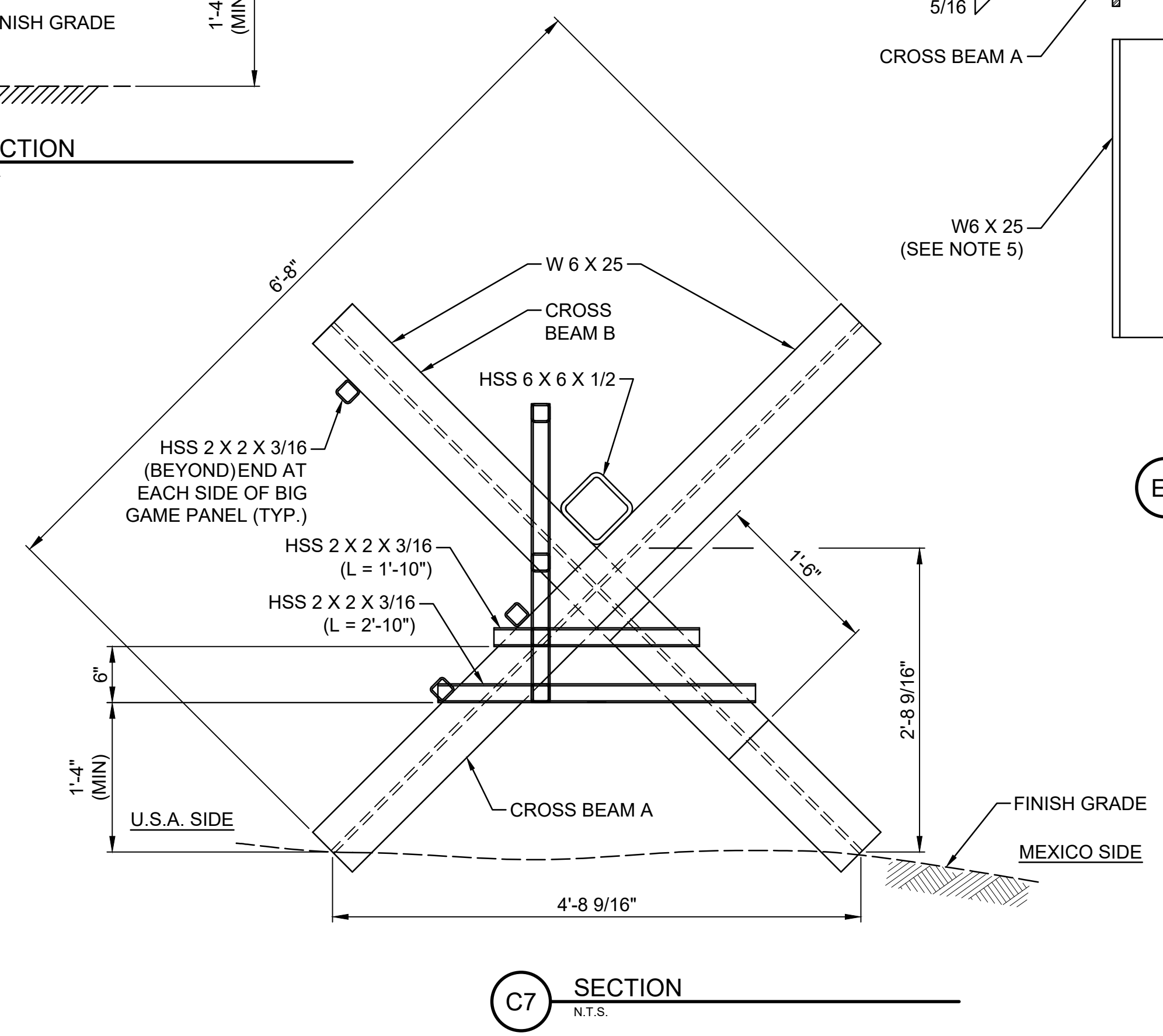
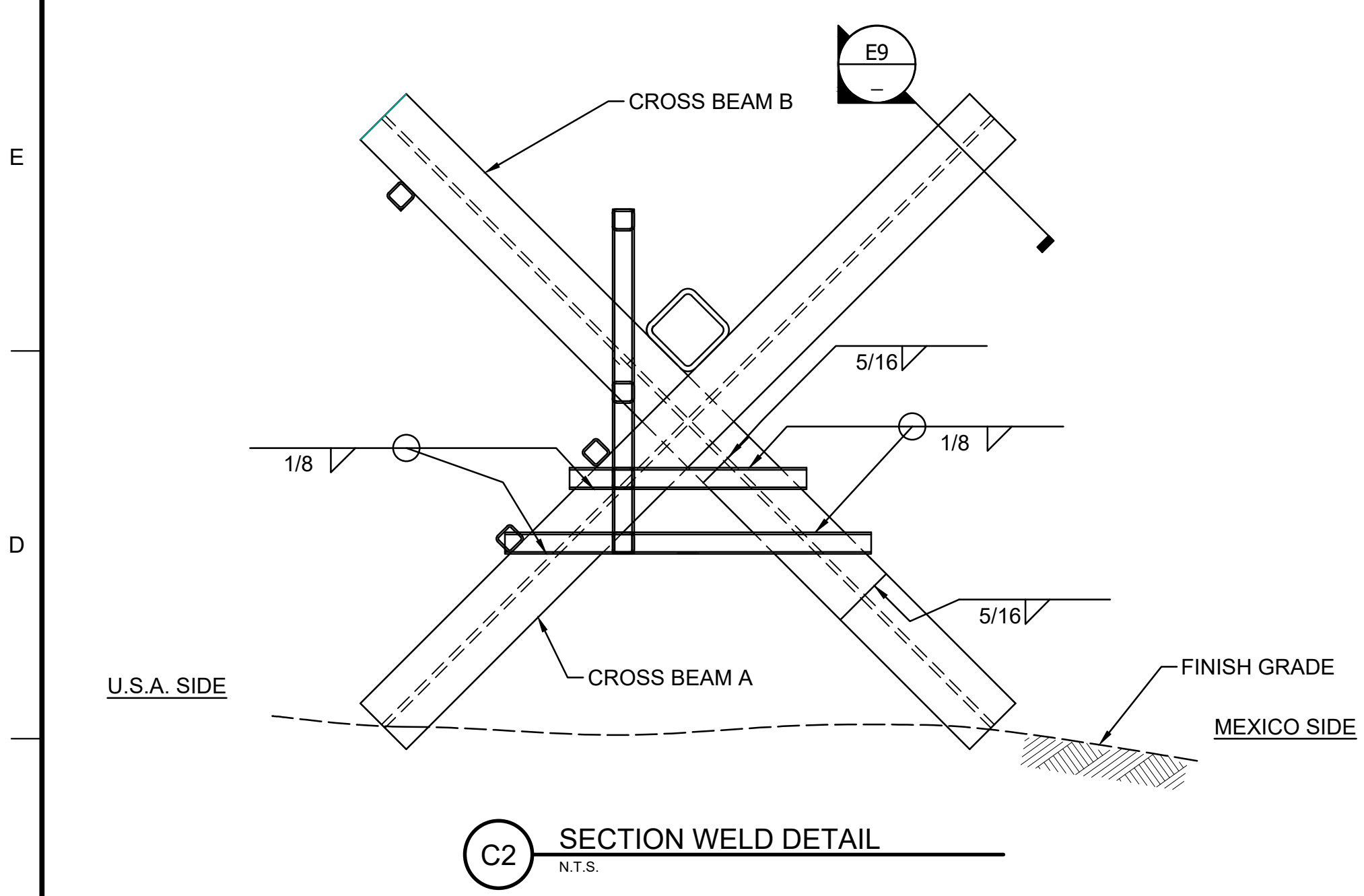
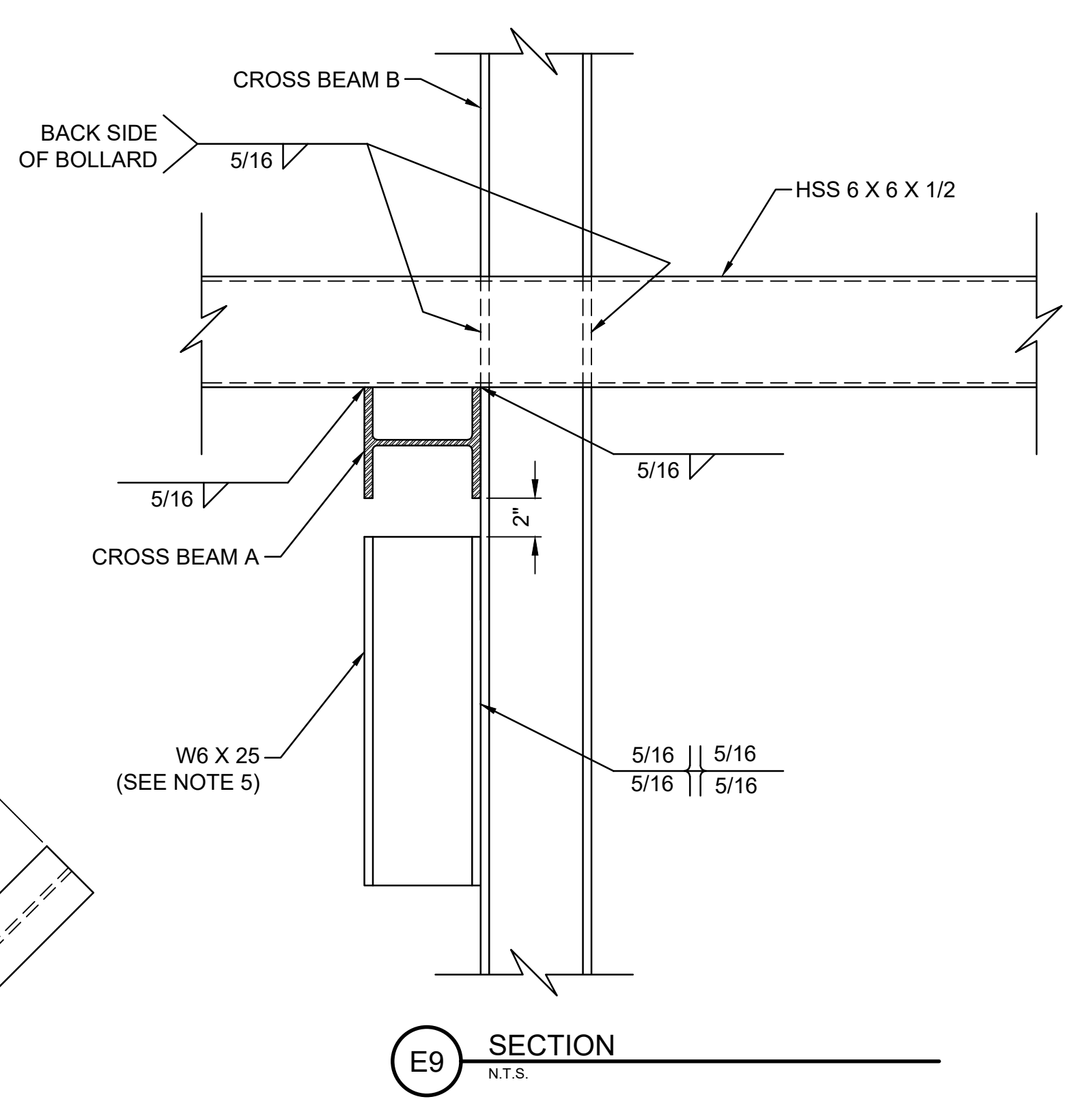
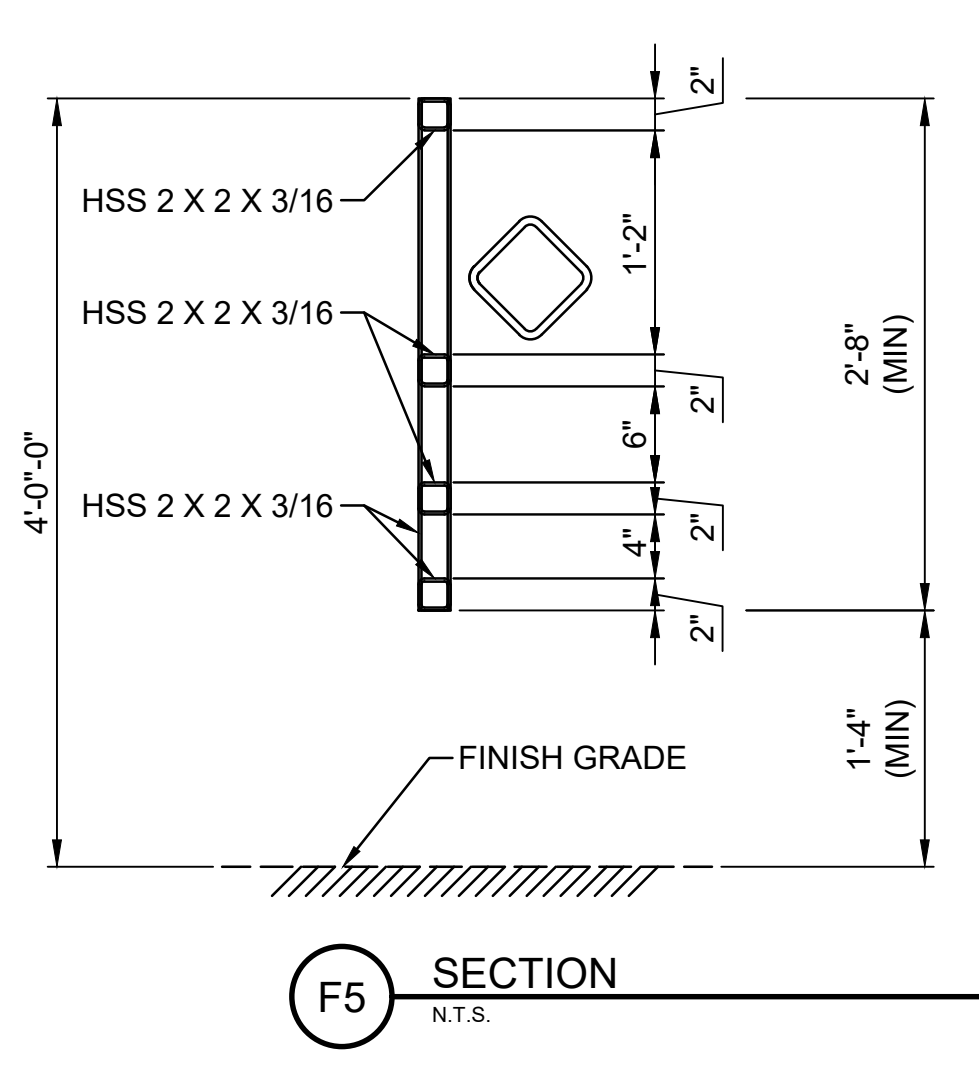
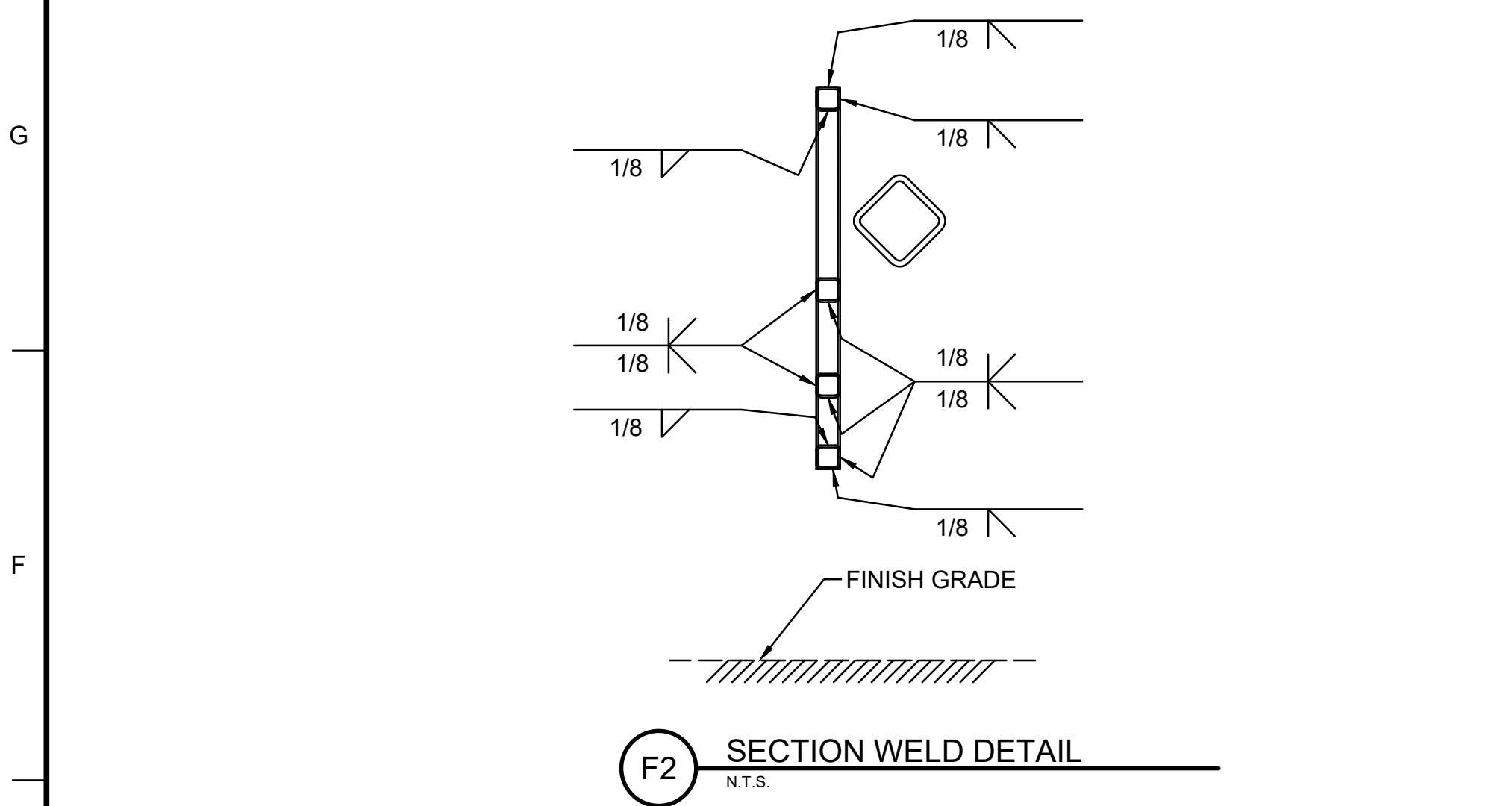


MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: W. FLEIS	SOLICITATION NO.:
WELDED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	
SIZE: ANSI D	

TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS FENCE STANDARD DETAILS VERSION V.5	NORMANDY FENCE SHEET 2 OF 2
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SHEET ID	F2
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- NOTES:**
- SEE REQUEST FOR PROPOSAL DESIGN CRITERIA FOR ADDITIONAL INFORMATION.
  - 8'-0" BIG GAME PASS PANEL SHALL BE PLACED AS DIRECTED BY CBP.
  - A MINIMUM OF 8'-24' SEGMENTS MUST BE CONTINUOUSLY JOINED TO MEET THE DESIGN VEHICLE LOADING.
  - CROSS BEAM A AND CROSS BEAM B ARE BOTH 6'-8" LONG W6 X 25.
  - THE 1'-6" LONG W6 X 25 SHALL BE USED TO PROVIDE A FLUSH SURFACE TO WELD THE HORIZONTAL HSS 2 X 2 X 3/16 BEAMS FOR THE BIG GAME PASS PANEL CONSTRUCTION ONLY (SEE SECTION E9).



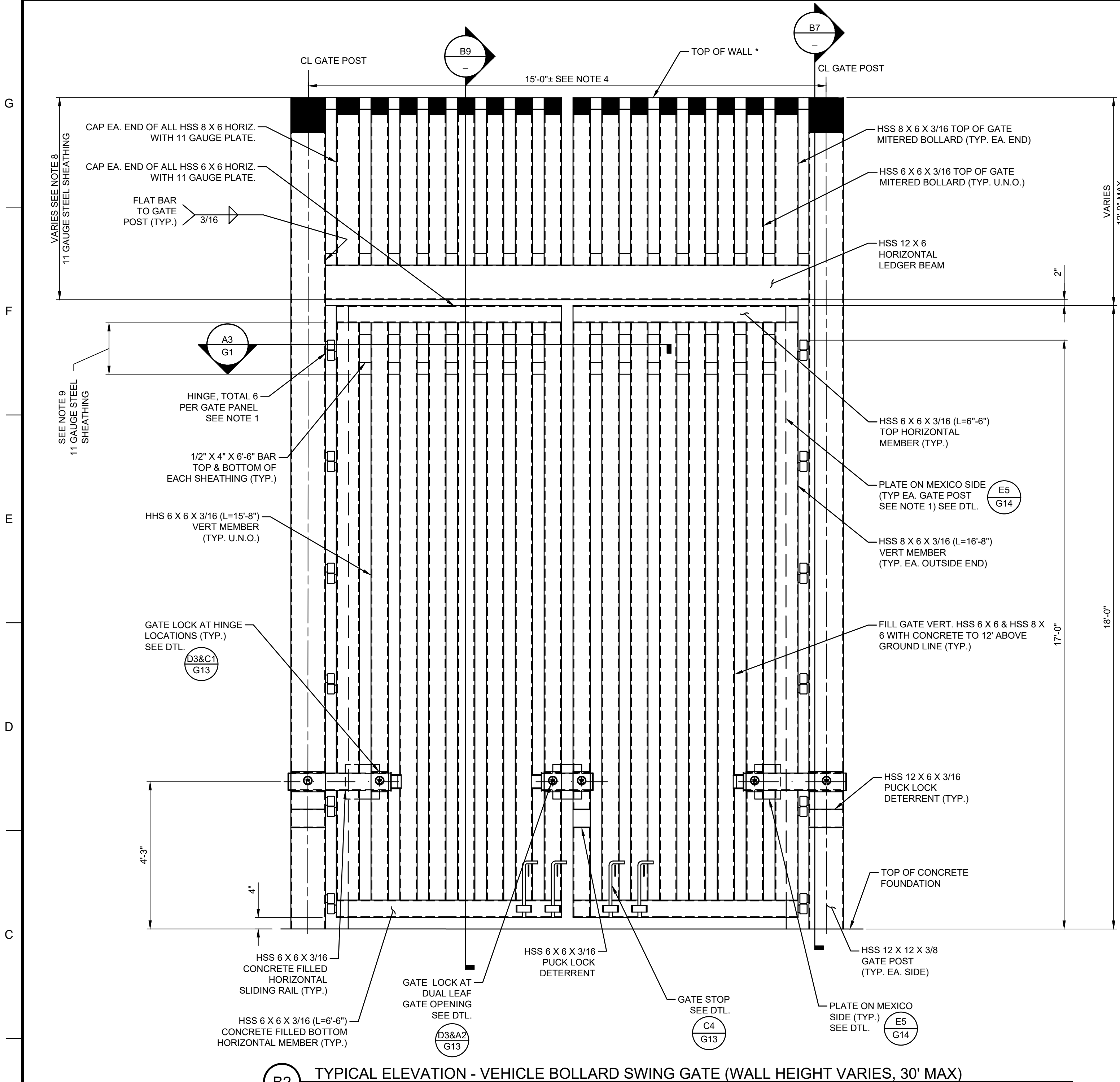
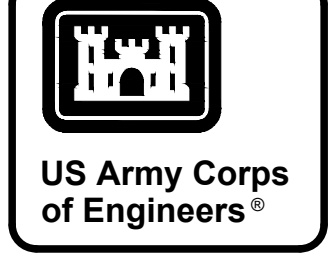
**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

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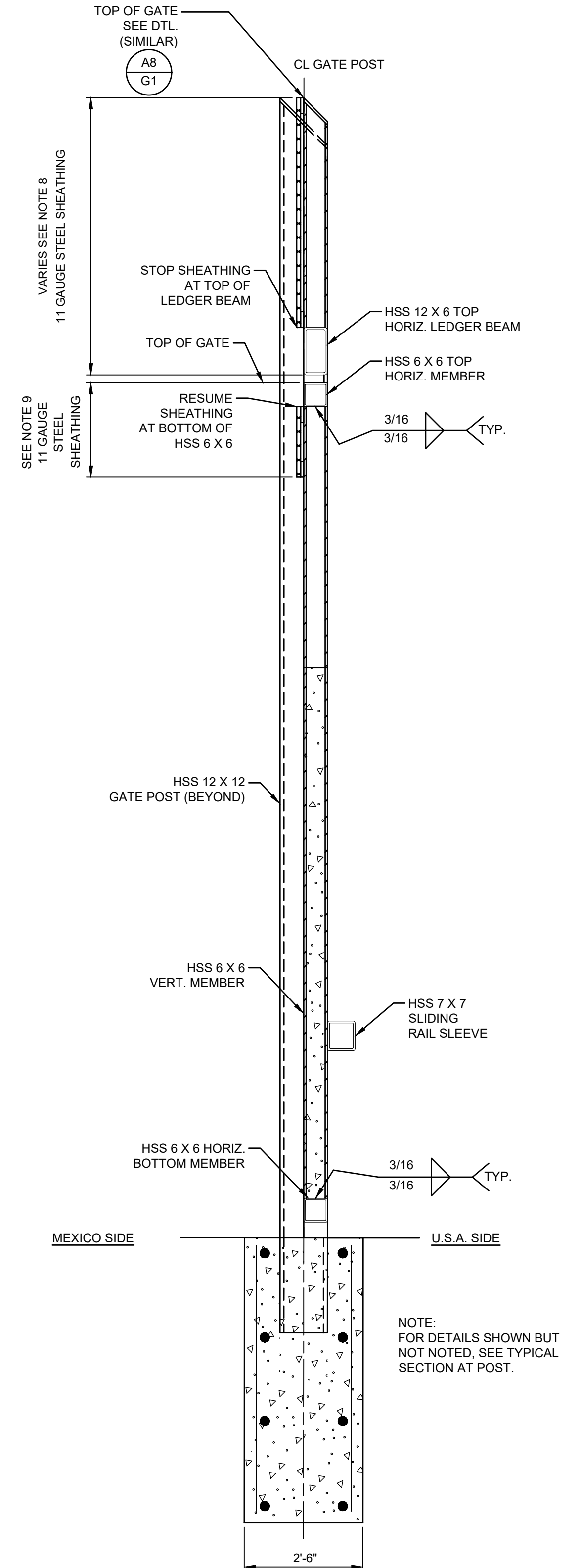
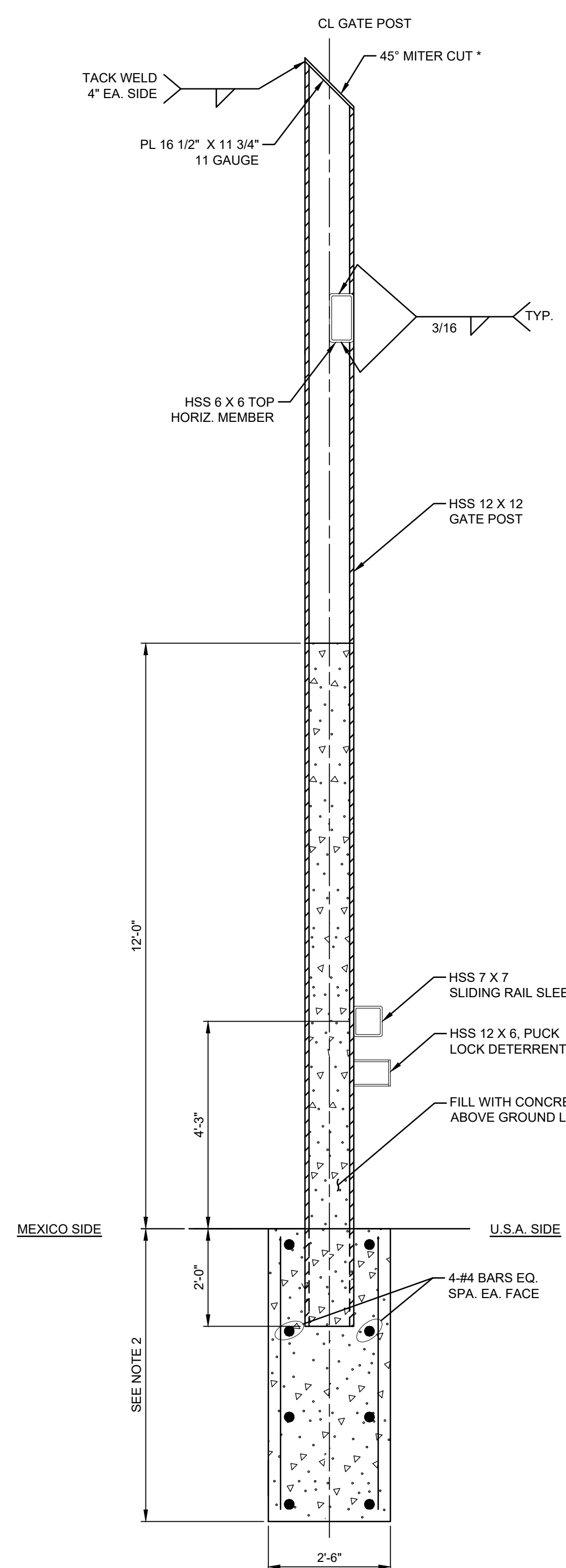
# **GATE STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**





- NOTES:**
- HINGES TO BE KING KONG BARREL HINGES (OR APPROVED EQUAL) & SHALL BE WELDED TO POST PER MANUFACTURER'S RECOMMENDATIONS. HINGES ARE TO OPEN AWAY FROM MEXICO SIDE AND PROVIDE 180° ROTATION. HINGES SHALL BE ATTACHED TO THE POST ON THE LOWER END OF THE SLOPE. PLACE HINGES AT EQUAL SPACES.
  - DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF BOLLARD WALL FOUNDATION.
  - PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
  - CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST. MINIMUM CLEAR OPENING SHALL BE 12'-0".
  - PLACE 2-#8 REBAR (BUNDLED) CENTERED IN ALL CONCRETE FILLED BOLLARDS THROUGH ENTIRE LENGTH OF CONCRETE.
  - FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
  - ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
  - ANTI-CLIMB PLATE IS REQUIRED ON/ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS. WHEN BOLLARDS ABOVE LEDGER BEAM ARE GREATER THAN 5FT EXTEND STEEL SHEATHING FROM TOP OF WALL TO TOP OF LEDGER BEAM. WHEN SHEATHING HEIGHT IS GREATER THAN 7FT, INTERMEDIATE FLAT BAR CONNECTION IS REQUIRED.
  - ANTI-CLIMB PLATE IS REQUIRED ON/ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS.WHEN THE DISTANCE BETWEEN THE BOTTOM OF LEDGER BEAM TO TOP OF WALL IS LESS THAN 5-FT, ADDITIONAL SHEATHING SHALL BE PLACED AT THE TOP OF GATE PANELS DOWN TO 5-FT MEASURED FROM THE TOP OF WALL.
  - ANTI-CLIMB PLATE IS REQUIRED ON/ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS. WHEN ANTI-CLIMB PLATE IS REQUIRED, BOLLARDS ABOVE SPACES MAY BE ROTATED AND UP TO 5" SPACING. WHEN ANTI-CLIMB PLATE IS NOT REQUIRED, BOLLARDS ABOVE GATES SHALL BE IN DIAMOND POSITION WITH MAXIMUM OF 4" CLEAR SPACE BETWEEN BOLLARDS.
  - THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.



MARK	DESCRIPTION	DATE

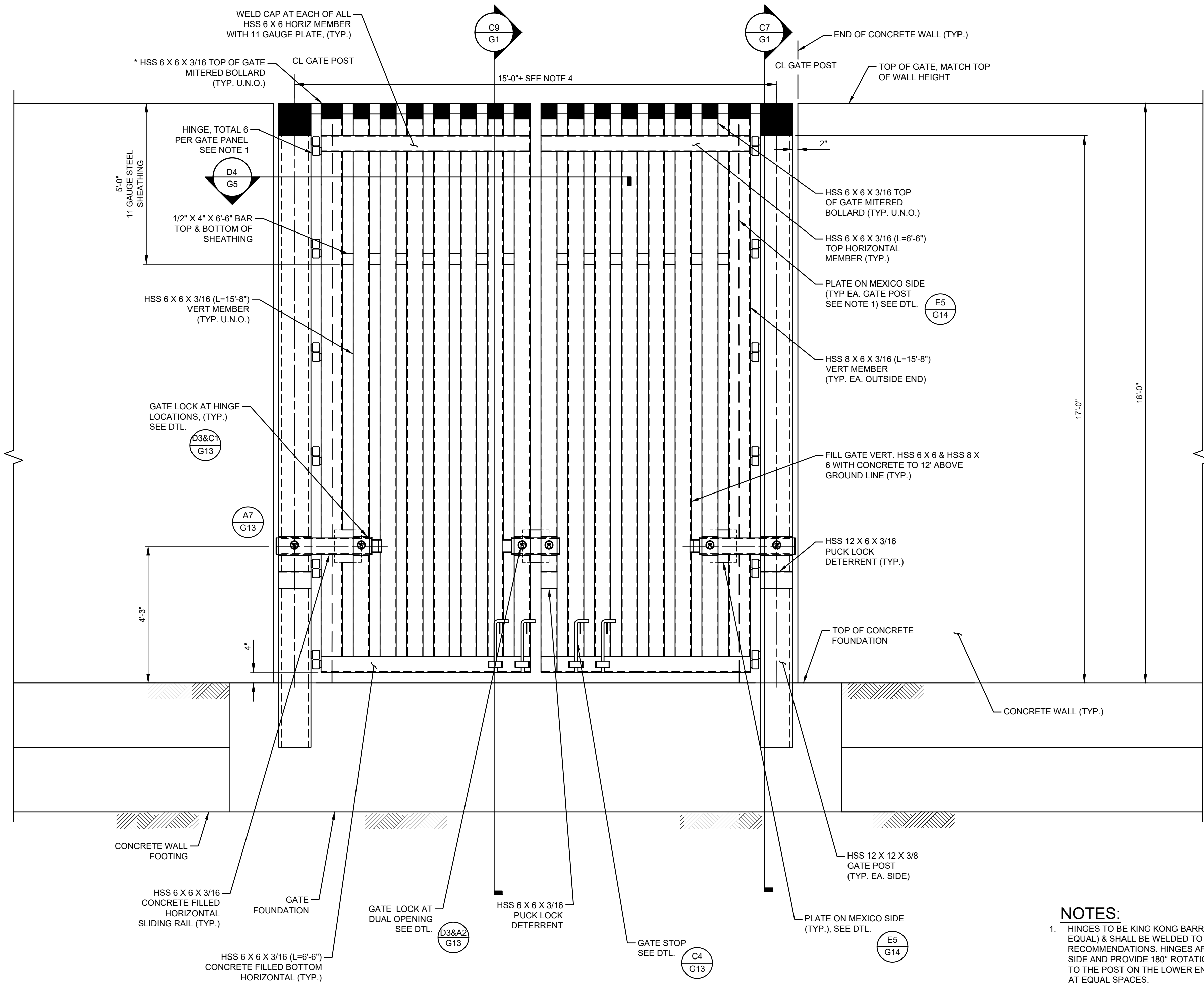
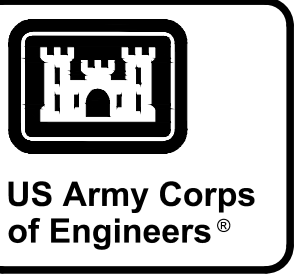
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. FLEIS	SOLICITATION NO.:
PROGRAM MANAGEMENT OFFICE DIRECTORATE	CONTRACT NO.:
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL	DESIGNED BY: P. CAMPAGNOLA
PROGRAM MANAGEMENT OFFICE DIRECTORATE	CHECKED BY: C. KARAM
SUBMITTED BY: C. KARAM	SIZE: ANSI D

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5

VEHICLE BOLLARD SWING GATE  
IN BOLLARD WALL  
SHEET 2 OF 2

SHEET ID  
**G2**

\* GATE TOPPING FEATURES TO MATCH THE TOPPING FEATURES OF ADJACENT WALL.



**B3** TYPICAL ELEVATION - VEHICLE BOLLARD SWING GATE (WALL HEIGHT = 18'-0") (LOOKING SOUTH)  
SCALE:

APPROVED FOR SECONDARY USE

\* GATE TOPPING FEATURES TO MATCH THE TOPPING FEATURES OF ADJACENT WALL.

DATE	DESCRIPTION

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: W. FLAHERTY	SOLICITATION NO.:
APPROVED BY: P. CAMPAGNOLO	CONTRACT NO.:
SUBMITTED BY: C. KARAM	
SIZE: ANSI D	

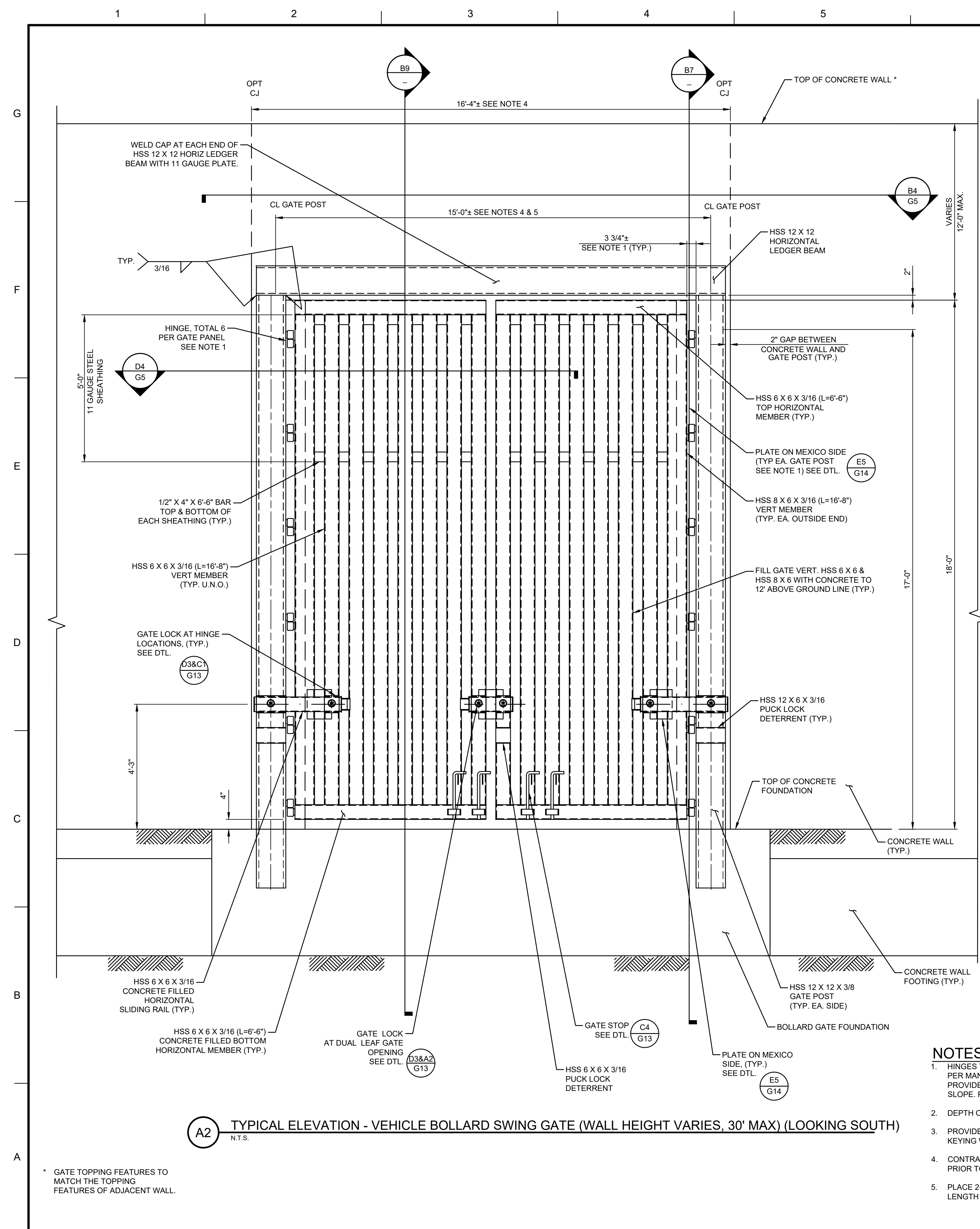
DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5  
VEHICLE BOLLARD SWING GATE  
IN CONCRETE WALL  
SHEET 1 OF 3

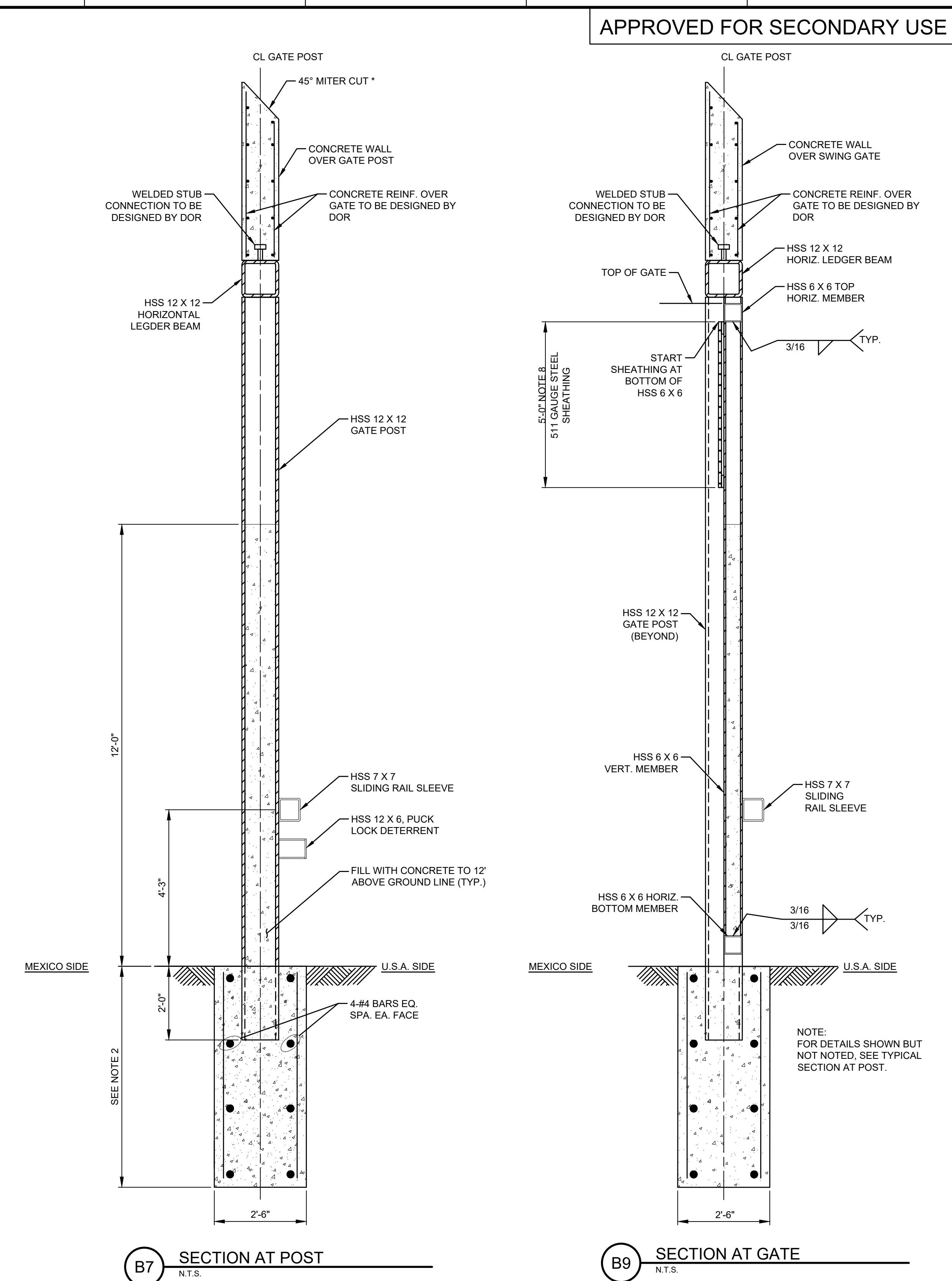
SHEET ID  
**G3**

**NOTES:**

- HINGES TO BE KING KONG BARREL HINGES (OR APPROVED EQUAL) & SHALL BE WELDED TO POST PER MANUFACTURER'S RECOMMENDATIONS. HINGES ARE TO OPEN AWAY FROM MEXICO SIDE AND PROVIDE 180° ROTATION. HINGES SHALL BE ATTACHED TO THE POST ON THE LOWER END OF THE SLOPE. PLACE HINGES AT EQUAL SPACES.
- DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF CONCRETE WALL FOOTING.
- PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
- CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST. MINIMUM CLEAR OPENING SHALL BE 12'-0".
- PLACE 2-#8 REBAR (BUNDLED) CENTERED IN ALL CONCRETE FILLED BOLLARDS THROUGH ENTIRE LENGTH OF CONCRETE.
- FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
- ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
- PROVIDE ANTI-CLIMB PLATE AT TOP OF GATE UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.



**A2** TYPICAL ELEVATION - VEHICLE BOLLARD SWING GATE (WALL HEIGHT VARIES, 30' MAX) (LOOKING SOUTH)  
N.T.S.



**B7** SECTION AT POST  
N.T.S.

**B9** SECTION AT GATE  
N.T.S.

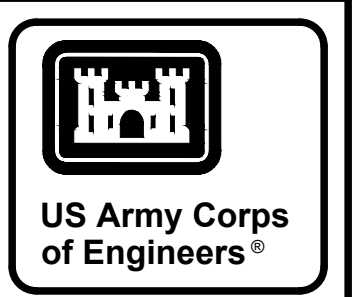
- NOTES:**
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  - DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF FENCE FOUNDATION.
  - PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
  - CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST. MINIMUM CLEAR OPENING SHALL BE 12'-0".
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  - PROVIDE ANTI-CLIMB PLATE AT TOP OF GATE UNLESS OTHERWISE SPECIFIED.
  - THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

APPROVED FOR SECONDARY USE

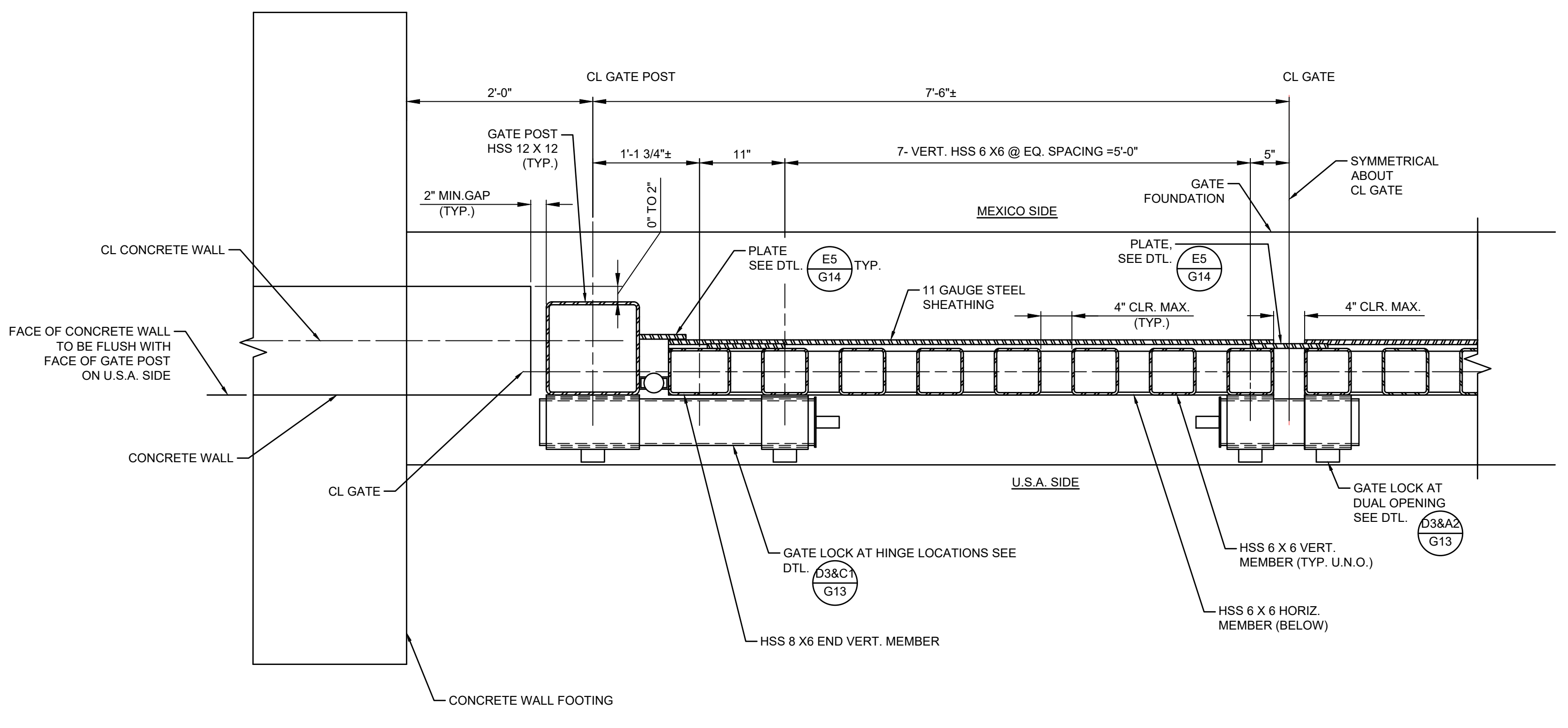
**US Army Corps of Engineers**

ISSUE DATE: AUGUST 2020	SOLICITATION NO.:	CONTRACT NO.:	DATE
DESIGNED BY: K. RUFFENACH	CHECKED BY: P. CAMPAGNOLA	SUBMITTED BY: C. KARAM	MARK
DESIGNED BY: K. RUFFENACH	CHECKED BY: P. CAMPAGNOLA	SUBMITTED BY: C. KARAM	DESCRIPTION
DESIGNED BY: K. RUFFENACH	CHECKED BY: P. CAMPAGNOLA	SUBMITTED BY: C. KARAM	ANSI D
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE			
TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS GATE STANDARD DETAILS VERSION V.5			
VEHICLE BOLLARD SWING GATE IN CONCRETE WALL SHEET 2 OF 3			
SHEET ID			
<b>G4</b>			

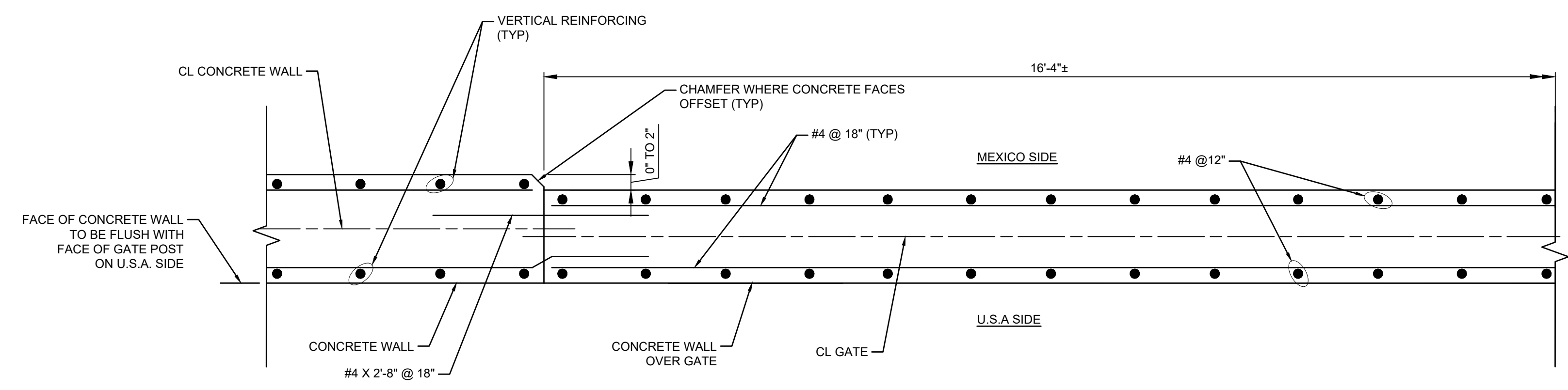
APPROVED FOR SECONDARY USE



G  
F  
E  
D  
C  
B  
A



D4 SECTION AT BOLLARD GATE  
N.T.S.



B4 SECTION OVER SWING GATE  
N.T.S.

NOTES:

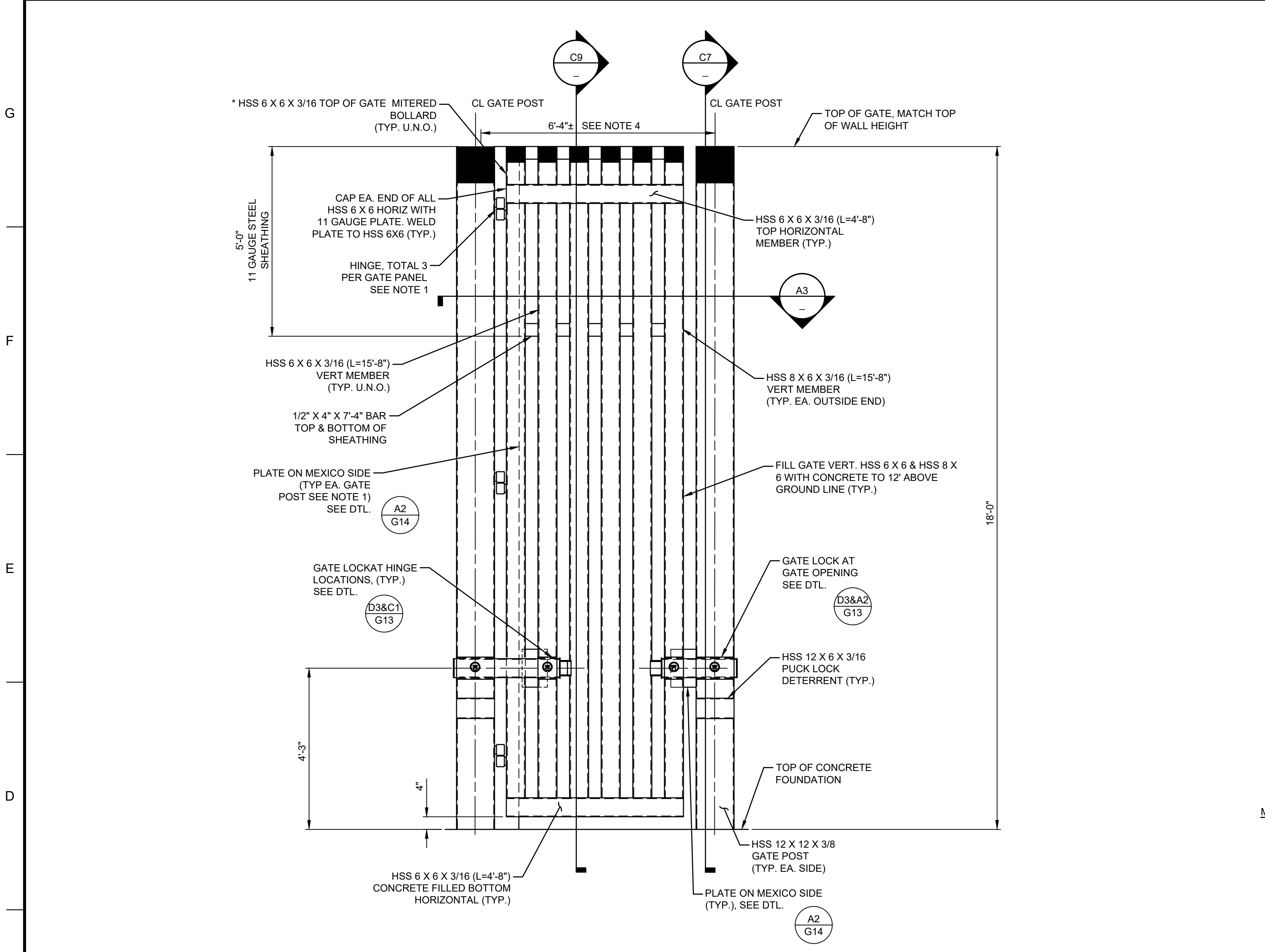
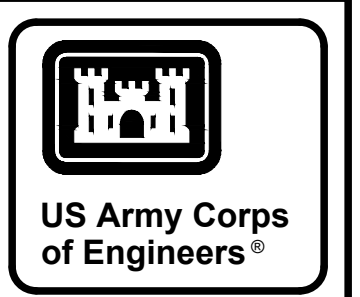
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- 2. DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF FENCE FOUNDATION.
- 3. PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
- 4. CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST. MINIMUM CLEAR OPENING SHALL BE 12'-0".
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- 7. ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS. PROVIDE ANTI-CLIMB PLATE AT TOP OF GATE UNLESS OTHERWISE SPECIFIED.
- 8. PROVIDE ANTI-CLIMB PLATE AT TOP OF GATE UNLESS OTHERWISE SPECIFIED.
- 9. THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

MARK	DESCRIPTION	DATE

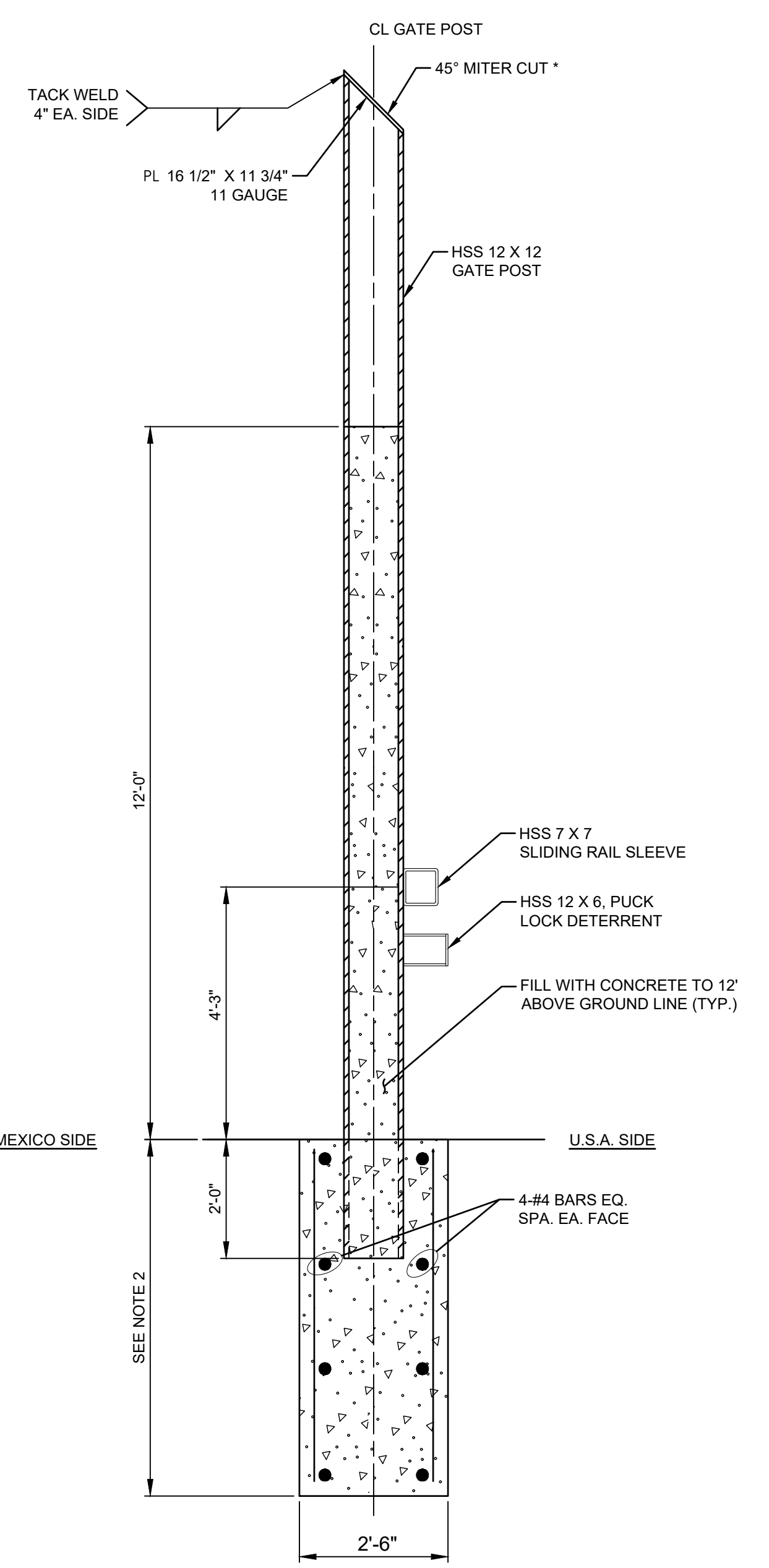
DESIGNED BY: K. RUFFERNACH	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
CONTRACT NO.:	
SUBMITTED BY: C. KARAM	
SIZE: ANSI D	
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE	

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION 1.5  
VEHICLE BOLLARD SWING GATE  
IN CONCRETE WALL  
SHEET 3 OF 3

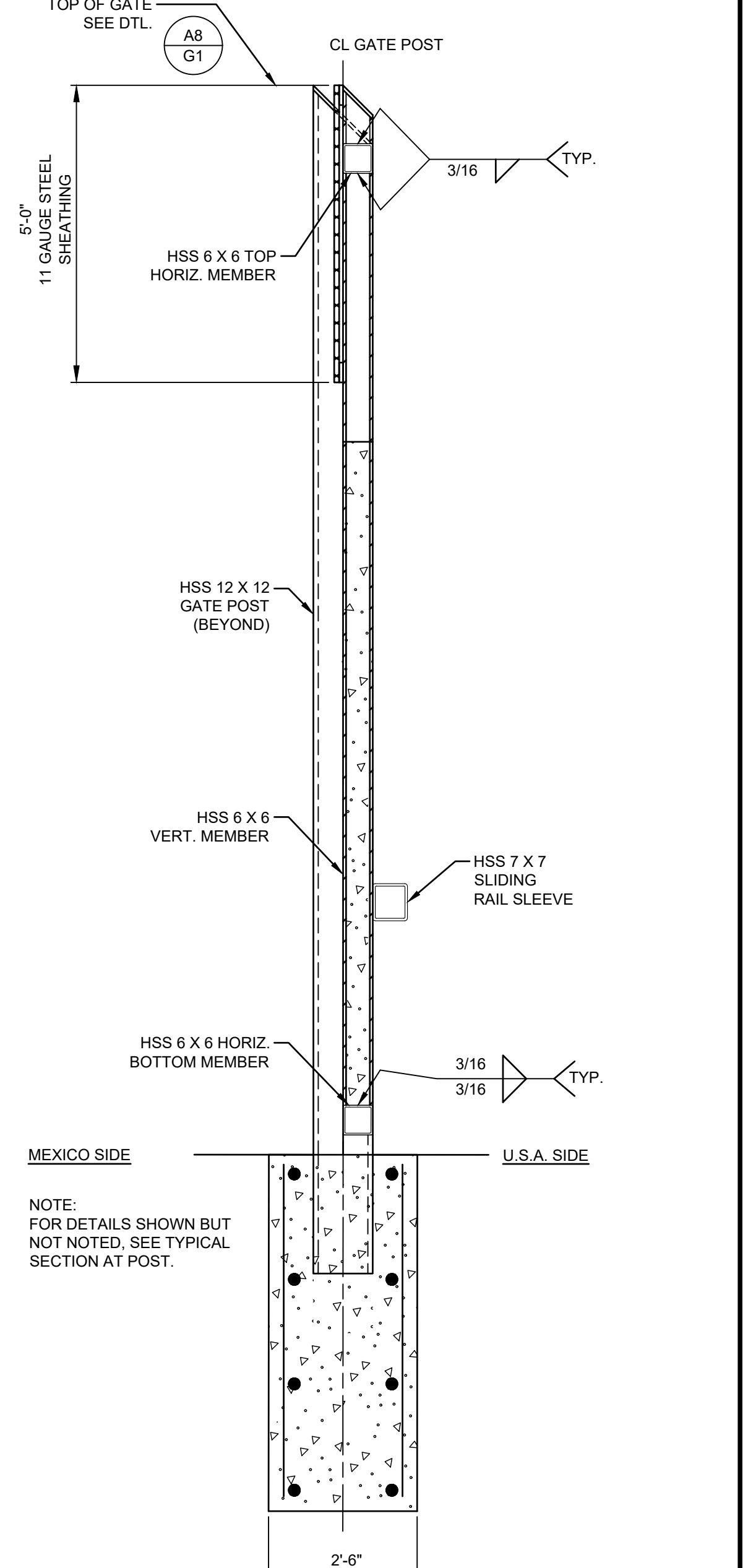
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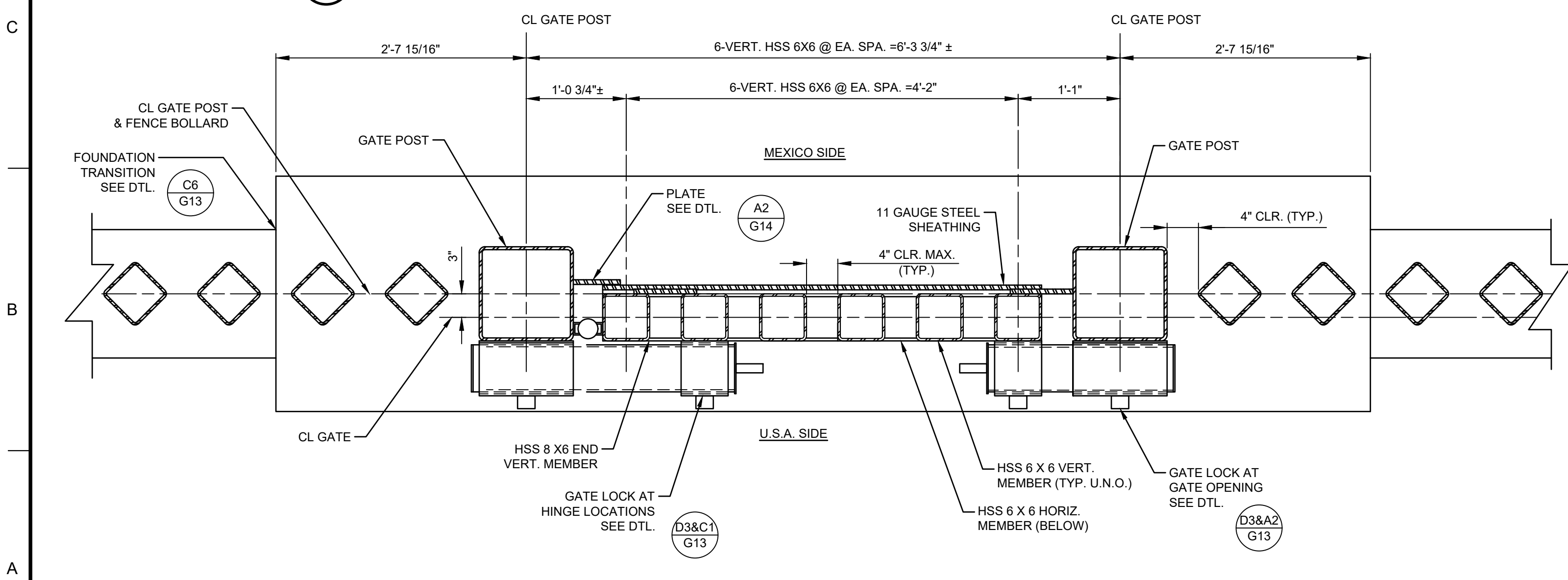
**C2** TYPICAL ELEVATION - PERSONNEL BOLLARD SWING GATE (WALL HEIGHT = 18'-0") (LOOKING SOUTH)  
N.T.S.



**C7** SECTION AT POST  
N.T.S.



**C9** SECTION AT GATE  
N.T.S.



**A3** SECTION AT SWING GATE  
N.T.S.

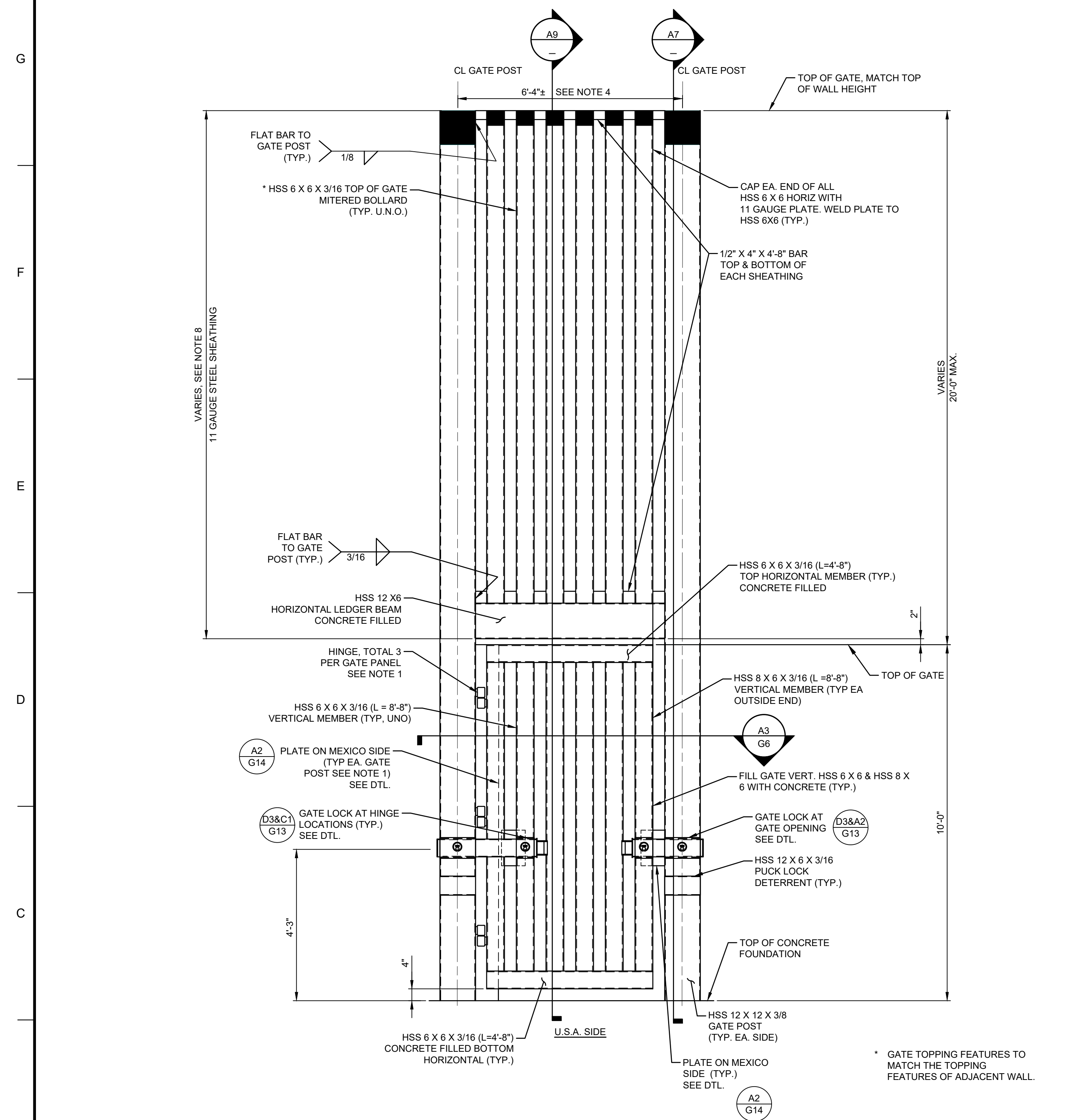
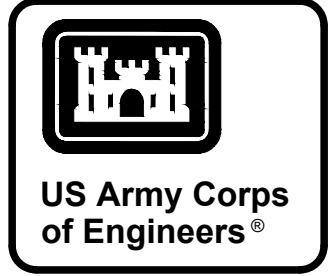
- NOTES:**
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  - DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF BOLLARD WALL FOUNDATION.
  - PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
  - CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST.
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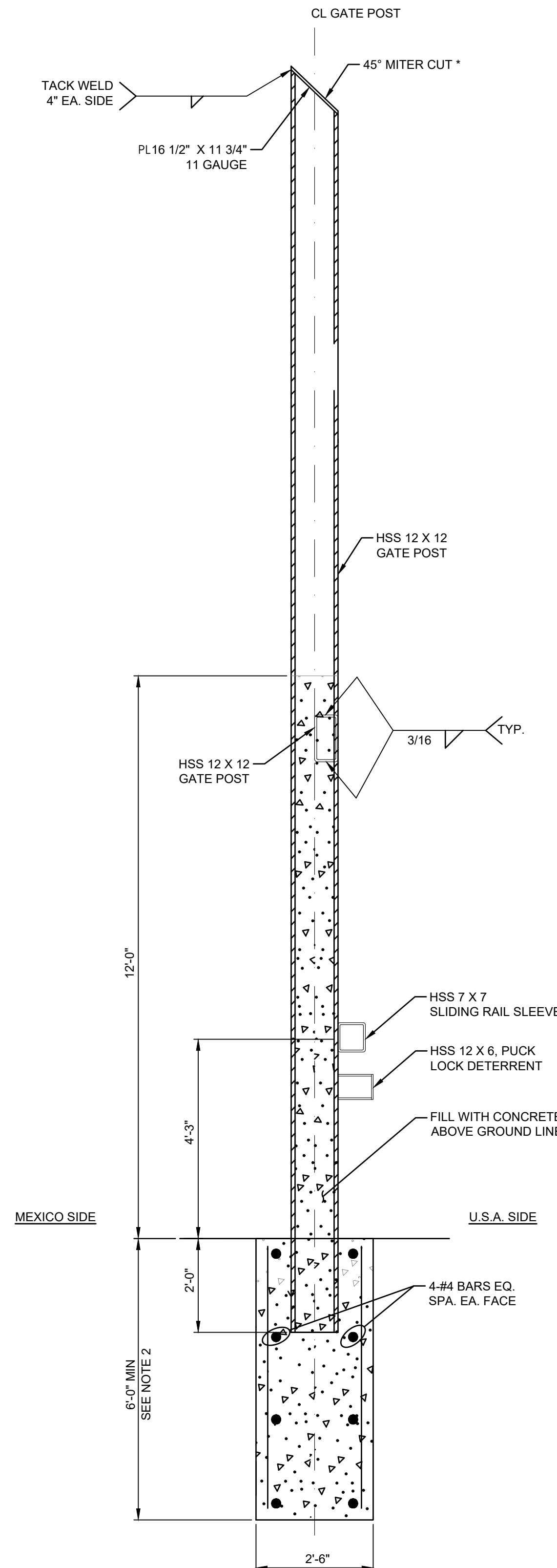
MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENNACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. ELLIS	SOLICITATION NO.:
APPROVED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	ANSI D
SIZE:	

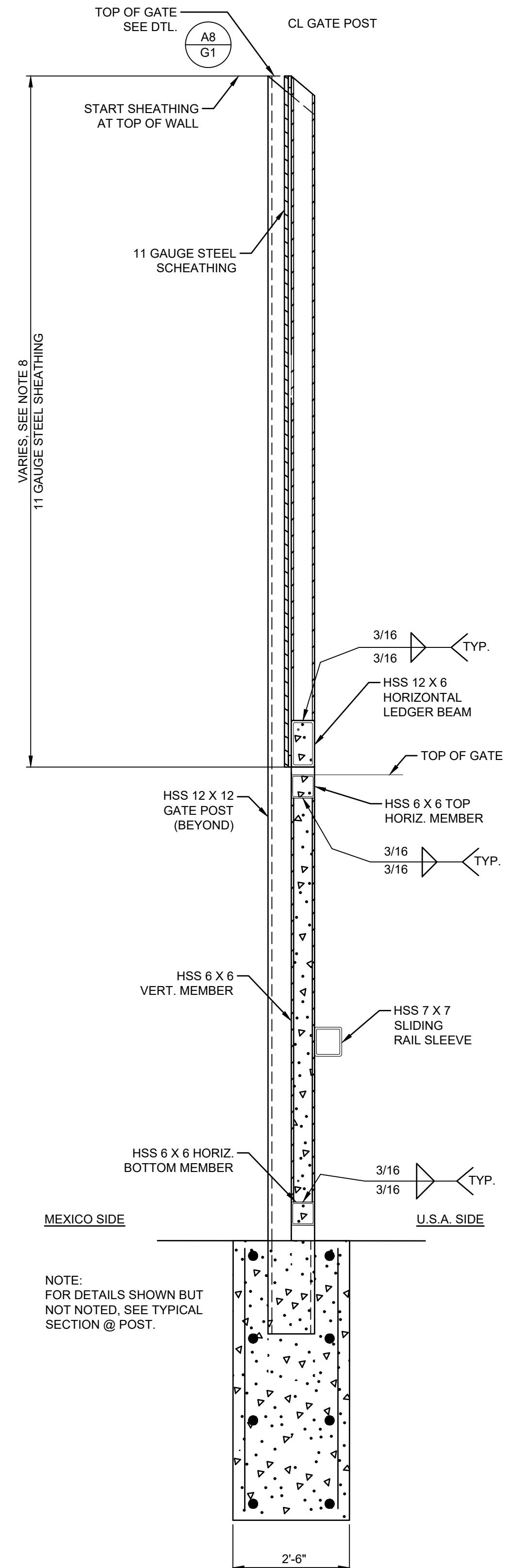
TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5  
PERSONNEL BOLLARD SWING GATE  
IN BOLLARD WALL  
SHEET 1 OF 2



**B2** TYPICAL ELEVATION - PERSONNEL BOLLARD SWING GATE (WALL HEIGHT VARIES 30' MAX) (LOOKING SOUTH)  
N.T.S.



**A7** SECTION AT POST  
N.T.S.



**A9** SECTION AT GATE  
N.T.S.

- NOTES:**
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  - DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF BOLLARD WALL FOUNDATION.
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  - FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
  - ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
  - ANTI-CLIMB PLATE IS REQUIRED ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS. EXTEND STEEL SHEATHING FROM TOP OF WALL TO BOTTOM OF LEDGER BEAM. WHEN SHEATHING HEIGHT IS GREATER THAN 7FT, ADDITIONAL BAR IS REQUIRED, CENTERED BETWEEN TOP AND BOTTOM BARS. WHEN SHEATHING HEIGHT IS GREATER THAN 14FT, ADDITIONAL TWO BARS ARE REQUIRED AT EQUAL SPACING BETWEEN TOP AND BOTTOM BARS.
  - WHEN ANTI-CLIMB PLATE IS REQUIRED, BOLLARDS ABOVE GATES MAY BE ROTATED AND UP TO 5" SPACING. WHEN ANTI-CLIMB PLATE IS NOT REQUIRED, BOLLARDS ABOVE GATES SHALL BE IN DIAMOND POSITION WITH MAXIMUM OF 4" CLEAR SPACE BETWEEN BOLLARDS.
  - THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

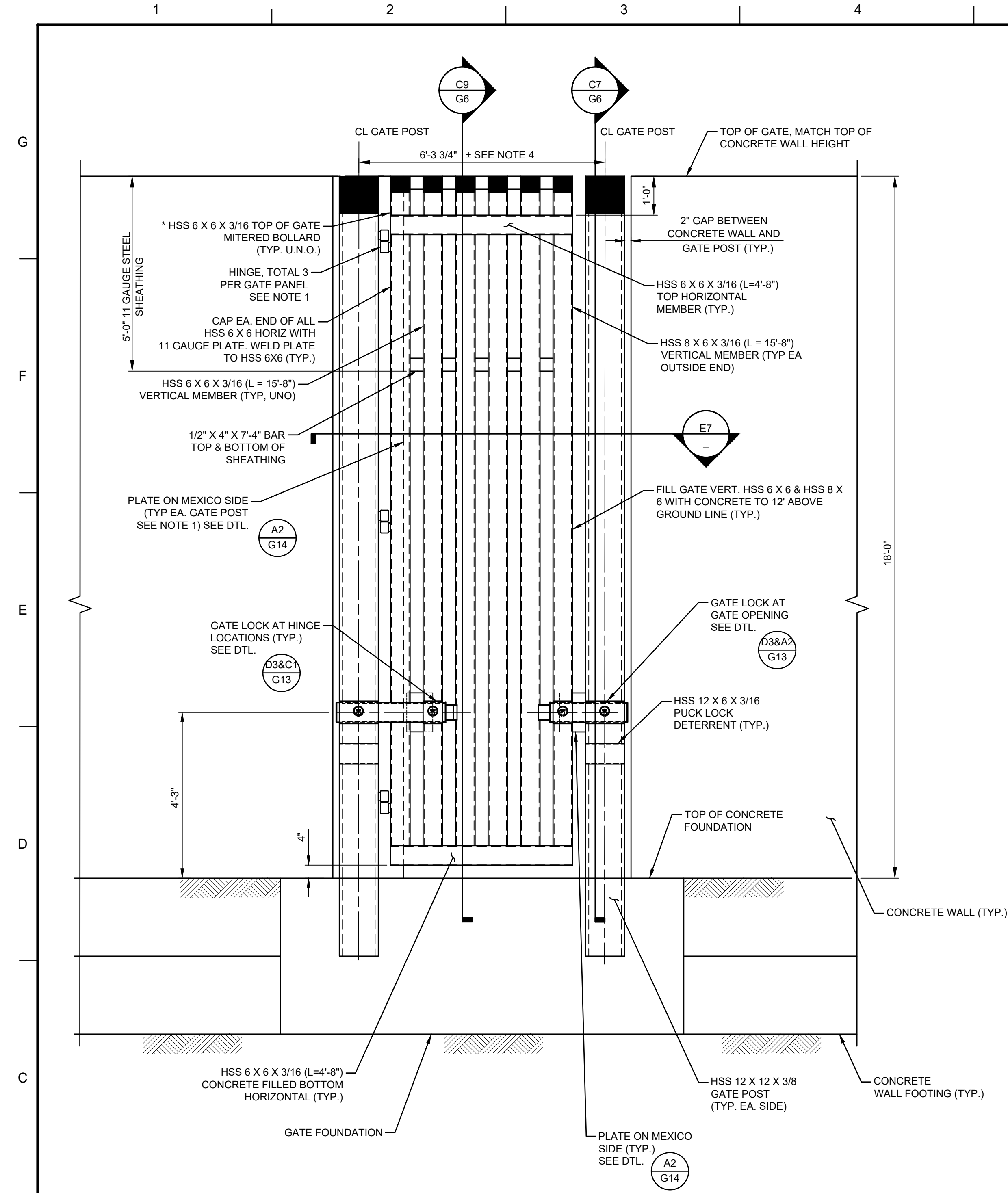
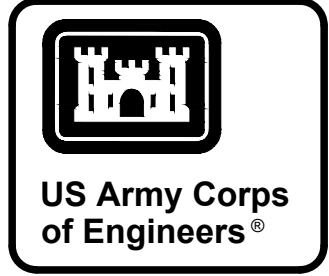
DATE	DESCRIPTION	MARK

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. WILKINS	SOLICITATION NO.:
APPROVED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	ANSI D
SIZE:	

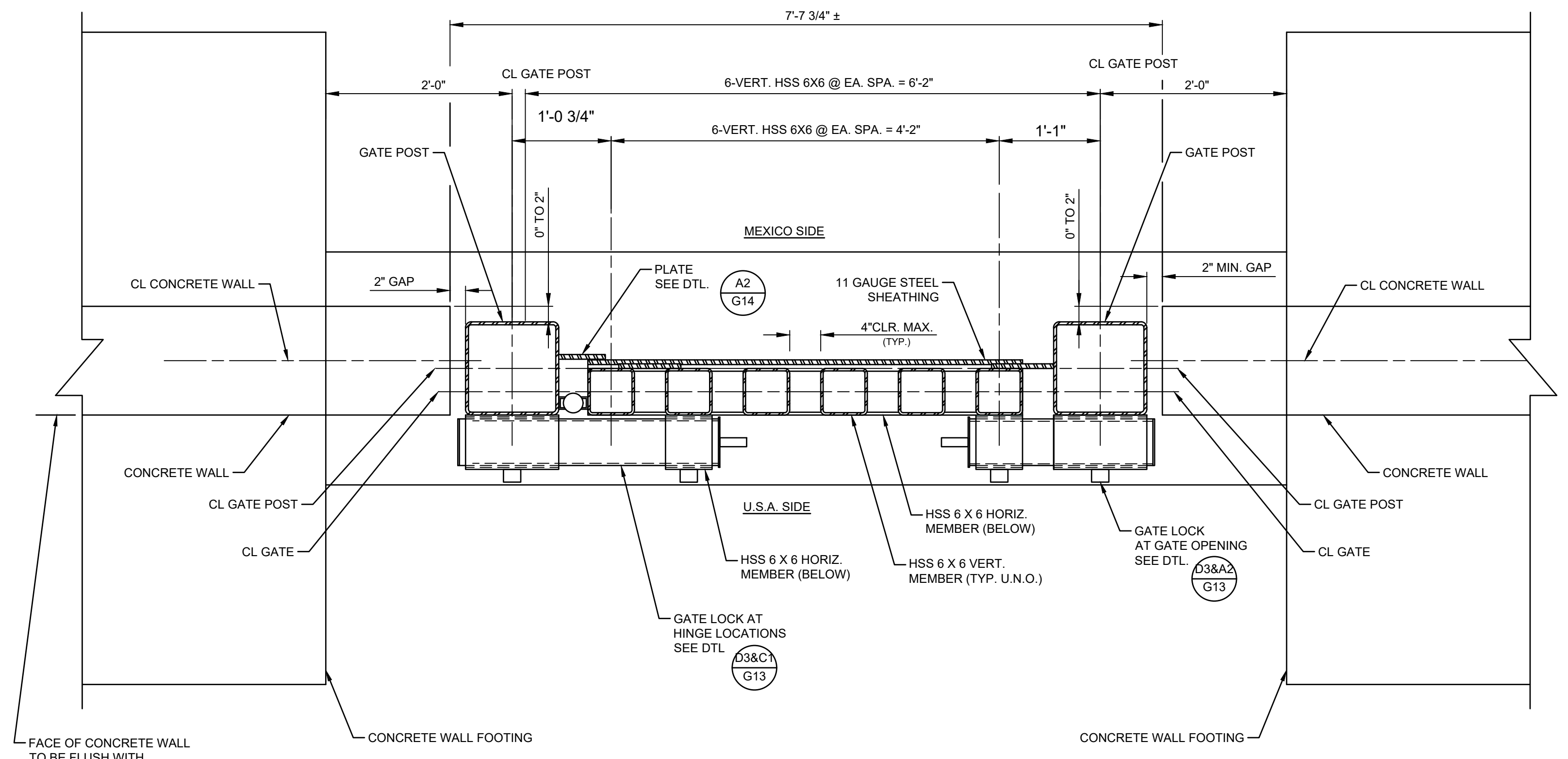
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE
--

TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS VERSION V.5
PERSONNEL BOLLARD SWING GATE IN BOLLARD WALL SHEET 2 OF 2

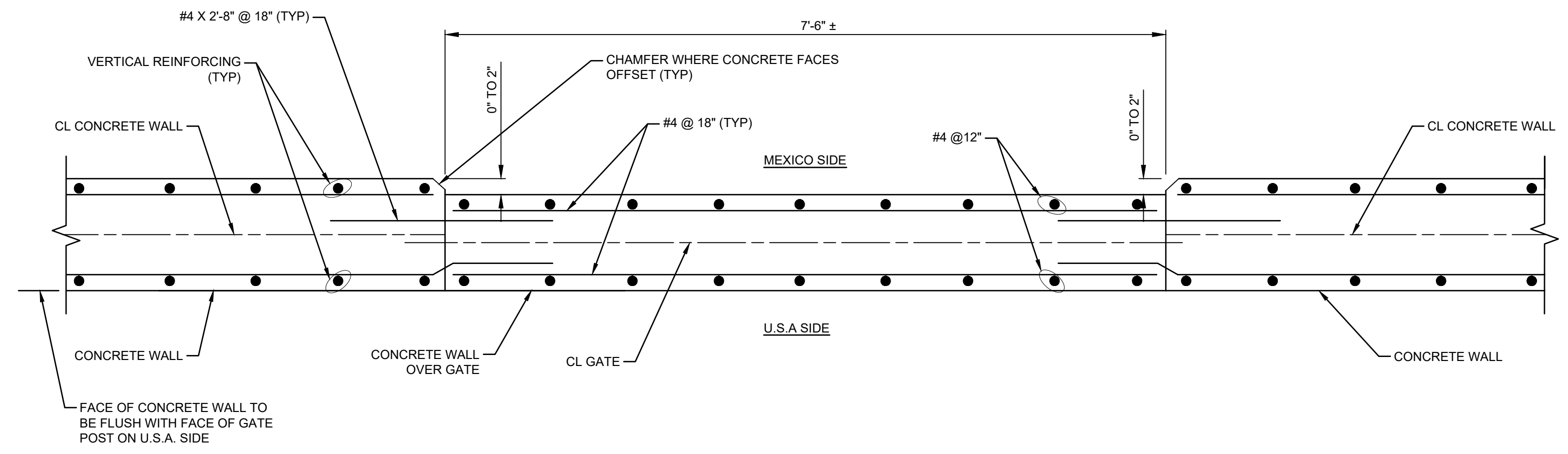




**B1** TYPICAL ELEVATION - PERSONNEL BOLLARD SWING GATE (WALL HEIGHT = 18'-0") (LOOKING SOUTH)  
N.T.S.



**E7** SECTION AT SWING GATE  
N.T.S.



**B7** SECTION OVER SWING GATE  
N.T.S.

- NOTES:**
- HINGES TO BE KING KONG BARREL HINGES ( OR APPROVED EQUAL ) & SHALL BE WELDED TO POST PER MANUFACTURER'S RECOMMENDATIONS. HINGES ARE TO OPEN AWAY FROM MEXICO SIDE AND PROVIDE 180° ROTATION. HINGES SHALL BE ATTACHED TO THE POST ON THE LOWER END OF THE SLOPE. PLACE HINGES AT EQUAL SPACES.
  - DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF CONCRETE WALL FOOTING.
  - PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
  - CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST.
  - PLACE 2-#8 REBAR (BUNDLED) CENTERED IN ALL CONCRETE FILLED BOLLARDS THROUGH ENTIRE LENGTH OF CONCRETE.
  - FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
  - ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
  - PROVIDE ANTI-CLIMB PLATE AT TOP OF GATE UNLESS OTHERWISE SPECIFIED.
  - THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

\* GATE TOPPING FEATURES TO MATCH THE TOPPING FEATURES OF ADJACENT WALL.

DATE	DESCRIPTION	MARK

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. W. WELLS	SOLICITATION NO.:
SUBMITTED BY: P. CAMPAGNOLA	CONTRACT NO.:
SIZE: ANSI D	

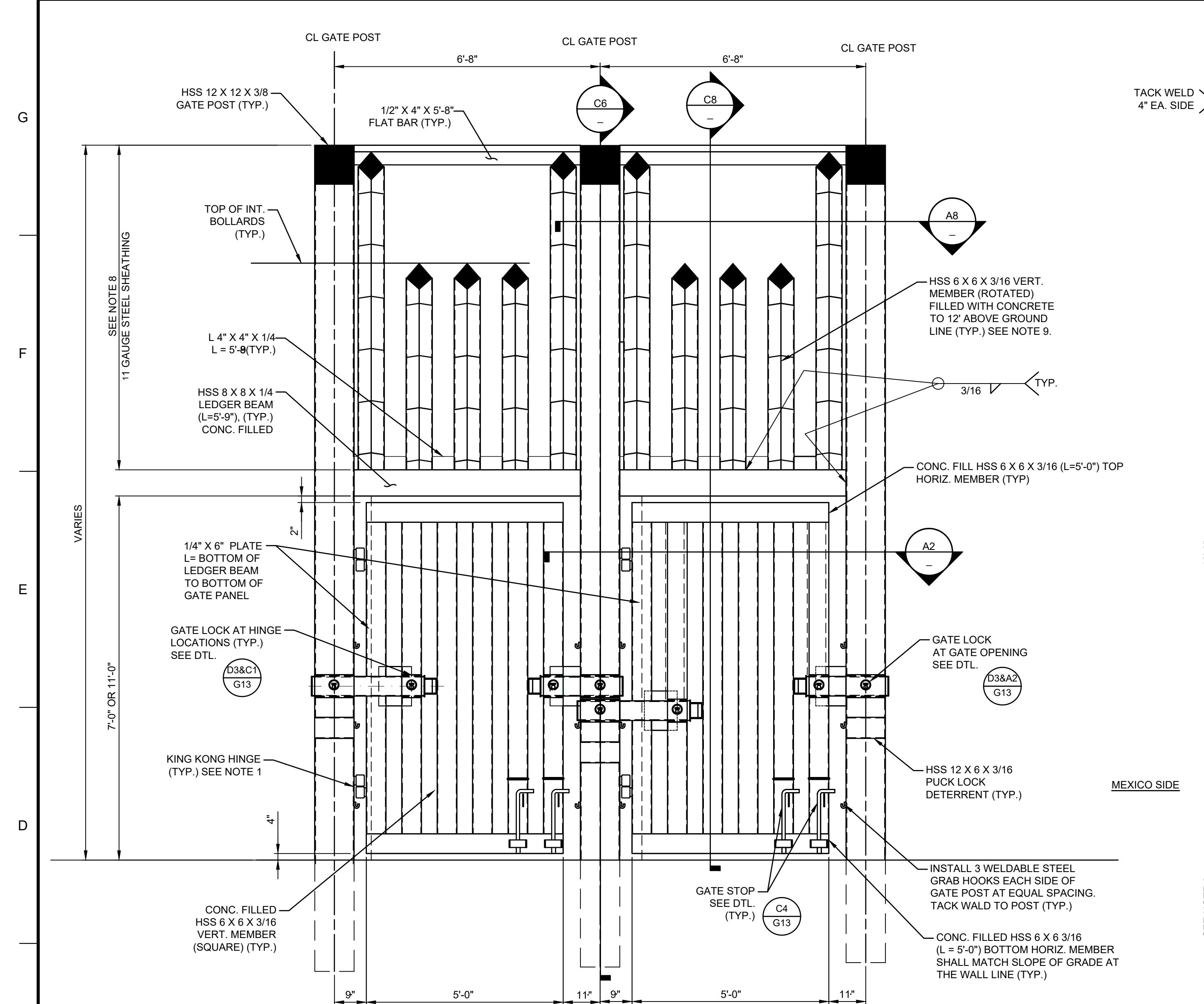
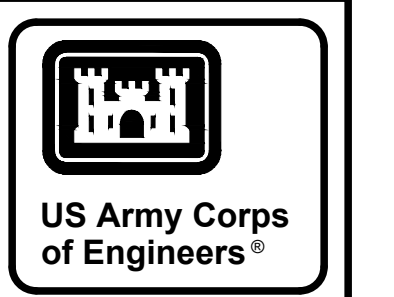
DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5

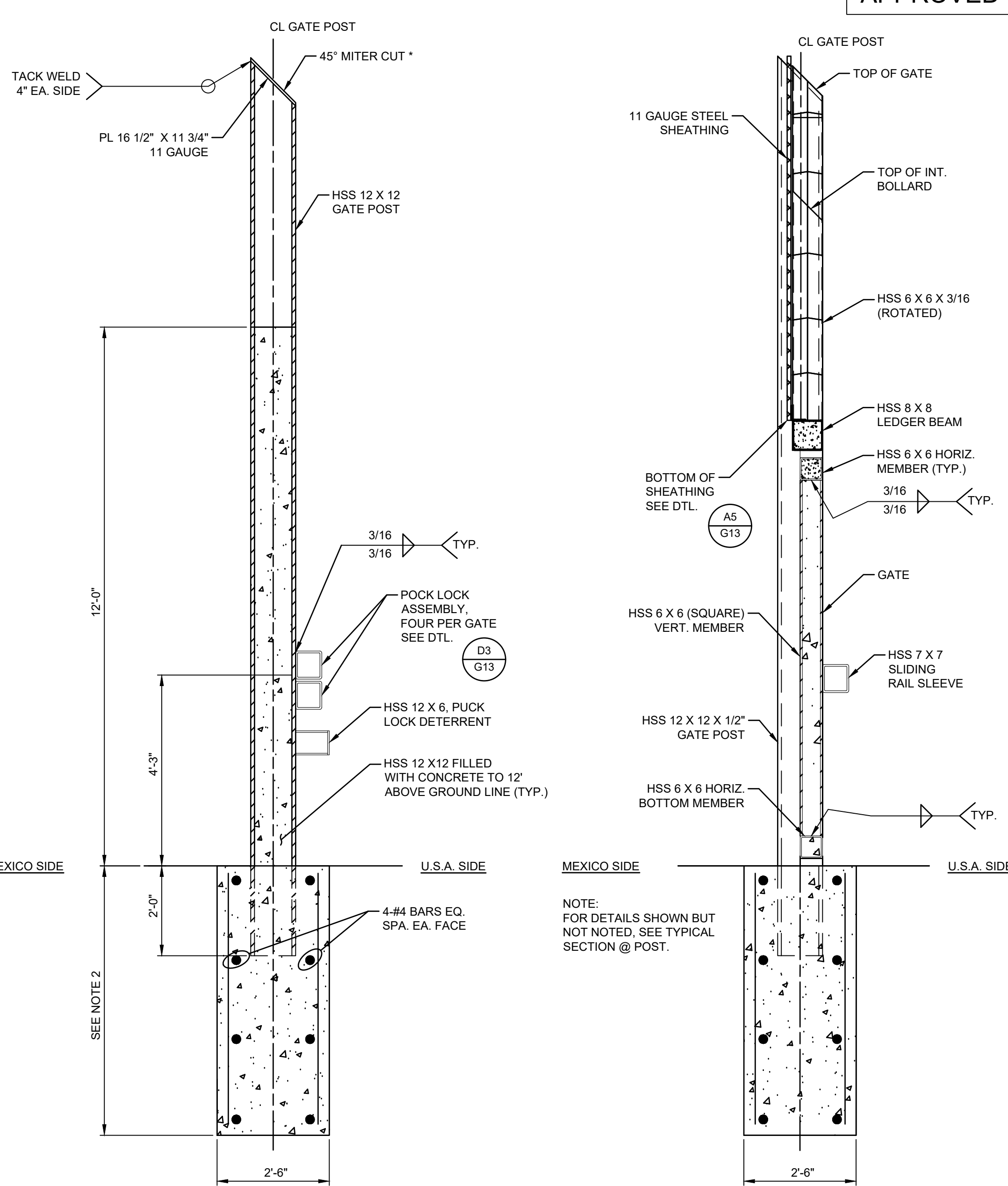
PERSONNEL BOLLARD SWING GATE  
IN CONCRETE WALL  
SHEET 1 OF 2

SHEET ID  
**G8**



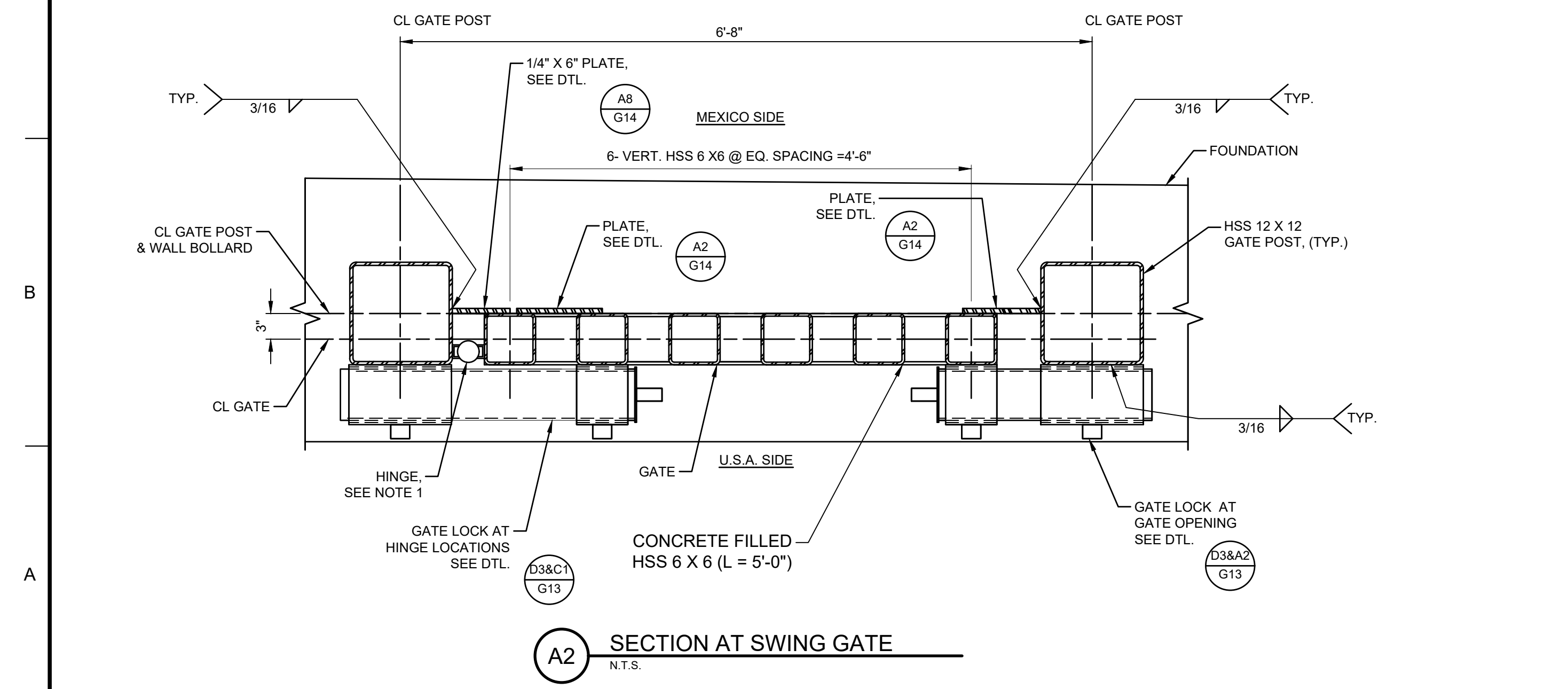


C2 ELEVATION - DRAINAGE SWING GATE IN BOLLARD WALL  
N.T.S. (LOOKING SOUTH)

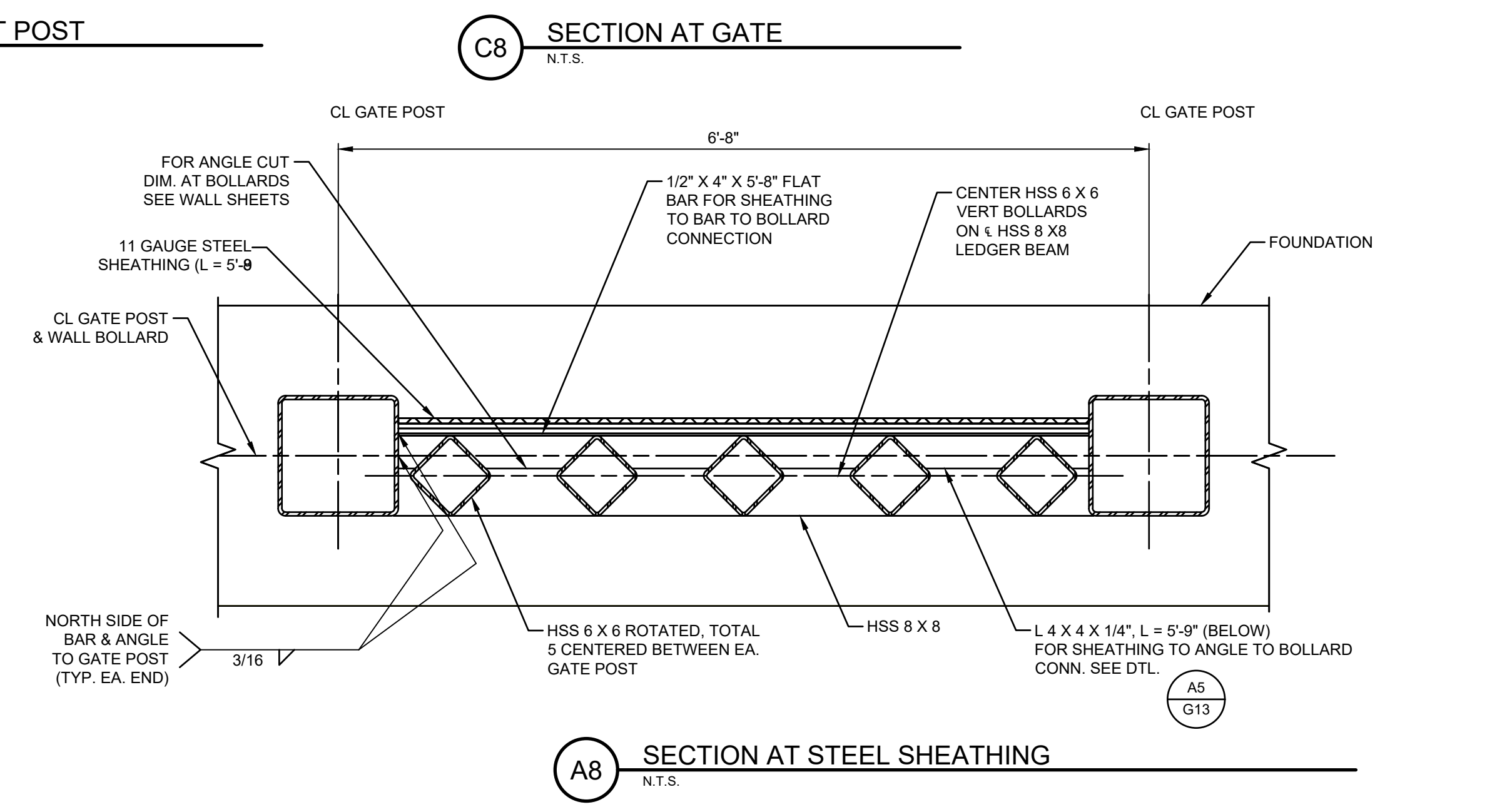


C6 SECTION AT POST  
N.T.S.

C8 SECTION AT GATE  
N.T.S.



A2 SECTION AT SWING GATE  
N.T.S.



A8 SECTION AT STEEL SHEATHING  
N.T.S.

NOTES:

- HINGES TO BE KING KONG BARREL HINGES (OR APPROVED EQUAL) & SHALL BE WELDED TO POST PER MANUFACTURER'S RECOMMENDATIONS. HINGES ARE TO OPEN AWAY FROM MEXICO SIDE AND PROVIDE 180° ROTATION. HINGES SHALL BE ATTACHED TO THE POST ON THE LOWER END OF THE SLOPE. PLACE HINGES AT EQUAL SPACES.
- DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF FENCE FOUNDATION.
- PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
- CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST.
- PLACE 2-#8 REBAR (BUNDLED) CENTERED IN ALL CONCRETE FILLED BOLLARDS THROUGH ENTIRE LENGTH OF CONCRETE.
- FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
- ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
- ANTI-CLIMB PLATE IS REQUIRED ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS. WHEN BOLLARDS ABOVE LEDGER BEAM ARE GREATER THAN 5FT EXTEND STEEL SHEATHING FROM TOP OF WALL TO TOP OF LEDGER BEAM. WHEN SHEATHING HEIGHT IS GREATER THEN 7FT, ADDITIONAL BAR IS REQUIRED, CENTERED BETWEEN TOP AND BOTTOM BARS.
- ANTI-CLIMB PLATE IS REQUIRED ON ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS. WHEN ANTI-CLIMB PLATE IS REQUIRED, BOLLARDS ABOVE GATES MAY BE ROTATED AND UP TO 5" SPACING. WHEN ANTI-CLIMB PLATE IS NOT REQUIRED, BOLLARDS ABOVE GATES SHALL BE IN DIAMOND POSITION WITH MAXIMUM OF 4" CLEAR SPACE BETWEEN BOLLARDS.
- THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

\* GATE TOPPING FEATURES TO MATCH THE TOPPING FEATURES OF ADJACENT WALL.

MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. HARRIS	SOLICITATION NO.:
SUBMITTED BY: C. KARAM	CONTRACT NO.:
SIZE: ANSI D	

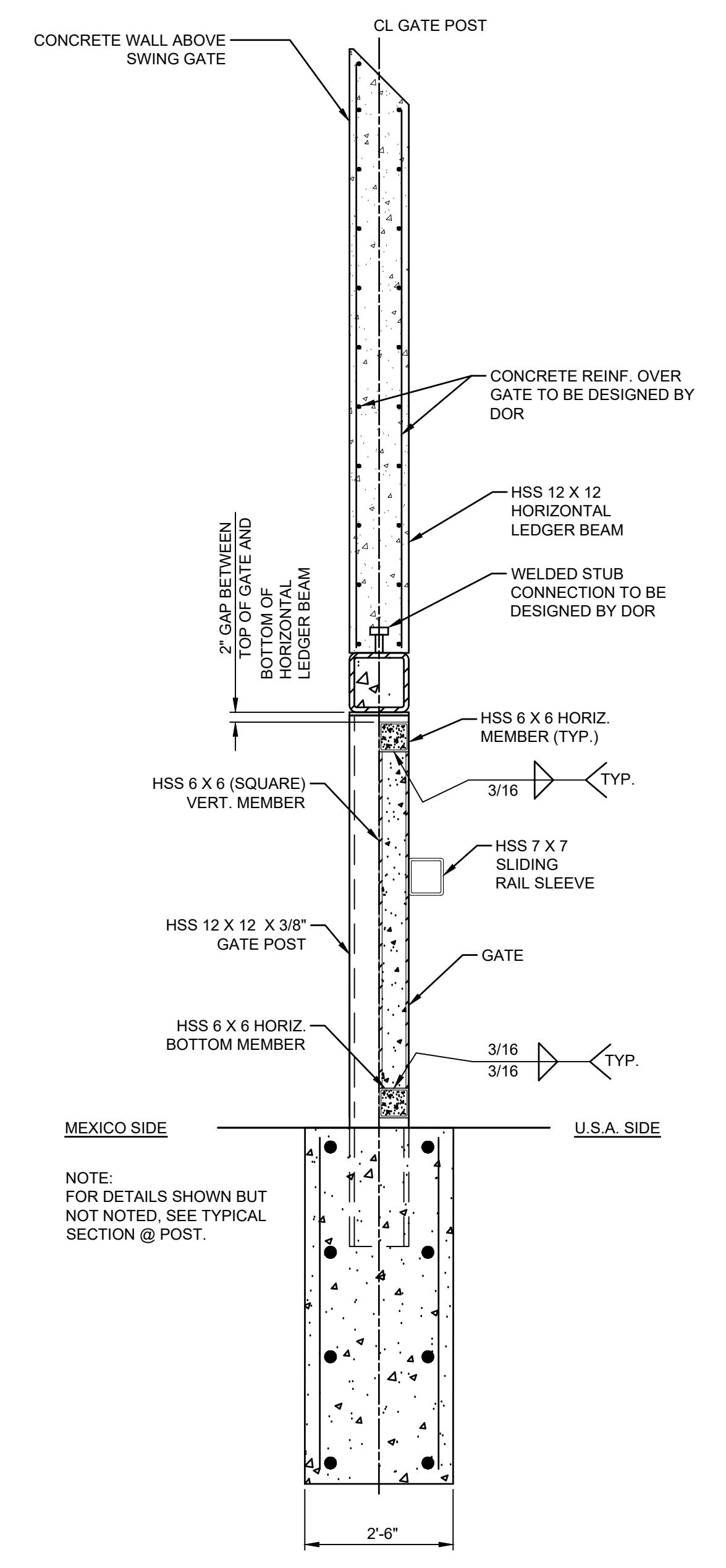
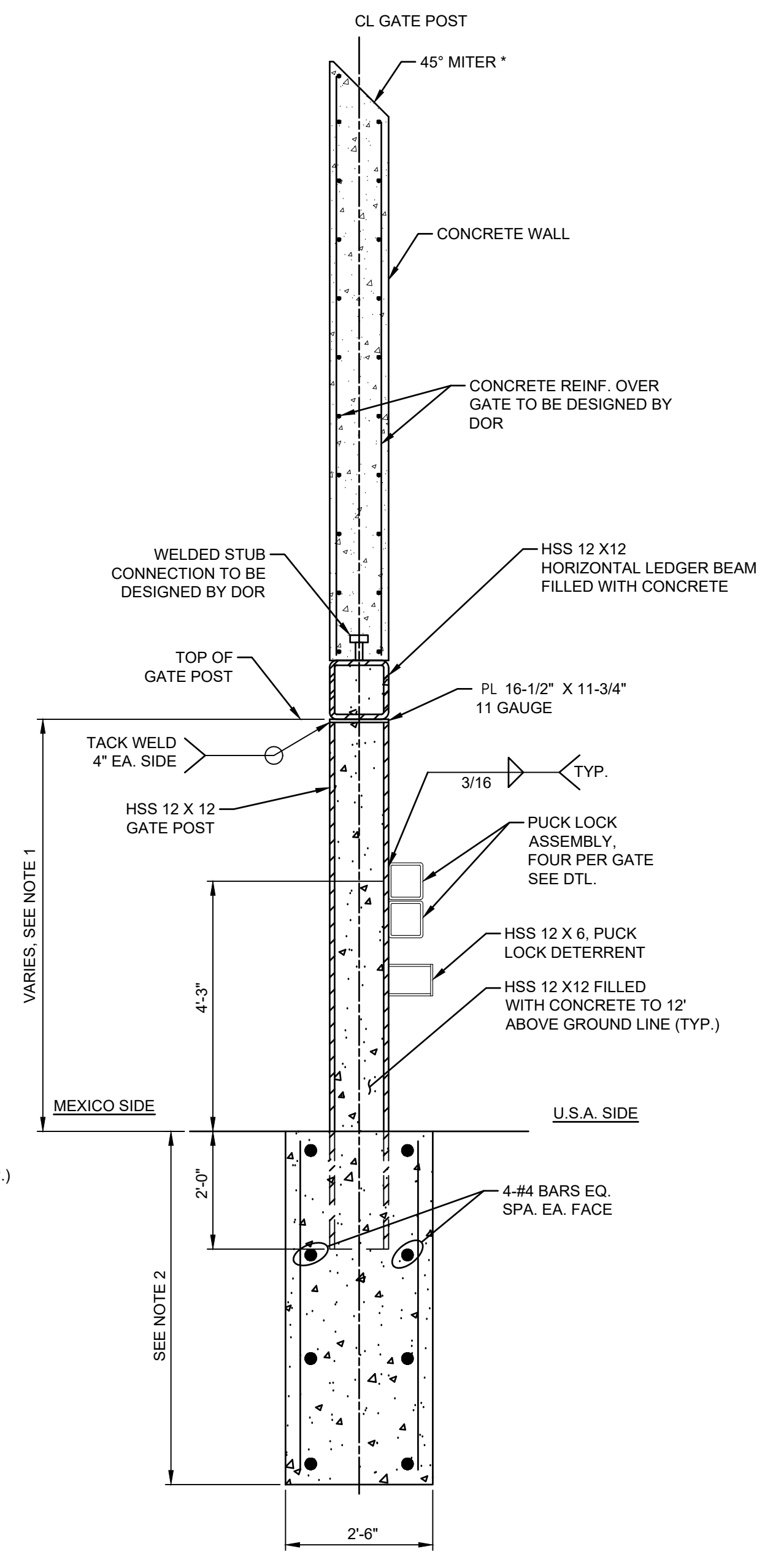
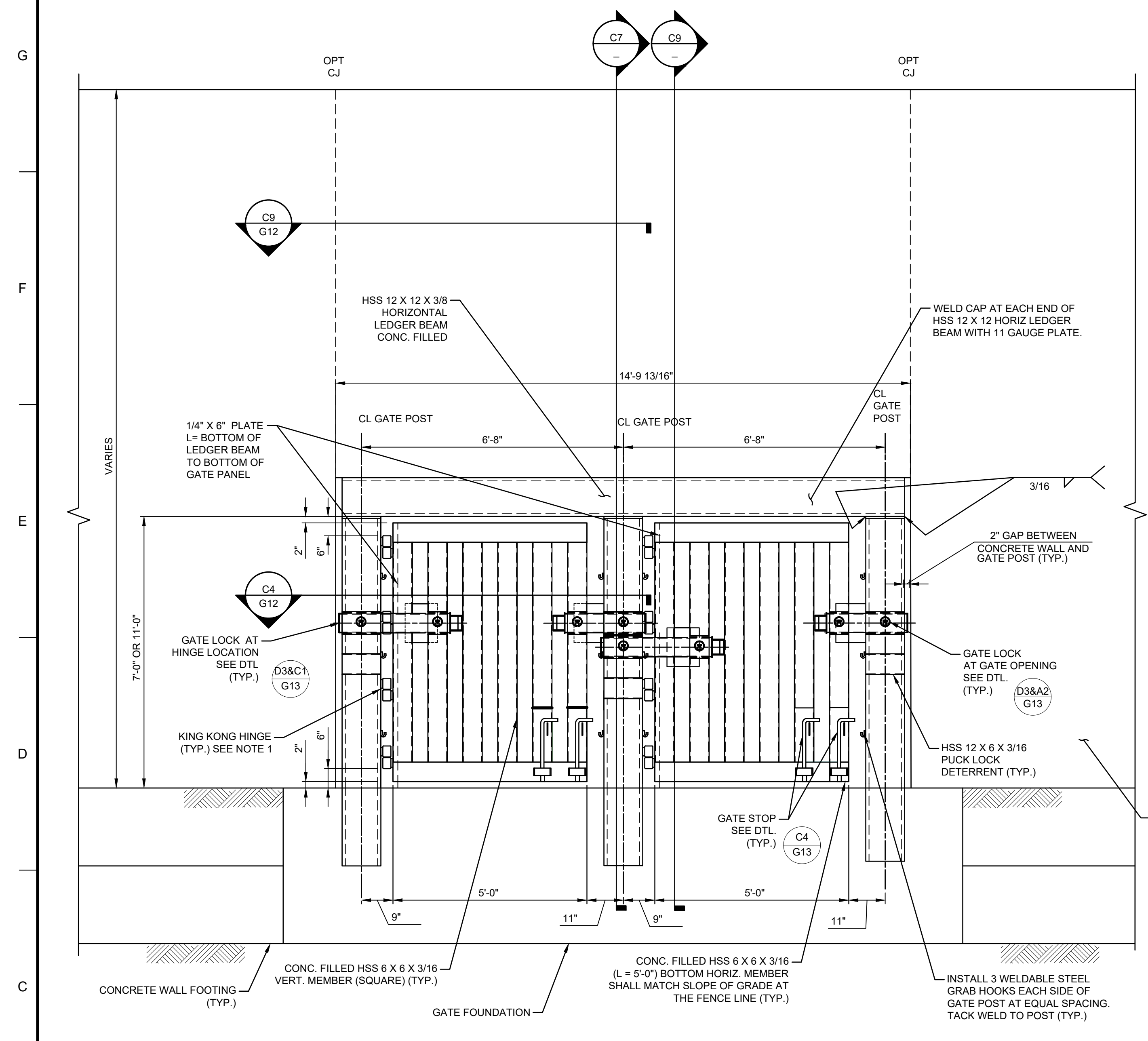
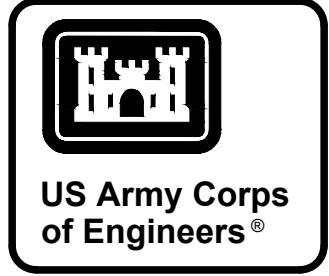
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TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5

DRAINAGE GATE DETAILS  
IN BOLLARD WALL

SHEET ID

G10



**NOTES:**

- HINGES TO BE KING KONG BARREL HINGES (OR APPROVED EQUAL) & SHALL BE WELDED TO POST PER MANUFACTURER'S RECOMMENDATIONS. HINGES ARE TO OPEN AWAY FROM MEXICO SIDE AND PROVIDE 180° ROTATION. HINGES SHALL BE ATTACHED TO THE POST ON THE LOWER END OF THE SLOPE. PLACE HINGES AT EQUAL SPACES.
- DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF FENCE FOUNDATION.
- PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
- CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST.
- PLACE 2-#8 REBAR (BUNDLED) CENTERED IN ALL CONCRETE FILLED BOLLARDS THROUGH ENTIRE LENGTH OF CONCRETE.
- FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
- ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
- PROVIDE ANTI-CLIMB PLATE AT TOP OF GATE UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

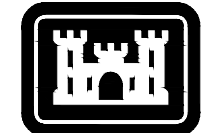
\* GATE TOPPING FEATURES TO MATCH THE TOPPING FEATURES OF ADJACENT WALL.

MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
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APPROVED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	
SIZE: ANSI D	

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
DRAINAGE GATE DETAILS IN CONCRETE WALL  
SHEET 1 OF 2

SHEET ID  
**G11**



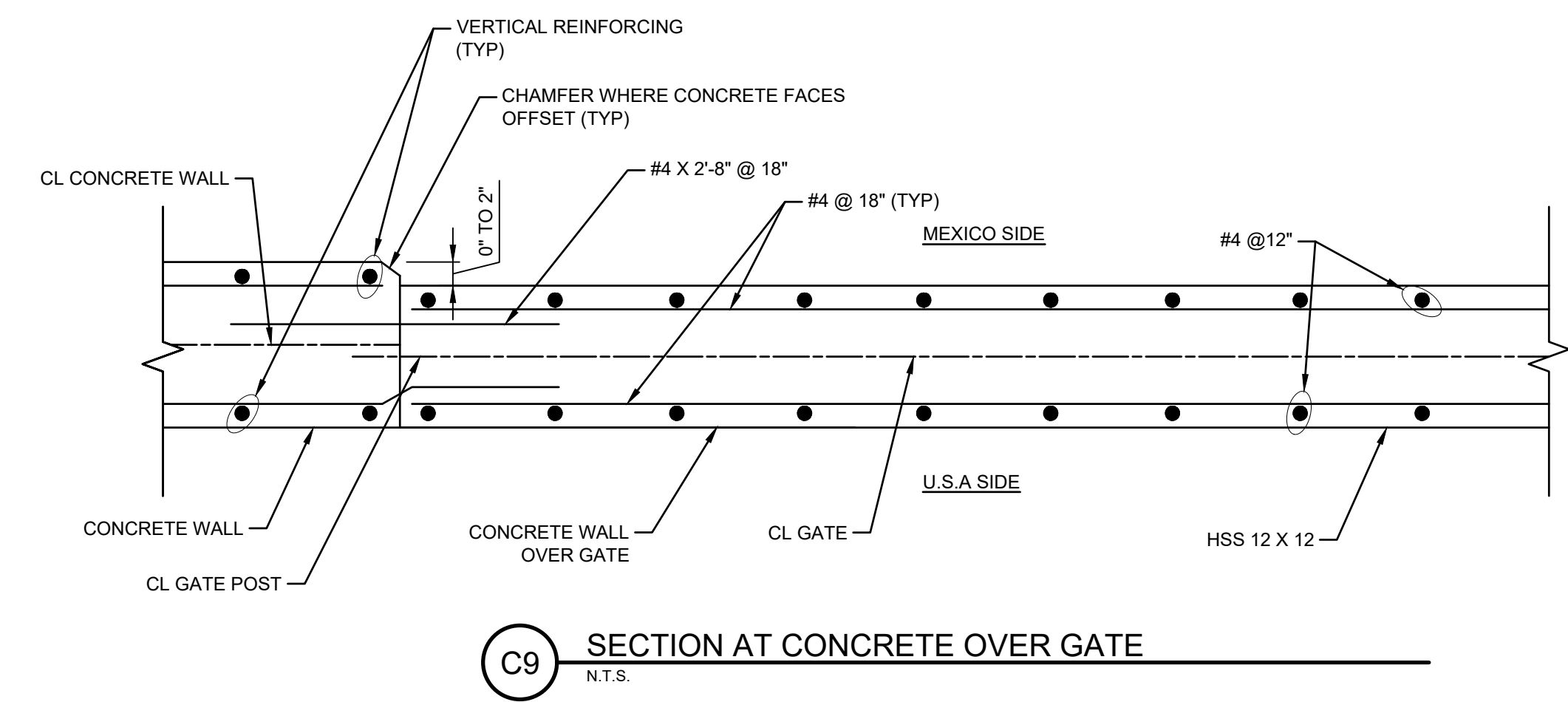
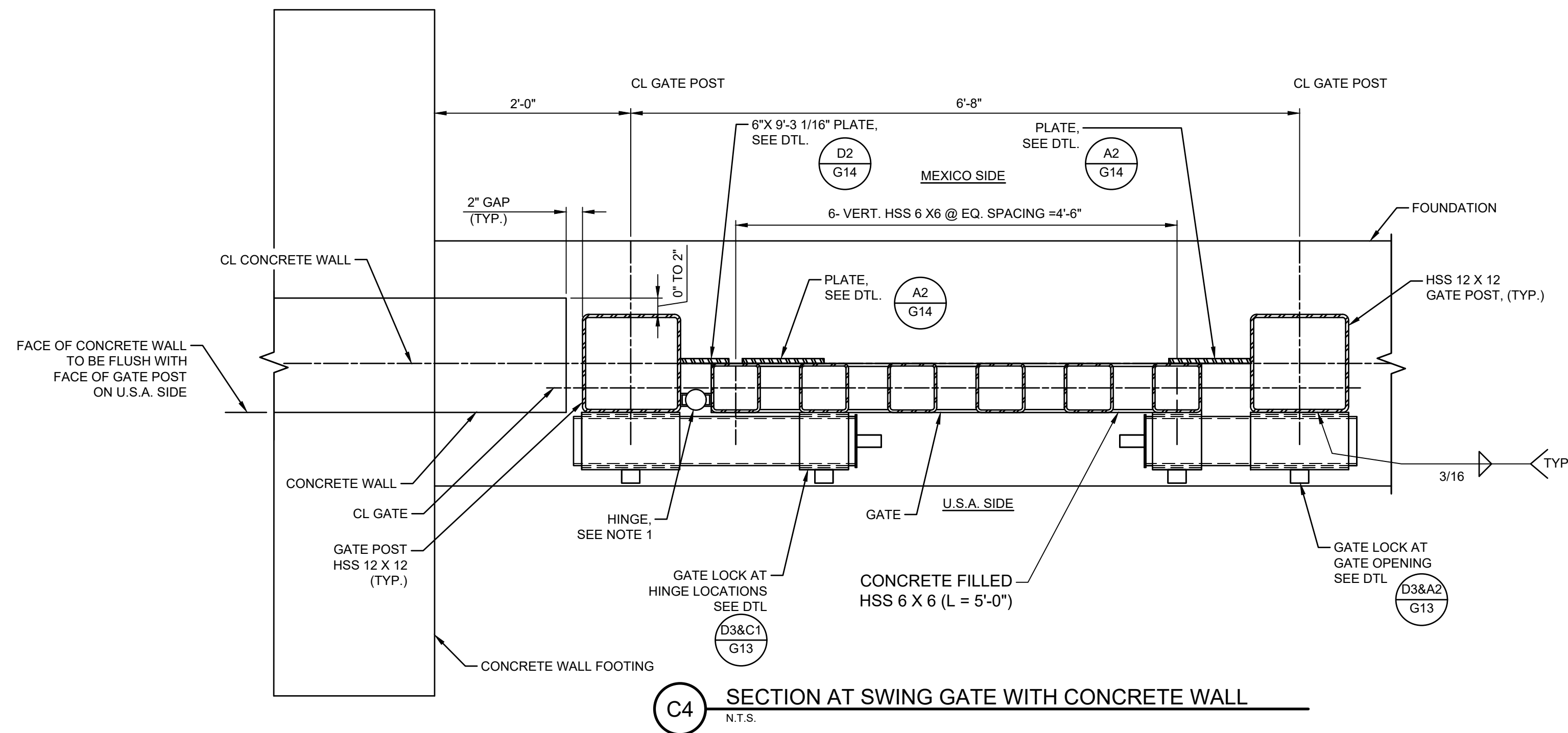
US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

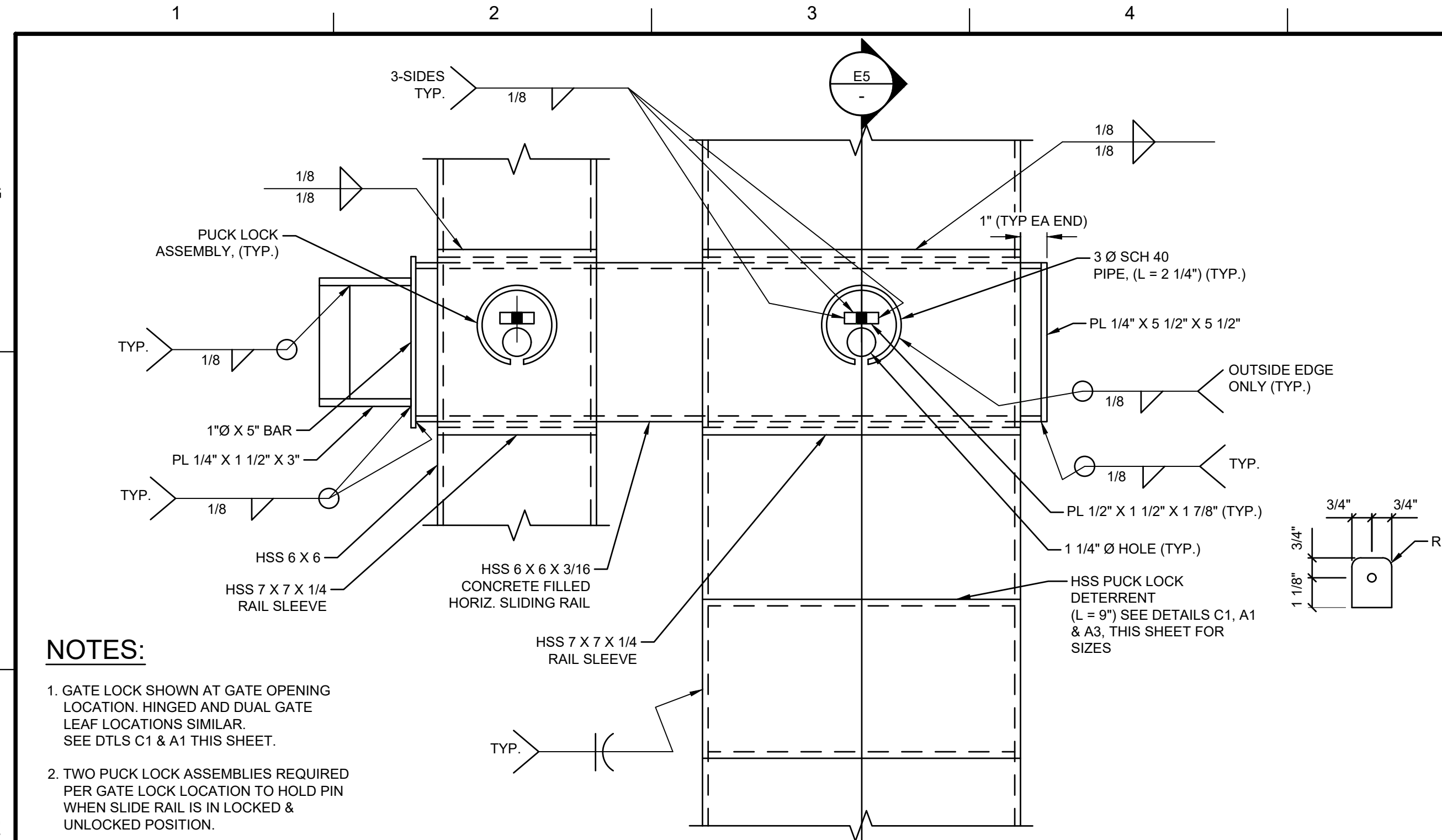
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. WILSON	SOLICITATION NO.:
CONTRACT NO.:	CONTRACT NO.:
PROGRAM MANAGEMENT OFFICE DIRECTORATE	
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL	

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
DRAINAGE GATE DETAILS IN CONCRETE WALL  
SHEET 2 OF 2

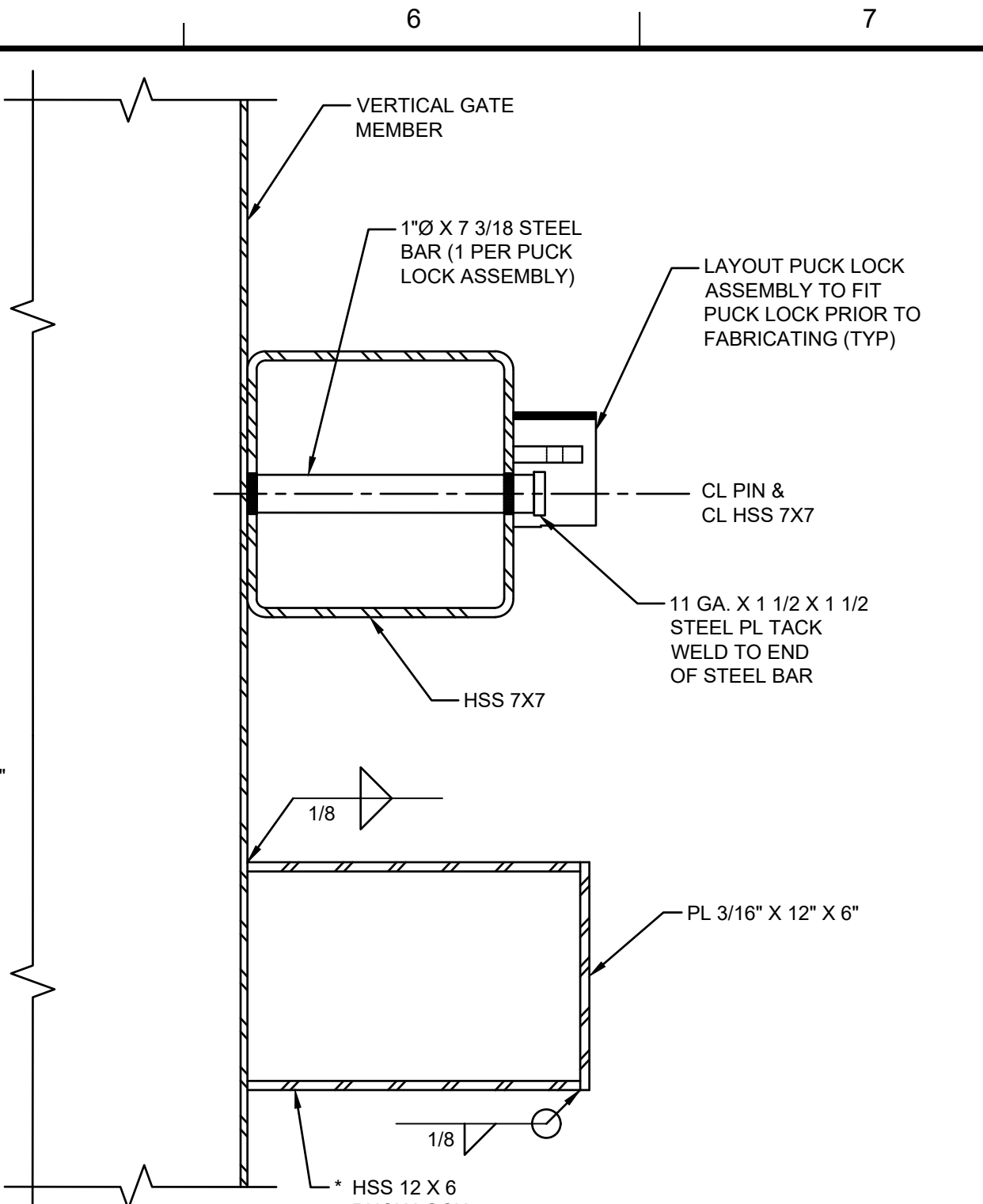
SHEET ID  
**G12**



- NOTES:**
- HINGES TO BE KING KONG BARREL HINGES (OR APPROVED EQUAL) & SHALL BE WELDED TO POST PER MANUFACTURER'S RECOMMENDATIONS. HINGES ARE TO OPEN AWAY FROM MEXICO SIDE AND PROVIDE 180° ROTATION. HINGES SHALL BE ATTACHED TO THE POST ON THE LOWER END OF THE SLOPE. PLACE HINGES AT EQUAL SPACES.
  - DEPTH OF GATE FOUNDATION TO MATCH ADJACENT DEPTH OF FENCE FOUNDATION.
  - PROVIDE ONE PUCK LOCK PER SLIDE LOCATION. COORDINATE EXACT PUCK LOCK MODEL AND KEYING WITH COR.
  - CONTRACTOR TO VERIFY GATE POST SPACING BASED ON ACTUAL HINGE MOUNTED DIMENSIONS PRIOR TO INSTALLING GATE POST.
  - PLACE 2-#8 REBAR (BUNDLED) CENTERED IN ALL CONCRETE FILLED BOLLARDS THROUGH ENTIRE LENGTH OF CONCRETE.
  - FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.
  - ADJACENT PANEL MAY BE STEPPED UP TO 1'-0" TO ACCOMMODATE VARYING TERRAIN. STEEPER TERRAIN MAY REQUIRE SPECIAL DESIGN CONSIDERATIONS.
  - THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD SWING GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

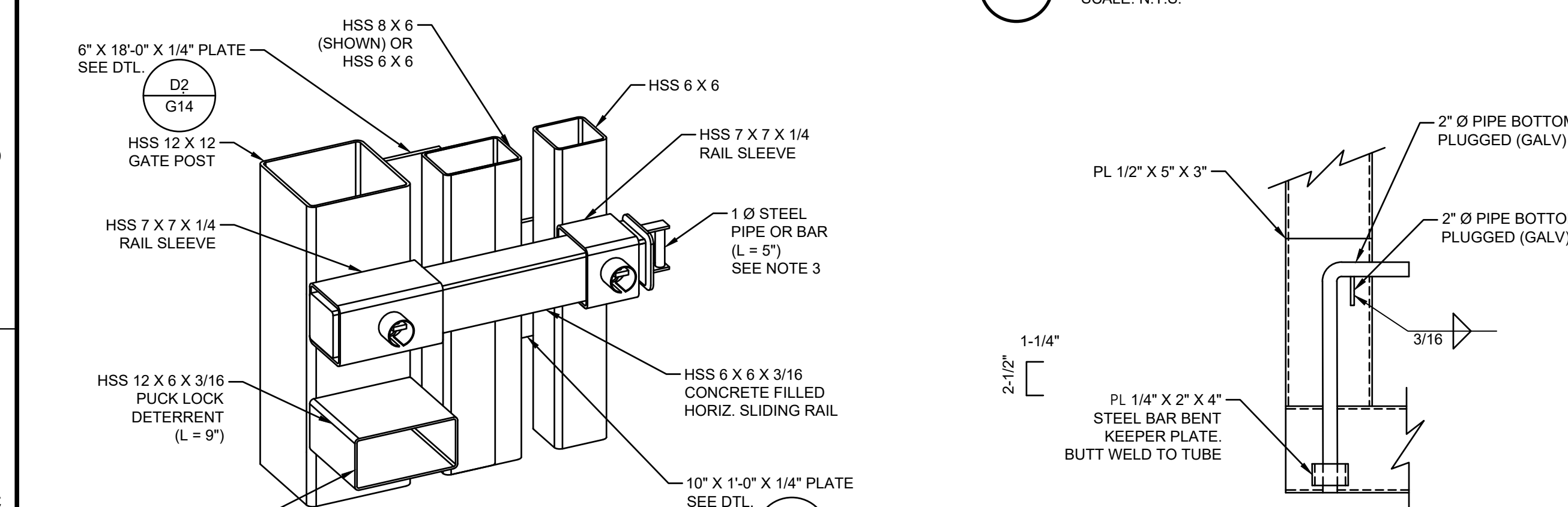


**E2 GATE LOCK ELEVATION**  
SCALE: N.T.S.



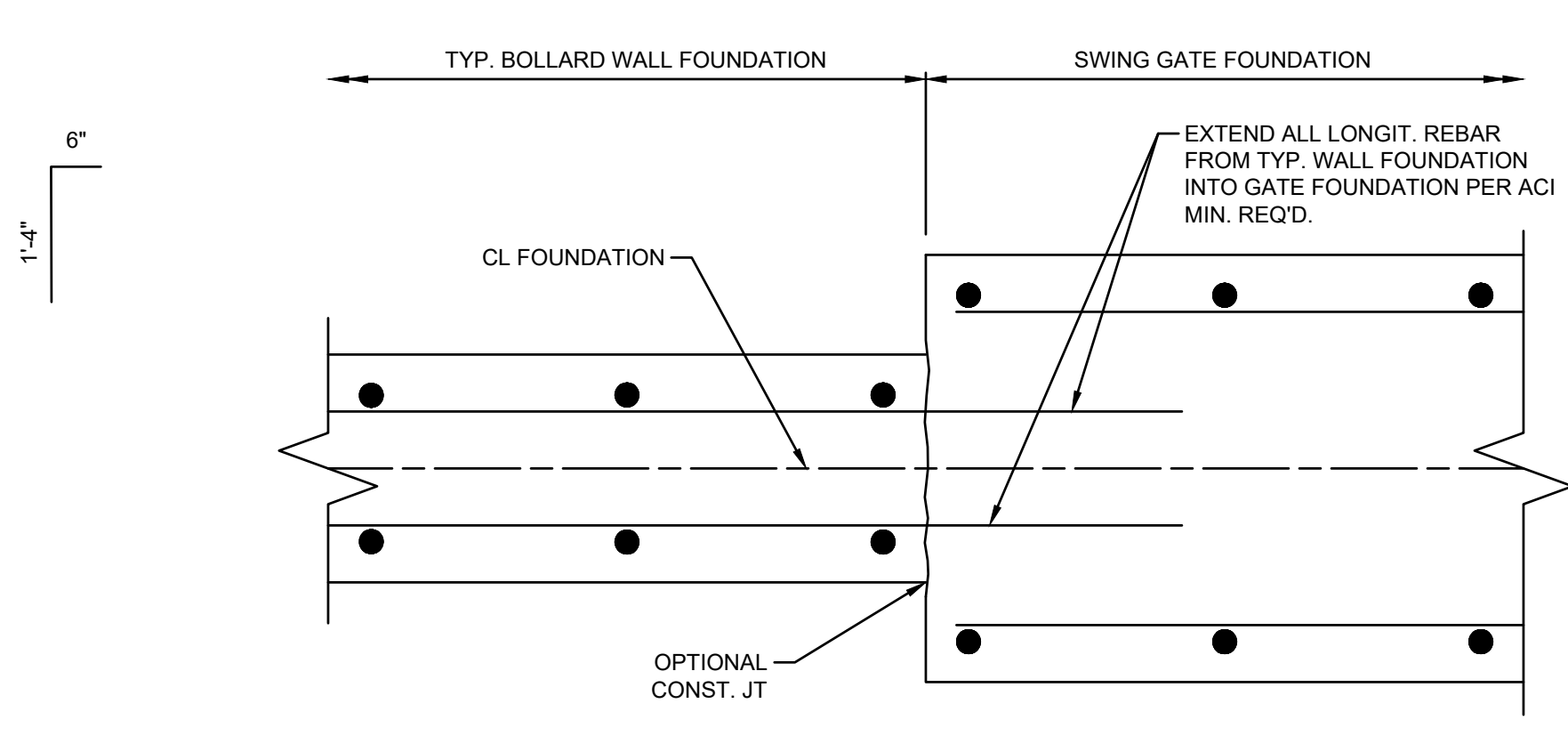
**E5 GATE LOCK SECTION DETAIL**  
SCALE: N.T.S.

**D3 GATE LOCK ASSEMBLY DETAIL**  
SCALE: N.T.S.



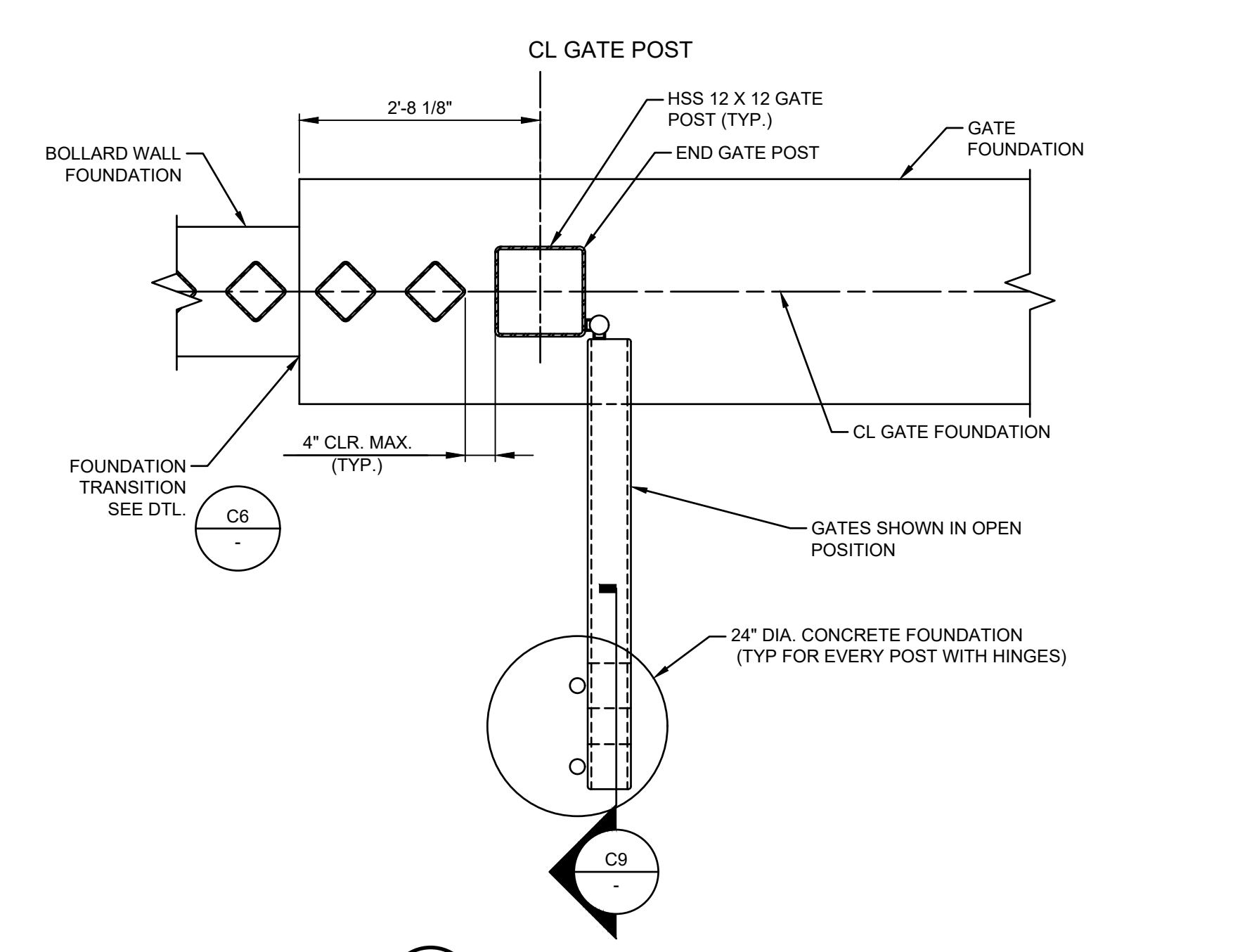
**C1 HINGE SIDE OF GATE DETAIL**  
SCALE: N.T.S.

**C4 GATE STOP DETAIL**  
SCALE: N.T.S.



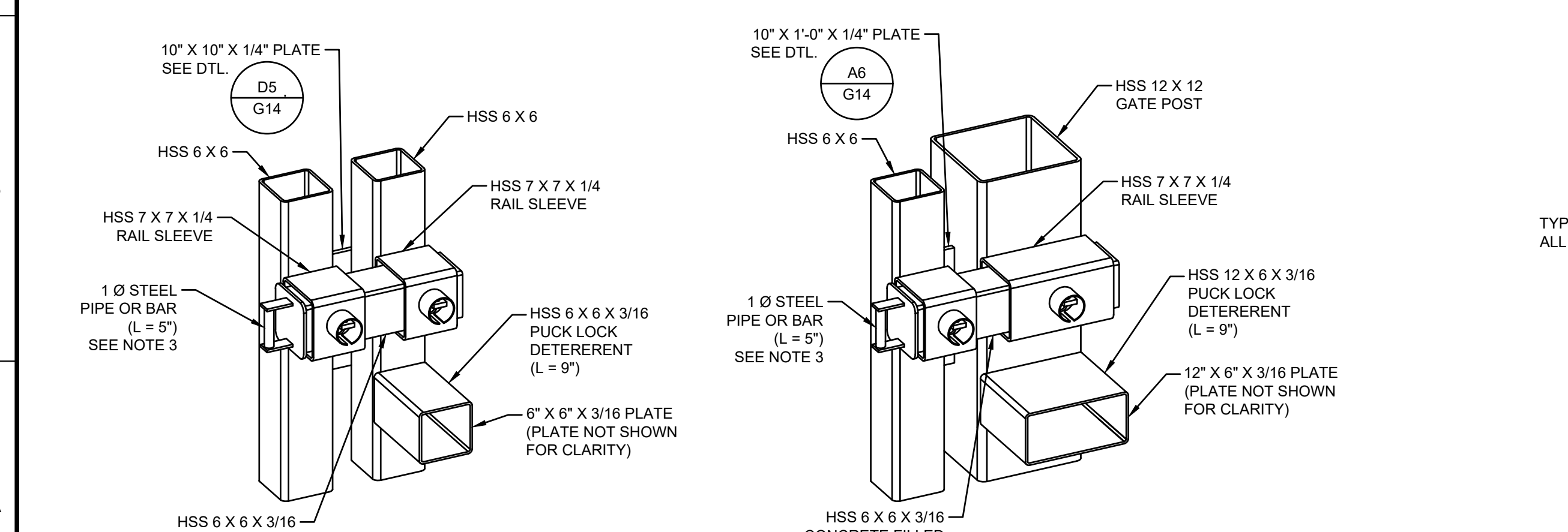
**C6 FOUNDATION TRANSITION**  
SCALE: N.T.S.

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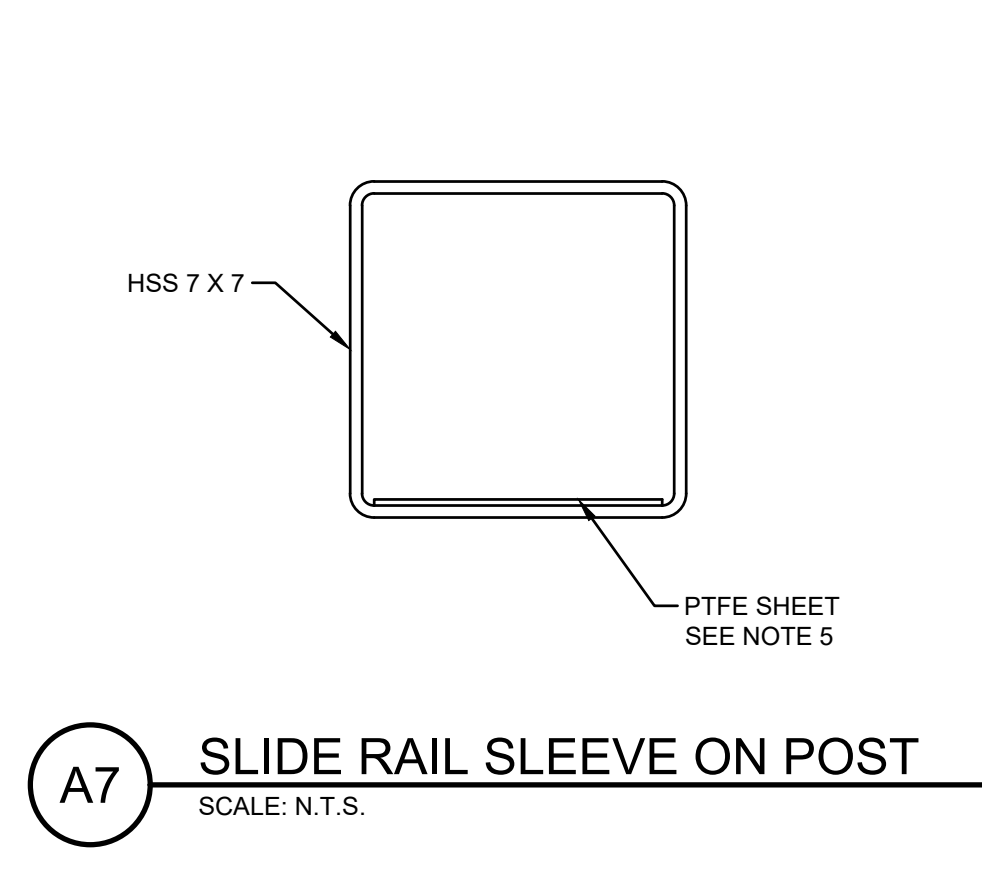
**E8 FOUNDATION PLAN**  
SCALE: N.T.S.

**C9 CONCRETE FOUNDATION**  
SCALE: N.T.S.



**A2 GATE OPENING DETAIL**  
SCALE: N.T.S.

**A5 BOTTOM OF SHEATHING DETAIL**  
SCALE: N.T.S.



**A7 SLIDE RAIL SLEEVE ON POST**  
SCALE: N.T.S.

- NOTES:**
1. LOCK SHOWN AT NON-HINGE LOCATION. HINGED LOCATIONS SIMILAR.
  2. TWO PUCKER LOCK ASSEMBLIES REQUIRED PER LOCK LOCATION TO HOLD PIN WHEN SLIDING RAIL IS IN LOCKED & UNLOCKED POSITION.
  3. PLACE HANDLE ON UNLOCKED END OF SLIDING RAIL SO RAIL CAN BE PULLED FROM LOCKED TO UNLOCKED POSITION.
  4. PROVIDE ONE PUCKER LOCK AT EACH ASSEMBLY LOCATION AND COORDINATE KEYING OF LOCKS WITH COR.
  5. ALL SLIDING RAIL SLEEVES SHALL HAVE A 6" STRIP OF PTFE SKIVED SHEET FASTENED TO THE BOTTOM INSIDE FACE OF THE SLEEVE, FOR THE FULL LENGTH OF EACH SLEEVE. THE PTFE SHEET SHALL CONFORM TO ASTM D 3308. THE PTFE SHEET SHALL BE ATTACHED USING AN EPOXY THAT CONFORMS TO FEDERAL SPECIFICATION MMM-A-134. THE PTFE SHEET SHALL BE ETCHED ON THE SURFACE BONDED TO THE STEEL SLEEVE.

US Army Corps of Engineers	
<p>ISSUE DATE: AUGUST 2020</p>	<p>DATE</p>
<p>DESIGNED BY: K. RUFFENACH</p>	<p>SOLICITATION NO.:</p>
<p>CHECKED BY: P. CAMPAGNOLA</p>	<p>CONTRACT NO.:</p>
<p>PROGRAM MANAGEMENT OFFICE DIRECTORATE</p>	<p>MARK</p>
<p>DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL</p>	<p>DESCRIPTION</p>
<p>TACTICAL INFRASTRUCTURE WALL, FENCE &amp; GATE STANDARD DETAILS VERSION V.5</p>	<p>ANSI D</p>
<p>SWING GATE DETAILS</p>	
<p>SHEET ID</p>	
<h1>G13</h1>	
FINAL	

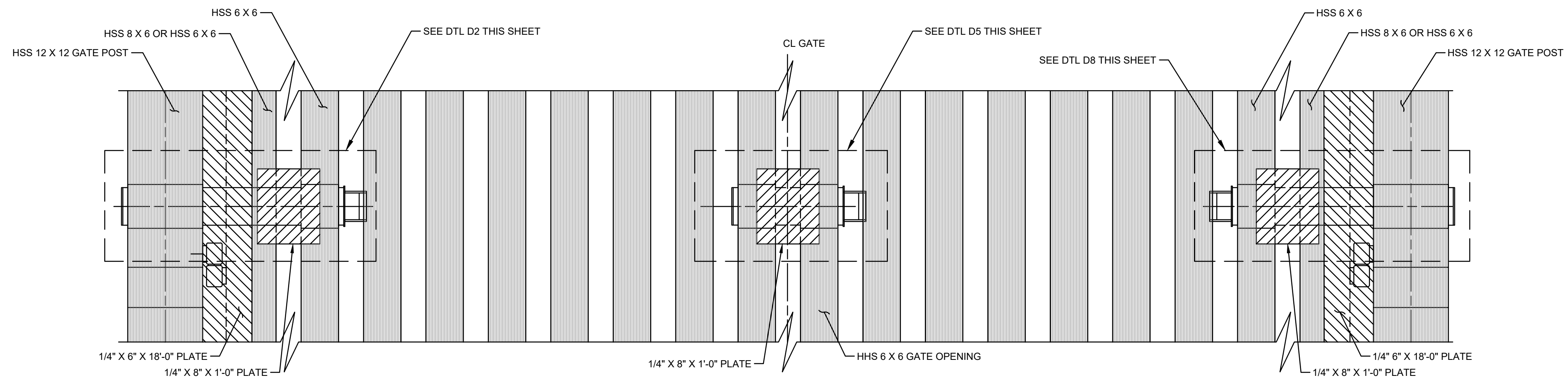
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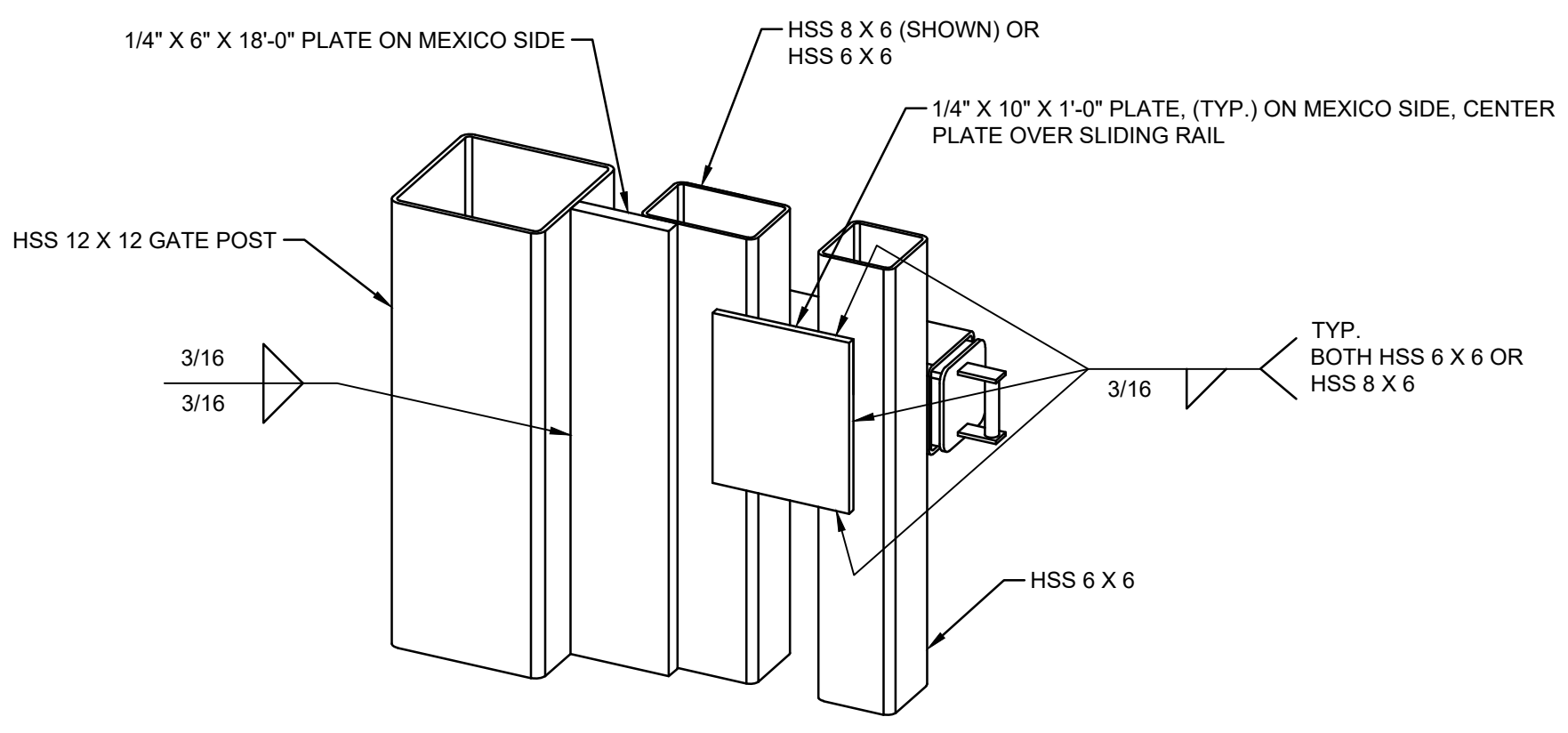


US Army Corps of Engineers

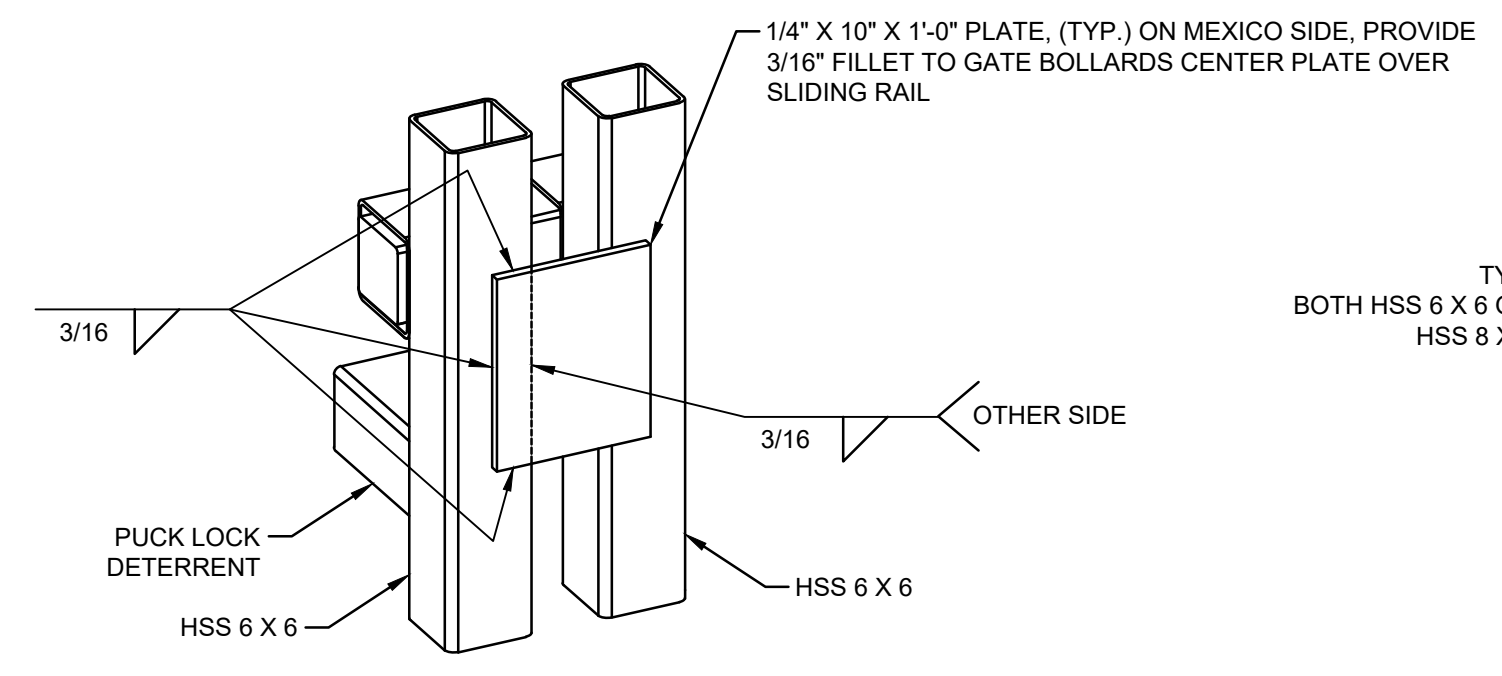
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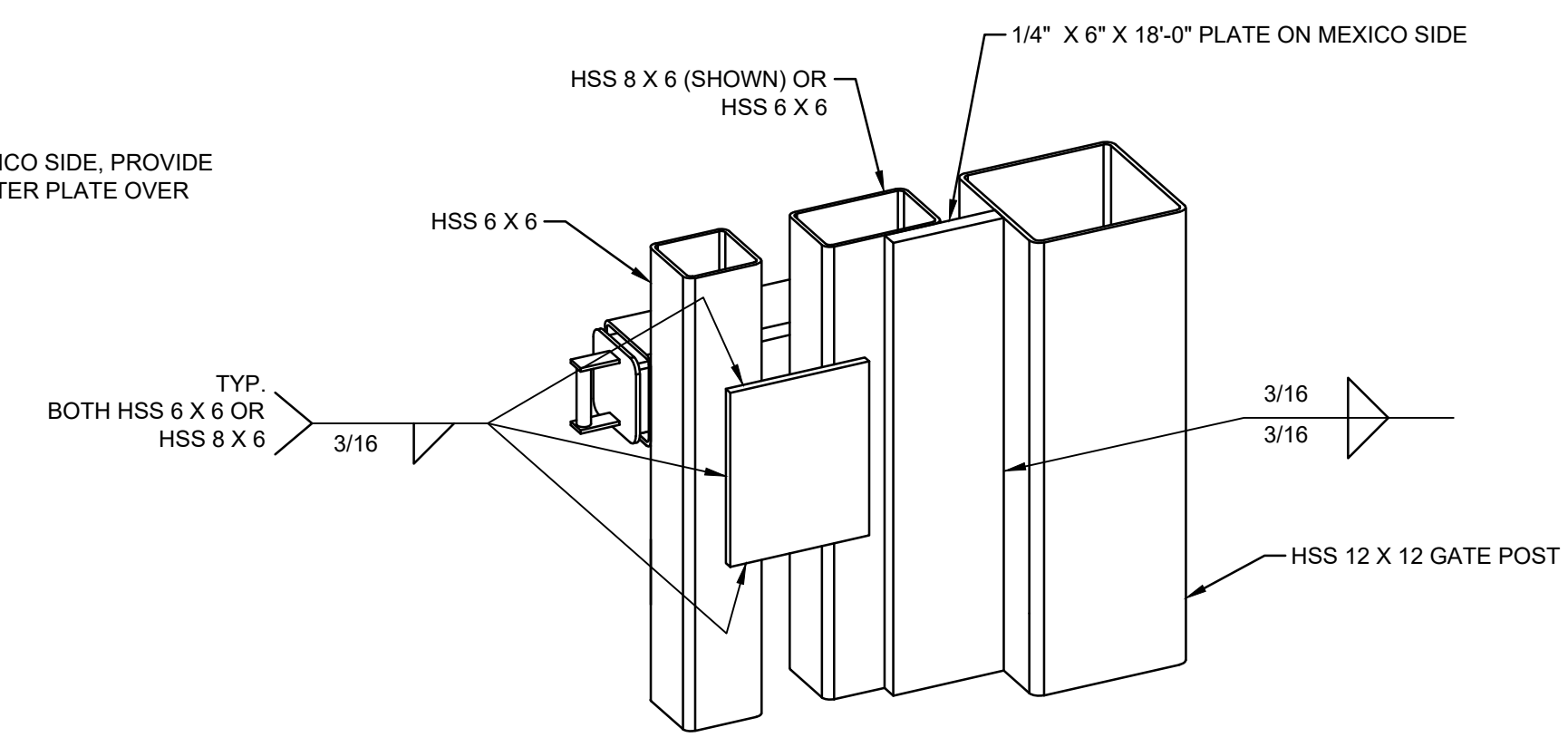
**E5 DUAL LEAF GATE HINGES (LOOKING NORTH)**  
N.T.S.



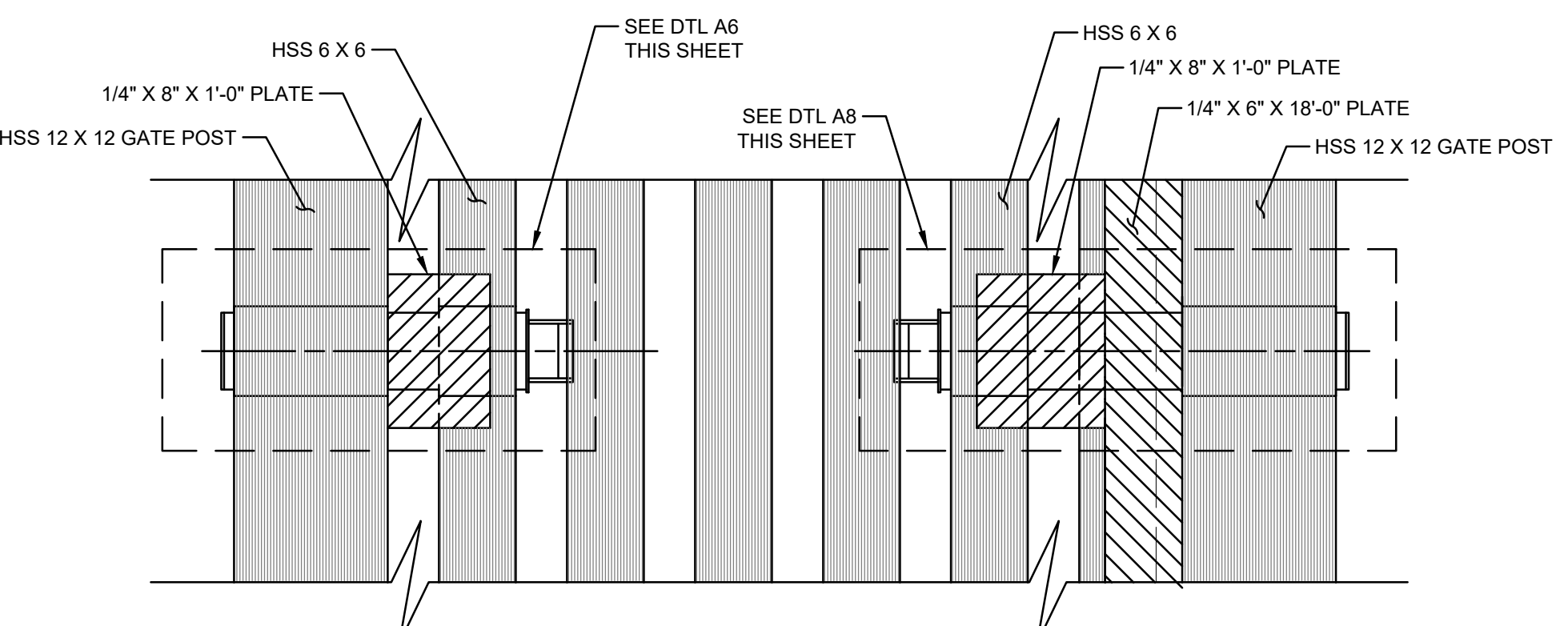
**D2 HINGE SIDE OF GATE (RT)**  
N.T.S.



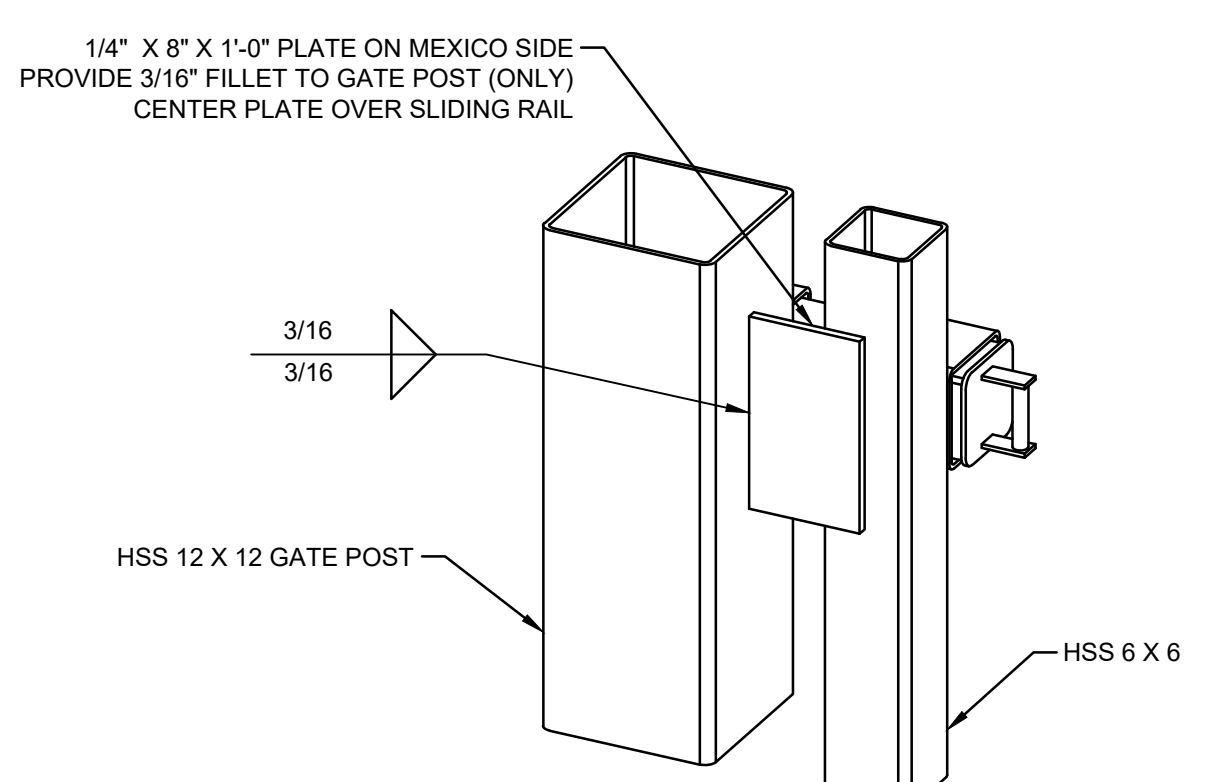
**D5 DUAL GATE OPENING**  
N.T.S.



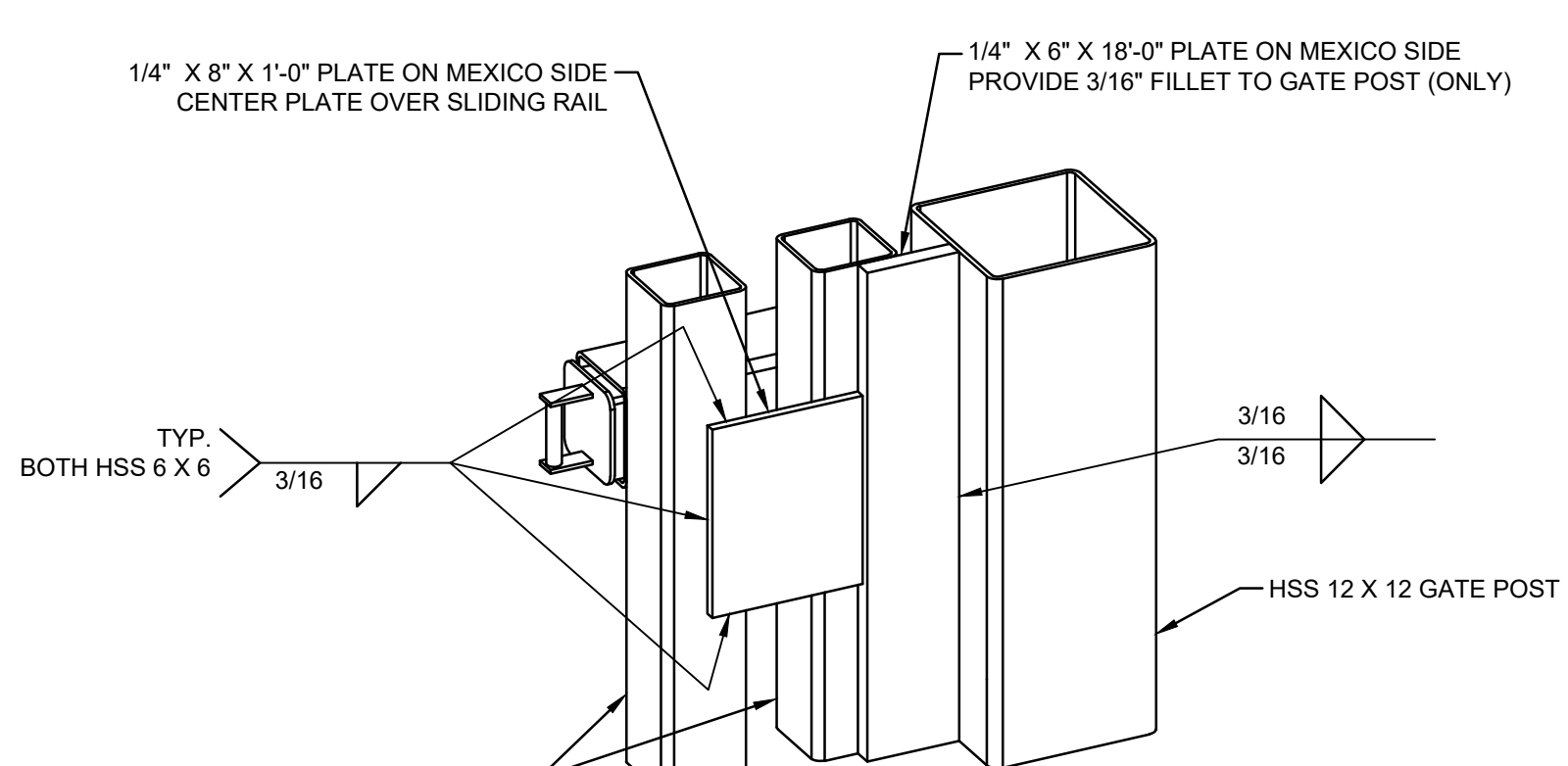
**D8 HINGE SIDE OF GATE (LT)**  
N.T.S.



**A2 SINGLE LEAF GATE HINGES (LOOKING NORTH)**  
N.T.S.



**A6 GATE OPENING**  
N.T.S.



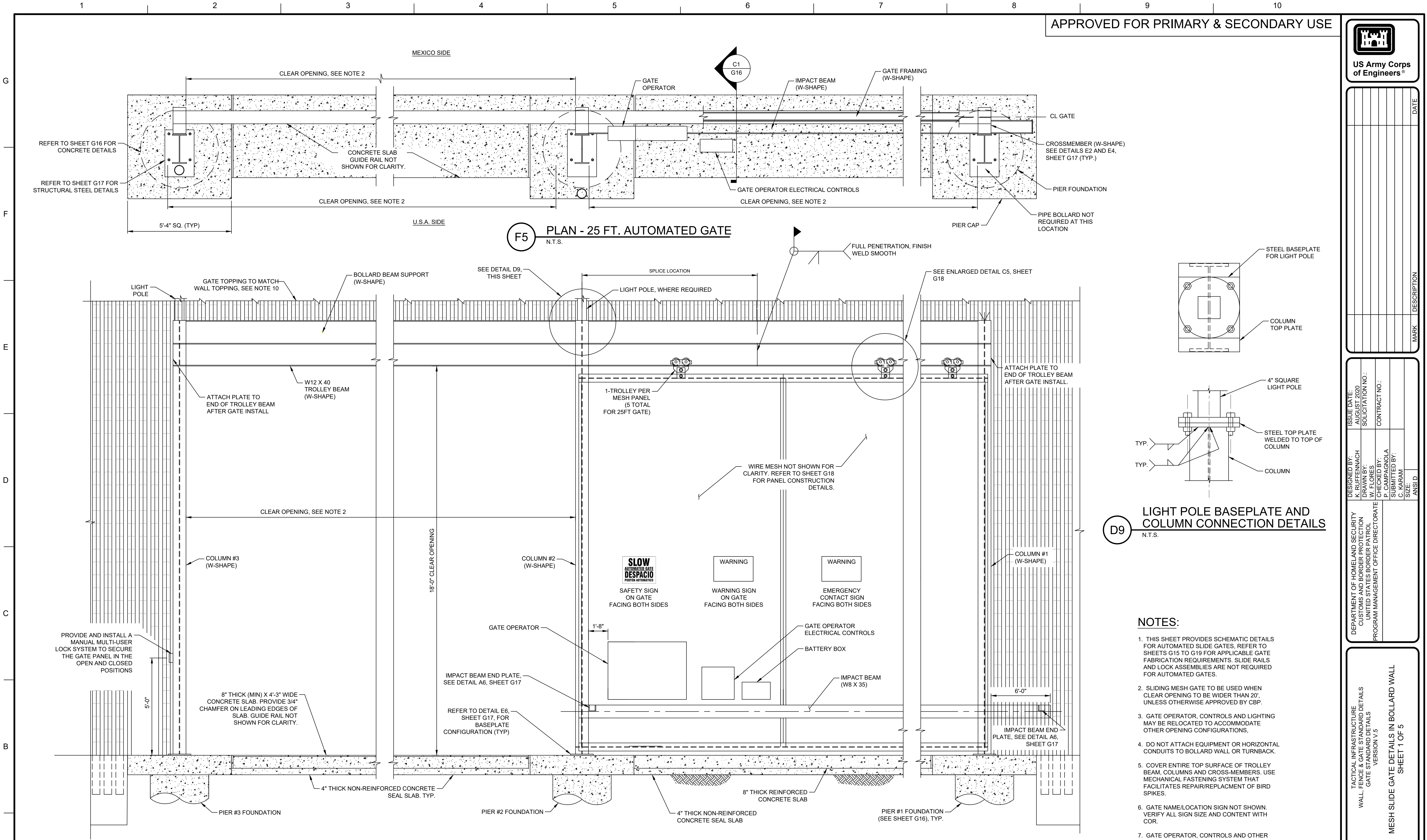
**A8 HINGE SIDE OF GATE**  
N.T.S.

MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020	SOLICITATION NO.:
WORKSHEETS M. FLEIS	CONTRACT NO.:	
CHECKED BY: P. CAMPAGNOLA	SUBMITTED BY: C. KARAM	SIZE: ANSI D
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE		

TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS VERSION V.5	GATE HINGE DETAILS
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SHEET ID  
**G14**



F5 PLAN - 25 FT. AUTOMATED GATE  
N.T.S.

A3 ELEVATION - 25 FT. AUTOMATED GATE (LOOKING SOUTH)  
SCALE: N.T.S.

D9 LIGHT POLE BASEPLATE AND COLUMN CONNECTION DETAILS  
N.T.S.

- NOTES:**
- THIS SHEET PROVIDES SCHEMATIC DETAILS FOR AUTOMATED SLIDE GATES. REFER TO SHEETS G15 TO G19 FOR APPLICABLE GATE FABRICATION REQUIREMENTS. SLIDE RAILS AND LOCK ASSEMBLIES ARE NOT REQUIRED FOR AUTOMATED GATES.
  - SLIDING MESH GATE TO BE USED WHEN CLEAR OPENING TO BE WIDER THAN 20'. UNLESS OTHERWISE APPROVED BY CBP.
  - GATE OPERATOR, CONTROLS AND LIGHTING MAY BE RELOCATED TO ACCOMMODATE OTHER OPENING CONFIGURATIONS.
  - DO NOT ATTACH EQUIPMENT OR HORIZONTAL CONDUITS TO BOLLARD WALL OR TURNBACK.
  - COVER ENTIRE TOP SURFACE OF TROLLEY BEAM, COLUMNS AND CROSS-MEMBERS. USE MECHANICAL FASTENING SYSTEM THAT FACILITATES REPAIR/REPLACEMENT OF BIRD SPIKES.
  - GATE NAME/LOCATION SIGN NOT SHOWN. VERIFY ALL SIGN SIZE AND CONTENT WITH COR.
  - GATE OPERATOR, CONTROLS AND OTHER EQUIPMENT SUPPORTS ARE REQUIRED.
  - MULTI-USER LOCK SYSTEM (EVERLOCK SYSTEMS, RC MULTI USER LOCK SYSTEM (STAINLESS STEEL) OR APPROVED EQUAL).
  - NUMBER OF LOCK POSITIONS AND LOCATION
  - WHEN ANTI-CLIMB PLATE IS SPECIFIED FOR ADJACENT WALL, EXTEND ANTI-CLIMB PLATE FROM TOP OF WALL TO BOTTOM OF BOLLARD SUPPORT BEAM.

**US Army Corps of Engineers**

MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH  
CHECKED BY: M. B. WHEELER  
SUBMITTED BY: C. KARAM  
SIZE: ANS I

ISSUE DATE: AUGUST 2020  
SOLICITATION NO.:  
CONTRACT NO.:

DESIGNED BY: K. RUFFENACH  
CHECKED BY: M. B. WHEELER  
SUBMITTED BY: C. KARAM  
SIZE: ANS I

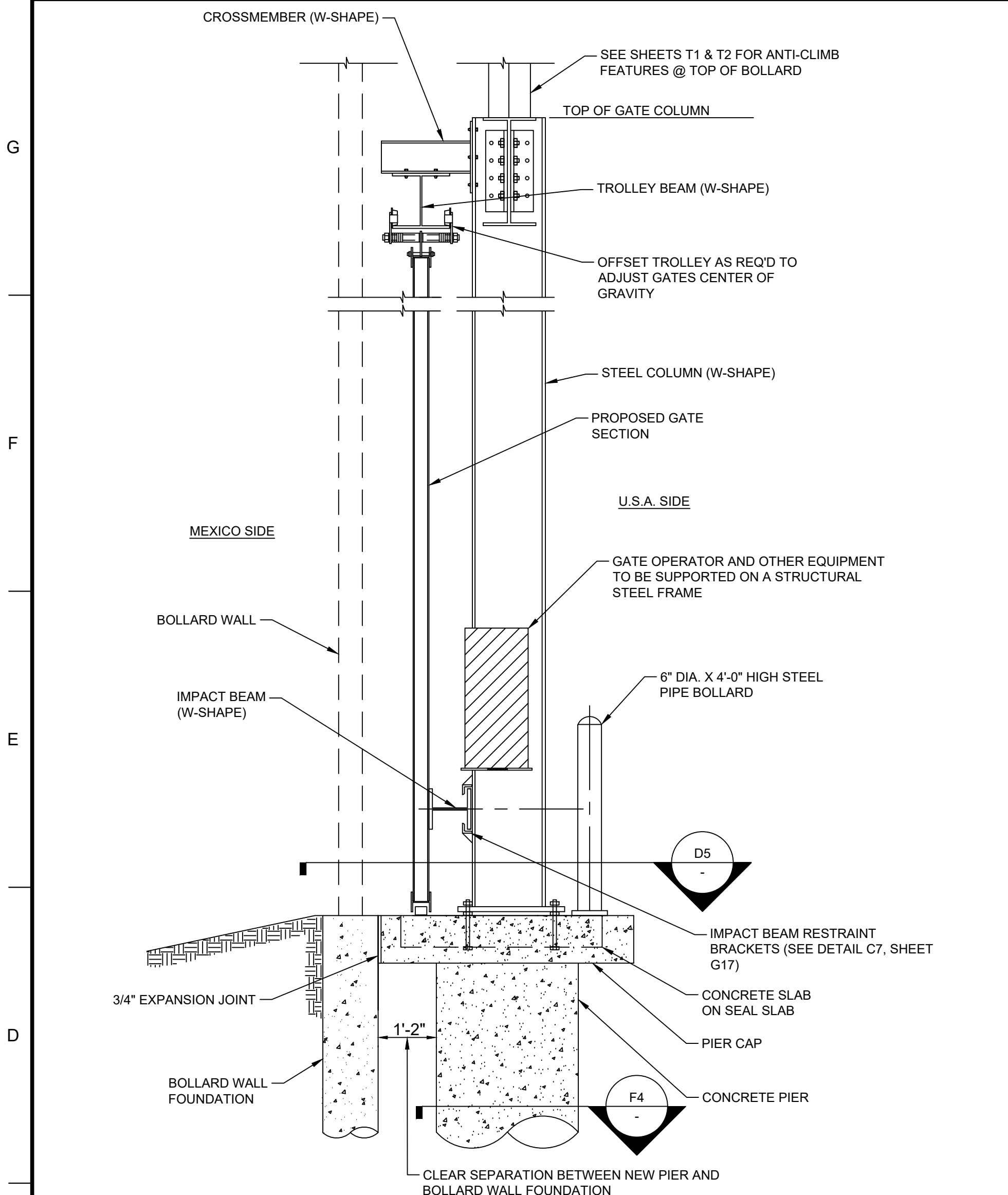
DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5

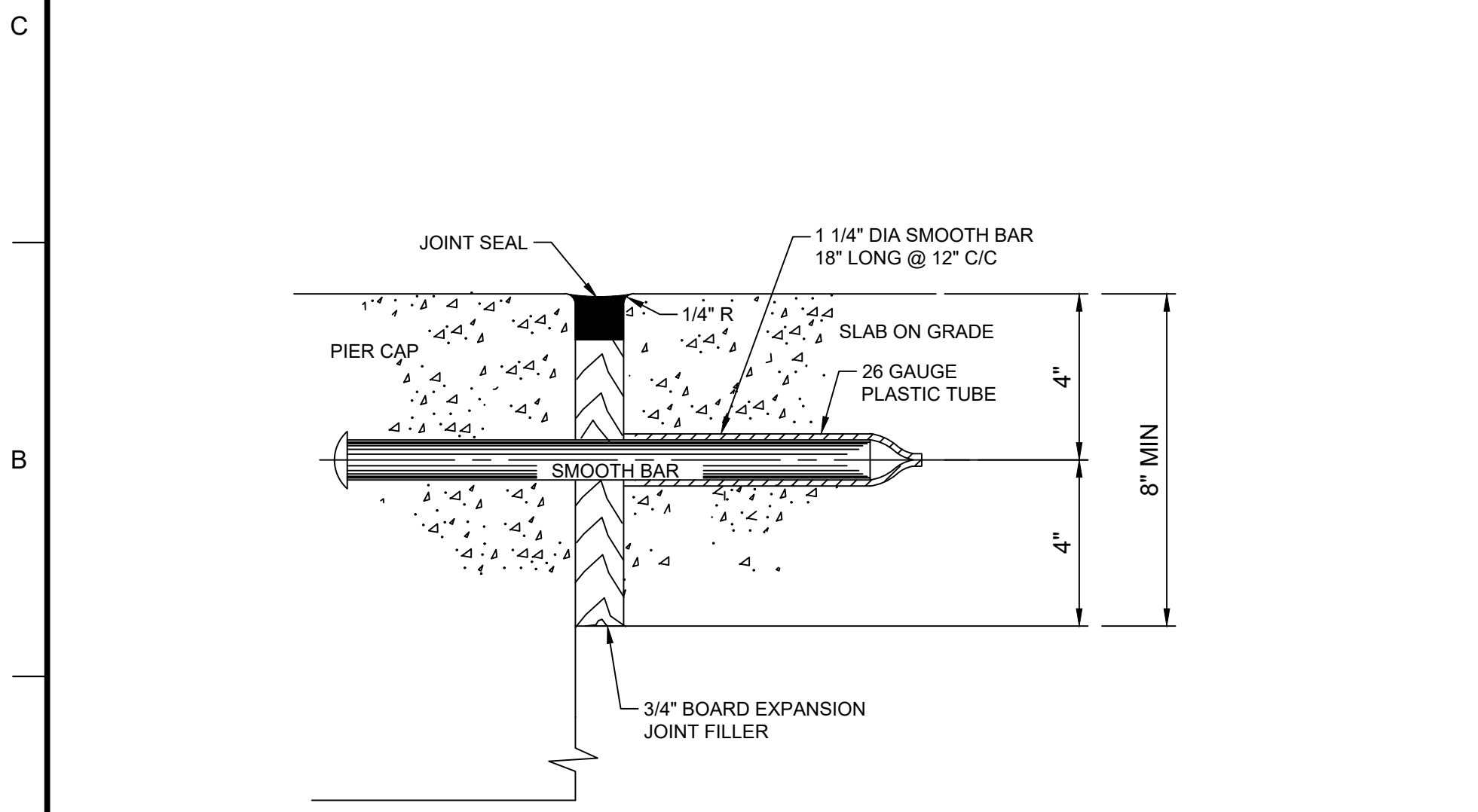
MESH SLIDE GATE DETAILS IN BOLLARD WALL  
SHEET 1 OF 5

SHEET ID  
**G15**

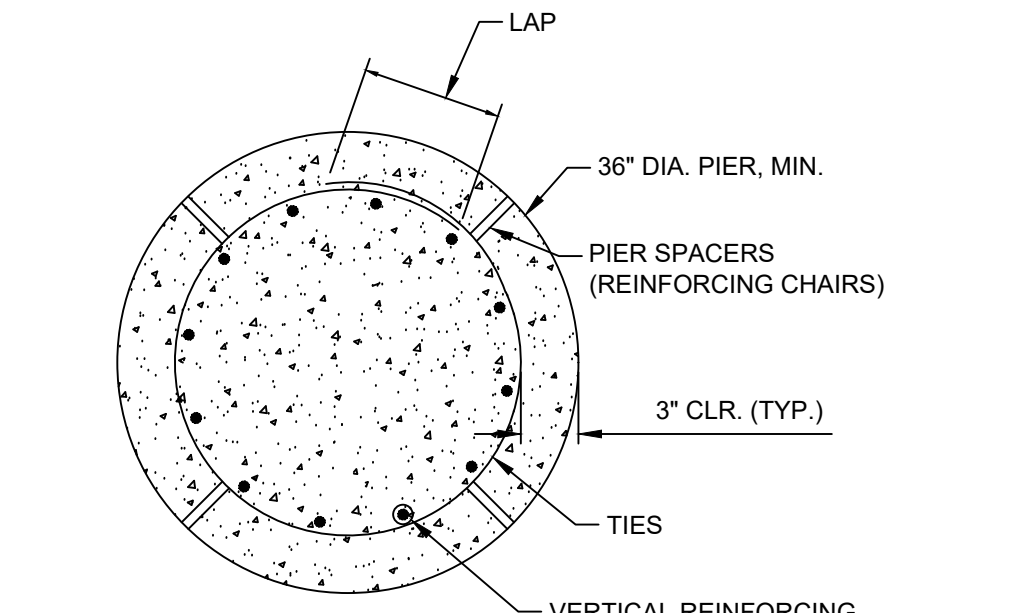




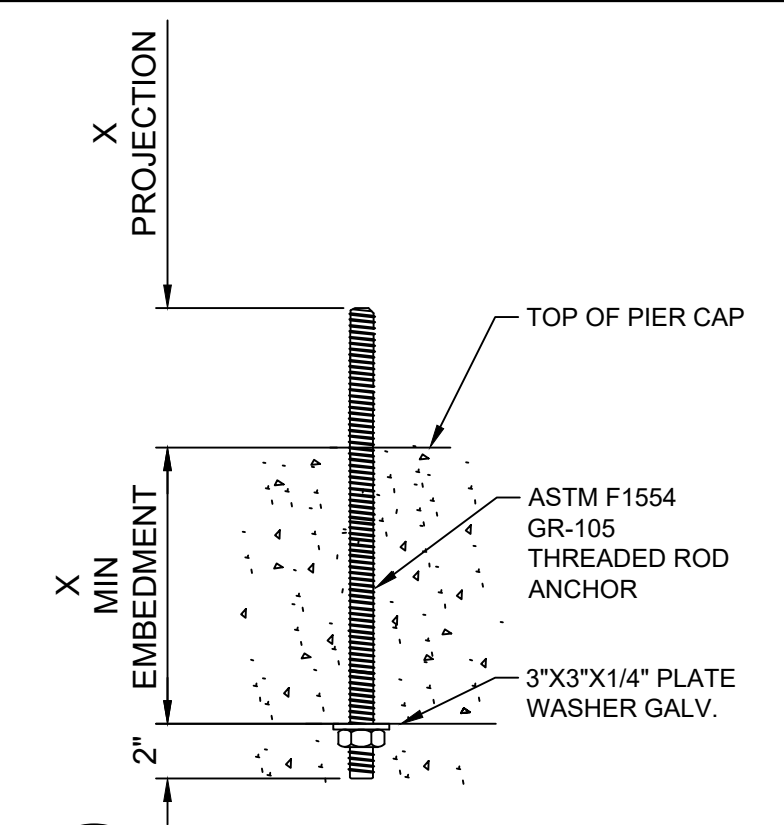
**C1 SECTION THROUGH AUTOMATED GATE, BOLLARD WALL**  
 N.T.S.



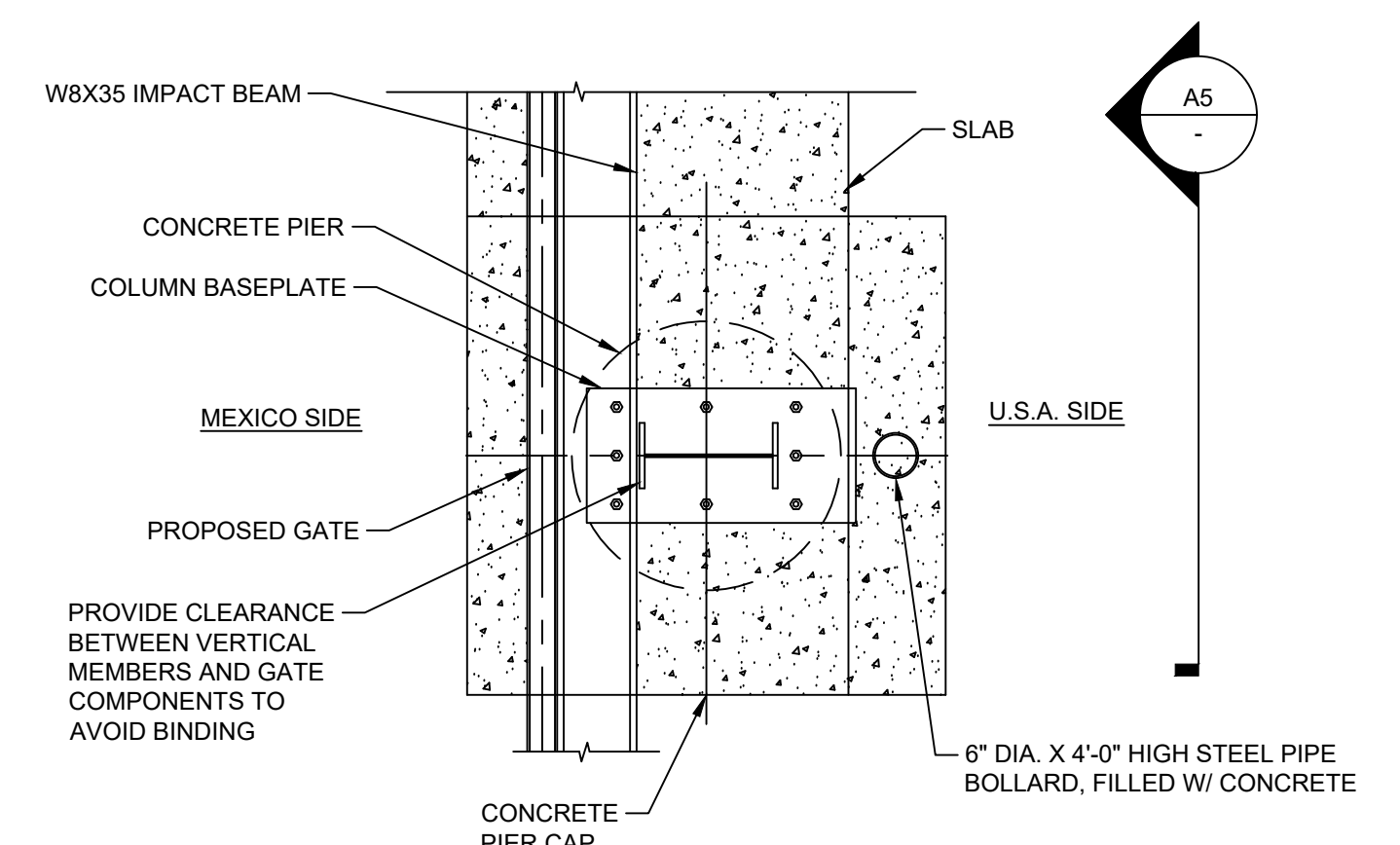
**A1 SLEEVED EXPANSION JOINT**  
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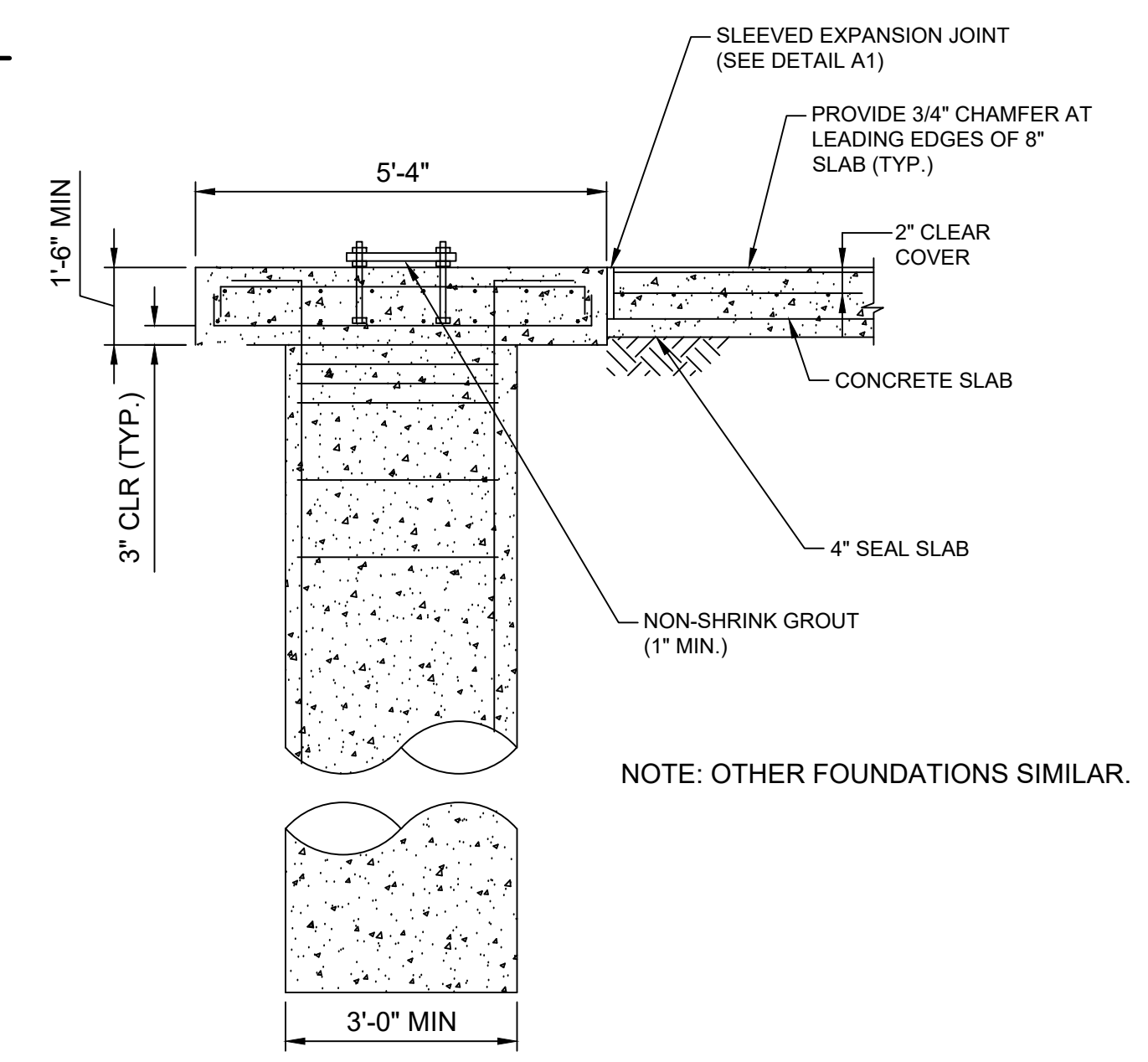
**F4 CONCRETE PIER FOUNDATION**  
 N.T.S.



**F6 ANCHOR BOLT DETAIL (TYP)**  
 N.T.S.

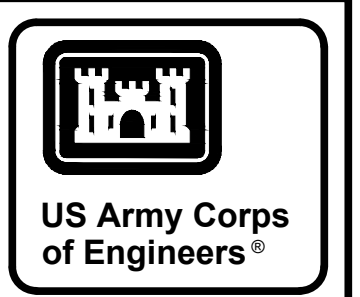


**D5 PLAN - COLUMNS**  
 N.T.S.



**A5 PIER #3 FOUNDATION**  
 N.T.S.

APPROVED FOR PRIMARY & SECONDARY USE



MARK	DESCRIPTION	DATE

- NOTES:**
- STRUCTURAL STEEL W SECTIONS SHALL CONFORM TO ASTM A-572, GRADE 50. ALL OTHER ASTM A36.
  - STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE STRUCTURAL CONSTRUCTION MANUAL OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
  - ALL REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.
  - BASEPLATE ANCHOR BOLTS ARE TO BE DOUBLE-NUTTED (TOP AND BOTTOM OF PLATES) TO ALLOW VERTICAL AND PLUMB ADJUSTMENT OF COLUMNS. PLACE NON-SHRINK GROUT UNDER BASE PLATE AFTER FINAL ALIGNMENT.
  - IMPACT BEAM WILL HAVE 1" DIA. HOLES DRILLED ON 24" CENTERS FOR WATER DRAINAGE.
  - ALL BOLTS INCLUDING ANCHOR BOLTS ARE HIGH TENSION BOLTS AND SHALL BE TESTED IN AN AISC CERTIFIED FABRICATION SHOP.
  - CONCRETE TO COMPLY WITH SPECIFICATIONS.

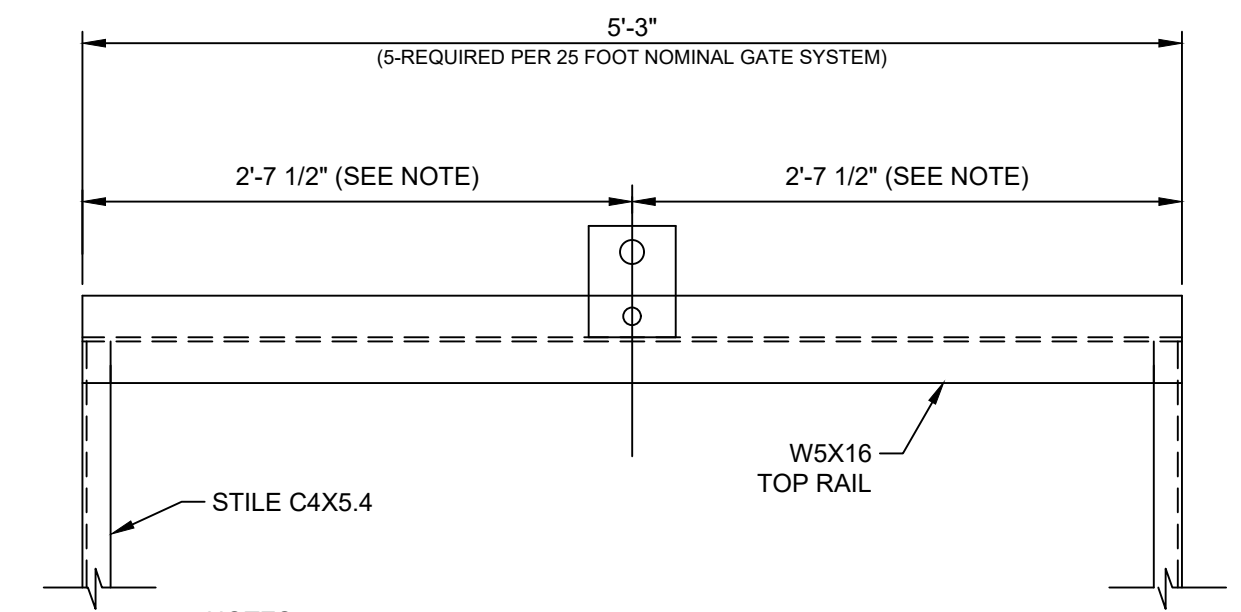
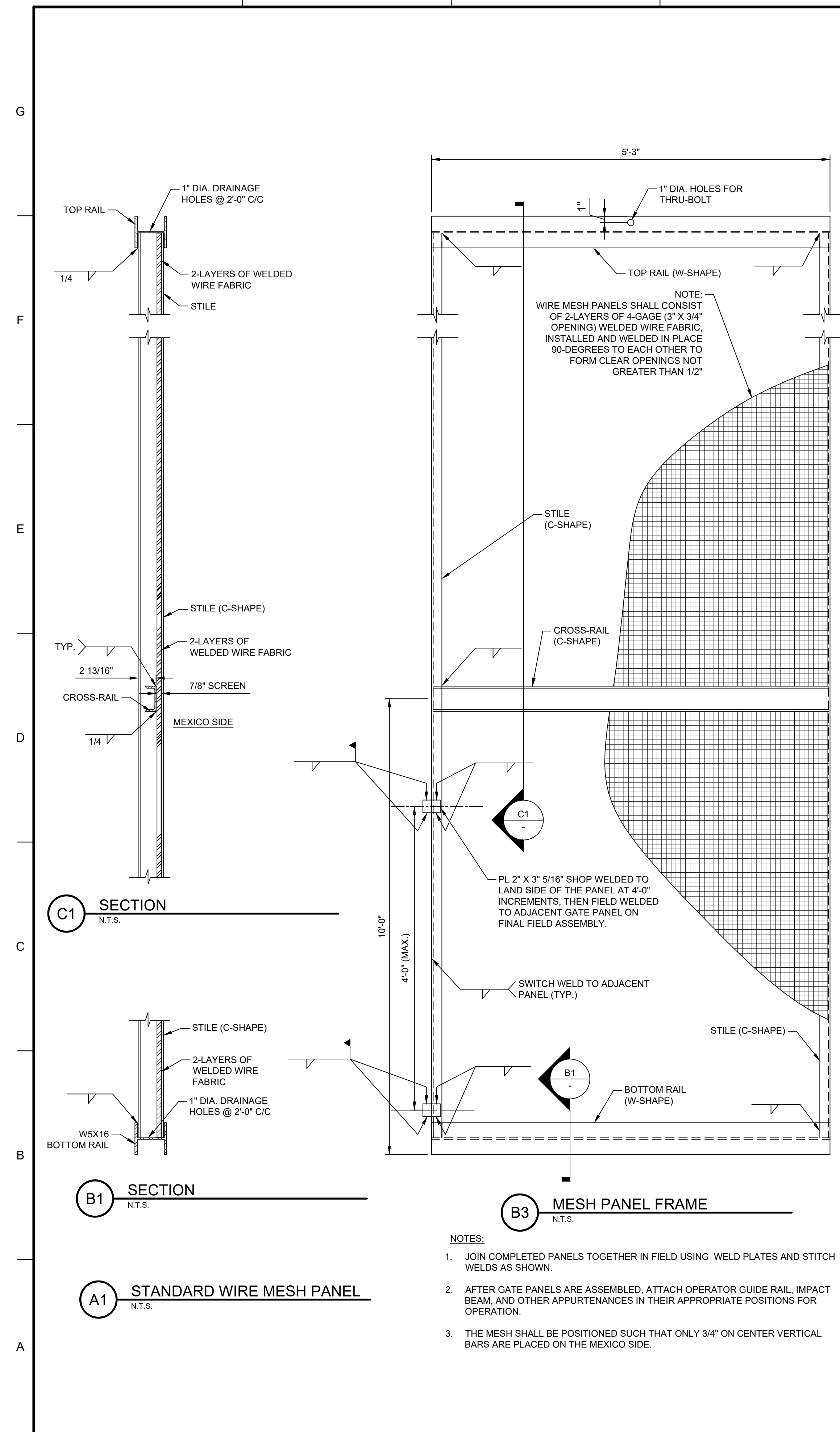
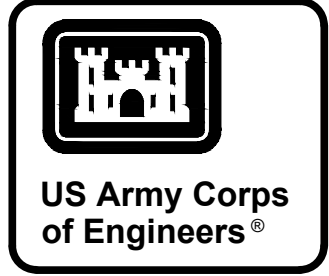
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
APPROVED BY: C. KARAM	CONTRACT NO.:
SIZE: ANSI D	

DEPARTMENT OF HOMELAND SECURITY  
 CUSTOMS AND BORDER PROTECTION  
 UNITED STATES BORDER PATROL  
 PROGRAM MANAGEMENT OFFICE DIRECTORATE

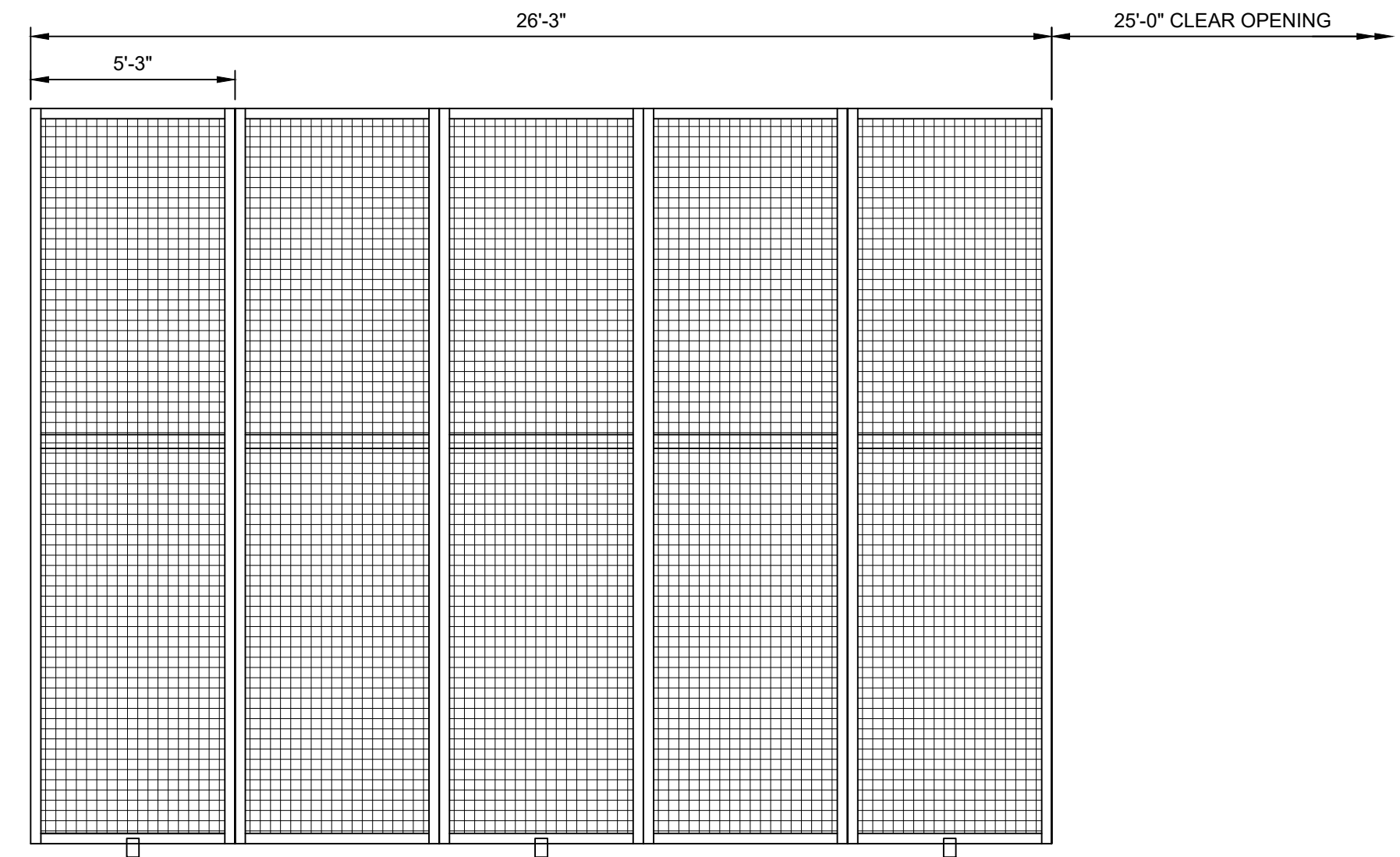
TACTICAL INFRASTRUCTURE  
 WALL, FENCE & GATE STANDARD DETAILS  
 GATE STANDARD DETAILS  
 VERSION V.5  
 MESH SLIDE GATE DETAILS IN BOLLARD WALL  
 SHEET 2 OF 5

SHEET ID  
**G16**

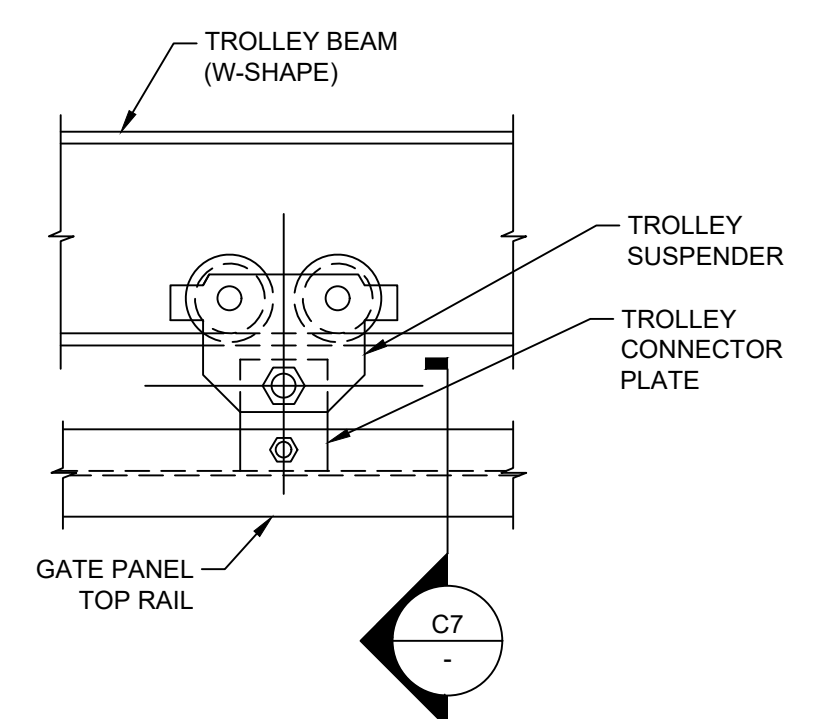




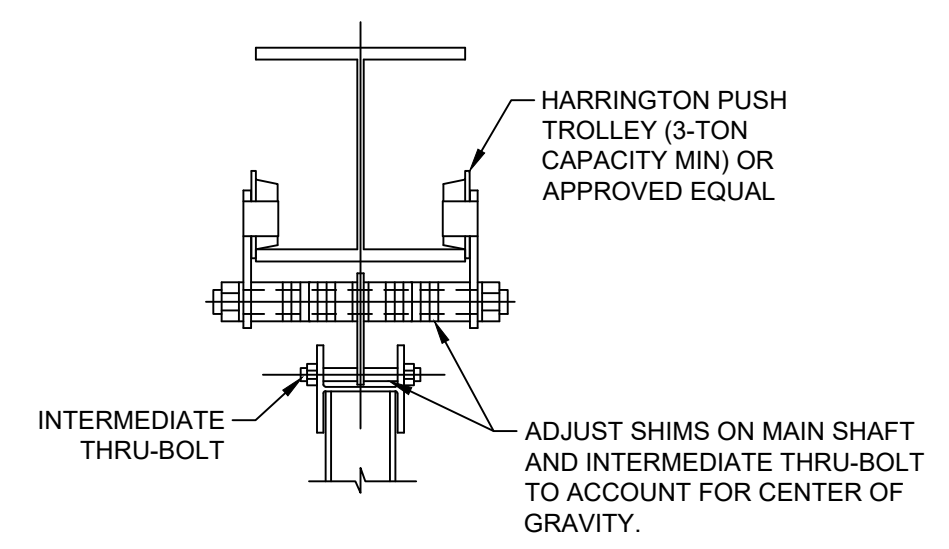
- NOTES:**
1. THIS DETAIL REPRESENTS THE RELATIVE POSITION OF THE TROLLEY CONNECTOR PLATES FOR EACH 5'-3" PANEL COMPRISING A GATE SYSTEM.
  2. INSTALL ONE TROLLEY PER PANEL.



1/4" PLATES WELDED INSIDE PANEL @ EACH END AND MIDDLE OF GATE



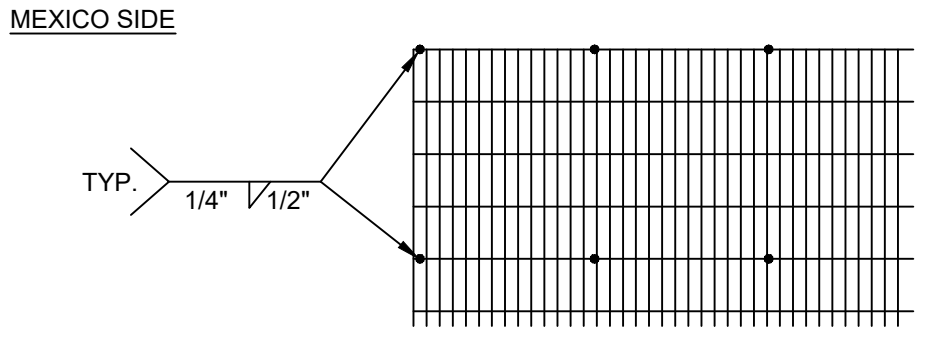
**E5**  
TROLLEY CONNECTION DETAIL  
N.T.S.



**E7**  
SECTION THROUGH TROLLEY  
N.T.S.



- WELDING SCHEME FOR DOUBLE LAYER 4-GAGE WIRE MESH:**
1. VERTICAL COMPONENT OF WIRE MESH SHALL BE POSITIONED FACING MEXICO SIDE.
  2. WIRE MESH LAYERS SHALL BE SPOT-WELDED TO EACH OTHER ON APPROX. 12" CENTERS, OR AS REQ'D TO PREVENT WARPING.
  3. WIRE MESH LAYERS SHALL BE WELDED TOGETHER AND AT THE GATE PANEL PERIMETER ON APPROX. 12" CENTERS, OR AS REQ'D TO PREVENT WARPING.
  4. WIRE MESH SHALL ALSO BE WELDED TO C4X5.4 CROSS-FRAMING AT 12" CENTERS TOP AND BOTTOM OF CHANNEL.



**E8**  
WIRE MESH WELDING SCHEME  
N.T.S.

- NOTES:**
1. STEEL FASTENERS SHALL CONFORM TO ASTM A36 AND ASTM A325, AND SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
  2. CONNECTOR PLATE SHALL BE BOLTED TO THE TOP RAIL OF THE MESH PANELS.

MARK	DESCRIPTION	DATE

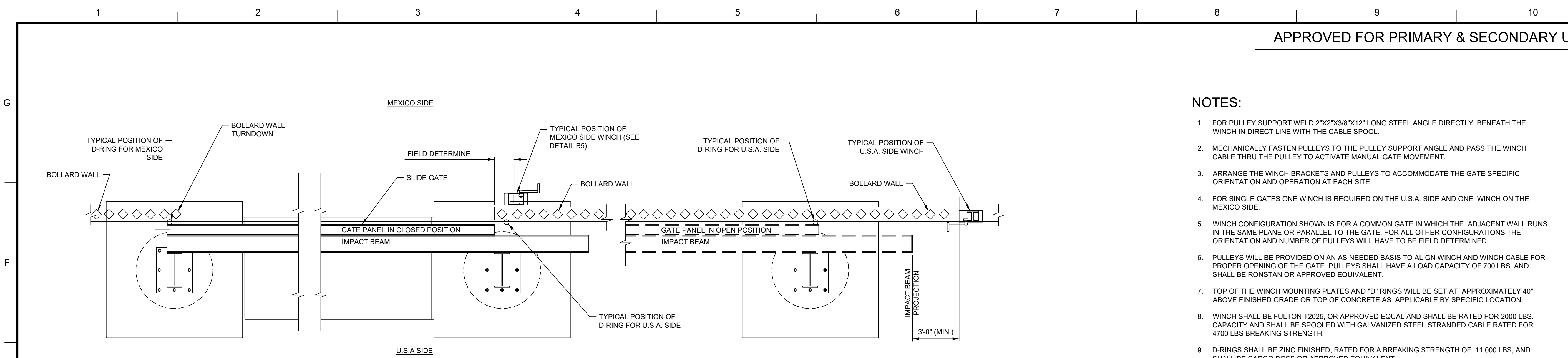
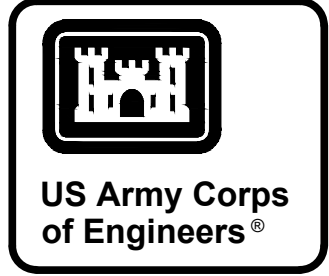
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
WELDED BY: M. WELLS	SOLICITATION NO.:
CHECKED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	
SIZE: ANSI D	
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE	

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V.5

MESH SLIDE GATE DETAILS IN BOLLARD WALL  
SHEET 4 OF 5

SHEET ID  
**G18**

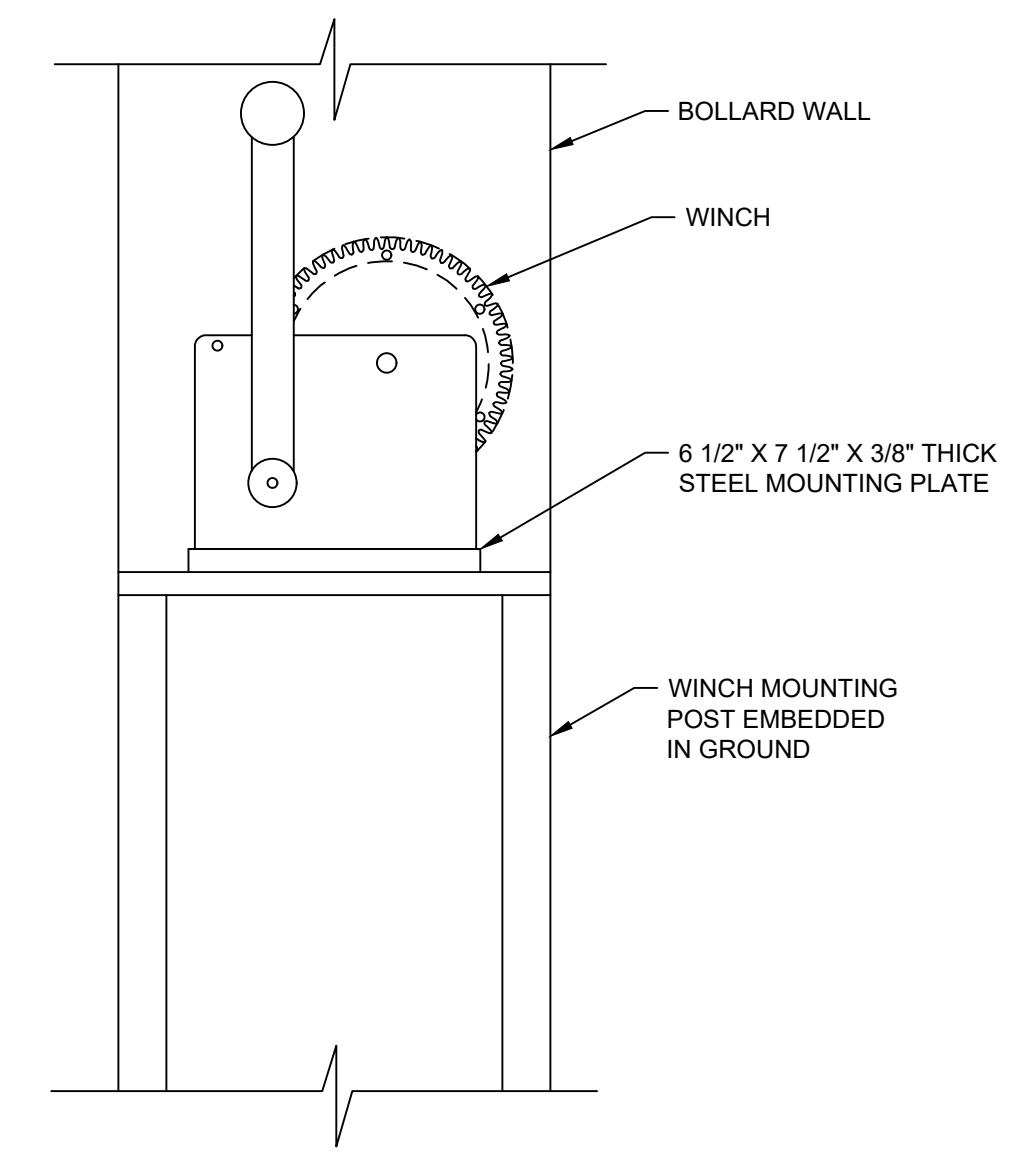
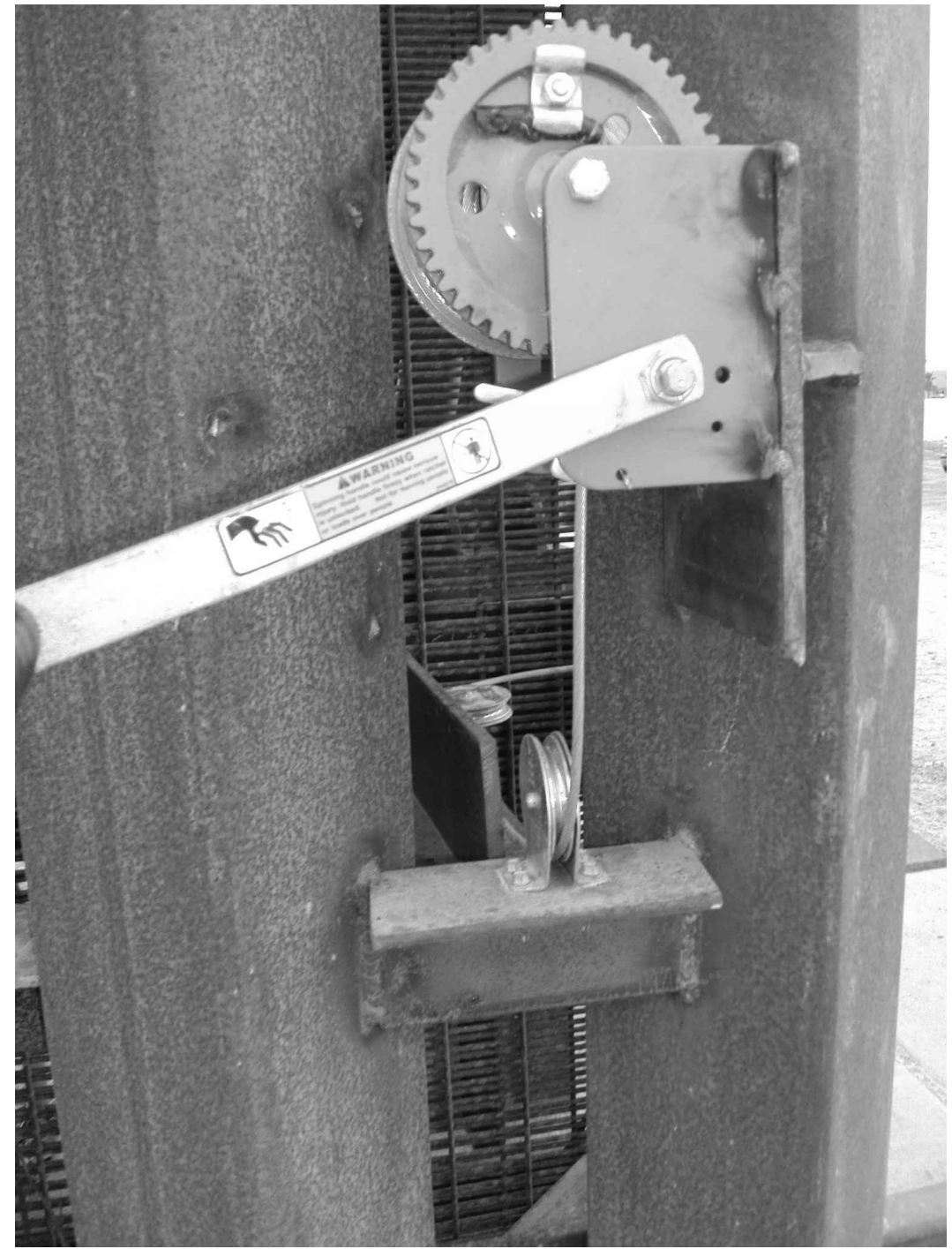
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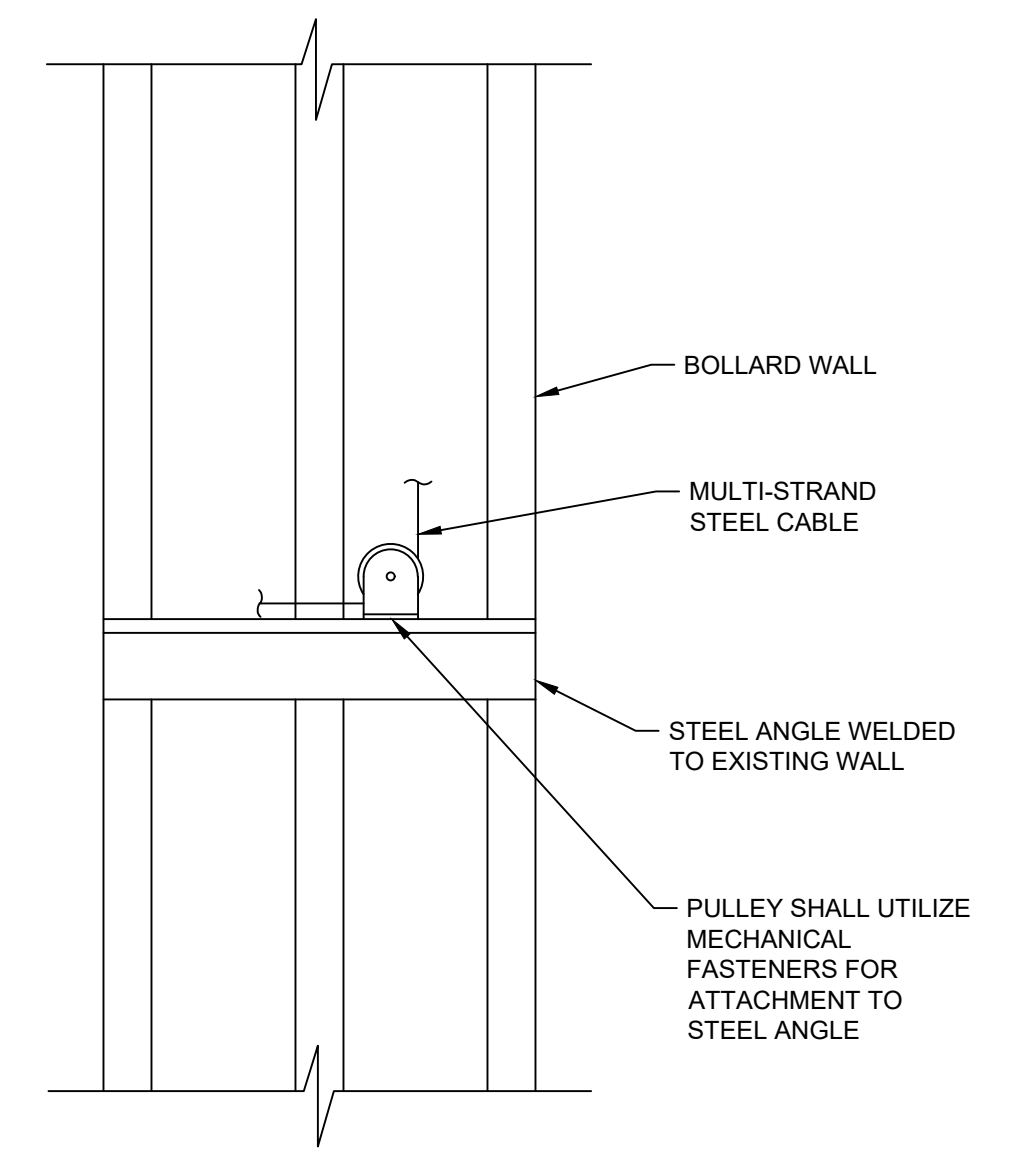
- NOTES:**
- FOR PULLEY SUPPORT WELD 2"X2"X3/8"X12" LONG STEEL ANGLE DIRECTLY BENEATH THE WINCH IN DIRECT LINE WITH THE CABLE SPOOL.
  - MECHANICALLY FASTEN PULLEYS TO THE PULLEY SUPPORT ANGLE AND PASS THE WINCH CABLE THRU THE PULLEY TO ACTIVATE MANUAL GATE MOVEMENT.
  - ARRANGE THE WINCH BRACKETS AND PULLEYS TO ACCOMMODATE THE GATE SPECIFIC ORIENTATION AND OPERATION AT EACH SITE.
  - FOR SINGLE GATES ONE WINCH IS REQUIRED ON THE U.S.A. SIDE AND ONE WINCH ON THE MEXICO SIDE.
  - WINCH CONFIGURATION SHOWN IS FOR A COMMON GATE IN WHICH THE ADJACENT WALL RUNS IN THE SAME PLANE OR PARALLEL TO THE GATE. FOR ALL OTHER CONFIGURATIONS THE ORIENTATION AND NUMBER OF PULLEYS WILL HAVE TO BE FIELD DETERMINED.
  - PULLEYS WILL BE PROVIDED ON AN AS NEEDED BASIS TO ALIGN WINCH AND WINCH CABLE FOR PROPER OPENING OF THE GATE. PULLEYS SHALL HAVE A LOAD CAPACITY OF 700 LBS. AND SHALL BE RONSTAN OR APPROVED EQUIVALENT.
  - TOP OF THE WINCH MOUNTING PLATES AND "D" RINGS WILL BE SET AT APPROXIMATELY 40" ABOVE FINISHED GRADE OR TOP OF CONCRETE AS APPLICABLE BY SPECIFIC LOCATION.
  - WINCH SHALL BE FULTON T2025, OR APPROVED EQUAL, AND SHALL BE RATED FOR 2000 LBS. CAPACITY AND SHALL BE SPOOLED WITH GALVANIZED STEEL STRANDED CABLE RATED FOR 4700 LBS BREAKING STRENGTH.
  - D-RINGS SHALL BE ZINC FINISHED, RATED FOR A BREAKING STRENGTH OF 11,000 LBS, AND SHALL BE CARGO BOSS OR APPROVED EQUIVALENT.
  - WINCH HANDLES SHALL BE TACK WELDED IN PLACE AFTER INSTALLATION AND TESTING IS COMPLETE.

- NOTES:**
- BOLLARD WALL TURNDOWN ALIGNMENT AND DETAILS AT GATE TO BE INCLUDED WITH GATE DETAILS.
  - GAP BETWEEN BOLLARD WALL AND GATE IN OPEN AND CLOSE POSITION SHALL NOT EXCEED 4" CLEAR.
  - ALTERNATE WINCH LAYOUTS/EQUIPMENT MAY BE PERMITTED.

**E3 WINCH LAYOUT**  
N.T.S.



**B5 TYPICAL WINCH SUPPORT**  
N.T.S.



**B7 TYPICAL PULLEY SUPPORT**  
N.T.S.

**B1 ILLUSTRATIVE VIEWS OF WINCH, PULLEY, AND D-RING CONFIGURATIONS**  
N.T.S.

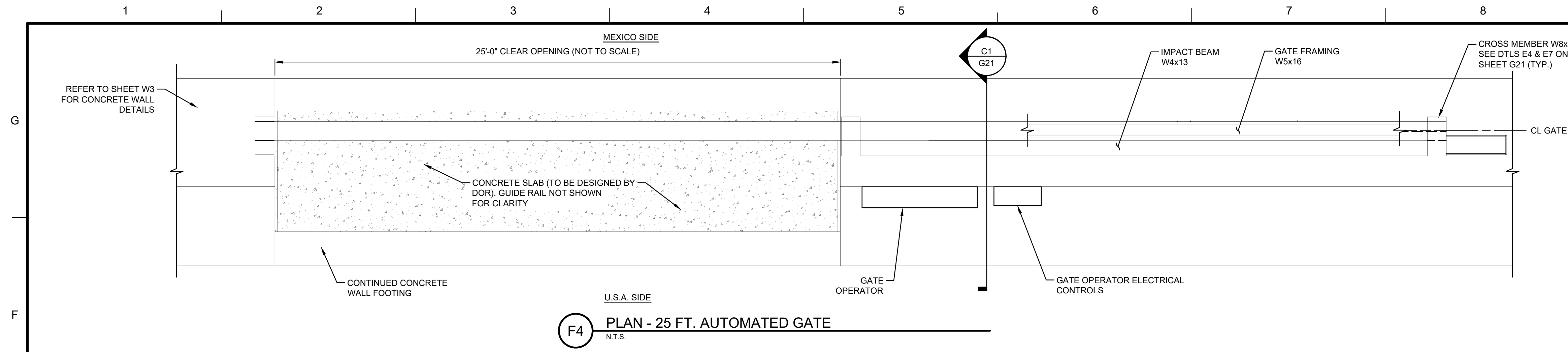
MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFERNACH	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
APPROVED BY: C. KARAM	CONTRACT NO.:
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE	
SIZE: ANSI D	

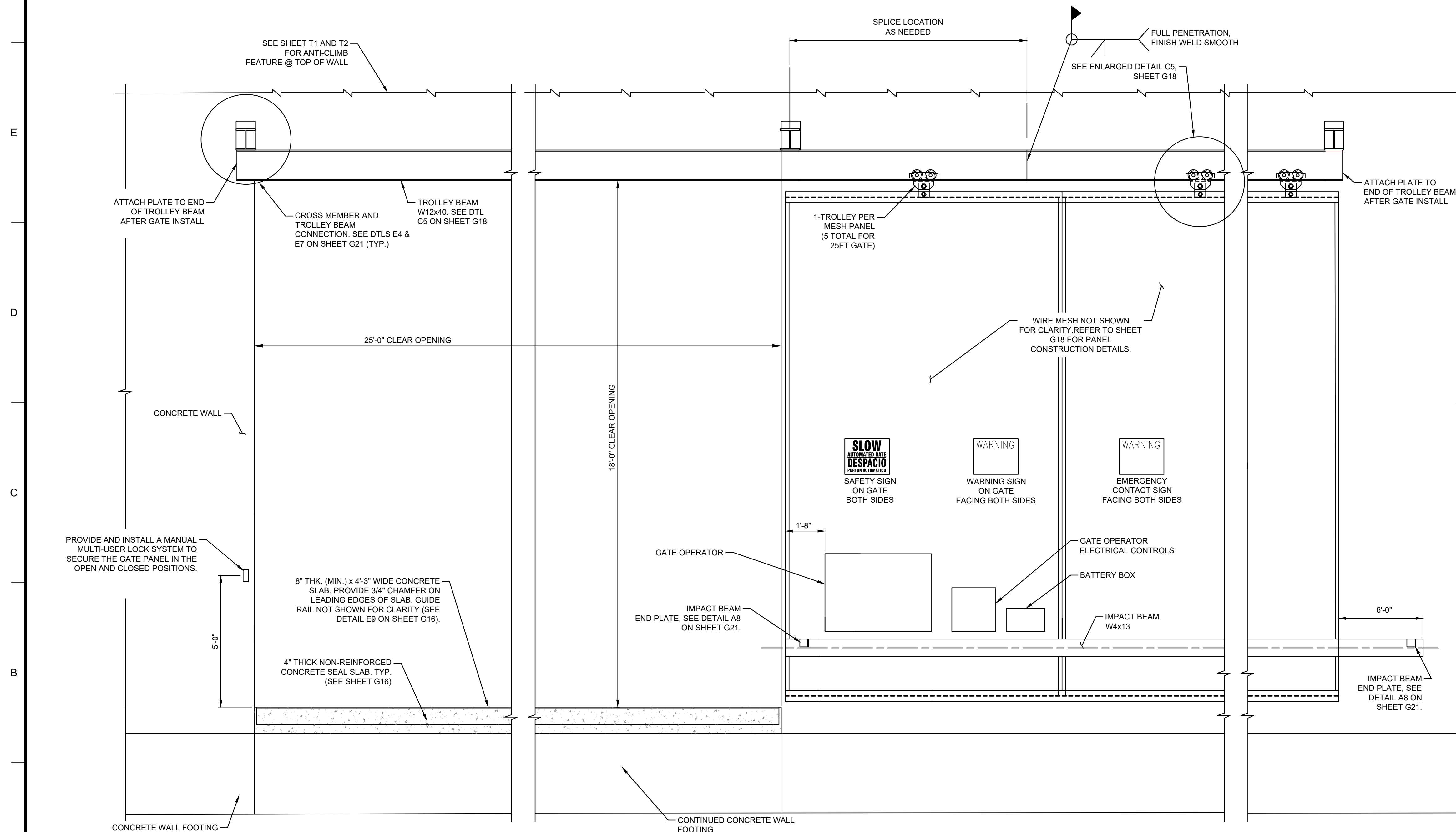
TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
GATE STANDARD DETAILS  
VERSION V. 5

MESH SLIDE GATE DETAILS IN BOLLARD WALL  
SHEET 5 OF 5

SHEET ID  
**G19**



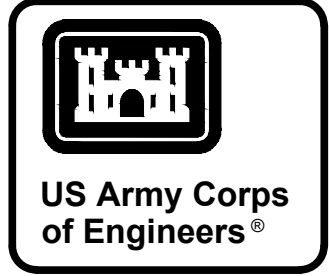
**F4** PLAN - 25 FT. AUTOMATED GATE  
N.T.S.



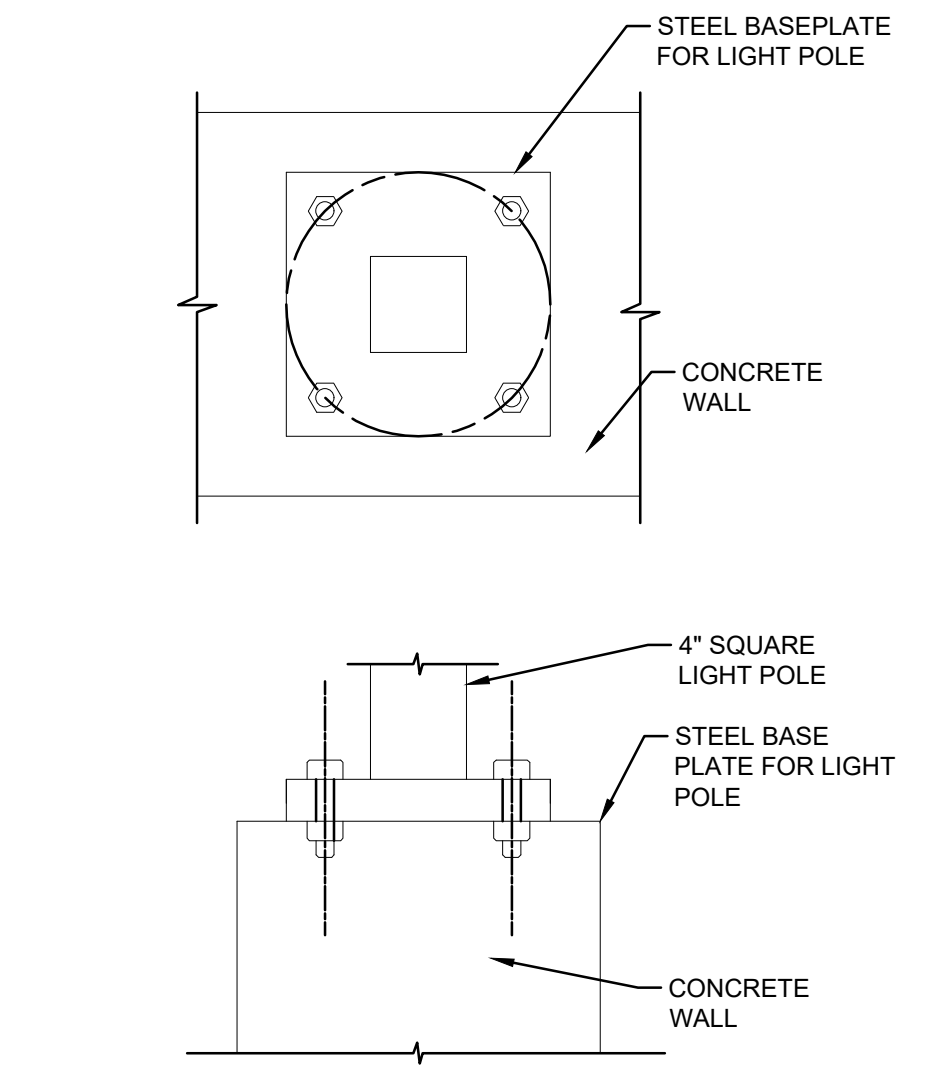
**A5** ELEVATION - 25 FT. AUTOMATED GATE (LOOKING SOUTH)  
N.T.S.

- NOTES:**
- MULTI-USER LOCK SYSTEM (EVERLOCK SYSTEMS, RC MULTI USER LOCK SYSTEM (STAINLESS STEEL) OR APPROVED EQUAL.
  - NUMBER OF LOCK POSITIONS AND LOCATION TO BE CONFIRMED BY COR.

APPROVED FOR SECONDARY USE



MARK	DESCRIPTION	DATE



**D9** LIGHT POLE BASEPLATE AND COLUMN CONNECTION DETAILS  
N.T.S.

- NOTES:**
- GATE OPERATOR, CONTROLS AND LIGHTING MAY BE RELOCATED TO ACCOMMODATE OTHER OPENING CONFIGURATIONS.
  - DO NOT ATTACH EQUIPMENT OR HORIZONTAL CONDUITS TO TURNBACK.
  - COVER ENTIRE TOP SURFACE OF TROLLEY BEAM, COLUMNS AND CROSS MEMBERS. USE MECHANICAL FASTENING SYSTEM THAT FACILITATES REPAIR/REPLACEMENT OF BIRD SPIKES.
  - GATE NAME/LOCATION SIGN NOT SHOWN. VERIFY ALL SIGN SIZE AND CONTENT WITH COR.
  - GATE OPERATOR, CONTROLS AND OTHER EQUIPMENT SUPPORTS ARE REQUIRED.
  - PLACE LIGHT POLES WHERE REQUIRED ON TOP OF CONCRETE WALL. SEE DETAIL D9, THIS SHEET.

ISSUE DATE:	AUGUST 2020
DESIGNED BY:	K. RUFFENBACH
CHECKED BY:	M. WEIS
CONTRACT NO.:	
DESIGNED BY:	P. CAMPAGNOLA
CHECKED BY:	C. KARAM
CONTRACT NO.:	
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CHECKED BY:	
CONTRACT NO.:	

TACTICAL INFRASTRUCTURE  
WALL FENCE & GATE STANDARD DETAILS  
VERSION V.5  
MESH SLIDE GATE DETAILS IN CONCRETE WALL  
SHEET 1 OF 3

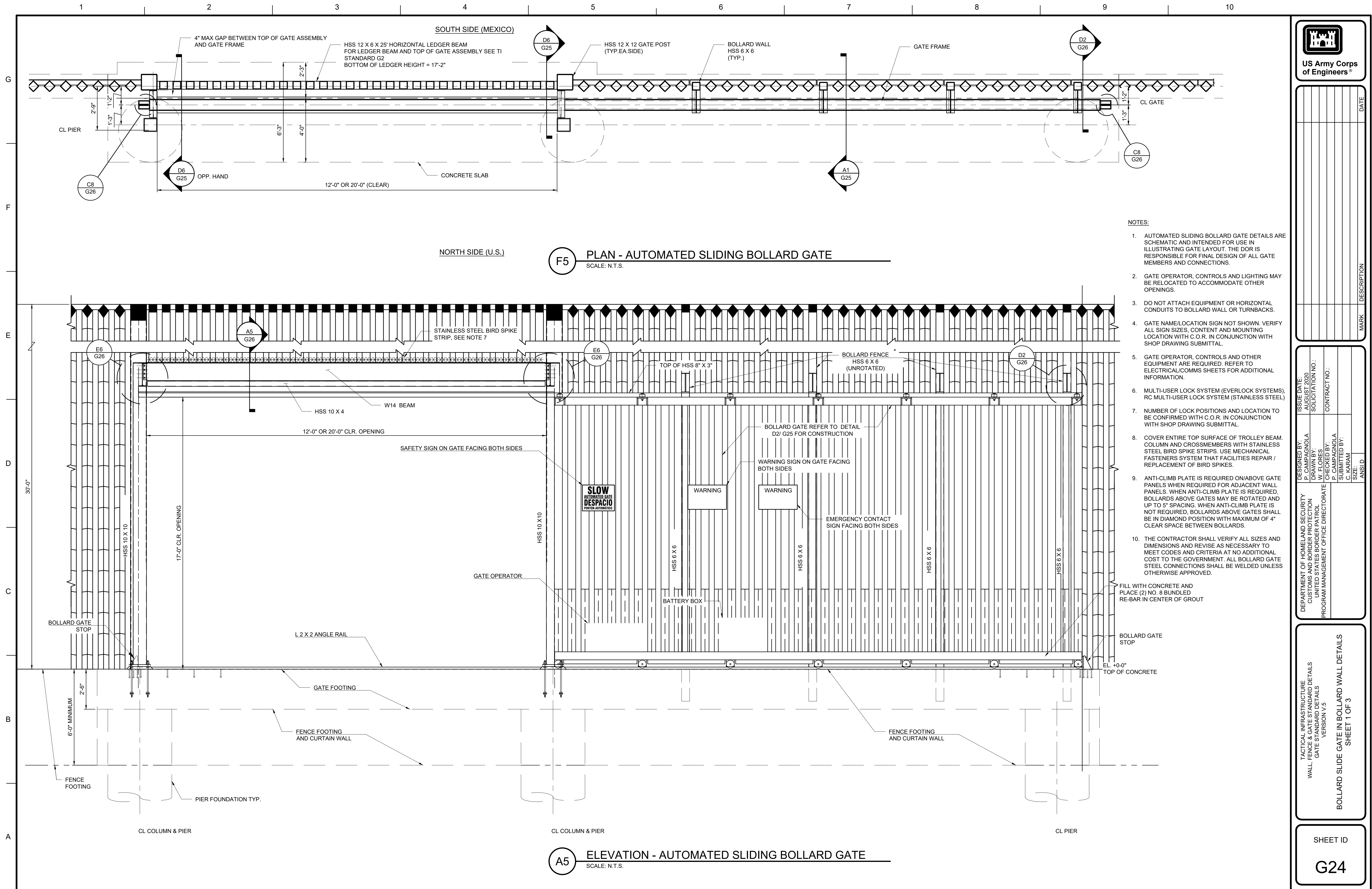
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**G20**











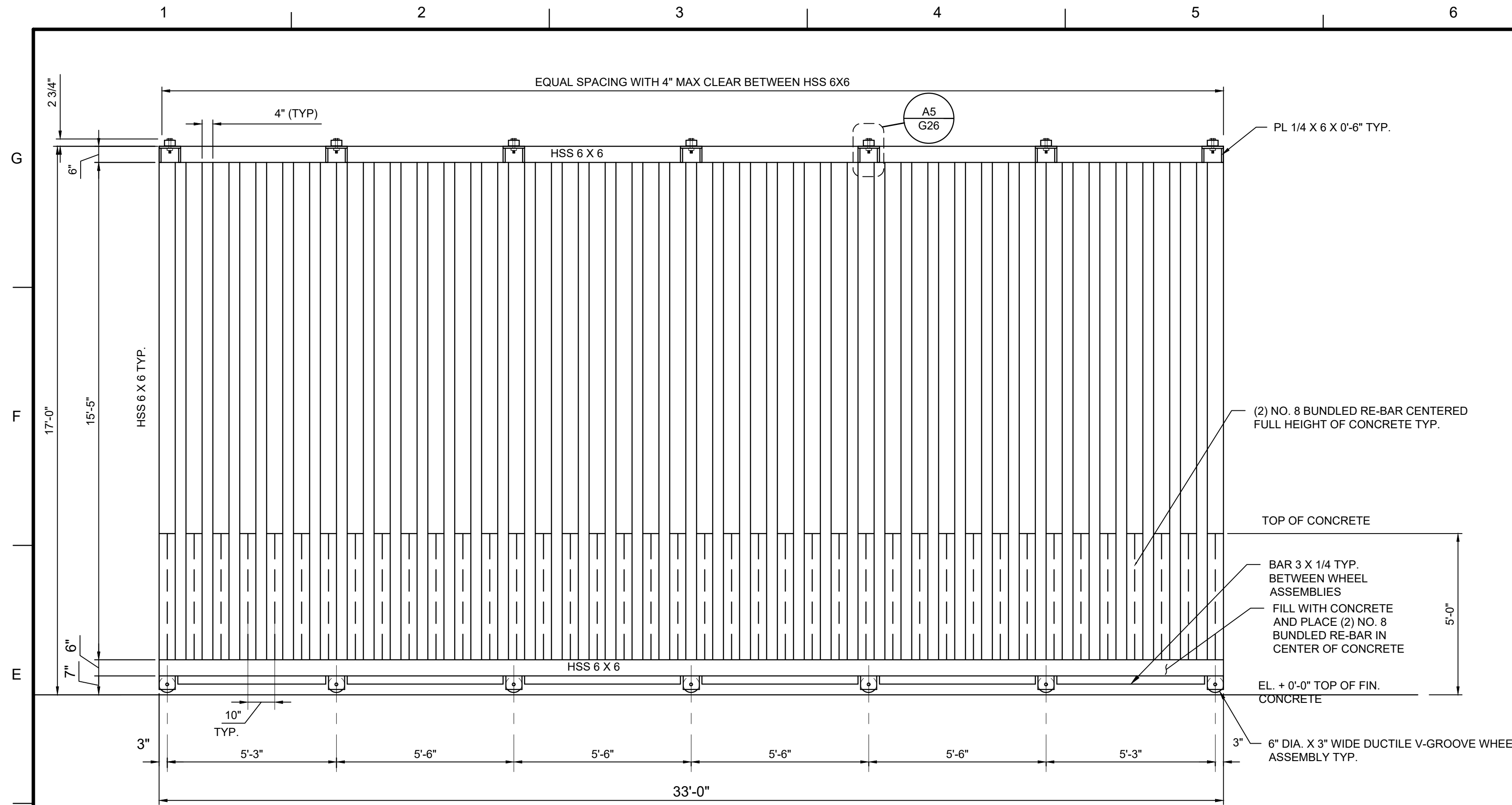
**F5 PLAN - AUTOMATED SLIDING BOLLARD GATE**  
SCALE: N.T.S.

**A5 ELEVATION - AUTOMATED SLIDING BOLLARD GATE**  
SCALE: N.T.S.

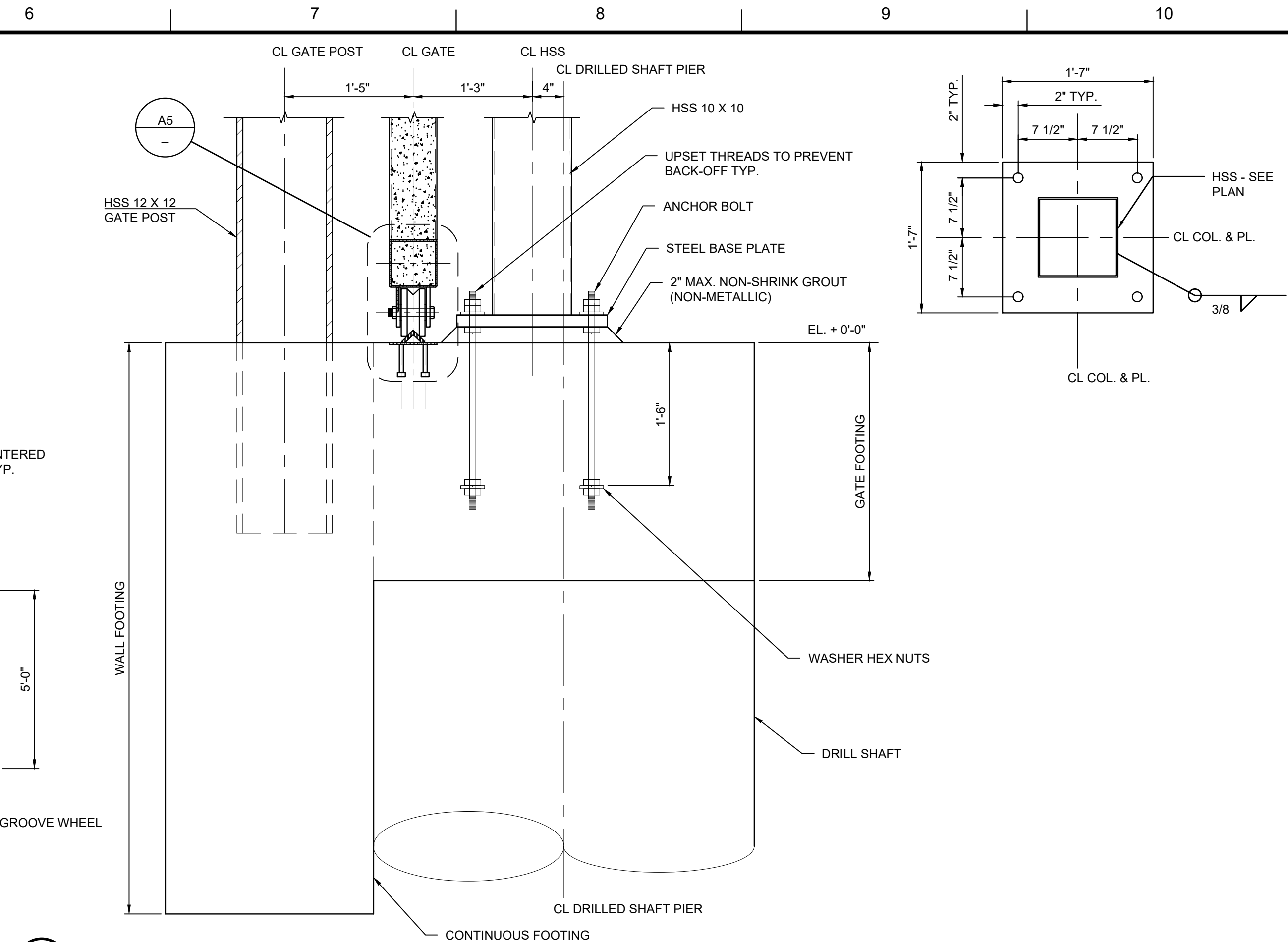
- NOTES:**
1. AUTOMATED SLIDING BOLLARD GATE DETAILS ARE SCHEMATIC AND INTENDED FOR USE IN ILLUSTRATING GATE LAYOUT. THE DOR IS RESPONSIBLE FOR FINAL DESIGN OF ALL GATE MEMBERS AND CONNECTIONS.
  2. GATE OPERATOR, CONTROLS AND LIGHTING MAY BE RELOCATED TO ACCOMMODATE OTHER OPENINGS.
  3. DO NOT ATTACH EQUIPMENT OR HORIZONTAL CONDUITS TO BOLLARD WALL OR TURNBACKS.
  4. GATE NAME/LOCATION SIGN NOT SHOWN. VERIFY ALL SIGN SIZES, CONTENT AND MOUNTING LOCATION WITH C.O.R. IN CONJUNCTION WITH SHOP DRAWING SUBMITTAL.
  5. GATE OPERATOR, CONTROLS AND OTHER EQUIPMENT ARE REQUIRED. REFER TO ELECTRICAL/COMMS SHEETS FOR ADDITIONAL INFORMATION.
  6. MULTI-USER LOCK SYSTEM (EVERLOCK SYSTEMS), RC MULTI-USER LOCK SYSTEM (STAINLESS STEEL).
  7. NUMBER OF LOCK POSITIONS AND LOCATION TO BE CONFIRMED WITH C.O.R. IN CONJUNCTION WITH SHOP DRAWING SUBMITTAL.
  8. COVER ENTIRE TOP SURFACE OF TROLLEY BEAM, COLUMN AND CROSSMEMBERS WITH STAINLESS STEEL BIRD SPIKE STRIPS. USE MECHANICAL FASTENERS SYSTEM THAT FACILITATES REPAIR / REPLACEMENT OF BIRD SPIKES.
  9. ANTI-CLIMB PLATE IS REQUIRED ON/ABOVE GATE PANELS WHEN REQUIRED FOR ADJACENT WALL PANELS. WHEN ANTI-CLIMB PLATE IS REQUIRED, BOLLARDS ABOVE GATES MAY BE ROTATED AND UP TO 5" SPACING. WHEN ANTI-CLIMB PLATE IS NOT REQUIRED, BOLLARDS ABOVE GATES SHALL BE IN DIAMOND POSITION WITH MAXIMUM OF 4" CLEAR SPACE BETWEEN BOLLARDS.
  10. THE CONTRACTOR SHALL VERIFY ALL SIZES AND DIMENSIONS AND REVISE AS NECESSARY TO MEET CODES AND CRITERIA AT NO ADDITIONAL COST TO THE GOVERNMENT. ALL BOLLARD GATE STEEL CONNECTIONS SHALL BE WELDED UNLESS OTHERWISE APPROVED.

**US Army Corps of Engineers**

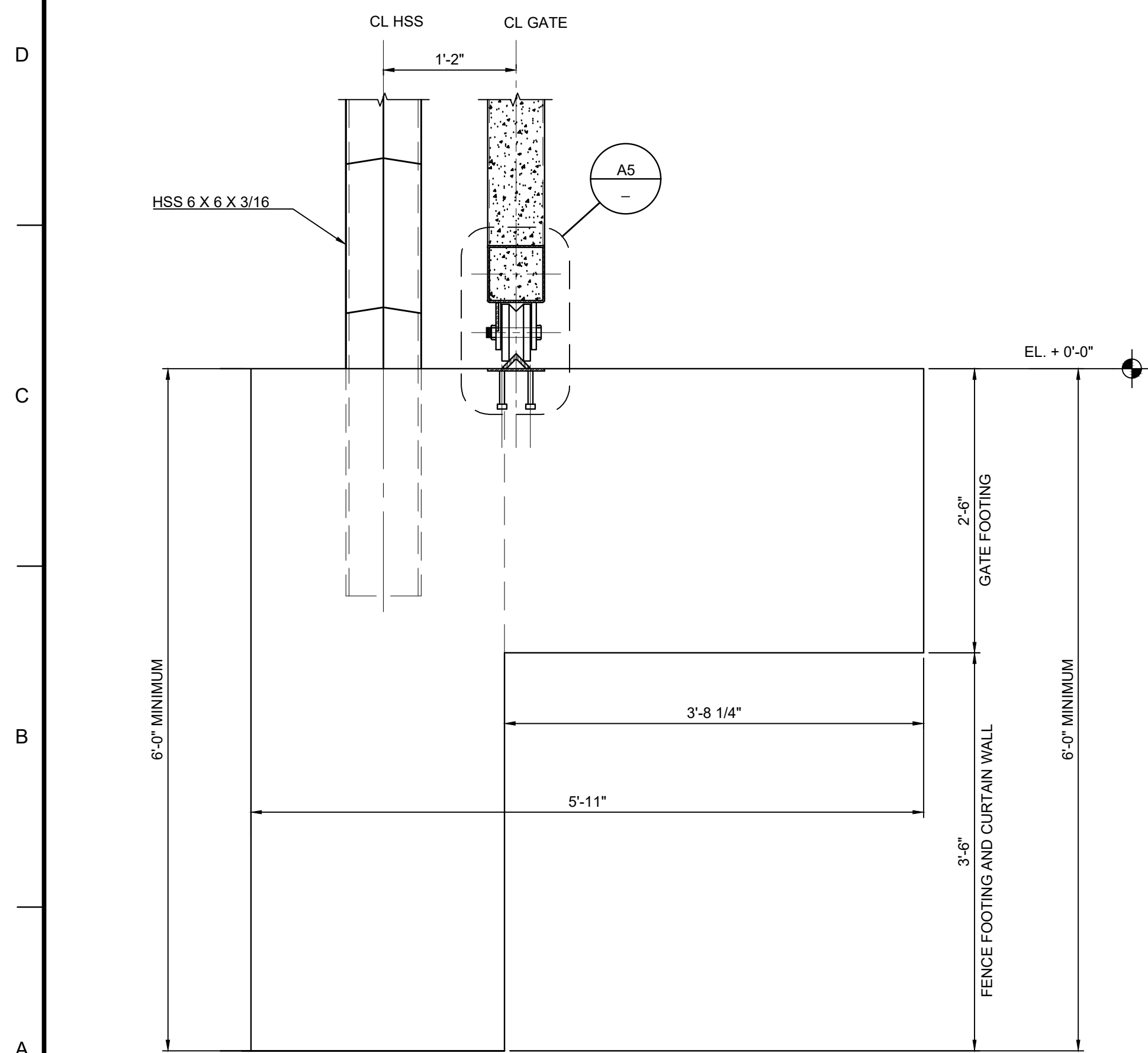
ISSUE DATE: AUGUST 2020	SOLICITATION NO.:	CONTRACT NO.:	DATE
DESIGNED BY: P. CAMPAGNOLA	CHECKED BY: M. FARRIS	SUBMITTED BY: P. CAMPAGNOLA	MARK
DEPARTMENT OF HOMELAND SECURITY CUSTOMS AND BORDER PROTECTION UNITED STATES BORDER PATROL PROGRAM MANAGEMENT OFFICE DIRECTORATE	DESIGNED BY: P. CAMPAGNOLA	CHECKED BY: M. FARRIS	DESCRIPTION
TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS GATE STANDARD DETAILS VERSION V.5	DESIGNED BY: P. CAMPAGNOLA	CHECKED BY: M. FARRIS	MARK
BOLLARD SLIDE GATE IN BOLLARD WALL DETAILS SHEET 1 OF 3			DATE
SHEET ID			DATE
<b>G24</b>			DATE



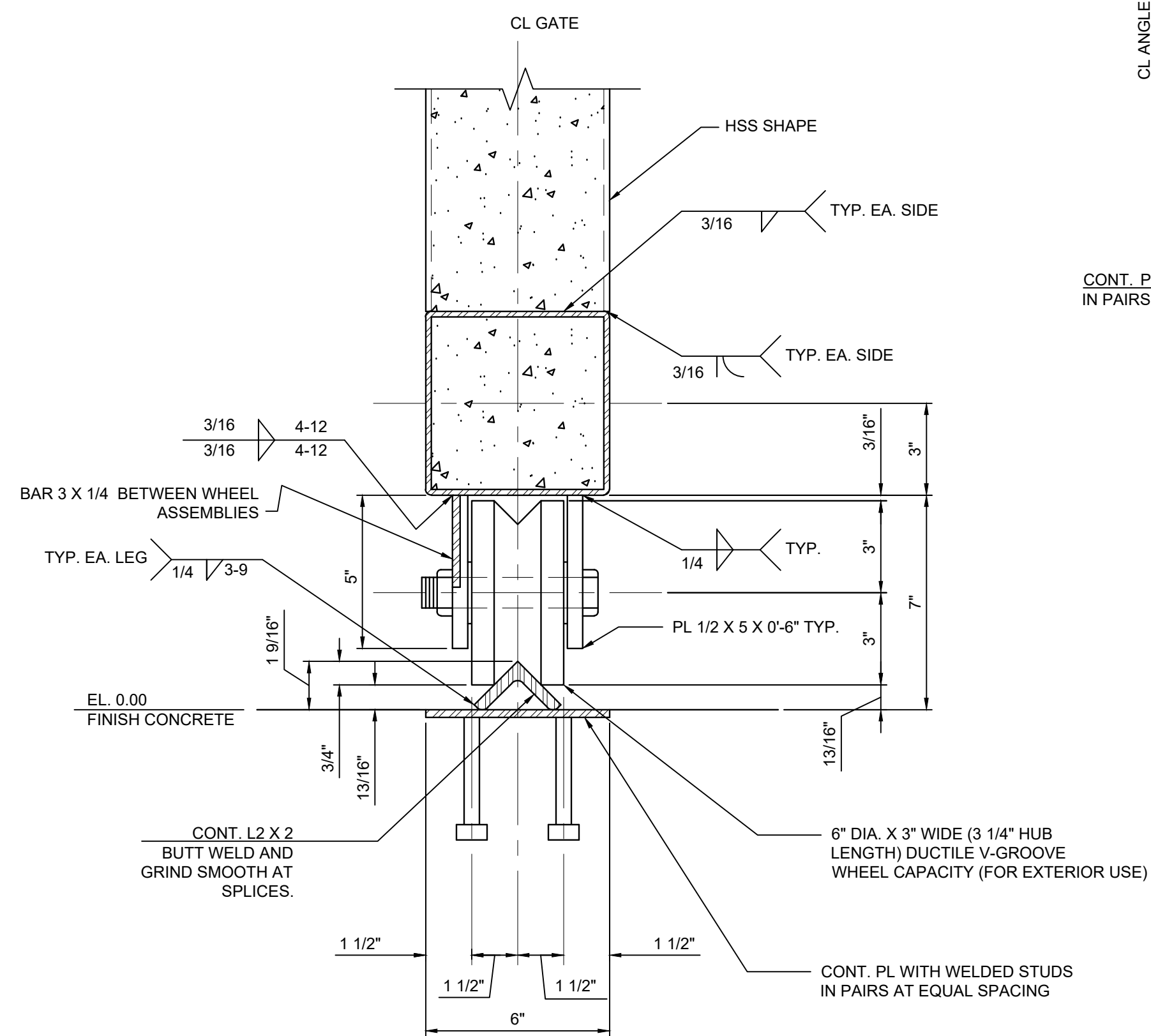
**D2** GATE ELEVATION LOOKING NORTH  
N.T.S.



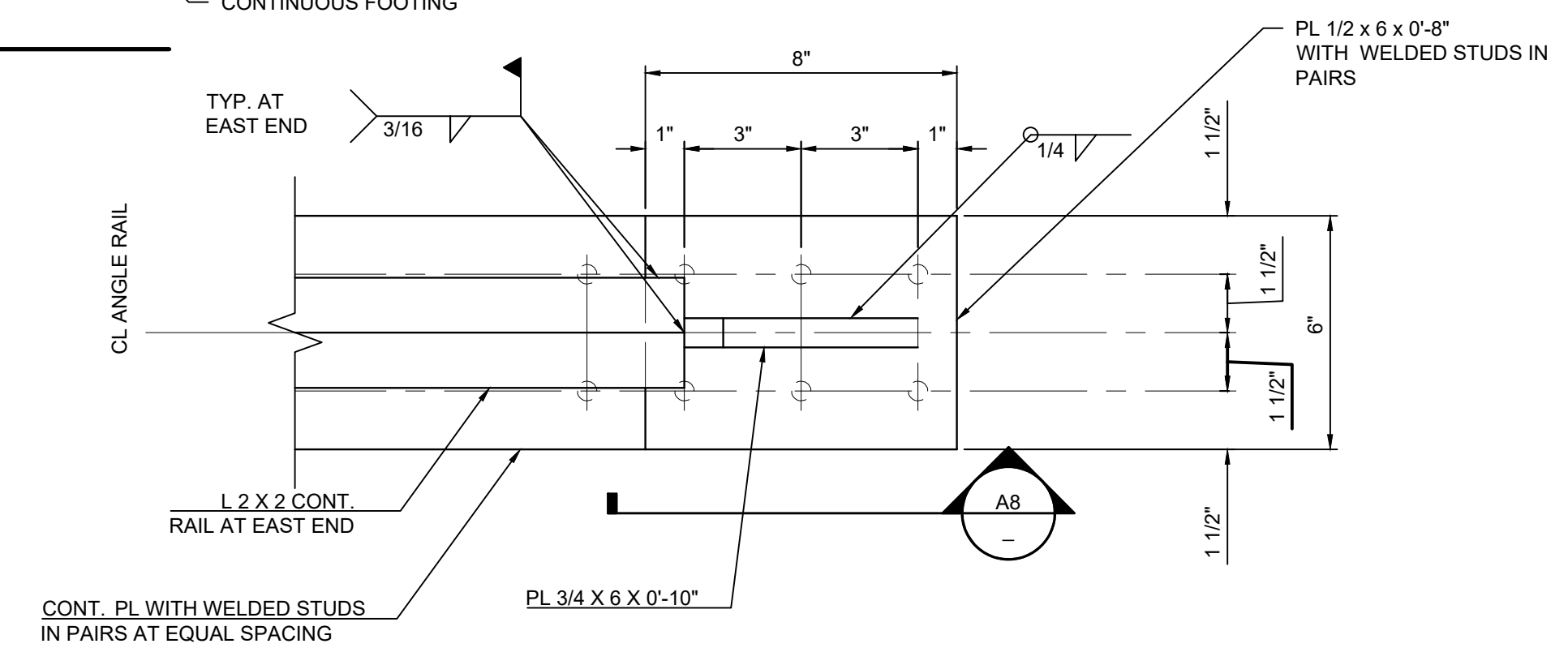
**D6** SECTION  
N.T.S.



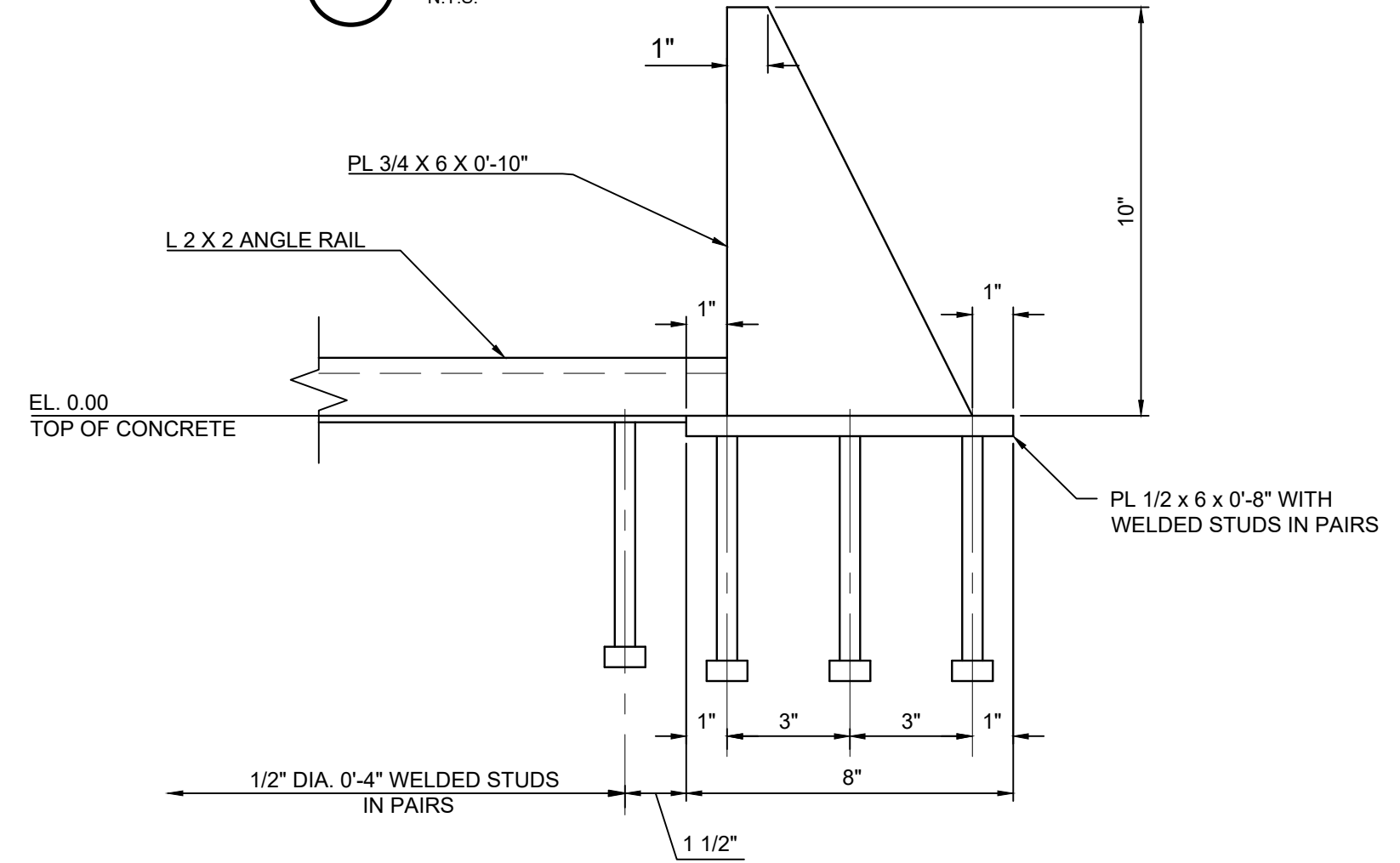
**A1** ELEVATION - 25FT AUTOMATED GATE  
N.T.S.



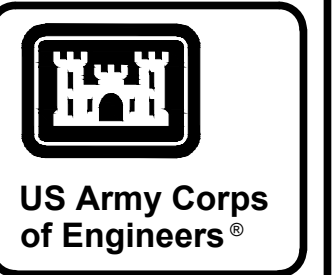
**A5** DETAIL  
N.T.S.



**C8** PLAN DETAIL  
N.T.S.



**A8** SECTION  
N.T.S.



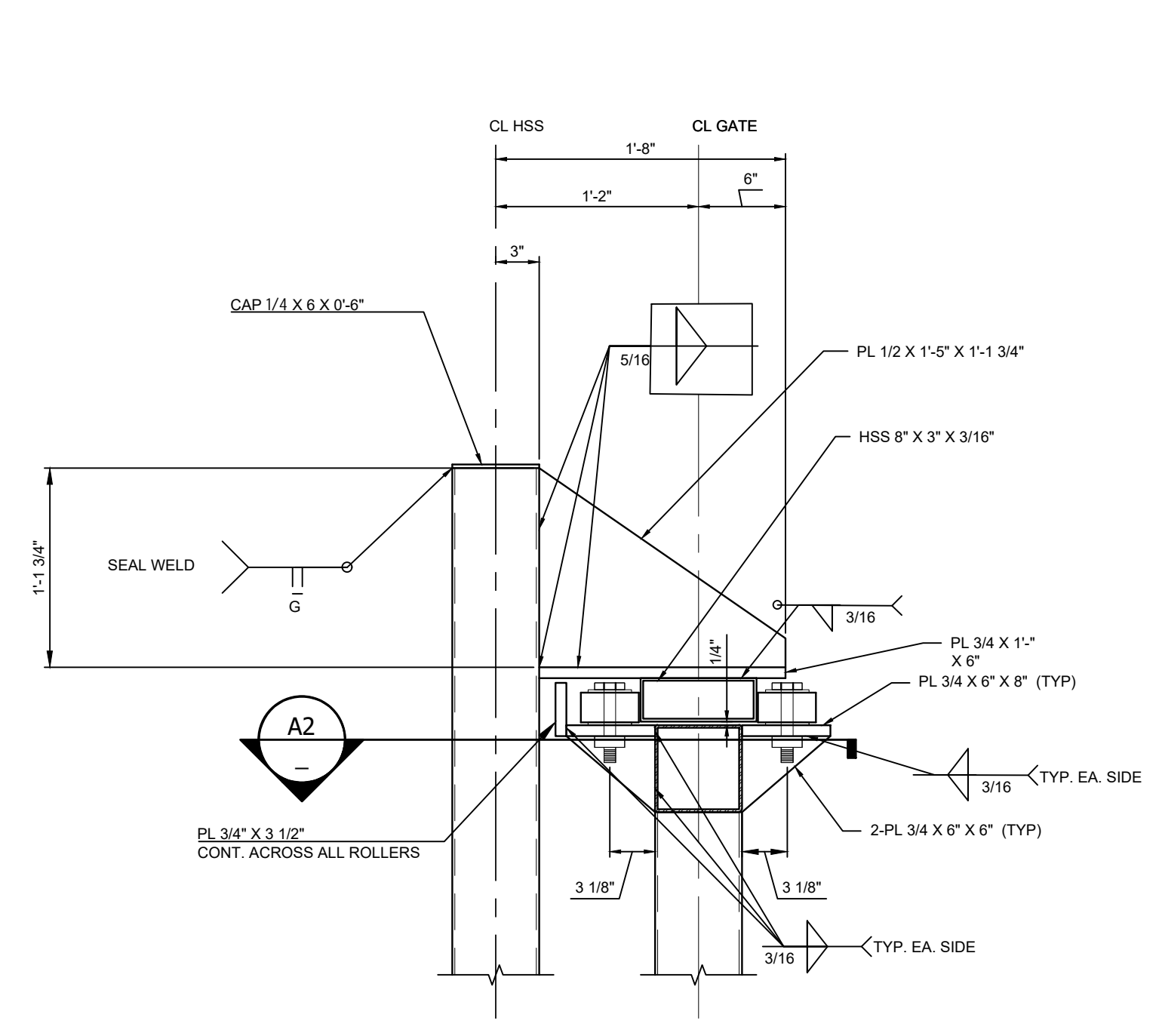
MARK	DESCRIPTION	DATE

DESIGNED BY: P. CAMPAGNOLA	ISSUE DATE: AUGUST 2020	CONTRACT NO.:
CHECKED BY: P. CAMPAGNOLA		
DESIGNED BY: C. KARAM	SUBMITTED BY: C. KARAM	
CHECKED BY: C. KARAM		

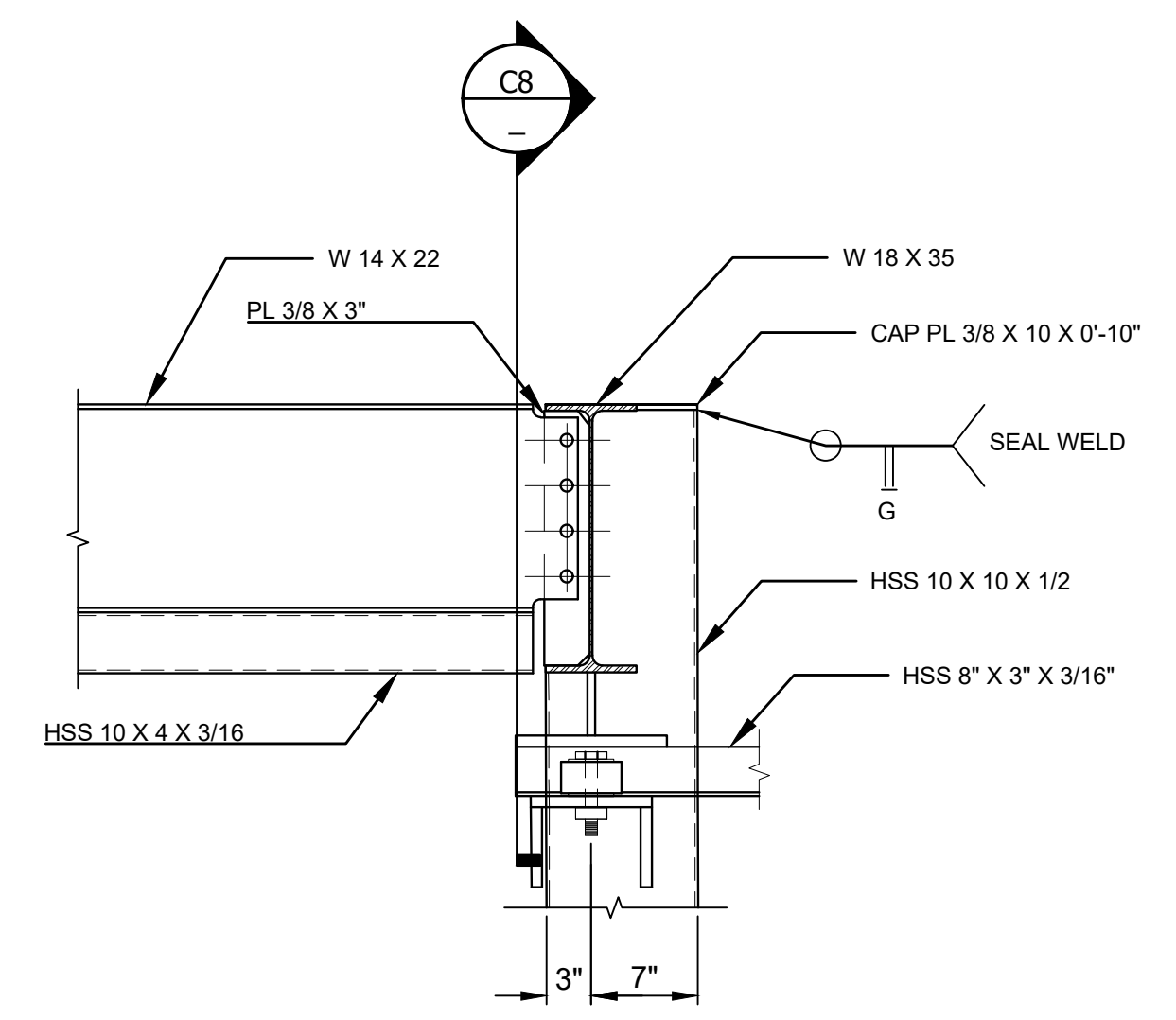
TACTICAL INFRASTRUCTURE WALL, FENCE & GATE STANDARD DETAILS GATE STANDARD DETAILS VERSION V.5	BOLLARD SLIDE GATE IN BOLLARD WALL DETAILS SHEET 2 OF 3

SHEET ID
<b>G25</b>

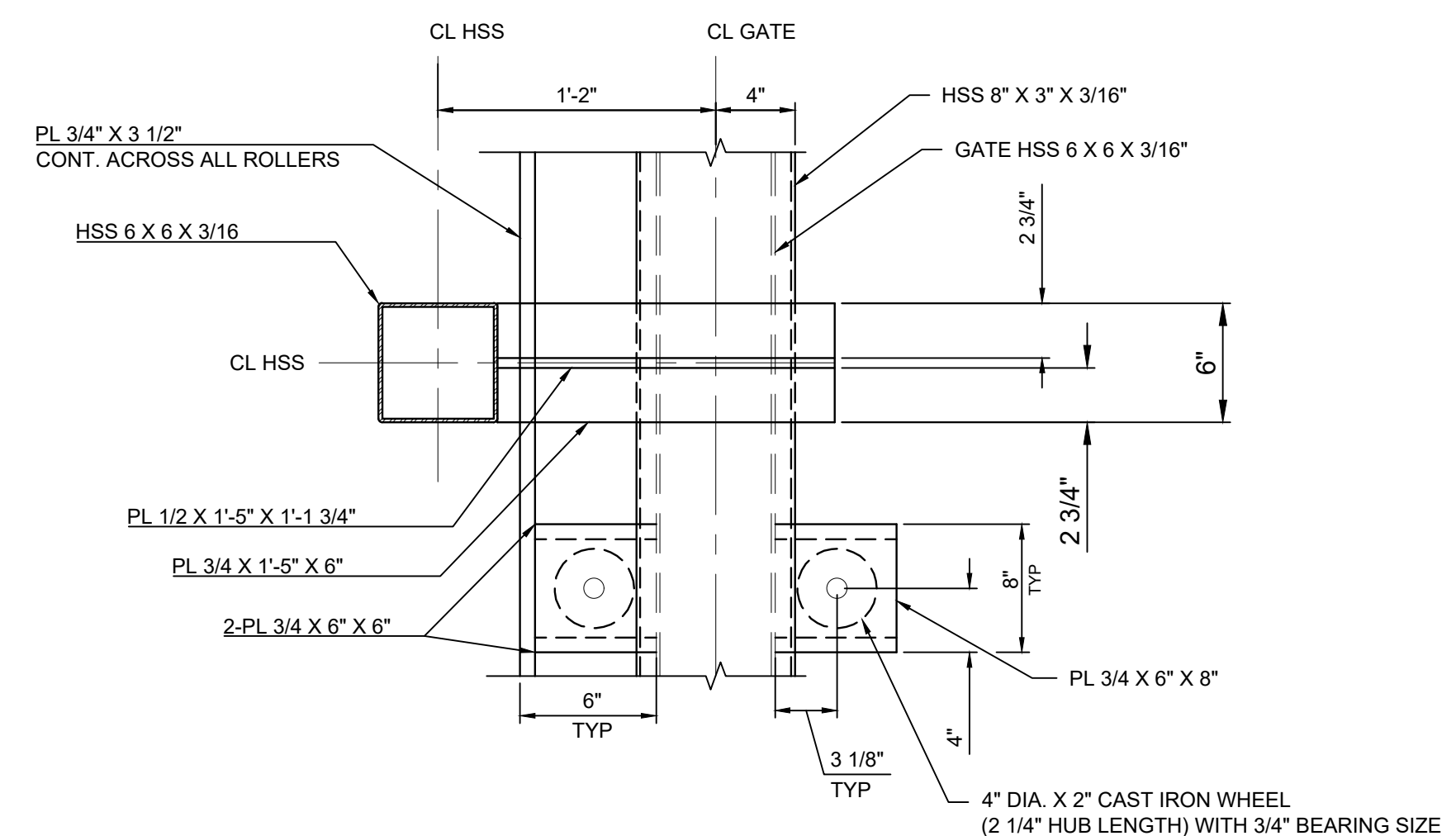
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F  
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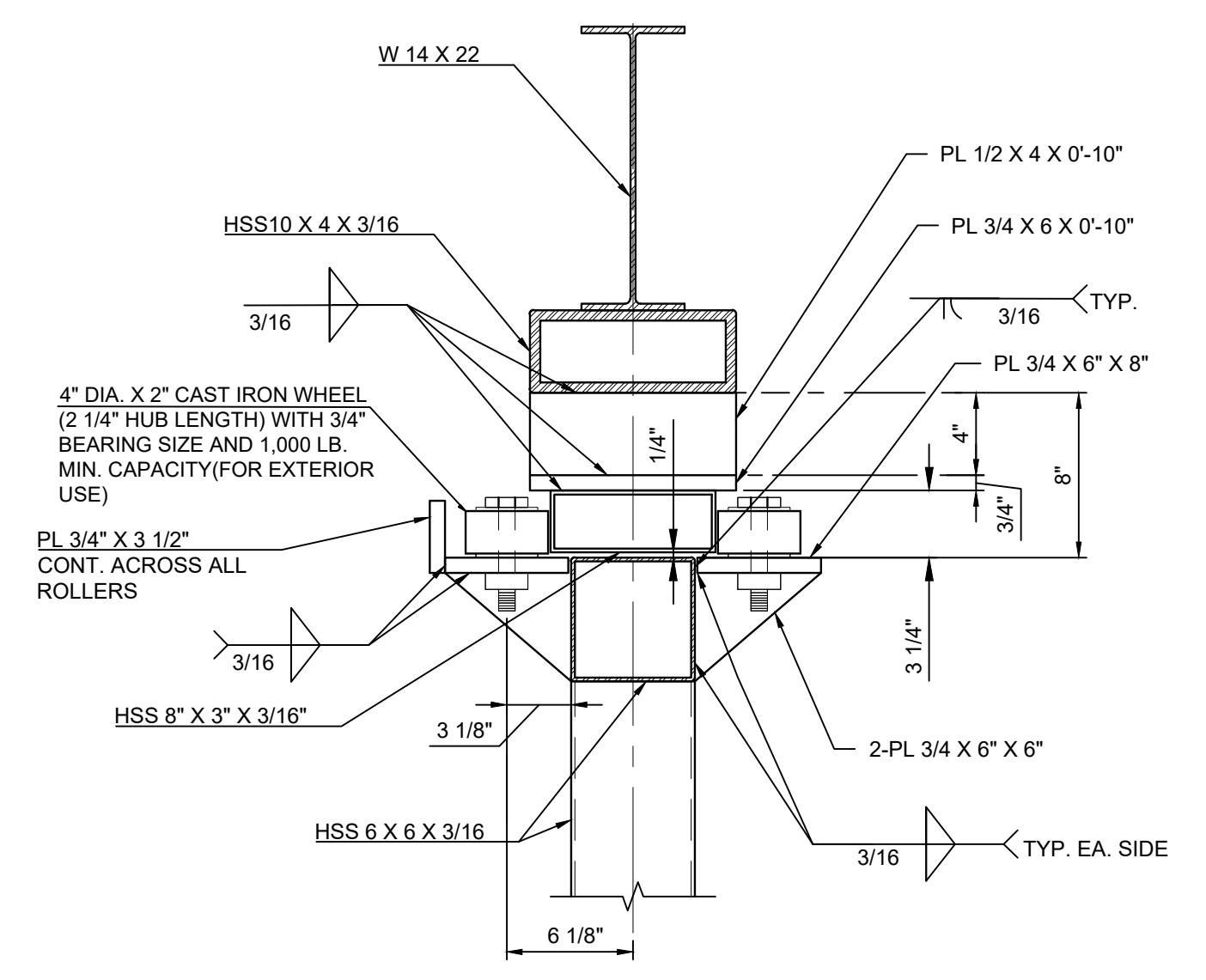
D2 SECTION  
N.T.S.



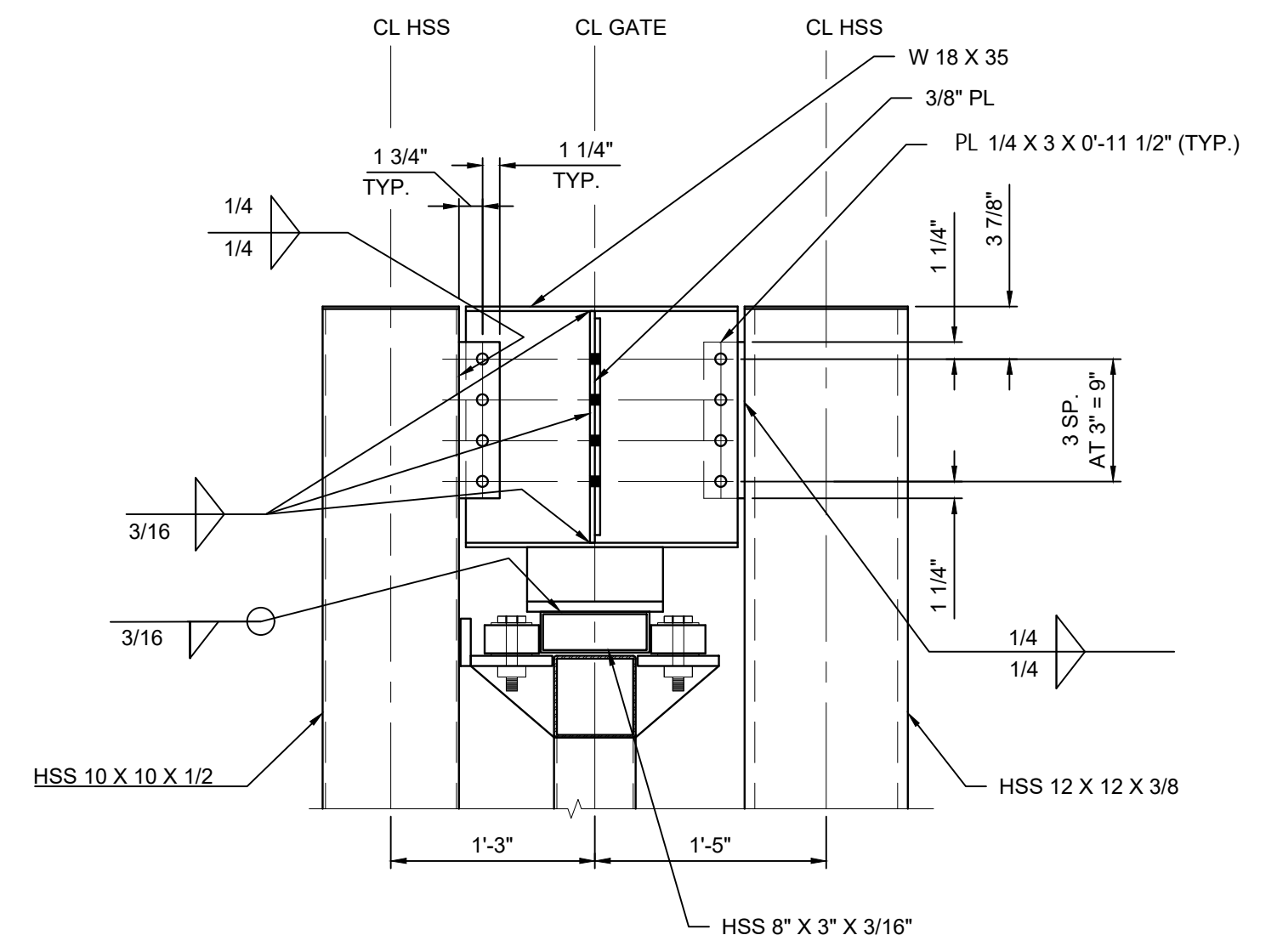
E6 SECTION  
N.T.S.



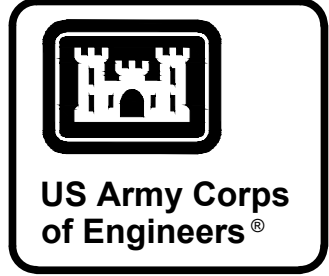
A2 PLAN  
N.T.S.



A5 SECTION  
N.T.S.



C8 SECTION  
N.T.S.



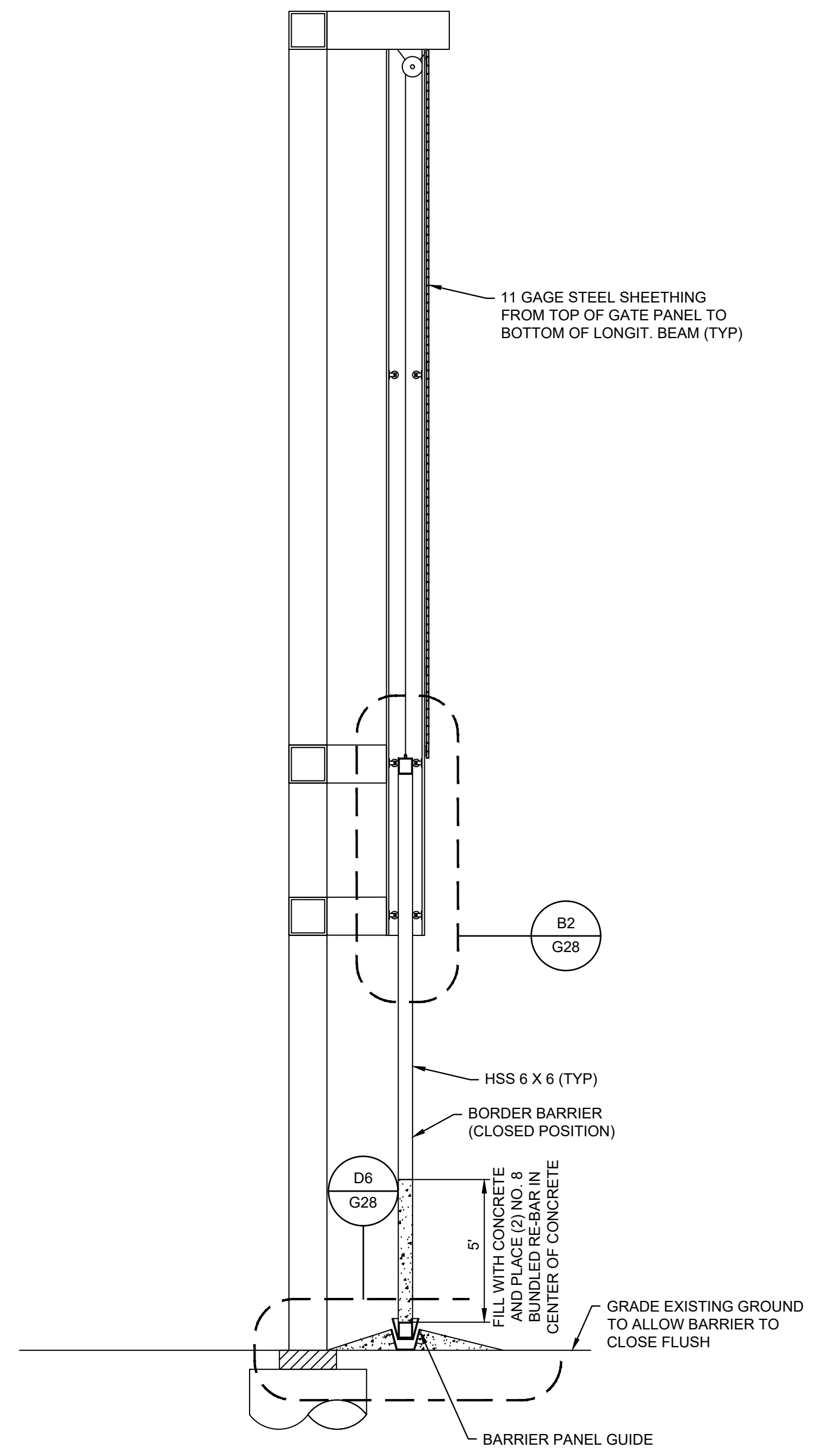
MARK	DESCRIPTION	DATE

DESIGNED BY: P. CAMPAGNOLA	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
SUBMITTED BY: C. KARAM	CONTRACT NO.:
SIZE: ANSI D	

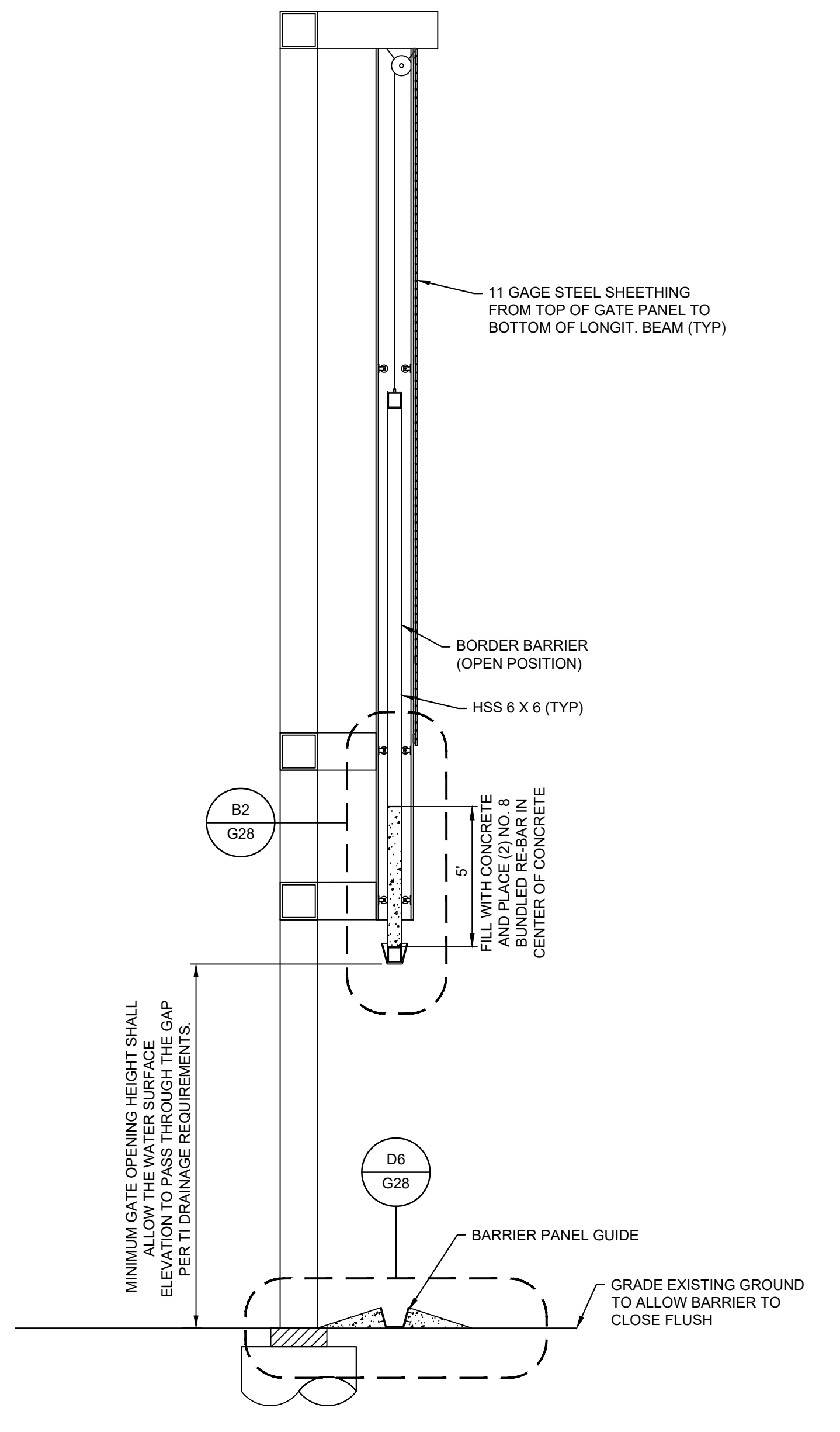
DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
BOLLARD SLIDE GATE IN BOLLARD WALL DETAILS  
SHEET 3 OF 3

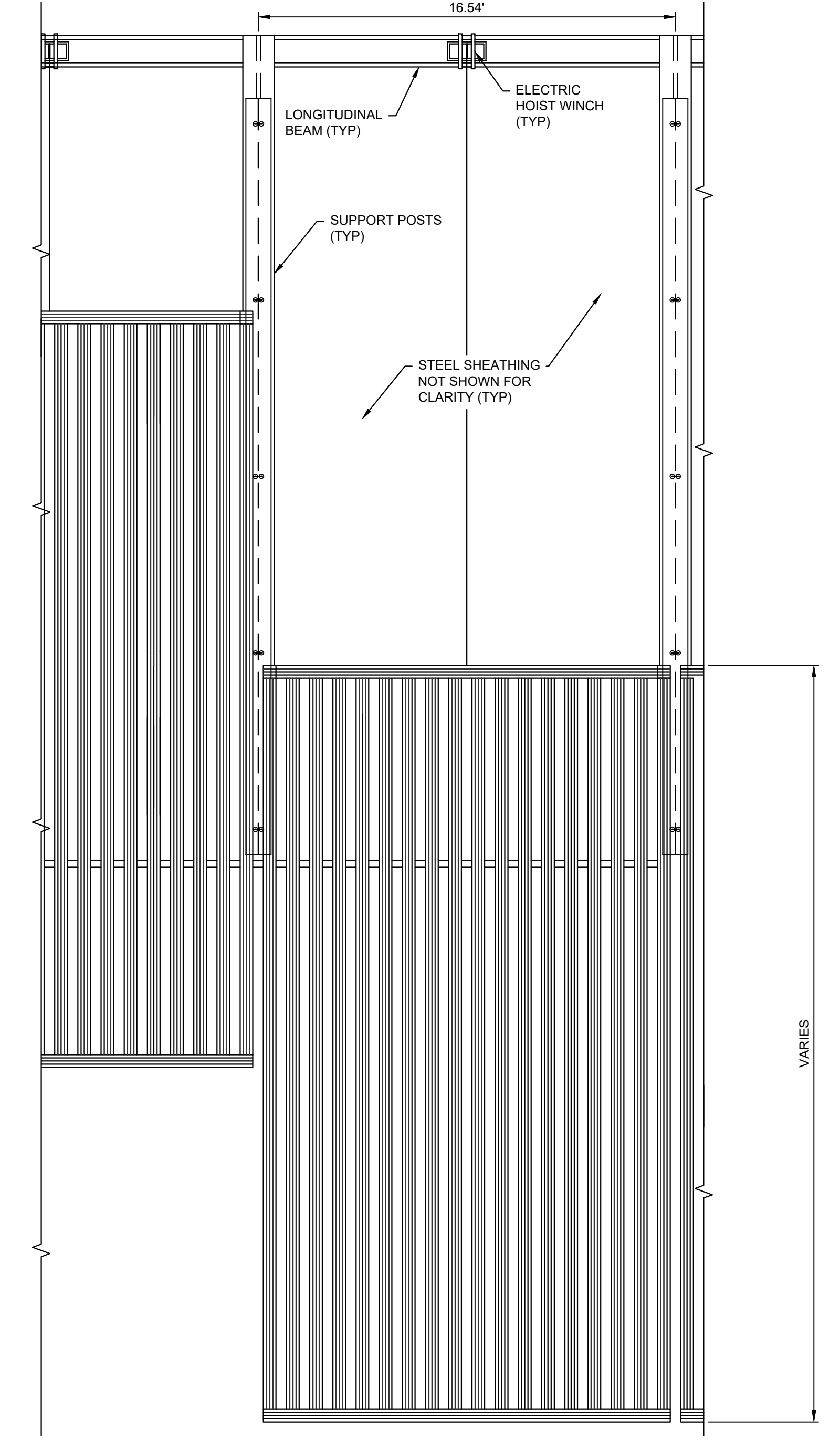
SHEET ID  
**G26**



**B1** TYPICAL BARRIER SECTION (CLOSED POSITION)  
SCALE: N.T.S.

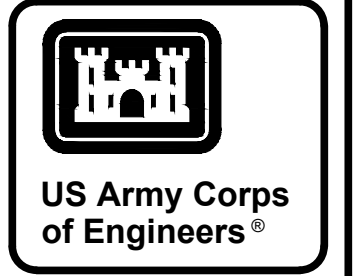


**B5** TYPICAL BARRIER SECTION (OPEN POSITION)  
SCALE: N.T.S.



**B8** TYPICAL BARRIER SECTION (CLOSED POSITION)  
SCALE: N.T.S.

- NOTES:
1. PROVIDE A MINIMUM OF ONE NEW ELECTRIC HOIST WINCH FOR EVERY BOLLARD GATE PANEL. EACH WINCH SHALL BE CAPABLE OF LIFTING A BARRIER SECTION 22' IN LESS THAN TWO MINUTES. POWER FROM NEW ELECTRICAL SERVICE SIZED TO ALLOW AT LEAST HALF OF THE WINCHES TO BE OPERATED SIMULTANEOUSLY. CONTRACTOR SHALL DETERMINE SIZE AND QUANTITY OF WINCHES NEEDED TO MEET REQUIREMENTS.
  2. MOTOR CONTROLS SHALL BE LOCATED NEAR THE GATES. MOTOR DRIVERS SHALL BE SOFT START. CONTROLS SHALL BE PROGRAMMABLE, ALLOWING WINCHES TO BE GROUPED TOGETHER AS NEEDED. WHEN UNDER MANUAL CONTROLS THE ENTIRE CONTIGUOUS SECTIONS MUST BE ABLE TO BE RAISED OR LOWERED COMPLETELY IN LESS THAN FIVE MINUTES. CONTROLS SHALL INTERLOCK WINCHES TO ENSURE THAT THE ELECTRICAL DEMAND WILL NOT EXCEED THE SIZE OF THE ELECTRICAL SERVICE. CONTRACTOR IS TO COORDINATE INITIAL CONTROLS PROGRAMMING WITH THE USER, AND PROVIDE A MINIMUM OF TWO YEARS OF SUPPORT FOR PROGRAM CHANGES AND UPDATED.



MARK	DESCRIPTION	DATE

DESIGNED BY: LIV	ISSUE DATE: AUGUST 2020
DRAWN BY: JPK	SOLICITATION NO.:
CHECKED BY: CK	CONTRACT NO.:
SUBMITTED BY: PC	
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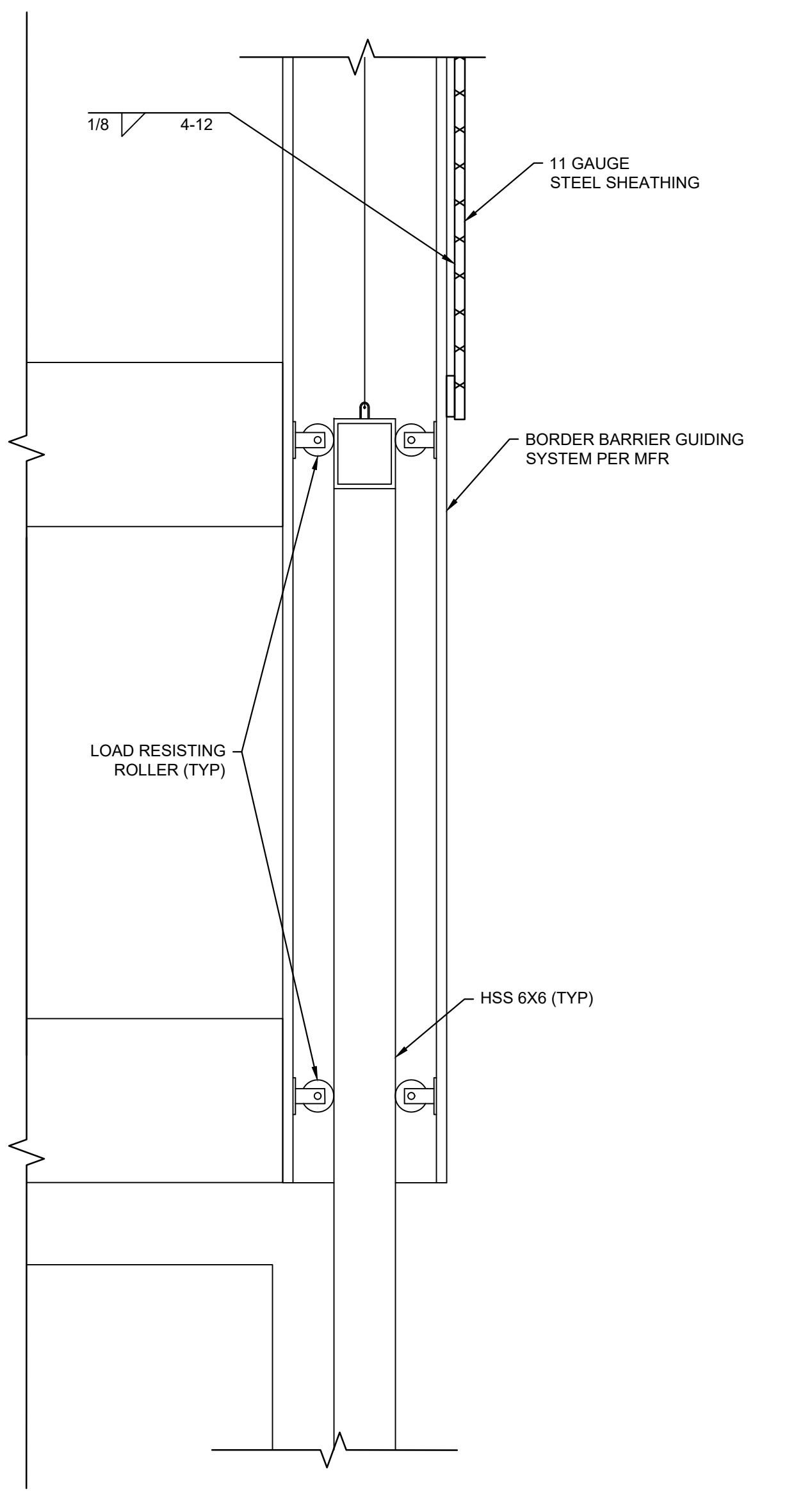
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CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
DRAINAGE VERTICAL LIFT GATE DETAILS  
SHEET 1 OF 2

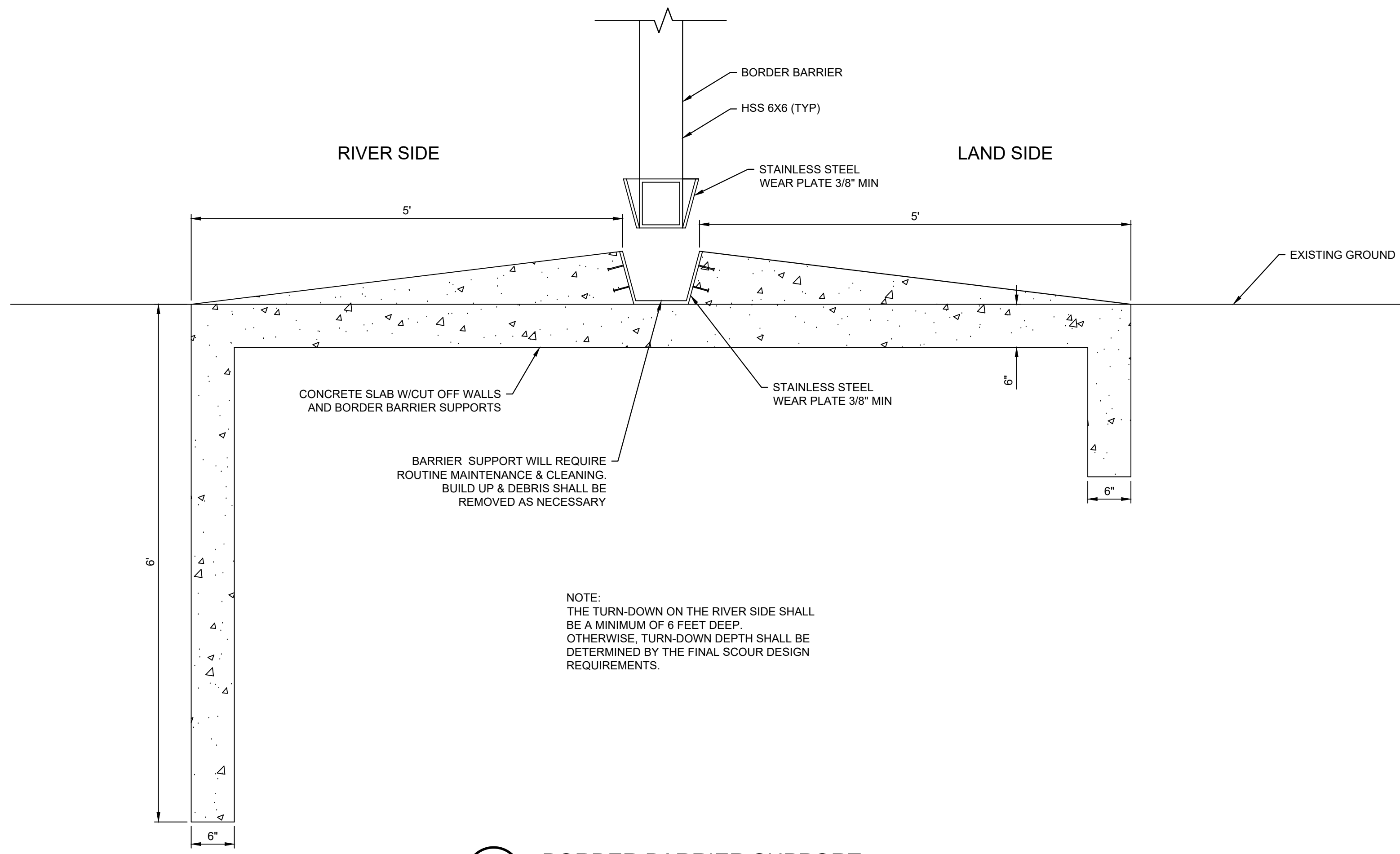
SHEET ID  
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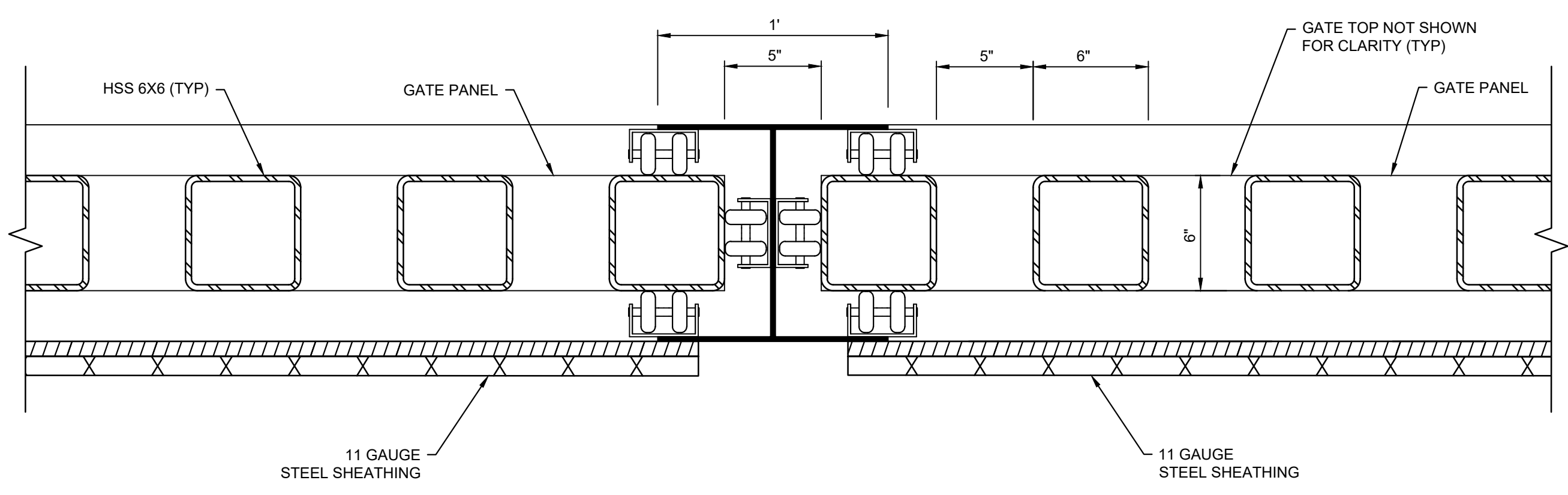
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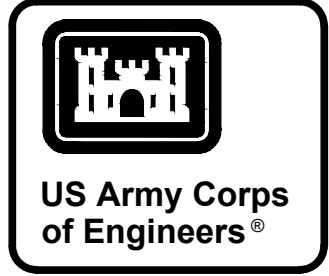
**B2** BORDER BARRIER GUIDING SYSTEM  
SCALE: N.T.S.



**D6** BORDER BARRIER SUPPORT  
SCALE: N.T.S.



**A6** WIND LOAD RESISTING ROLLER DETAIL  
SCALE: N.T.S.



MARK	DESCRIPTION	DATE

DESIGNED BY: LIV	ISSUE DATE: AUGUST 2020
DRAWN BY: LIV	SOLICITATION NO.:
CHECKED BY: CK	CONTRACT NO.:
SUBMITTED BY: PC	
SIZE: ANSI D	

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UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
DRAINAGE VERTICAL LIFT GATE DETAILS  
SHEET 2 OF 2

SHEET ID  
**G28**

## APPENDIX C

## ELECTRICAL STANDARD DETAILS

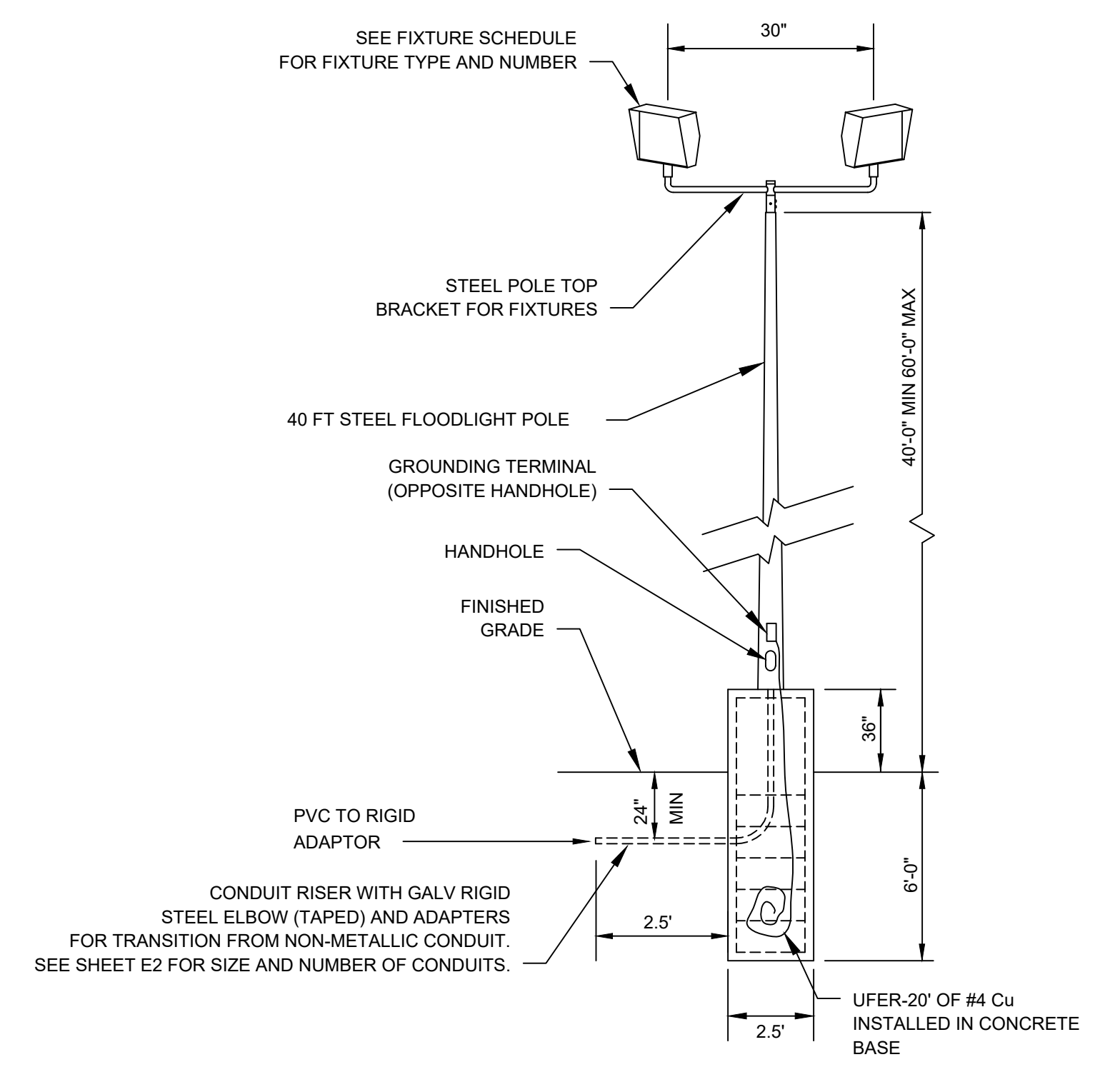
**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

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# **TACTICAL INFRASTRUCTURE (TI) ELECTRICAL STANDARD DETAILS**

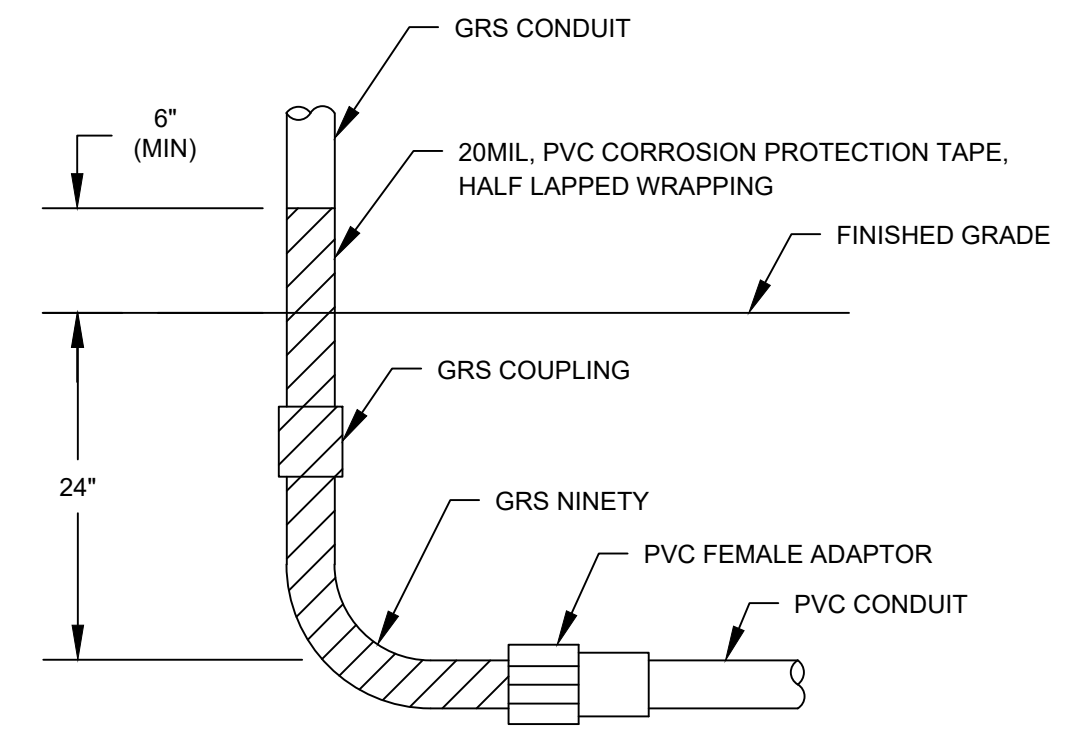
**AUGUST 2020, VERSION V.5**

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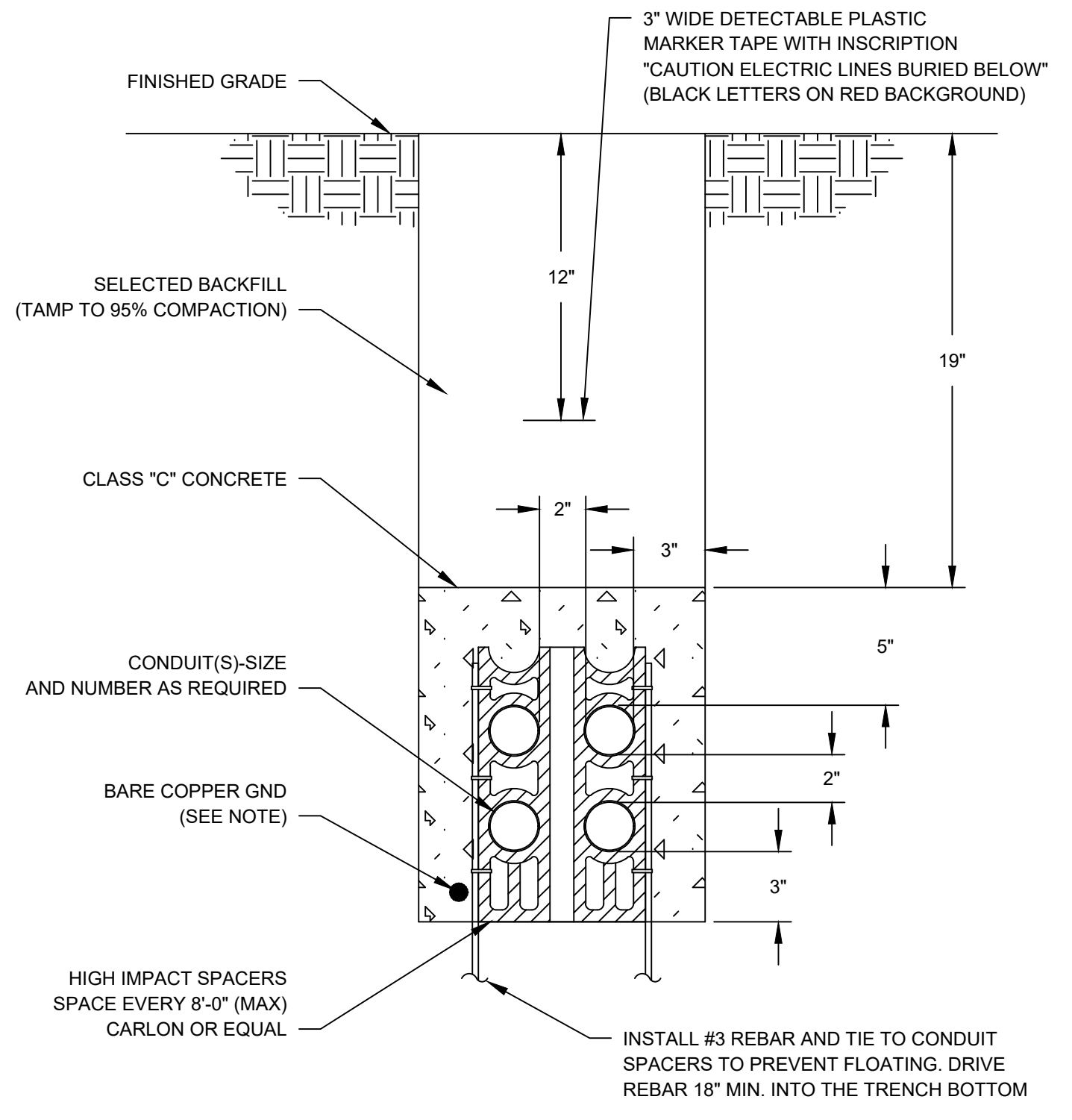
**D2** FLOODLIGHT MOUNTING DETAIL  
N.T.S.

NOTE:  
ALL DIMENSIONS ARE APPROXIMATE. MANUFACTURER SHALL SUBMIT STRUCTURAL DRAWINGS AND CALCULATIONS BY A REGISTERED STRUCTURAL ENGINEER OF POLE BASES FOR APPROVAL.



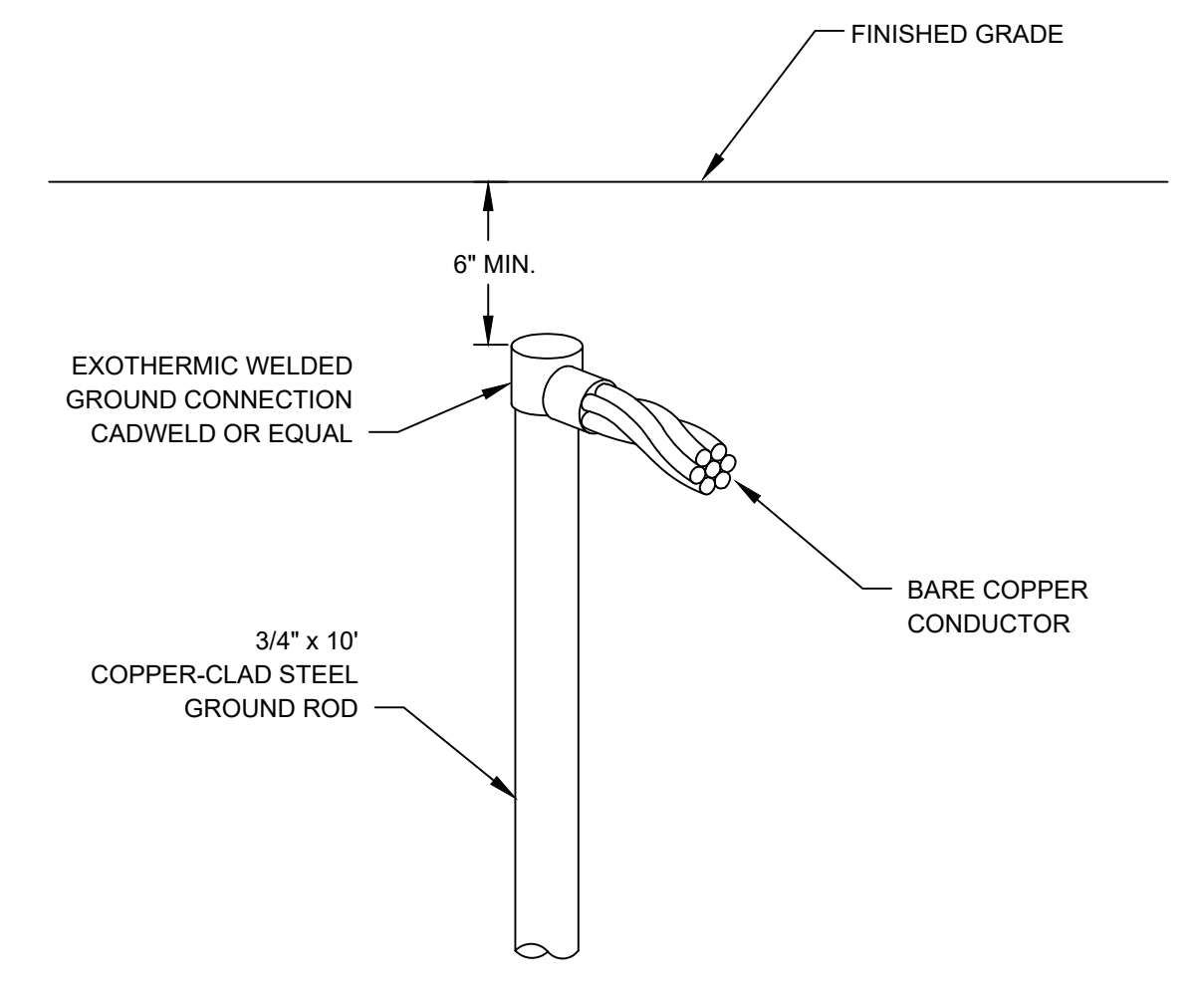
**E5** GRS STUB UP DETAIL  
N.T.S.

NOTE: WHERE CONDUITS ARE RUN IN SLAB, THE 24" DIMENSION DOES NOT APPLY.

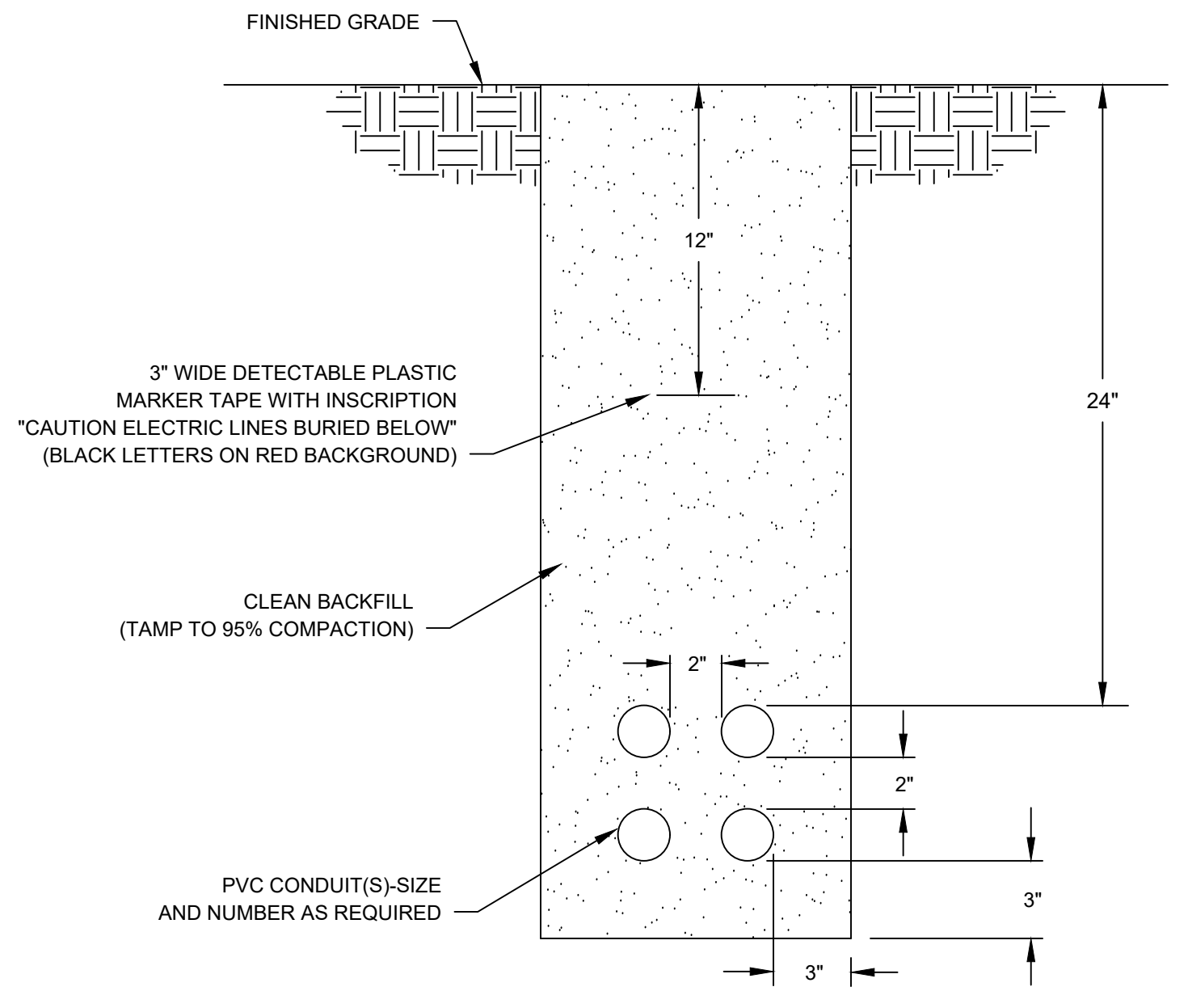


**A5** CONCRETE ENCASED CONDUIT  
N.T.S.

NOTE: GROUND CONDUCTOR SHALL RUN CONTINUOUSLY THROUGH MANHOLES AND SHALL CONTINUE FROM DUCT BANK INTO SWITCHGEAR OR BUILDING GROUNDING SYSTEM AND SHALL BE BONDED TO EACH RIGID METAL CONDUIT. SIZE TO BE #2 UNLESS OTHERWISE INDICATED ON PLANS. FOLLOW MAG 601.2.10 FOR OPEN TRENCH REQUIREMENTS.

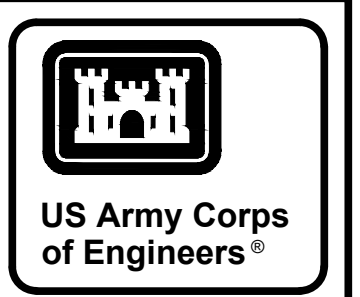


**E8** CABLE TO GROUND ROD CONNECTION  
N.T.S.



**B8** DIRECT BURIED CONDUIT  
N.T.S.

ALL DIMENSIONS ARE MINIMUM



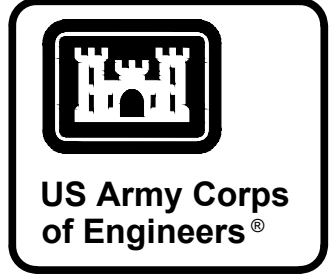
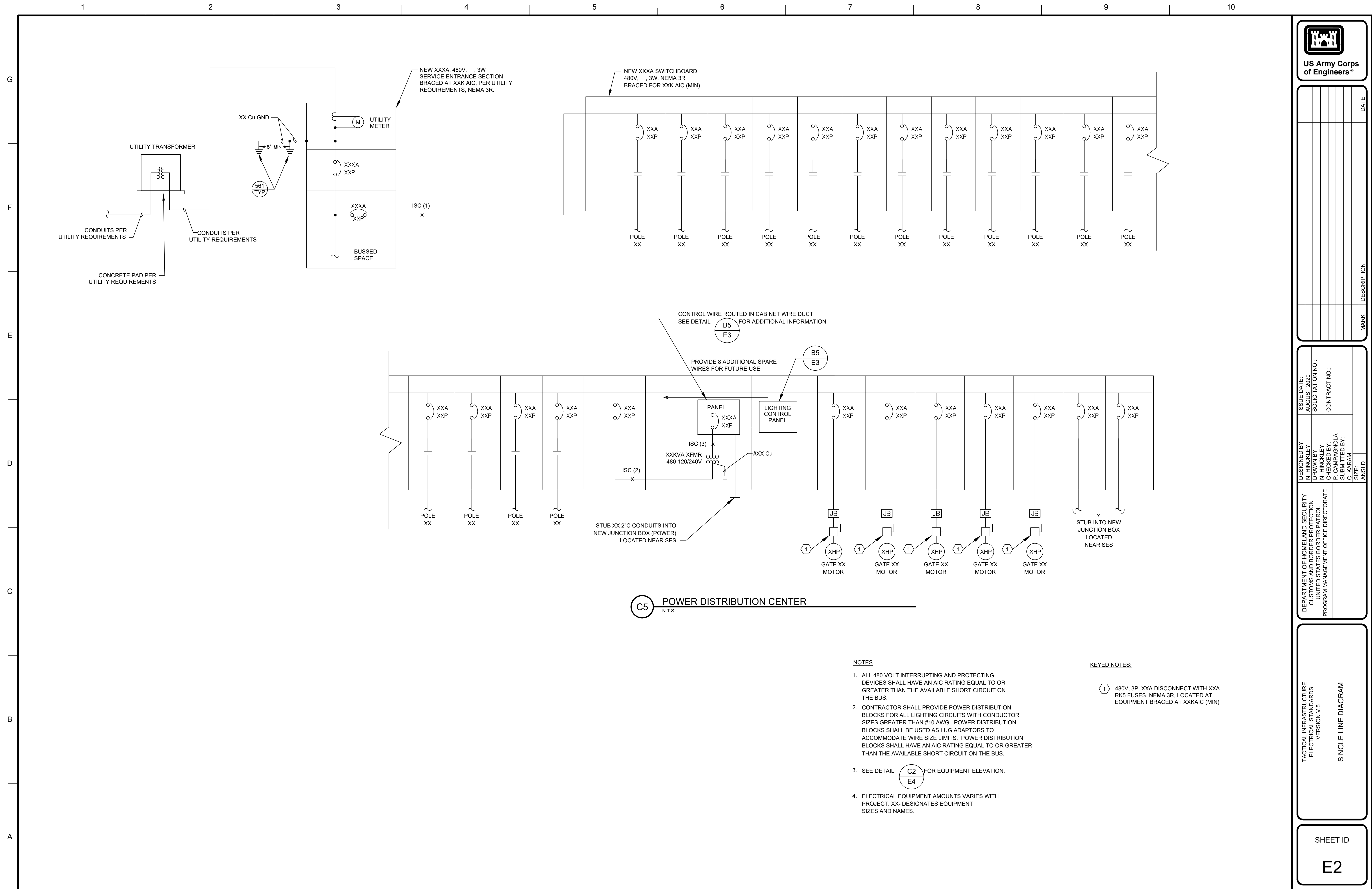
DATE	DESCRIPTION	MARK

DESIGNED BY: N. HINKLEY	ISSUE DATE: AUGUST 2020	SUBMITTED BY: C. KARAM
CHECKED BY: P. CAMPAGNOLA	CONTRACT NO.:	
APPROVED BY: N. HINKLEY	SOLICITATION NO.:	

TACTICAL INFRASTRUCTURE ELECTRICAL STANDARDS VERSION V.5  
LIGHTING & ELECTRICAL DETAILS

SHEET ID  
**E1**





DATE	DESCRIPTION	MARK

DESIGNED BY: N. HINKLEY	ISSUE DATE: AUGUST 2020
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CONTRACT NO.:	

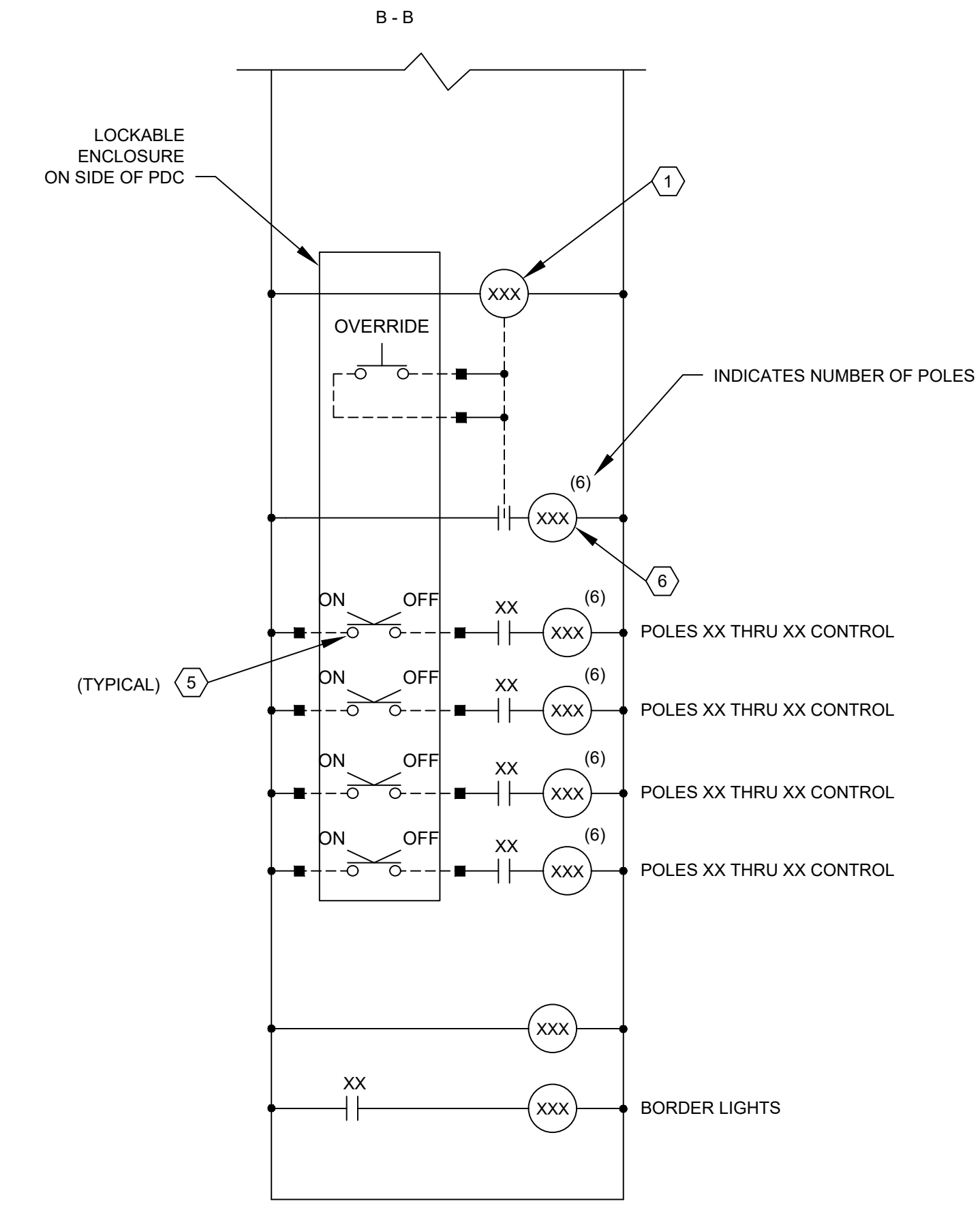
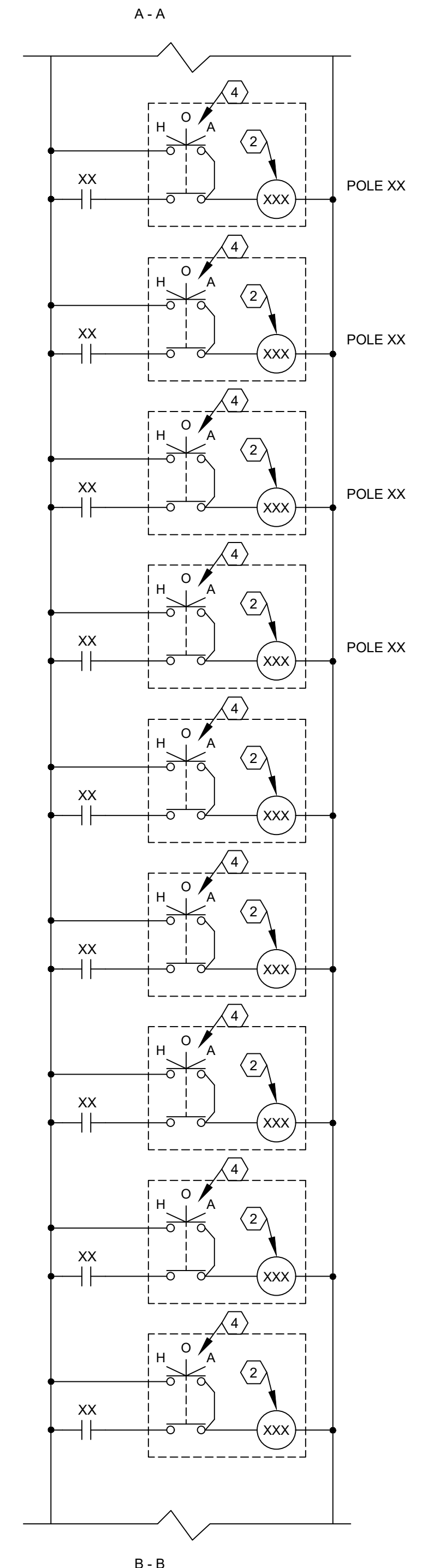
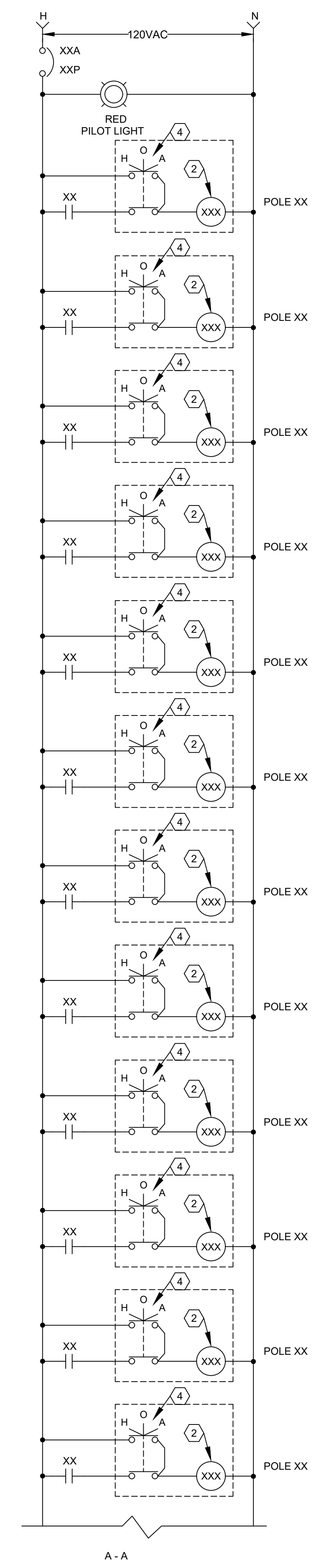
TACTICAL INFRASTRUCTURE ELECTRICAL STANDARDS VERSION V.5

SINGLE LINE DIAGRAM

SHEET ID

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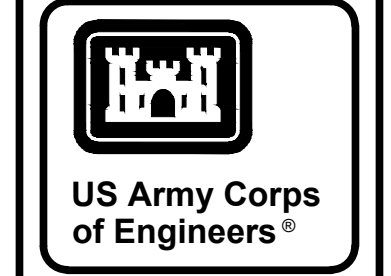
**B5** LIGHTING CONTROLS  
N.T.S.

**KEYED NOTES**

- ① LIGHTING TO BE CONTROLLED BY PHOTOCELL.
- ② LIGHTING CONTACTOR: ELECTRICALLY HELD, OPEN TYPE NUMBER OF POLES AS INDICATED (120V, 2-WIRE CONTROL), AT 480 VAC MINIMUM. INSTALL IN LIGHTING CONTROL CENTER OR AS NOTED.
- ③ MOUNT AS-BUILT OF CONTROL WIRING ON PANEL INSIDE FRONT COVER
- ④ EACH LIGHTING CONTACTOR SHALL HAVE INDIVIDUAL "H-O-A" SWITCH MOUNTED IN SWB-1 WITH ENGRAVED PLASTIC MARKER NOTING CONTACTOR DESIGNATION.
- ⑤ SPST, HEAVY DUTY TOGGLE SWITCH (120 VAC) IN SEPARATE WEATHERPROOF, NEMA 3R ENCLOSURE MOUNTED ON SIDE OF NEW SES ENCLOSURE.
- ⑥ CONTROL RELAY, MULTI-POLE AS INDICATED WITH 16 AMP SQUARE-D CLASS 8501, TYPE PH CONTACTS, 120VAC COIL CONTACTS.

**NOTES**

- 1. PANEL SHALL BE FABRICATED BY A LISTED INDUSTRIAL CONTROL PANEL MANUFACTURER IN ACCORDANCE WITH UL 508A REQUIREMENTS.
- 2. ELECTRICAL EQUIPMENT AMOUNTS VARIES WITH PROJECT. XX- DESIGNATES EQUIPMENT SIZES AND NAMES.

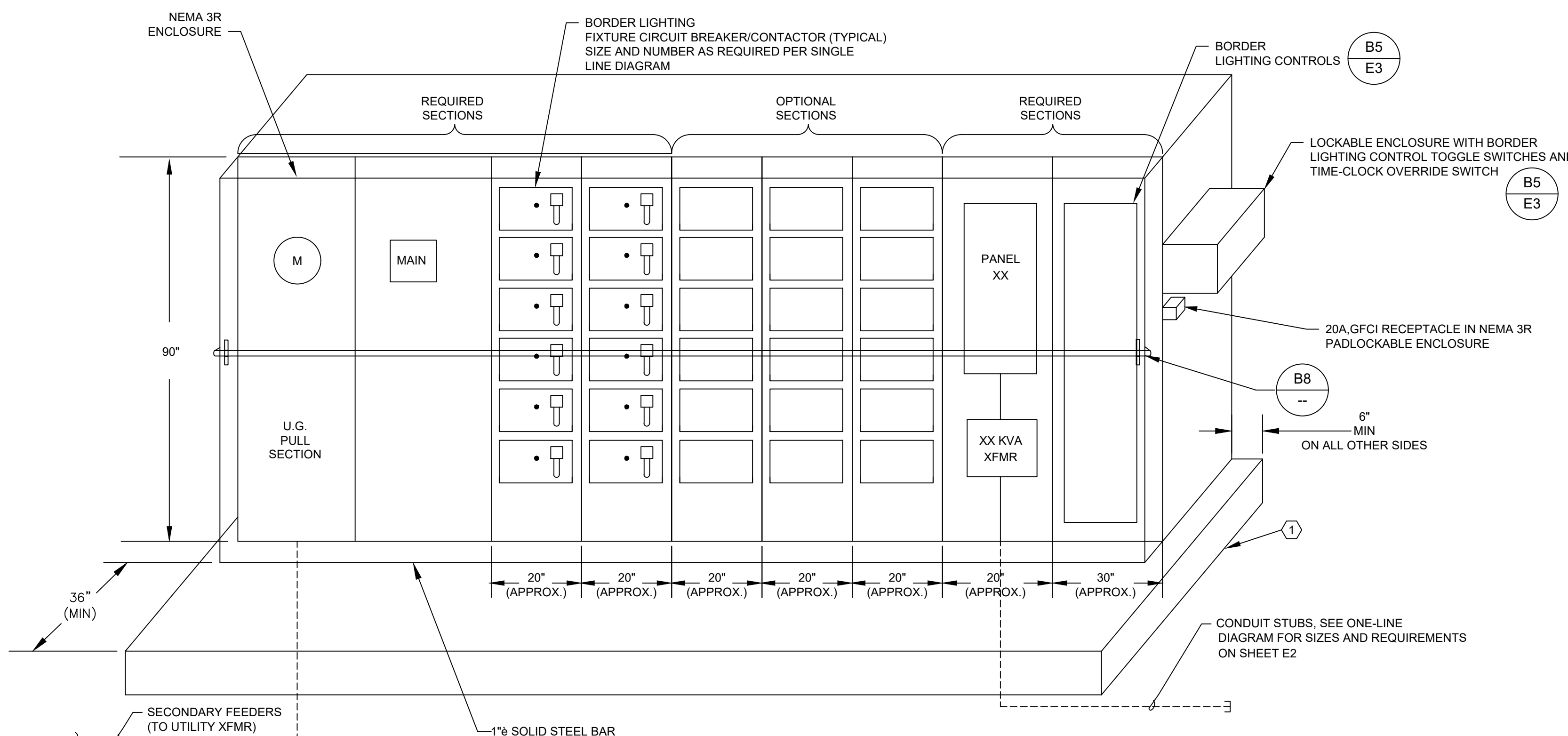


MARK	DESCRIPTION	DATE

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CHECKED BY: P. CAMPAGNOLA	SUBMISSION NO.:
APPROVED BY: C. KARAM	CONTRACT NO.:
PROGRAM MANAGEMENT OFFICE DIRECTORATE UNITED STATES BORDER PATROL CUSTOMS AND BORDER PROTECTION DEPARTMENT OF HOMELAND SECURITY	

TACTICAL INFRASTRUCTURE  
ELECTRICAL STANDARDS  
VERSION V.5  
**LIGHTING CONTROL DIAGRAM**

SHEET ID  
**E3**



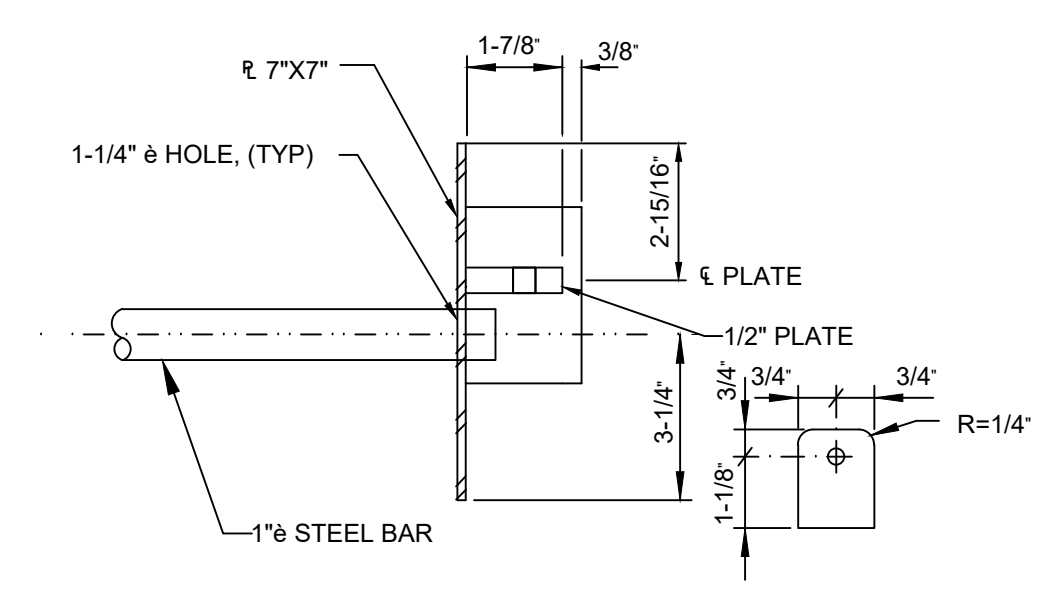
**C2** TYPICAL POWER DISTRIBUTION AND LIGHTING CONTROL CENTER-FRONT ELEVATION  
N.T.S.

**NOTES**

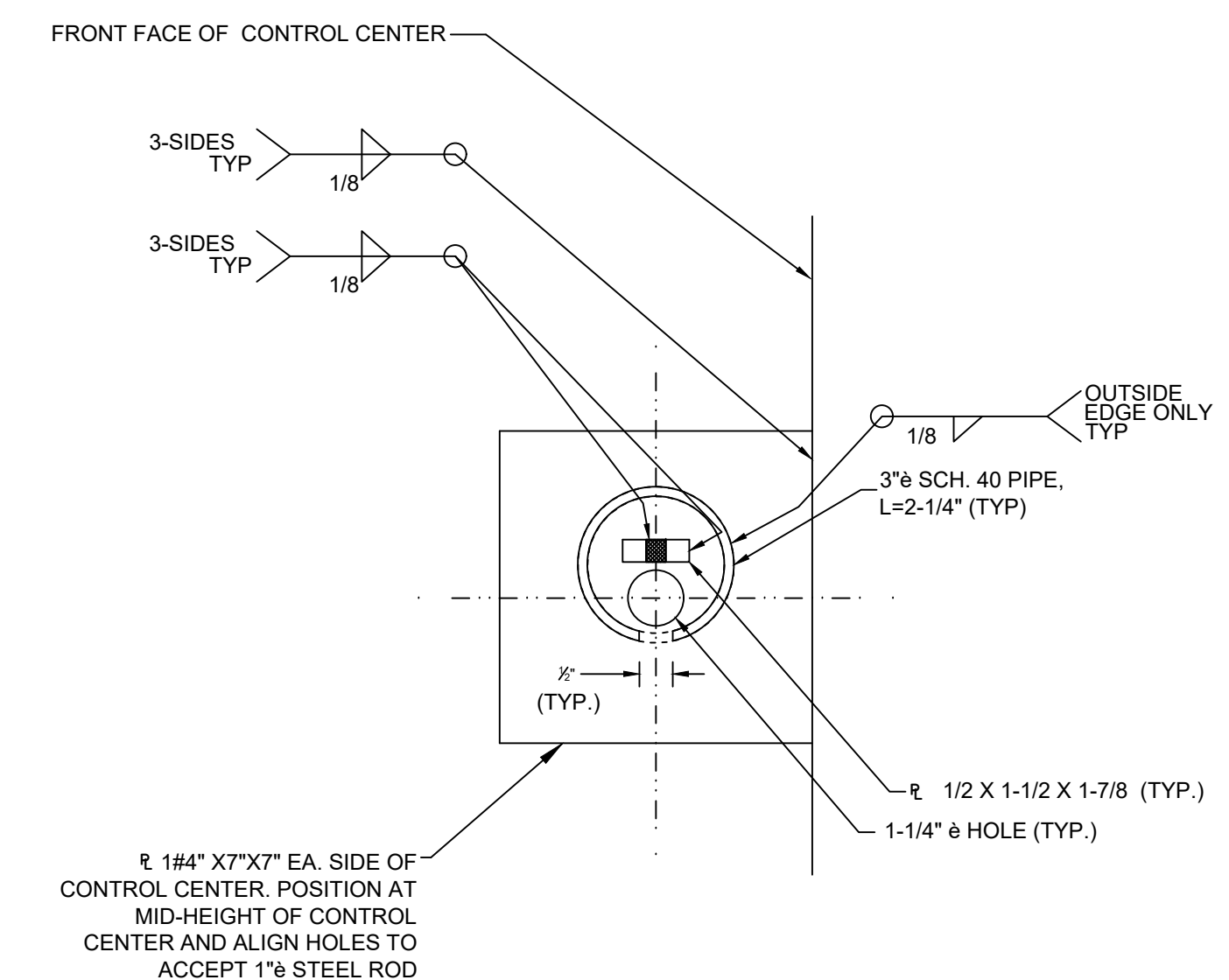
- EQUIPMENT DIMENSIONS BASED ON SIEMENS EQUIPMENT. SIZE MAY VARY DEPENDING ON MANUFACTURER.
- ELECTRICAL EQUIPMENT AMOUNTS VARIES WITH PROJECT. XX- DESIGNATES EQUIPMENT SIZES AND NAMES.

**KEYED NOTES**

- 6" THICK CONCRETE PAD. INSTALL #4 REBAR AT 12" ON CENTER IN BOTH DIRECTIONS. 2" FROM BOTTOM. FIELD VERIFY ALL DIMENSIONS WITH FURNISHED EQUIPMENT & UTILITY COMPANY PRIOR TO POURING PAD.



**PUCK LOCK SECTION**

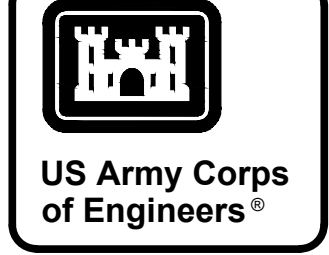


**PUCK LOCK ELEVATION**

**B8** PUCK LOCK DETAIL  
N.T.S.

**NOTES**

- ONE PUCK LOCK ASSEMBLY REQUIRED ON EACH END OF CONTROL CENTER.
- PROVIDE ONE PUCK LOCK AT EACH ASSEMBLY LOCATION AND COORDINATE KEYING OF LOCKS WITH COR.



MARK	DESCRIPTION	DATE

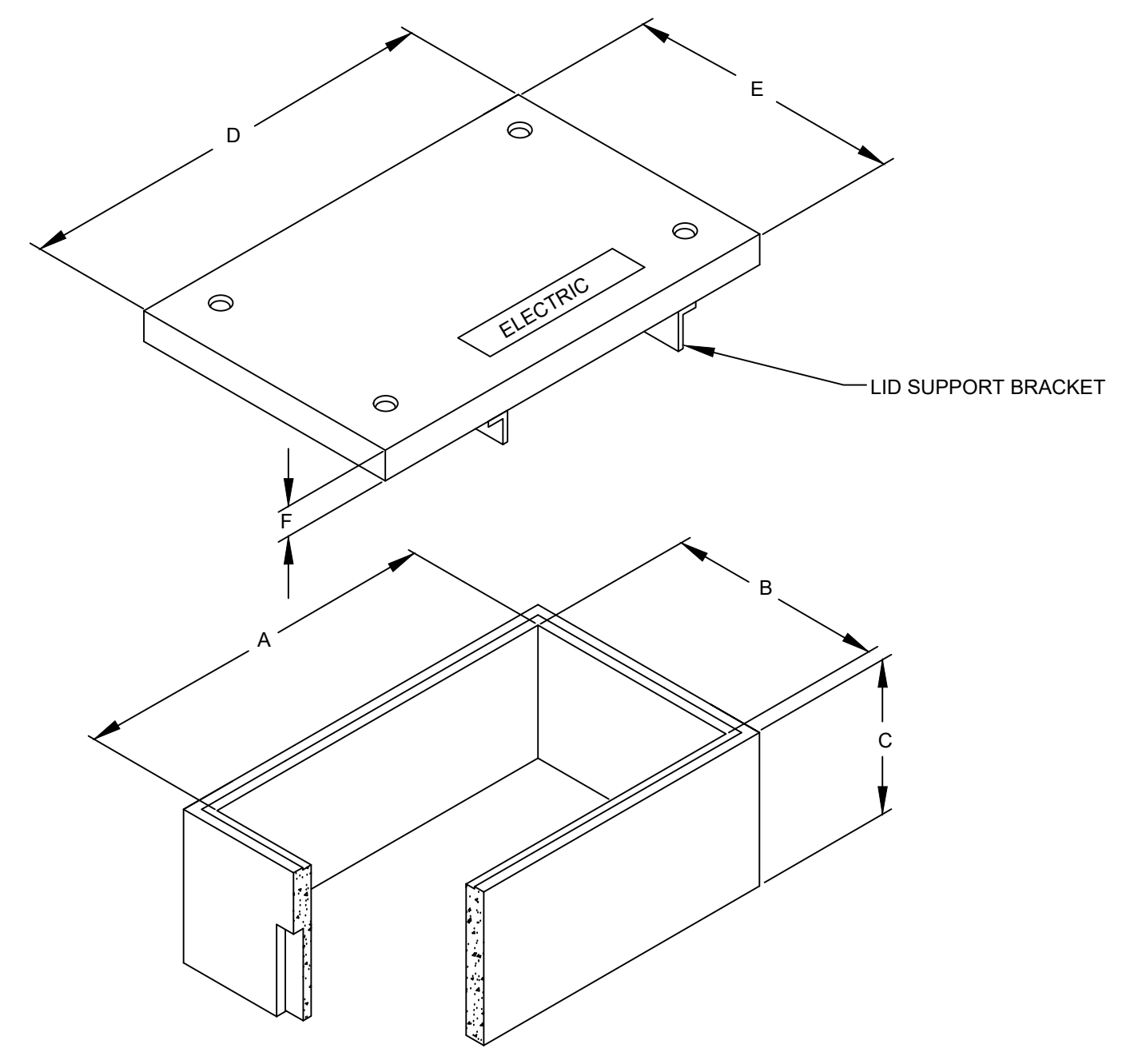
DESIGNED BY: N. HINKLEY	ISSUE DATE: AUGUST 2020
CHECKED BY: P. CAMPAGNOLA	SOLICITATION NO.:
SUBMITTED BY: C. KARAM	CONTRACT NO.:
SIZE: ANSI D	

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CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE ELECTRICAL STANDARDS  
VERSION V.5

**TYPICAL POWER DISTRIBUTION & LIGHT CONTROL CENTER**

SHEET ID  
**E4**

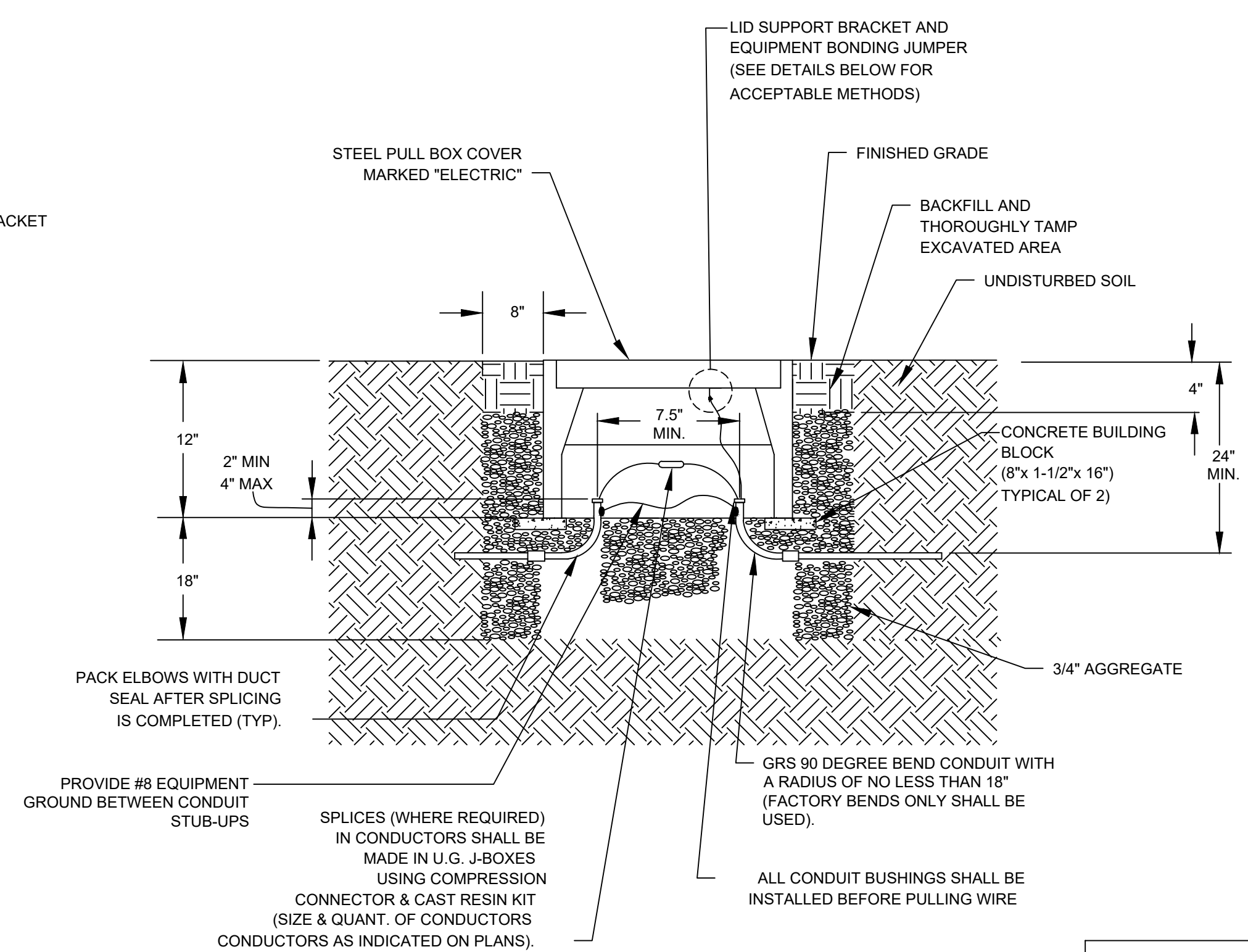


PULL BOX TYPE	PULL BOX LENGTH	PULL BOX WIDTH	PULL BOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	A	B	C	D	E	F
#3 1/2	17-1/4"	10-1/2"	12"	15-1/2"	10-1/8"	1-3/4"
#5	22"	12"	12"	21-3/4"	11-3/4"	2"
#7	30"	17"	12"	30-5/8"	17-5/8"	2"
#9	36"	36"	36"	24"	24"	6"

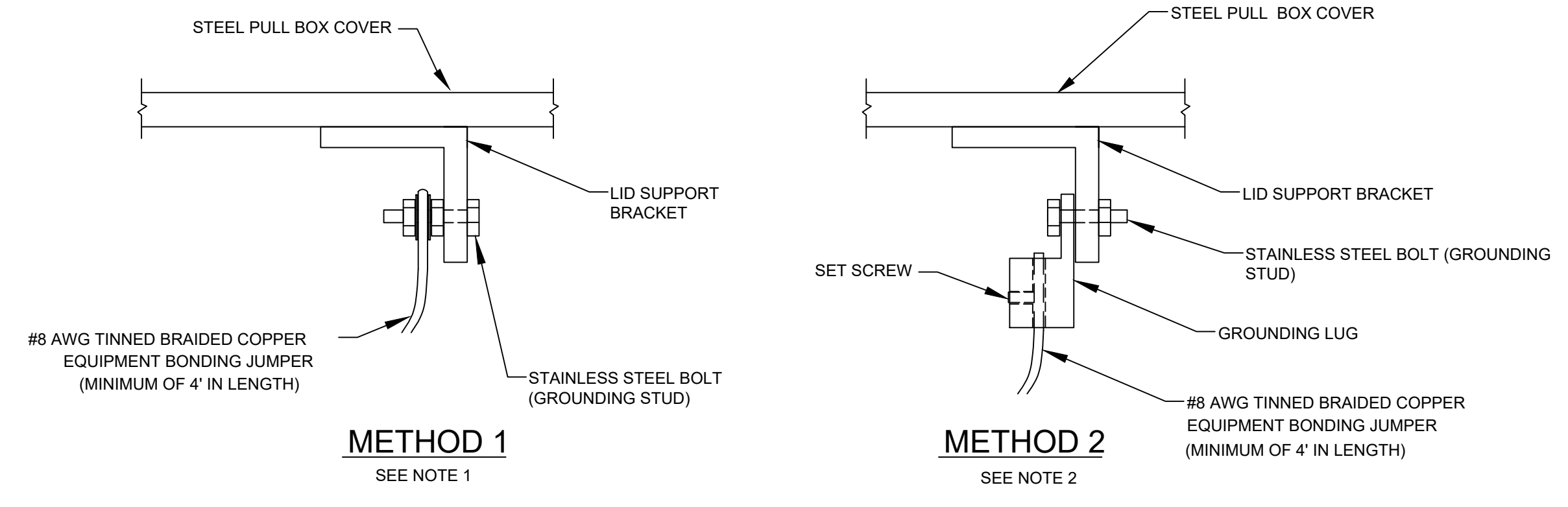
\*THIS SIZING CHART TO BE USED FOR A GUIDELINE ONLY. CONTRACTOR IS RESPONSIBLE FOR SIZING JUNCTION BOXES PER NOTE 2 BELOW.

**PULL BOX NOTES**

- ENCLOSURE SHALL BE LISTED FOR UNDERGROUND SYSTEMS. ENCLOSURE SHALL BE SIZED TO ALLOW PERSONNEL TO REACH INTO, BUT NOT ENTER, FOR THE PURPOSE OF INSTALLING, OPERATING OR MAINTAINING EQUIPMENT OR WIRING OR BOTH.
- PULL BOX ENCLOSURE SHALL BE SIZED PER N.E.C. ARTICLE 314.28(A) (2005 NEC).  
UNDERGROUND RACEWAY AND/OR CABLE ENTERING THE PULL BOX ENCLOSURE SHALL EXTEND INTO THE ENCLOSURE WITHOUT BEING MECHANICALLY CONNECTED TO ENCLOSURE.
- PULL BOX ENCLOSURE COVER SHALL HAVE AN IDENTIFYING MARK OR LOGO THAT PROMINENTLY IDENTIFIES THEIR FUNCTION. SUCH AS "ELECTRIC" COVERS SHALL BE VANDAL PROOF AND REQUIRE THE USE OF TOOLS TO OPEN AND THEY SHALL WEIGH OVER 100lbs. METAL COVERS AND OTHER EXPOSED CONDUCTIVE SURFACES SHALL BE BONDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.96(A) (2005 NEC).
- PULL BOX ENCLOSURES SHALL BE DESIGNED TO WITHSTAND THE LOAD LIKELY TO BE IMPOSED WITH MINIMUM LOAD RATINGS AS FOLLOWS:
  - FOR DELIBERATE VEHICULAR TRAFFIC - AASHTO H-20
  - FOR DRIVEWAY, PARKING LOT AND OFF-ROAD APPLICATIONS SUBJECT TO OCCASIONAL NON-DELIBERATE VEHICULAR TRAFFIC - ANSISCTE 77 TIER 15 (UL TIER 10)
- PULL BOX ENCLOSURES SHALL BE SUPPORTED ON SUITABLE MATERIAL.
- PULL BOXES SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
- CONDUIT BENDS SHALL BE GRS 90 DEGREE BEND CONDUIT WITH A RADIUS OF NO LESS THAN 18" (FACTORY BENDS ONLY SHALL BE USED).
- CONDUIT BUSHINGS SHALL BE INSTALLED BEFORE PULLING WIRE.
- 3/4" AGGREGATE SUMP SHALL BE INSTALLED.

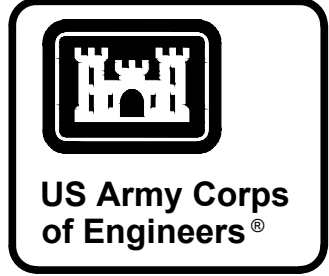


**D5 UNGROUND CONCRETE JUNCTION/PULL BOX DETAIL**  
N.T.S. PROVIDE CU BOND FOR ENCLOSURE LID



**NOTES**

- INSTALL A 1/4"-20 NC x 3/4" STAINLESS STEEL GROUNDING STUD TO THE LID SUPPORT MEMBER(S) ON THE BOTTOM OF LID BY DRILLING A HOLE THROUGH THE "L", "C", OR "T"-SHAPED SUPPORT MEMBER. SECURE GROUNDING STUD AND BONDING JUMPER WITH TWO (2) STAINLESS STEEL NUTS AND FLAT WASHERS.
- SECURE GROUNDING LUG TO THE LID SUPPORT MEMBERS ON THE BOTTOM OF LID BY DRILLING A HOLE THROUGH THE "L", "C", OR "T"-SHAPED SUPPORT MEMBER AND INSTALLING A 1/4"-20 NC x 3/4" STAINLESS STEEL GROUND STUD. INSERT BONDING JUMPER INTO GROUNDING LUG AND SECURE WITH SET SCREW.



MARK	DESCRIPTION	DATE

DESIGNED BY: N. HINKLEY	ISSUE DATE: AUGUST 2020
DRAWN BY: N. HINKLEY	SOLICITATION NO.:
CHECKED BY: P. CAMPAGNOLA	CONTRACT NO.:
SUBMITTED BY: C. KARAM	
SIZE: ANSI D	

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CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
ELECTRICAL STANDARDS  
VERSION V.5

JUNCTION BOX DETAIL

SHEET ID  
**E5**

## **APPENDIX D MISCELLANEOUS STANDARD DETAILS**

**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

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# **MISCELLANEOUS STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**

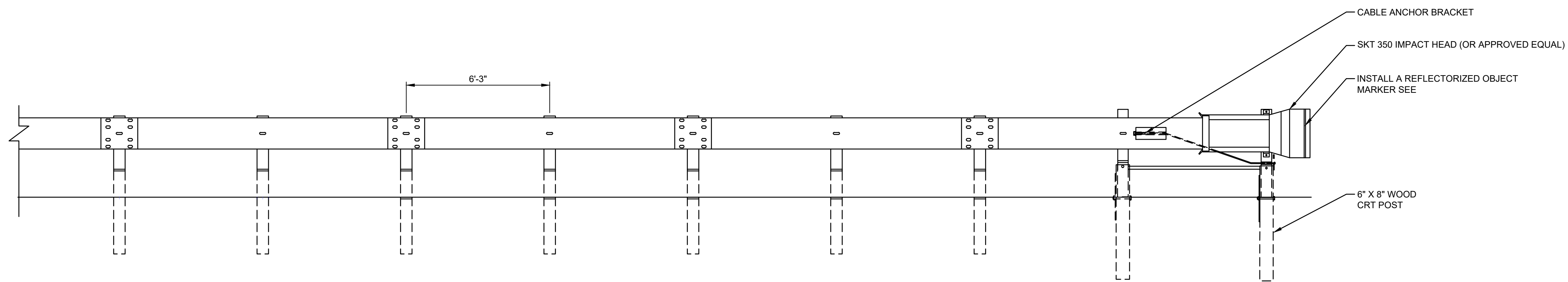




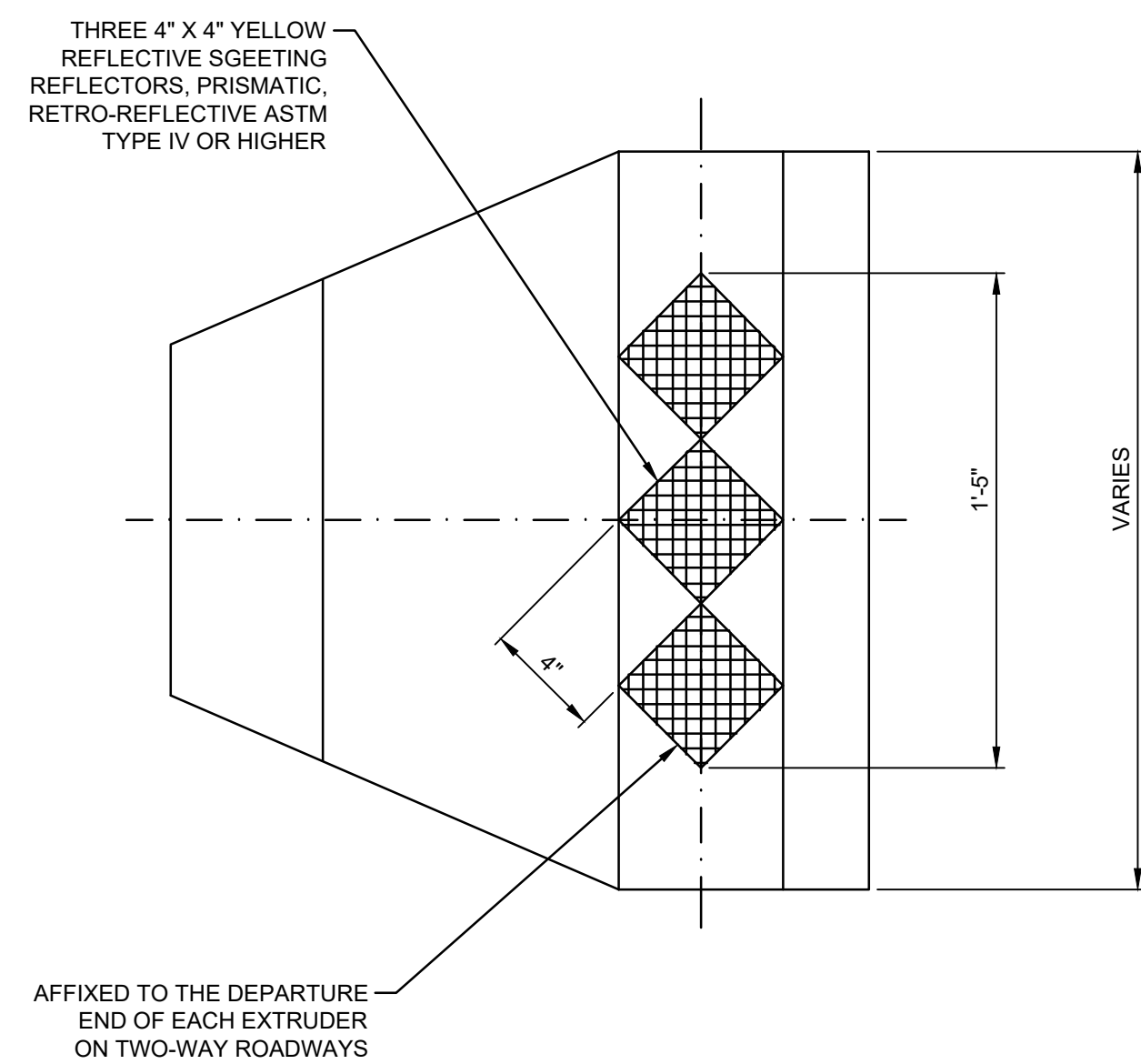


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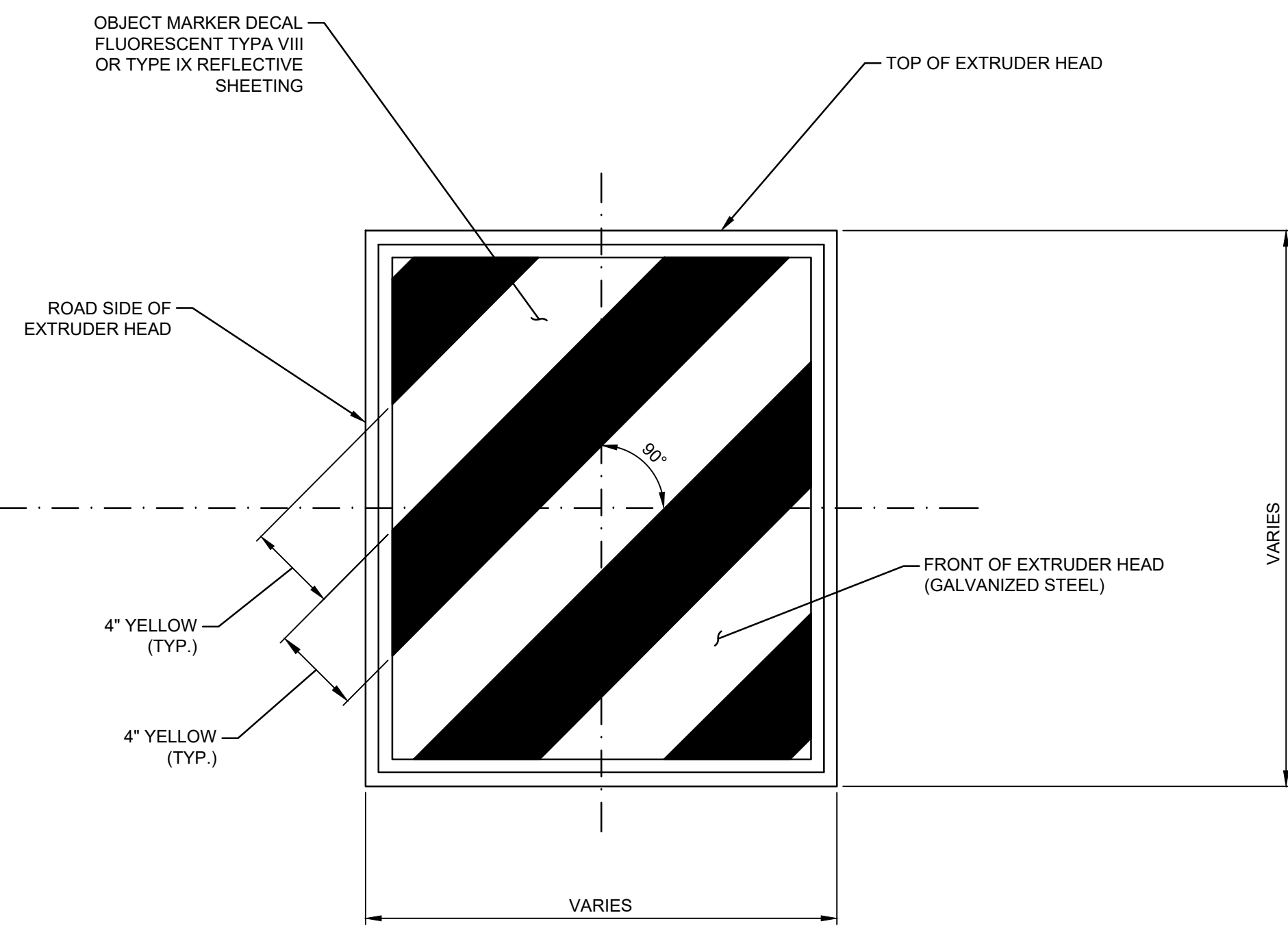
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E5 ELEVATION  
N.T.S.



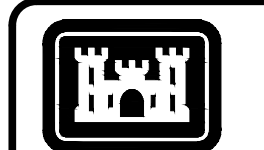
B3 DELINEATION FOR EXTRUDED TERMINAL (SIDE)  
N.T.S.



B7 DELINEATION FOR EXTRUDED TERMINAL (END)  
N.T.S.

NOTES:

- THESE DETAILS ARE APPLICABLE FOR SEVERAL MANUFACTURER'S SPECIFICATIONS.
- INSTALL TERMINAL AT 1:50 TAPER, ENSURING THAT END PIECE IS ENTIRELY OFF SHOULDER.
- SEE MANUFACTURER'S DRAWINGS FOR OTHER DETAILS.
- UNLESS OTHERWISE SPECIFIED ON PLAN SHEETS, BOTH ENDS OF A GUARDRAIL RUN SHALL HAVE A TERMINAL PROVIDED.
- GUARDRAIL TERMINAL SHALL BE A 25' SYSTEM.
- THE GUARDRAIL LENGTH SPECIFIED IN THE "C" PLAN SHEETS INCLUDE GUARDRAIL TERMINAL LENGTH.



US Army Corps of Engineers

MARK	DESCRIPTION	DATE

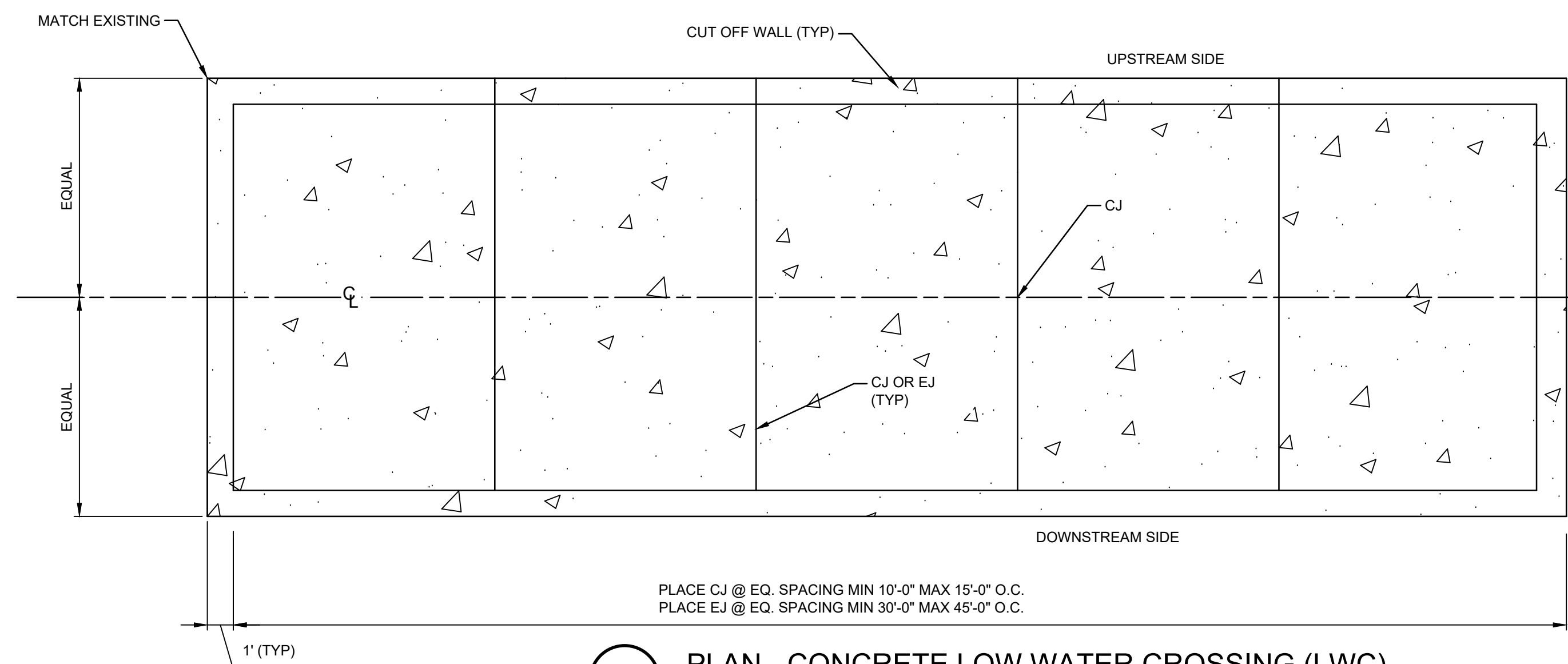
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. WELLS	SOLICITATION NO.:
APPROVED BY: P. CAMPAGNOLA	CONTRACT NO.:
DATE: C. KARAM	
SCALE: AS SHOWN	

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CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

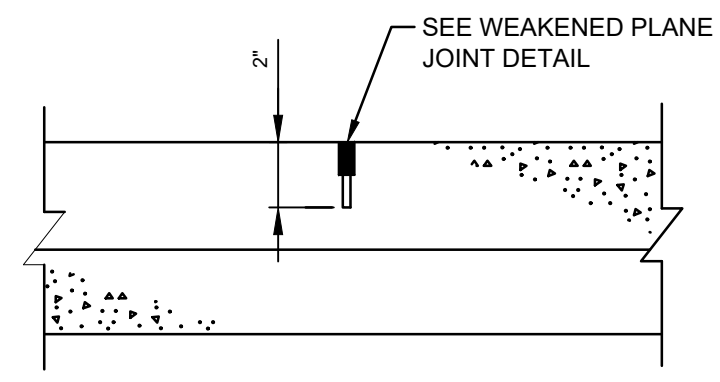
TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
MISCELLANEOUS STANDARD DETAILS  
VERSION V.5

GUARDRAIL DETAILS  
SHEET 2 OF 2

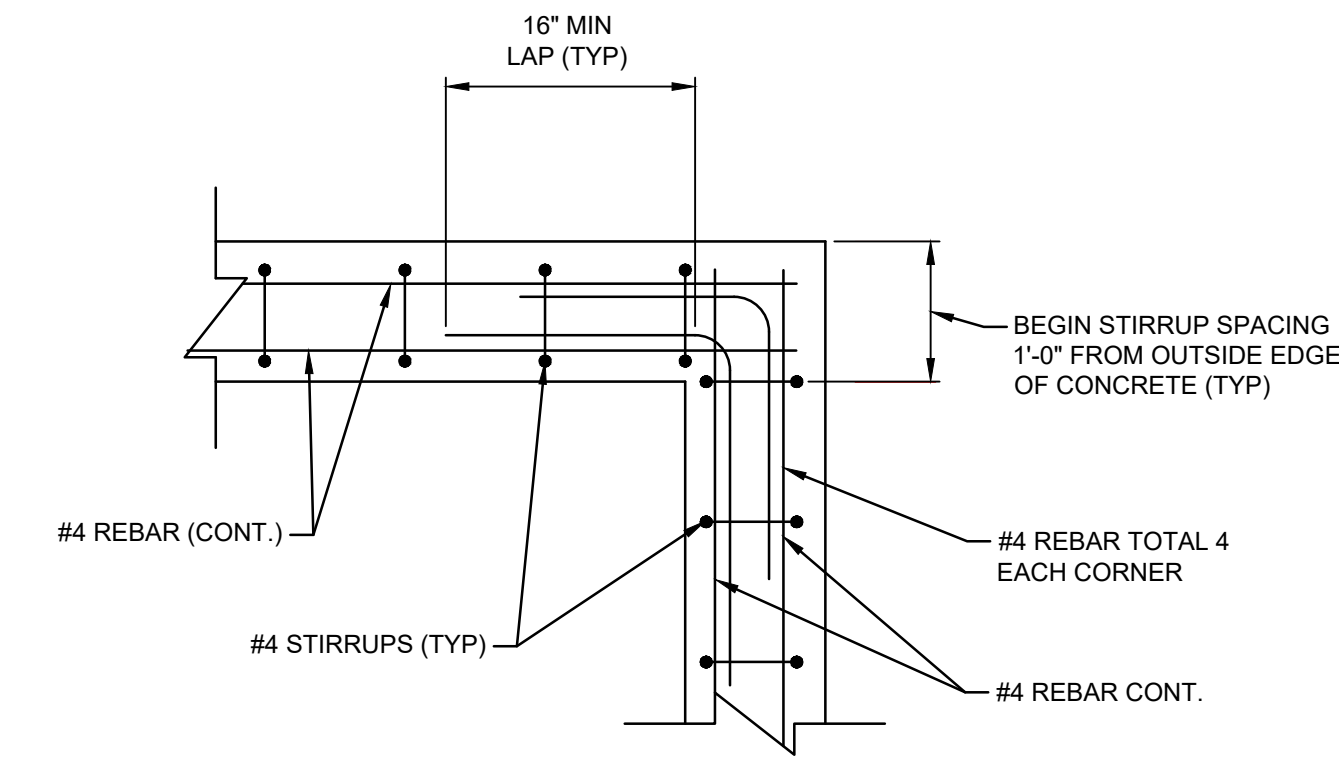
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**M3**



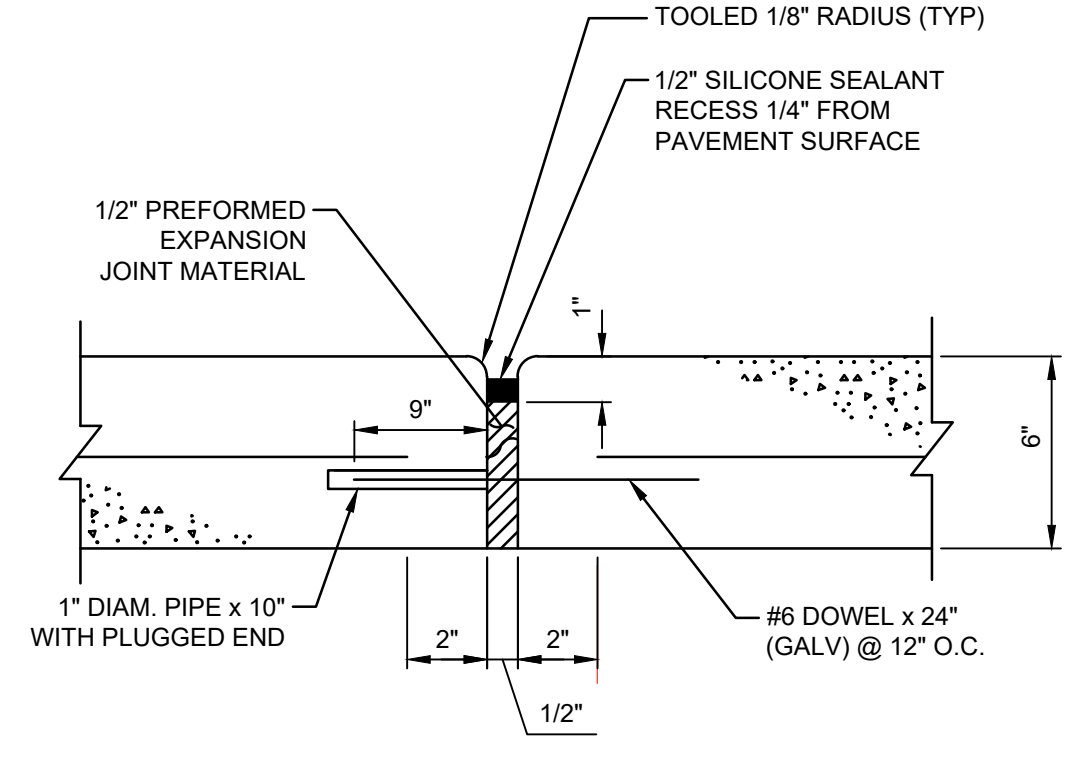
**E4** PLAN - CONCRETE LOW WATER CROSSING (LWC)  
N.T.S.



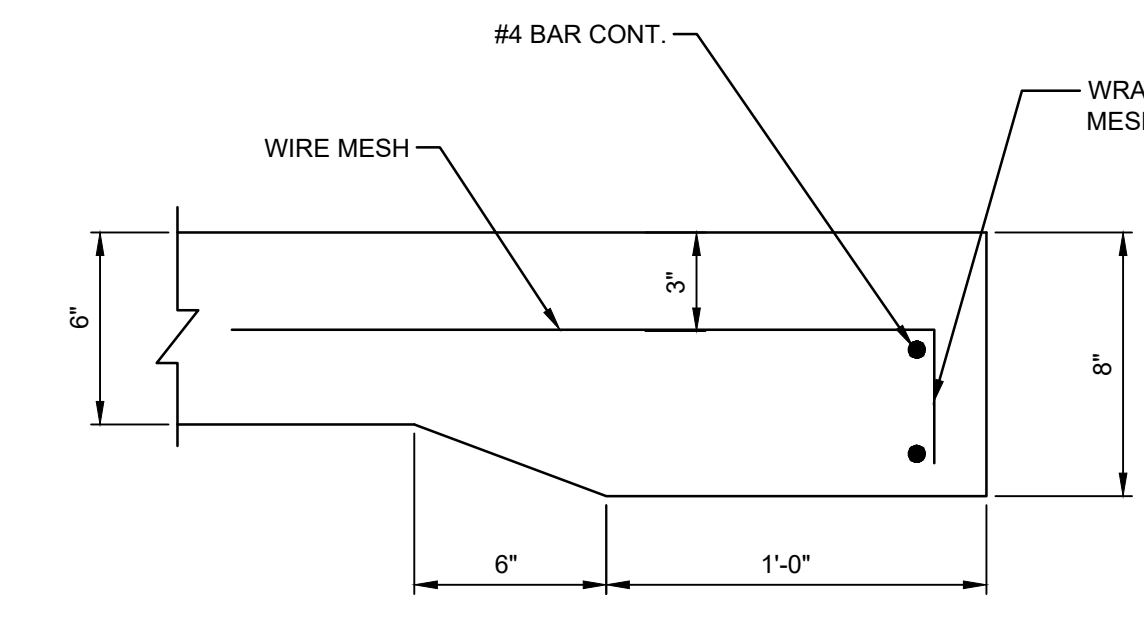
**C2** CONTRACTION JOINT (CJ) DETAIL  
N.T.S.



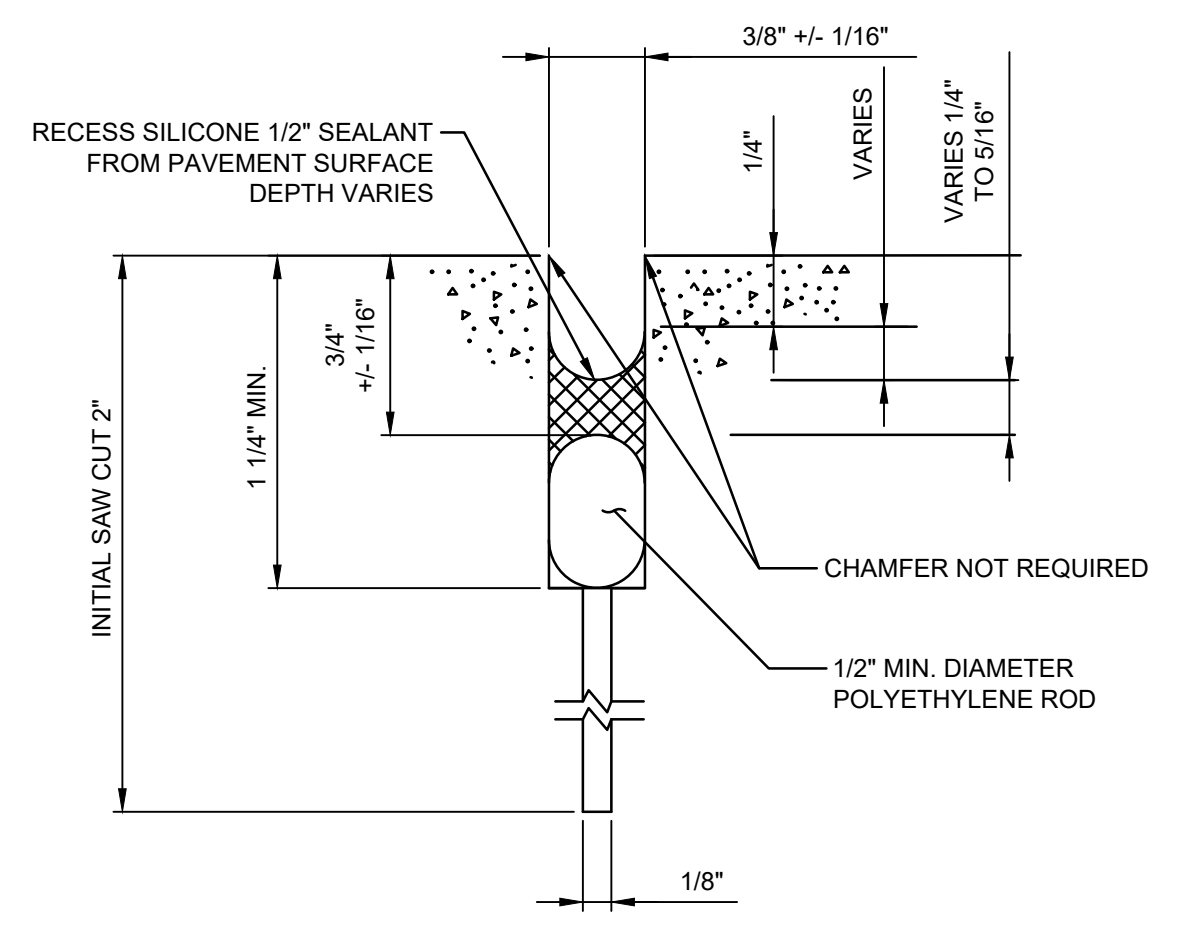
**A2** LWC CORNER DETAIL  
N.T.S.



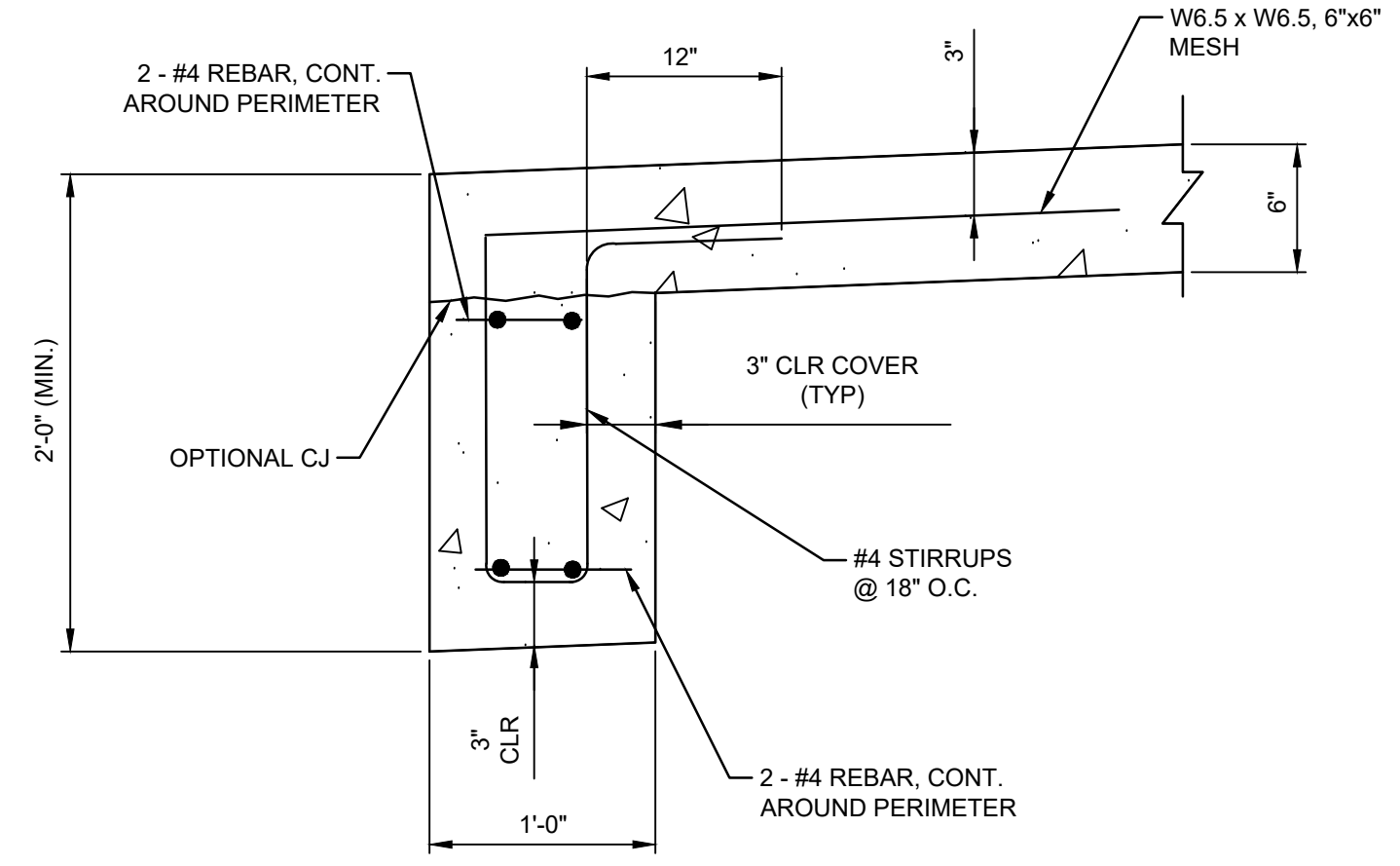
**D4** EXPANSION JOINT (EJ) DETAIL  
N.T.S.



**D7** THICKENED EDGE DETAIL  
N.T.S.



**D9** WEAKENED PLANE JOINT DETAIL  
N.T.S.



**A6** CUT-OFF WALL DETAIL  
N.T.S.

**US Army Corps of Engineers**

ISSUE DATE:	ISSUE NO.:	DATE
AUGUST 2020	1	
SOLICITATION NO.:	CONTRACT NO.:	
DESIGNED BY: K. RUFFENACH	CHECKED BY: P. CAMPAGNOLO	MARK
DESIGNED BY: M. W. WELLS	CHECKED BY: C. KARAM	DESCRIPTION
DESIGNED BY: M. W. WELLS	CHECKED BY: C. KARAM	MARK
DESIGNED BY: P. CAMPAGNOLO	CHECKED BY: C. KARAM	DESCRIPTION
DESIGNED BY: C. KARAM	CHECKED BY:	MARK
DESIGNED BY:	CHECKED BY:	DESCRIPTION

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ISSUE NO.: 1  
DATE:   
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CONTRACT NO.:   
DESIGNED BY: K. RUFFENACH  
CHECKED BY: P. CAMPAGNOLO  
MARK:   
DESCRIPTION:   
DESIGNED BY: M. W. WELLS  
CHECKED BY: C. KARAM  
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MARK:   
DESCRIPTION:

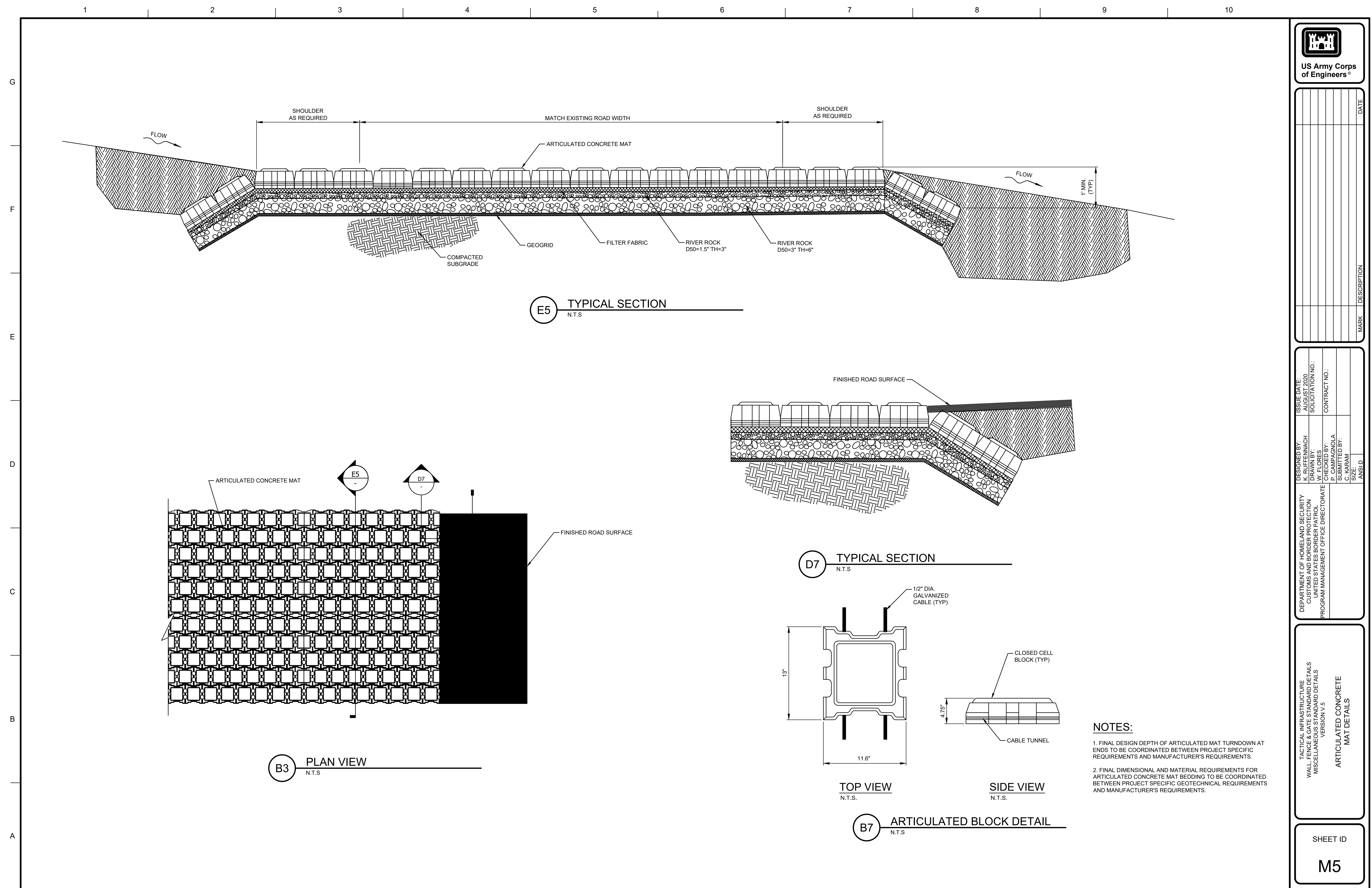
DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
MISCELLANEOUS STANDARD DETAILS  
VERSION V.5

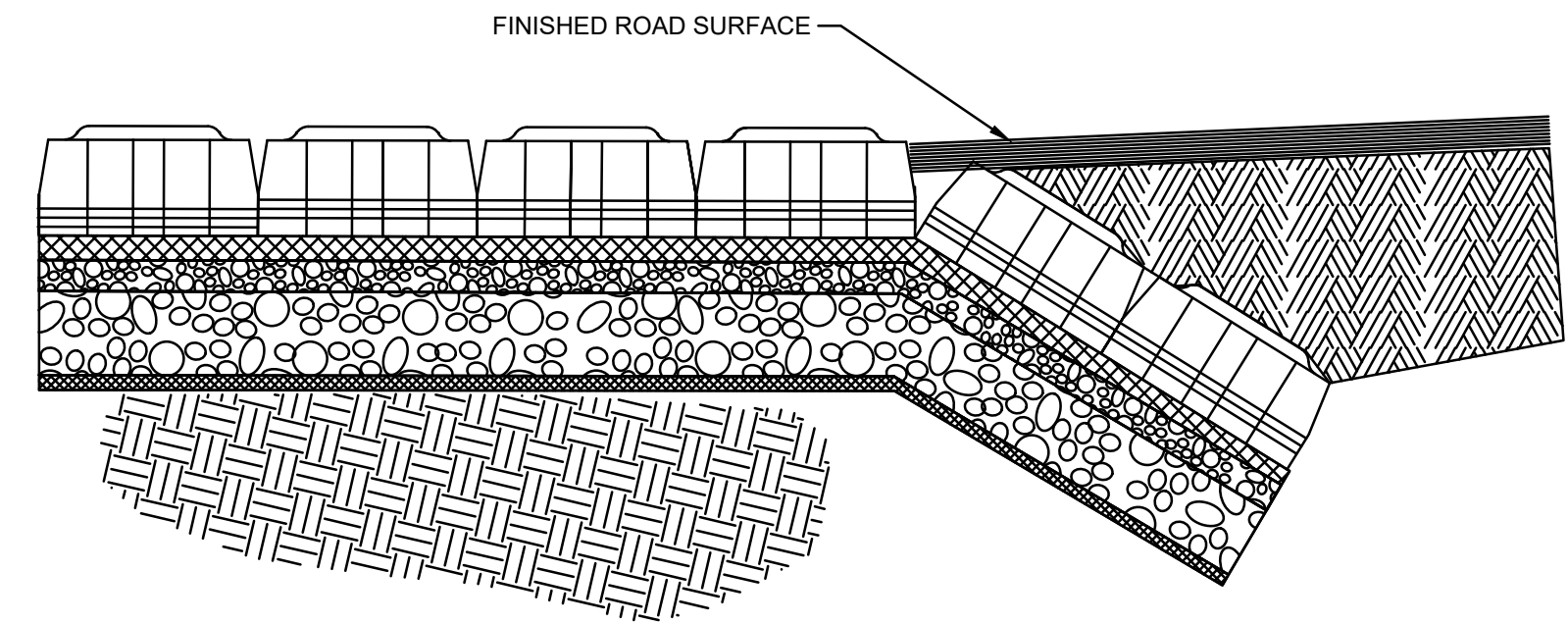
CONCRETE LOW WATER  
CROSSING DETAILS

SHEET ID  
**M4**

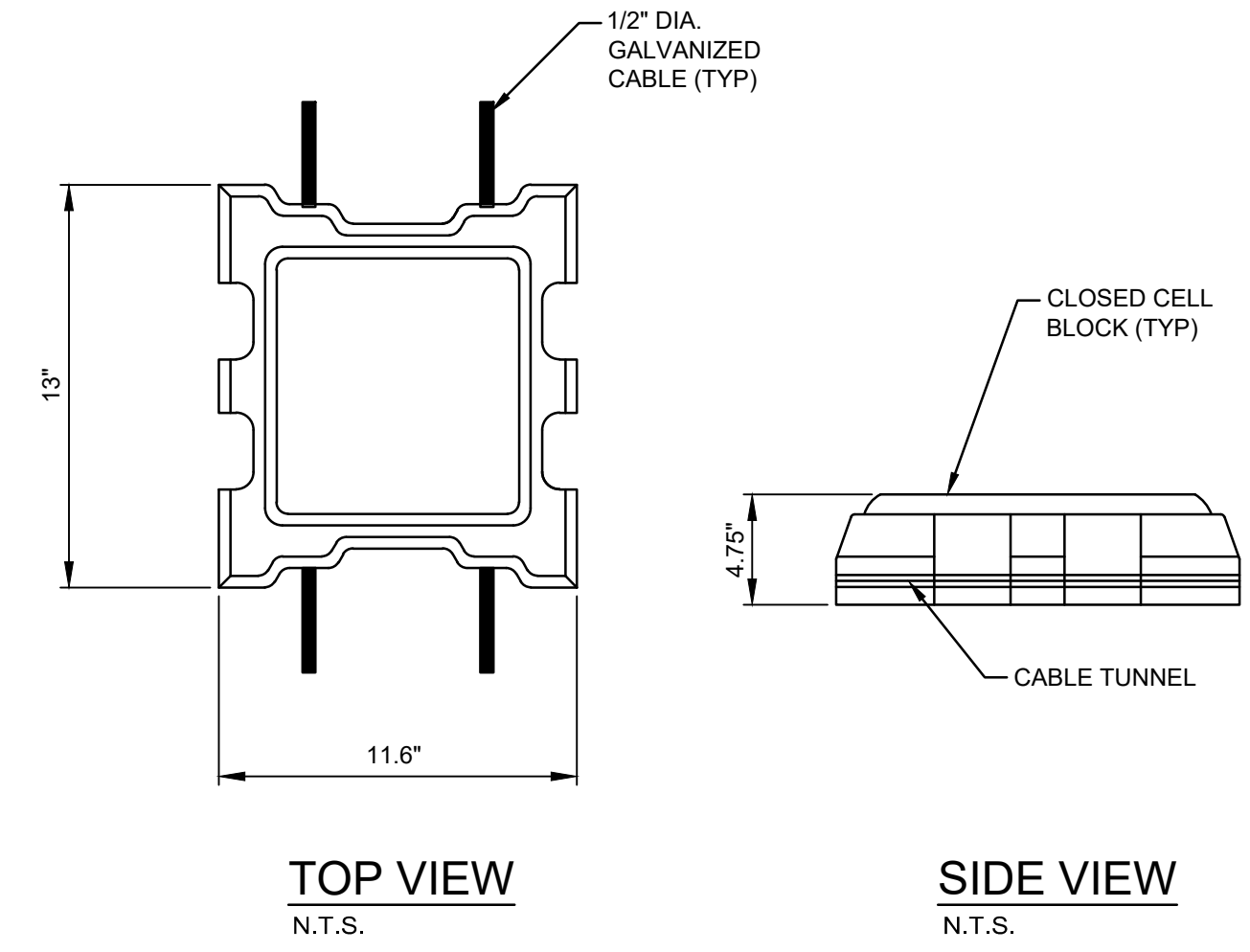
**FINAL**



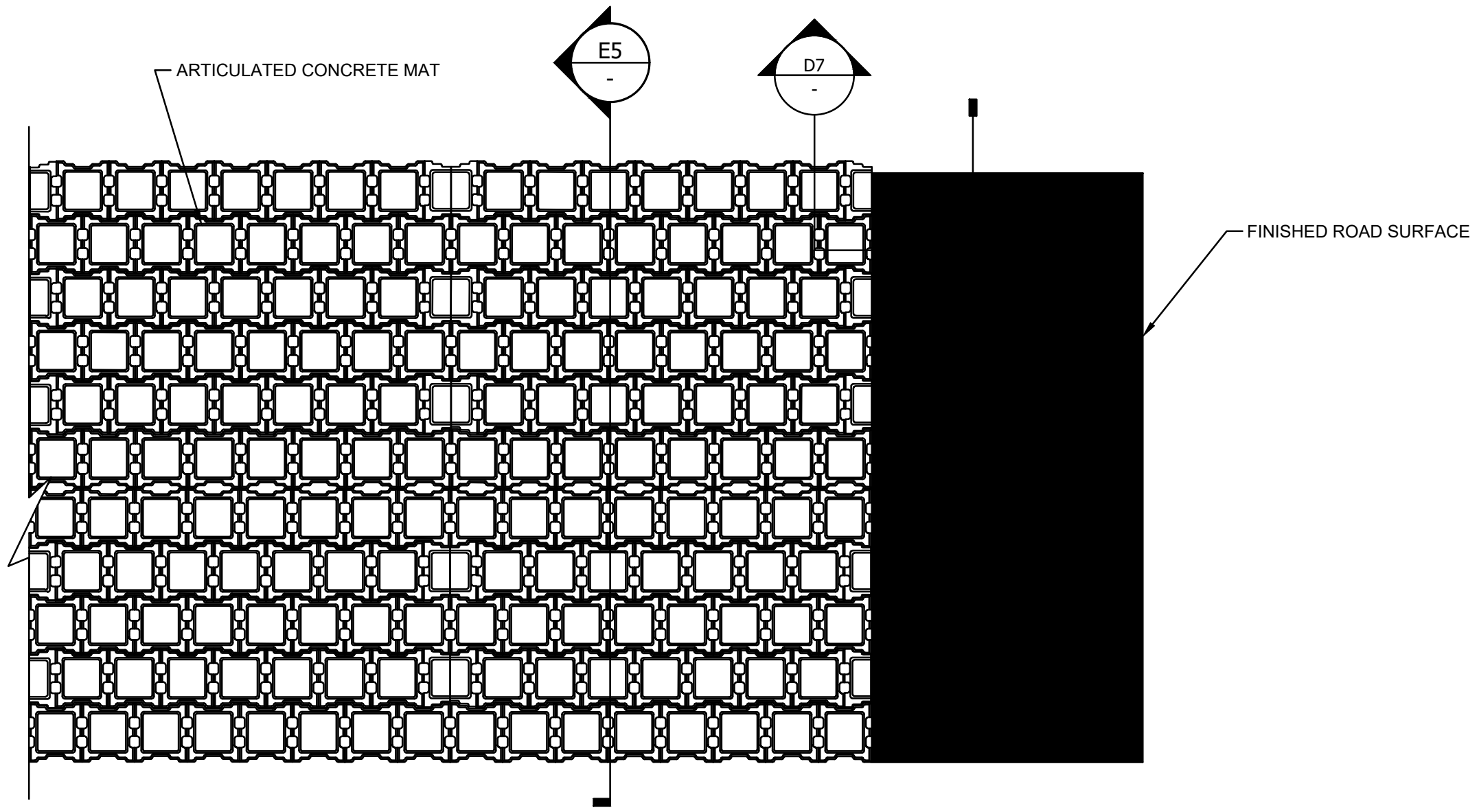
**E5** TYPICAL SECTION  
N.T.S.



**D7** TYPICAL SECTION  
N.T.S.

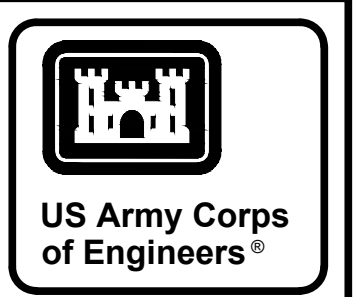


**B7** ARTICULATED BLOCK DETAIL  
N.T.S.



**B3** PLAN VIEW  
N.T.S.

- NOTES:**
1. FINAL DESIGN DEPTH OF ARTICULATED MAT TURNDOWN AT ENDS TO BE COORDINATED BETWEEN PROJECT SPECIFIC REQUIREMENTS AND MANUFACTURER'S REQUIREMENTS.
  2. FINAL DIMENSIONAL AND MATERIAL REQUIREMENTS FOR ARTICULATED CONCRETE MAT BEDDING TO BE COORDINATED BETWEEN PROJECT SPECIFIC GEOTECHNICAL REQUIREMENTS AND MANUFACTURER'S REQUIREMENTS.



MARK	DESCRIPTION	DATE

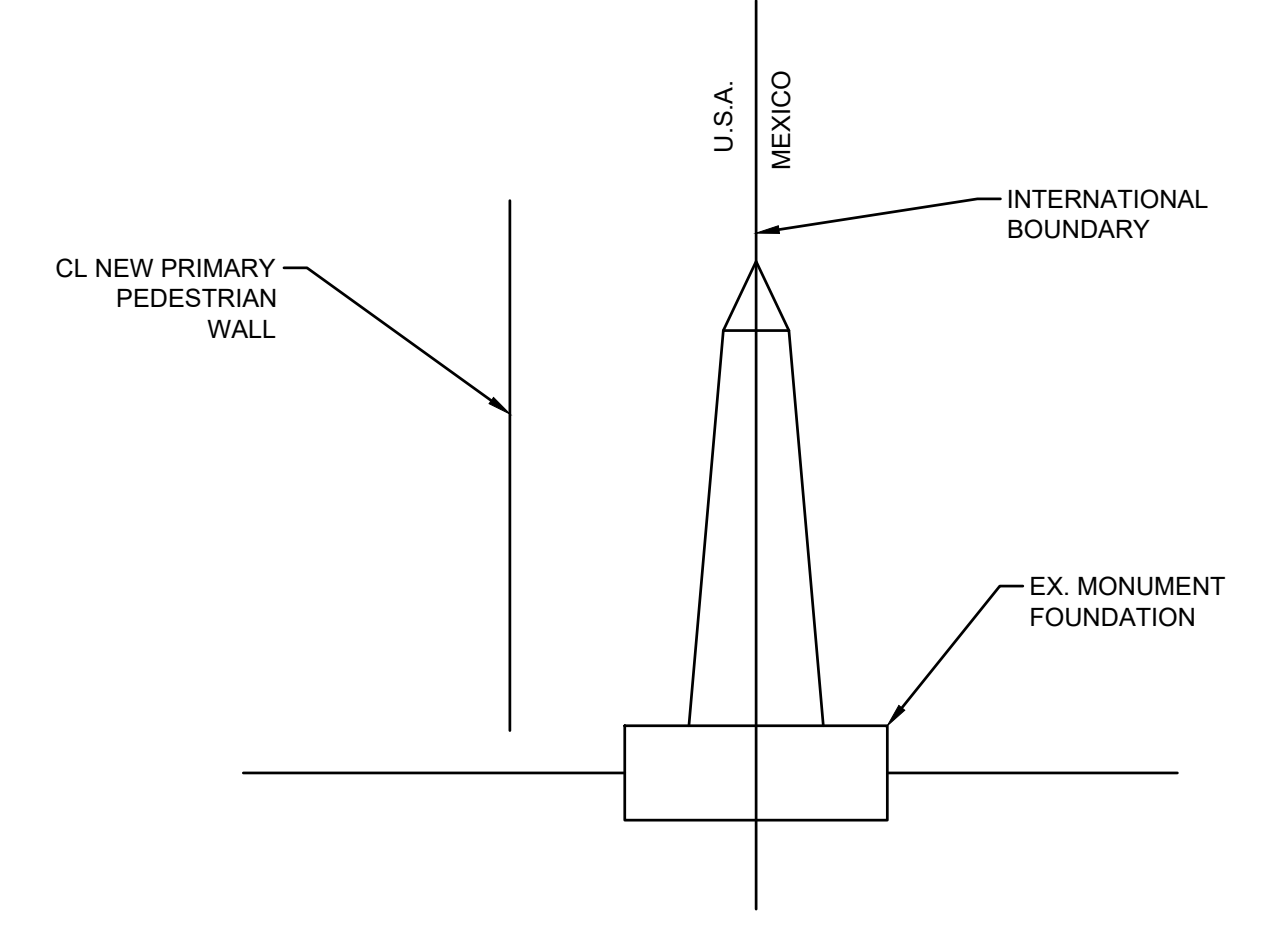
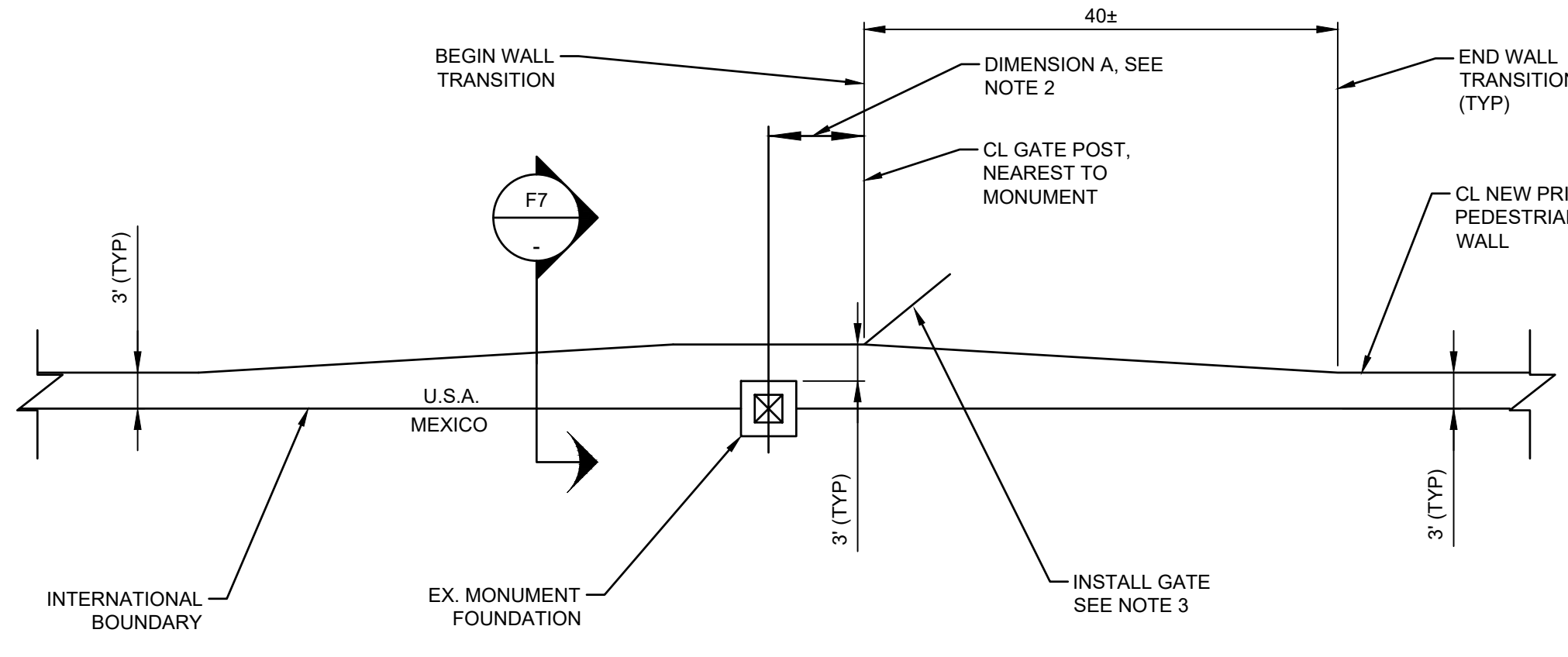
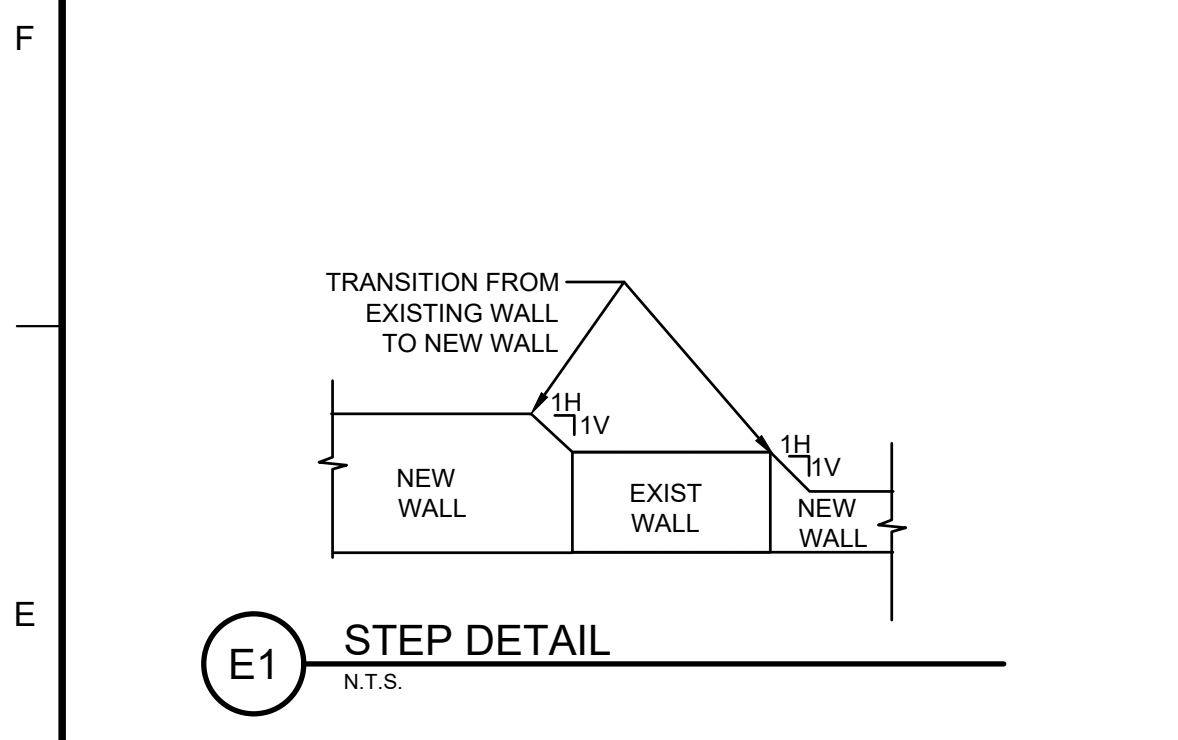
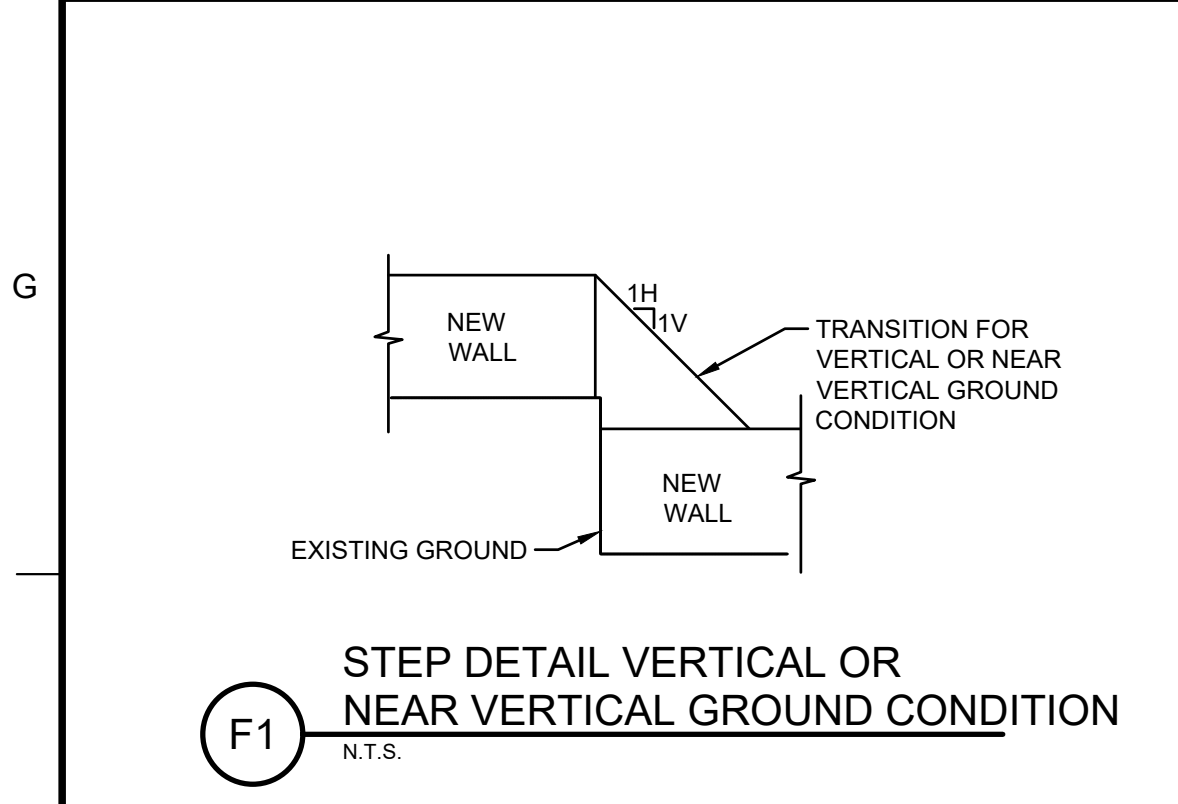
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. WILKES	SOLICITATION NO.:
SUBMITTED BY: C. KARAM	CONTRACT NO.:
SIZE: ANSI D	

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MISCELLANEOUS STANDARD DETAILS  
VERSION V.5

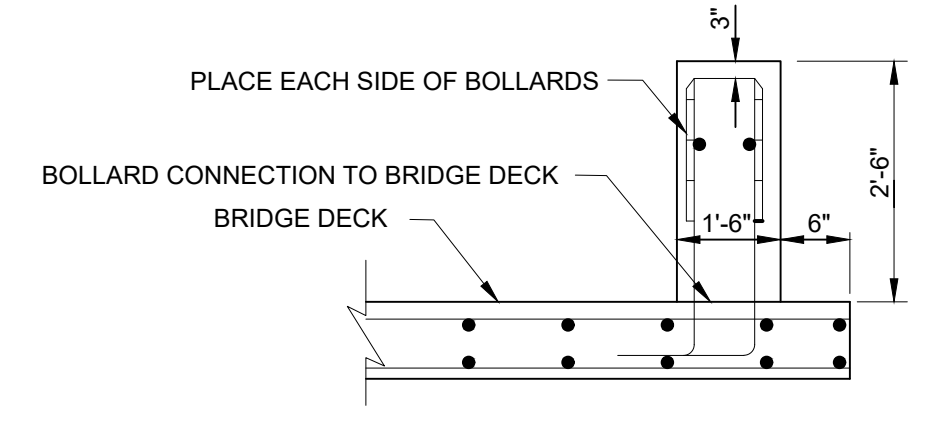
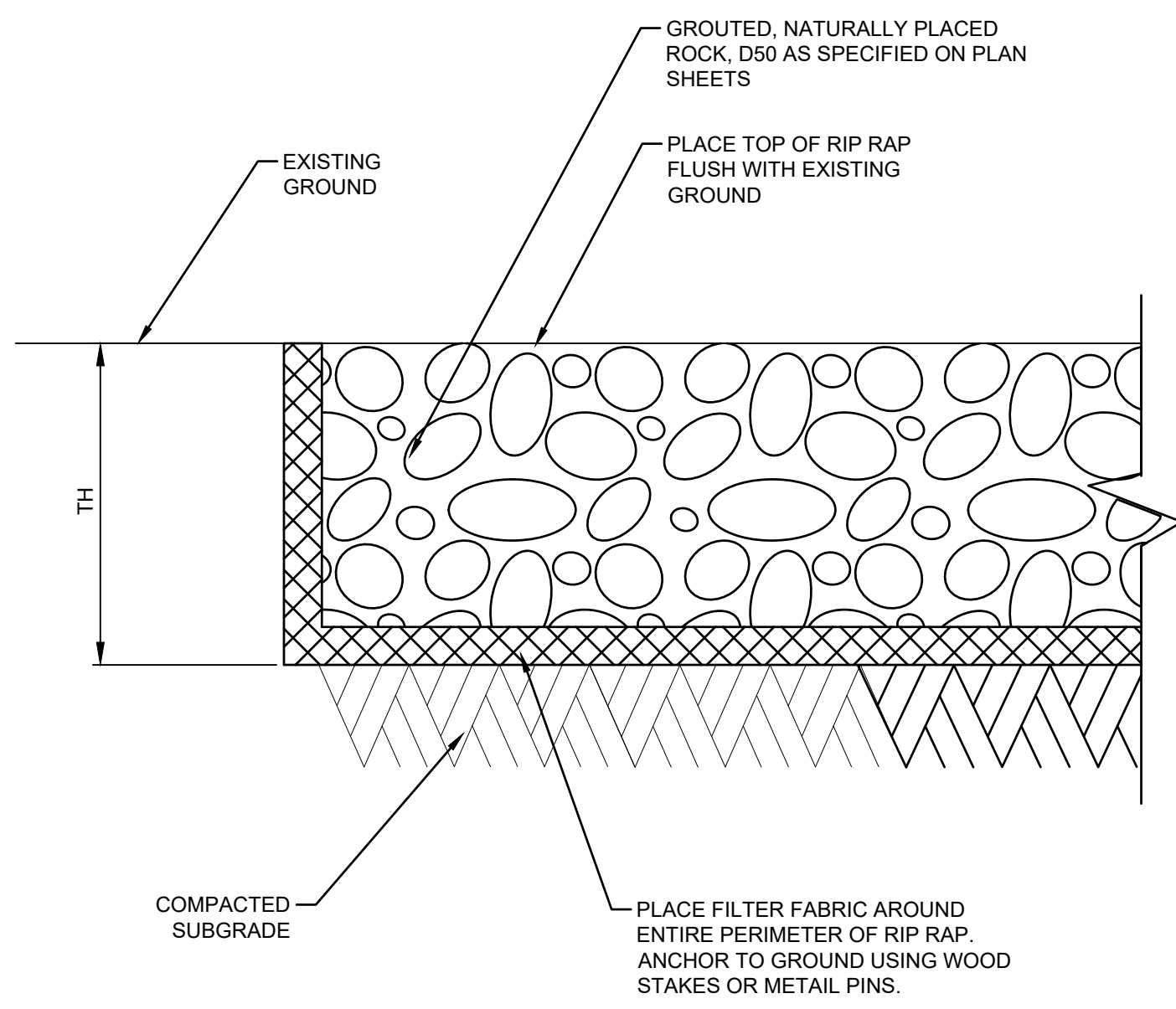
ARTICULATED CONCRETE  
MAT DETAILS

SHEET ID  
**M5**



**NOTES:**

1. BEGIN GRADUAL TRANSITION ± 8' FROM EACH SIDE OF MONUMENT BASE CENTER BACK TO TYPICAL 3' WALL CLEARANCE FROM BORDER.
2. INSTALL GATE POST NEAREST CENTERLINE MONUMENT, 8 FEET MINIMUM TO 10 FEET MAXIMUM FROM CENTERLINE MONUMENT.
3. INSTALL VEHICLE BOLLARD SWING GATE WITHIN PRIMARY WALL IN ARIZONA AND INSTALL PERSONNEL BOLLARD SWING WITHIN PRIMARY WALL IN NEW MEXICO AND CALIFORNIA.
4. MONUMENT BASE DIMENSIONS VARY. CONTRACTOR TO ADJUST TO PROVIDE 3' TYPICAL OFFSET.
5. ALIGNMENT TRANSITION AROUND MONUMENT IS ONLY APPLICABLE WHERE THE MONUMENT IS ENCROACHING ON THE AREA NECESSARY FOR THE CONSTRUCTION OF THE WALL FOUNDATION AND ANY APPLICABLE SCOUR PROTECTION. IN ALL OTHER INSTANCES, 3' CENTERLINE OFFSET FROM BORDER SHALL BE MAINTAINED.



**NOTES:**

1. REFER TO PROJECT PLAN & PROFILE SHTS. FOR THICKNESS (TH) & DIMENSIONS.
2. REFER TO TECHNICAL SPECIFICATIONS FOR GROUTING REQUIREMENTS.

**US Army Corps of Engineers**

ISSUE DATE:	AUGUST 2020
SOLICITATION NO.:	
CONTRACT NO.:	

DESIGNED BY:	K. RUFFENACH	ISSUE DATE:	AUGUST 2020
CHECKED BY:	M. W. BURNS	SOLICITATION NO.:	
APPROVED BY:	P. CAMPAGNOLO	CONTRACT NO.:	
SUBMITTED BY:	C. KARAM	MARK	DESCRIPTION
SIZE:	ANSI D		

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PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
MISCELLANEOUS STANDARD DETAILS  
VERSION V. 5

MISCELLANEOUS DETAILS

SHEET ID  
**M6**

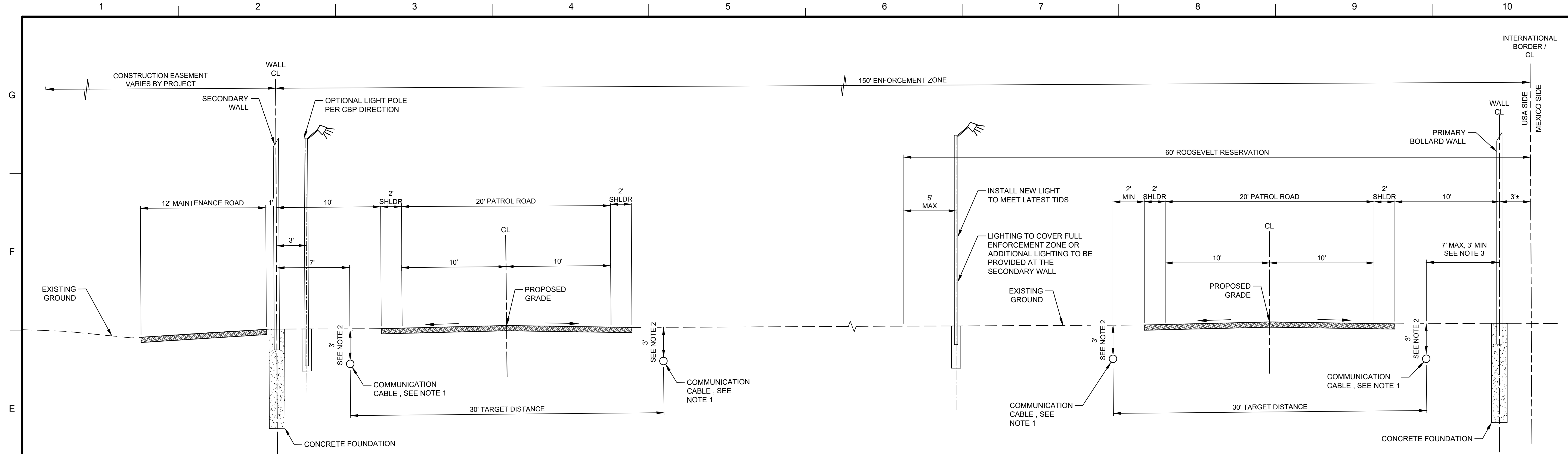
# APPENDIX E ENFORCEMENT ZONES STANDARD DETAILS

**DEPARTMENT OF HOMELAND SECURITY  
CUSTOMS AND BORDER PROTECTION  
UNITED STATES BORDER PATROL  
PROGRAM MANAGEMENT OFFICE DIRECTORATE**

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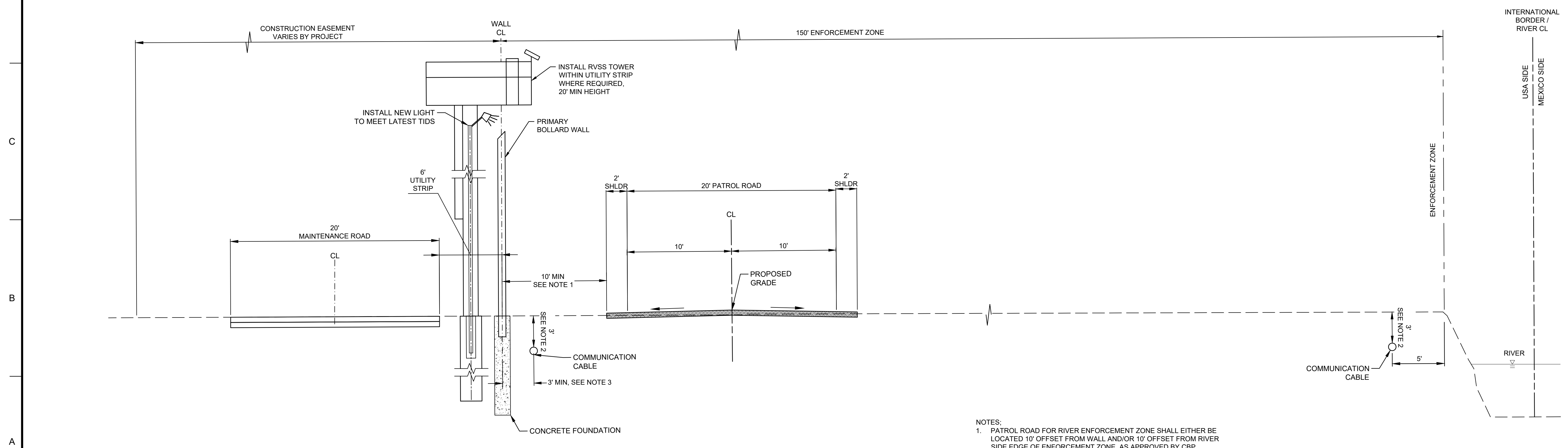
# **ENFORCEMENT ZONE STANDARD DETAILS**

**AUGUST 2020, VERSION V.5**



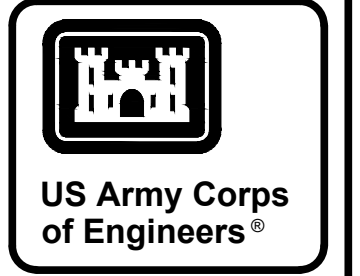
**E5 LAND ENFORCEMENT ZONE (SECONDARY EXPANSION)**  
N.T.S.

- NOTES:
1. TOTAL NUMBER OF LGDS WILL BE IDENTIFIED DURING PRE-SOLICITATION SITE VISITS ON A PROJECT-BY-PROJECT BASIS.
  2. MINIMUM COVER. INSTALL CABLE BY PLOW UNLESS ROCK IS ENCOUNTERED (SEE DETAIL C9 ON E22)
  3. SEE SHEETS E22 TO E24 FOR SPECIAL CASE INSTALLATION GUIDELINES.



**E6 RIVER ENFORCEMENT ZONE**  
N.T.S.

- NOTES:
1. PATROL ROAD FOR RIVER ENFORCEMENT ZONE SHALL EITHER BE LOCATED 10' OFFSET FROM WALL AND/OR 10' OFFSET FROM RIVER SIDE EDGE OF ENFORCEMENT ZONE, AS APPROVED BY CBP.
  2. MINIMUM COVER. INSTALL CABLE BY PLOW UNLESS ROCK IS ENCOUNTERED (SEE DETAIL C9 ON E22)
  3. SEE SHEETS E22 TO E24 FOR SPECIAL CASE INSTALLATION GUIDELINES.



MARK	DESCRIPTION	DATE

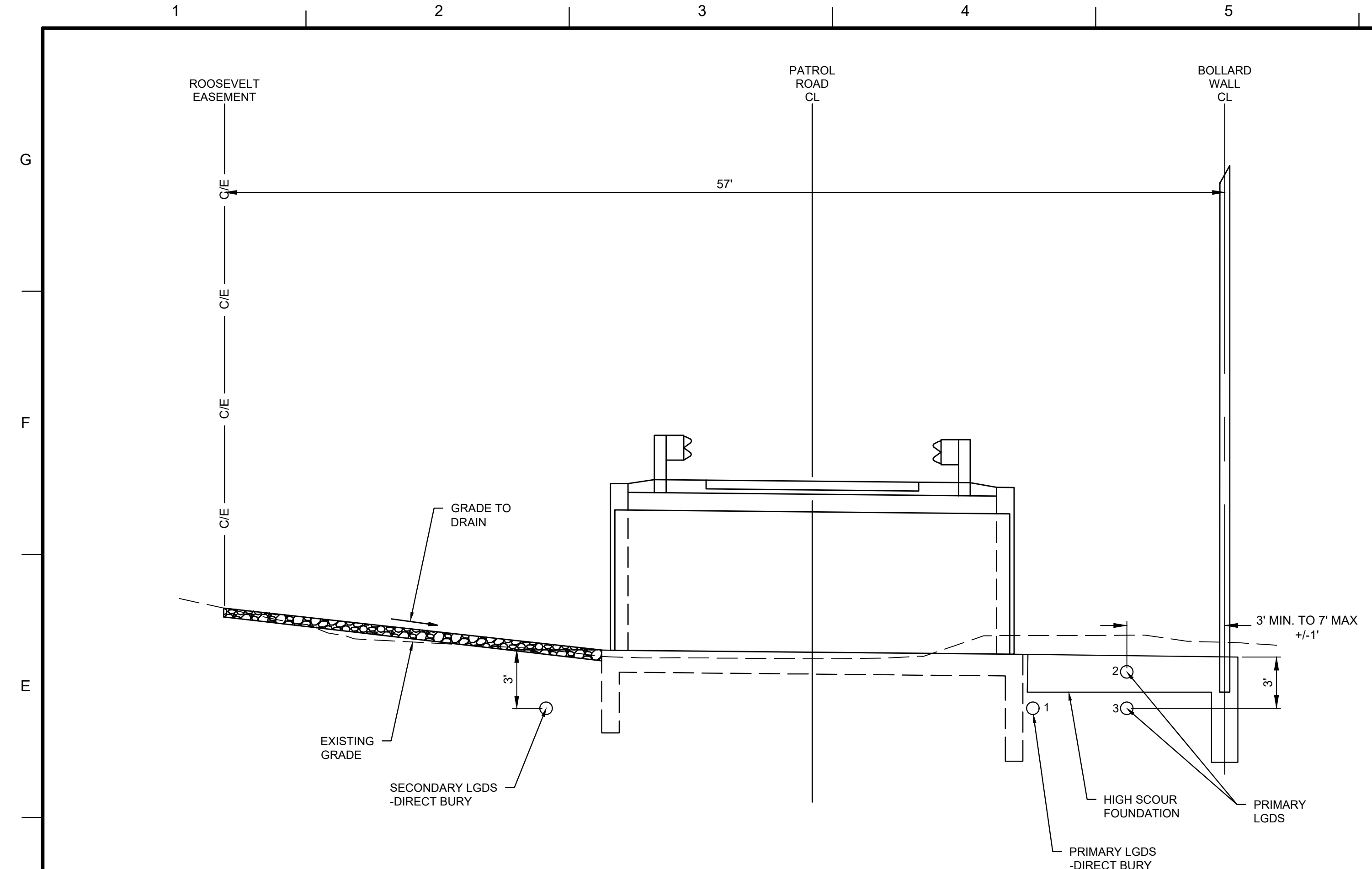
DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. W. BISHOP	SOLICITATION NO.:
SUBMITTED BY: P. CAMPAGNOLA	CONTRACT NO.:
SIZE: ANSI D	

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PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
ENFORCEMENT ZONE STANDARD DETAILS  
VERSION V.5

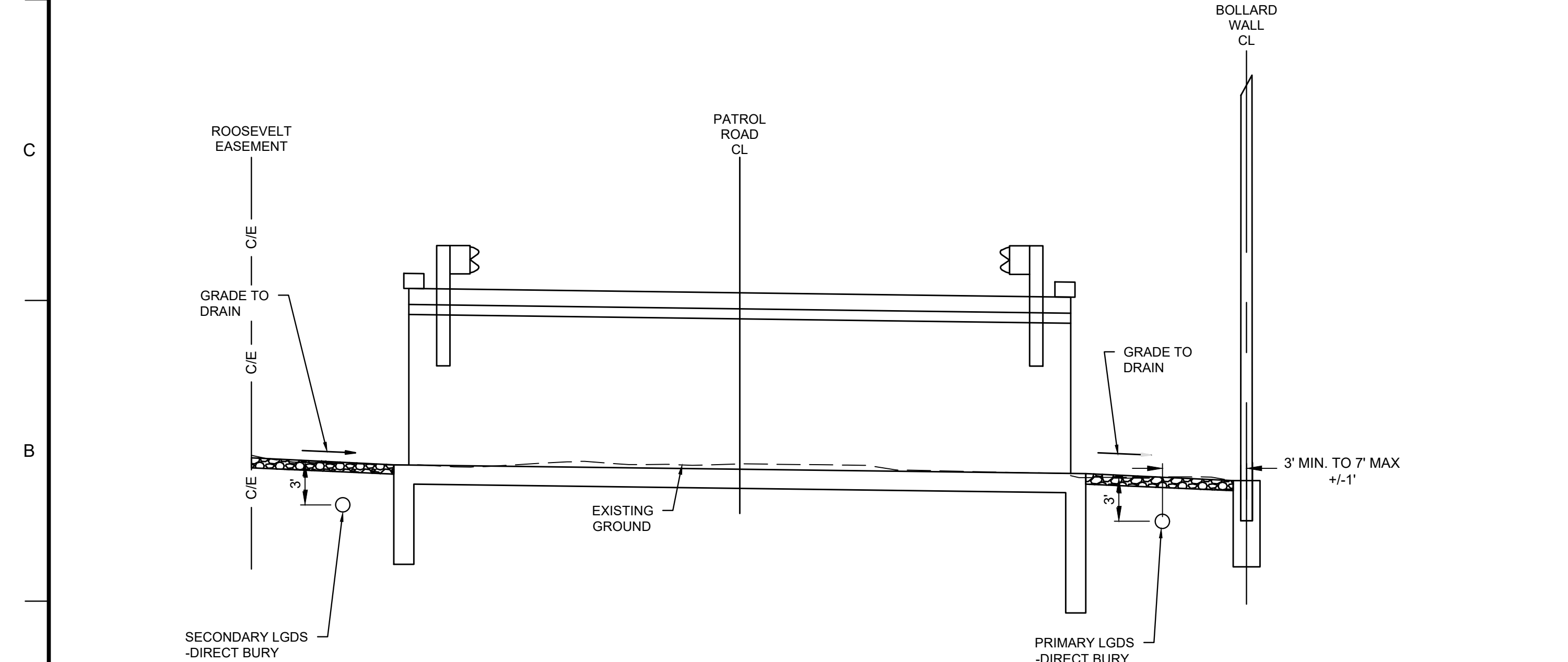
ENFORCEMENT ZONE TYPICAL SECTION

SHEET ID  
**EZ1**

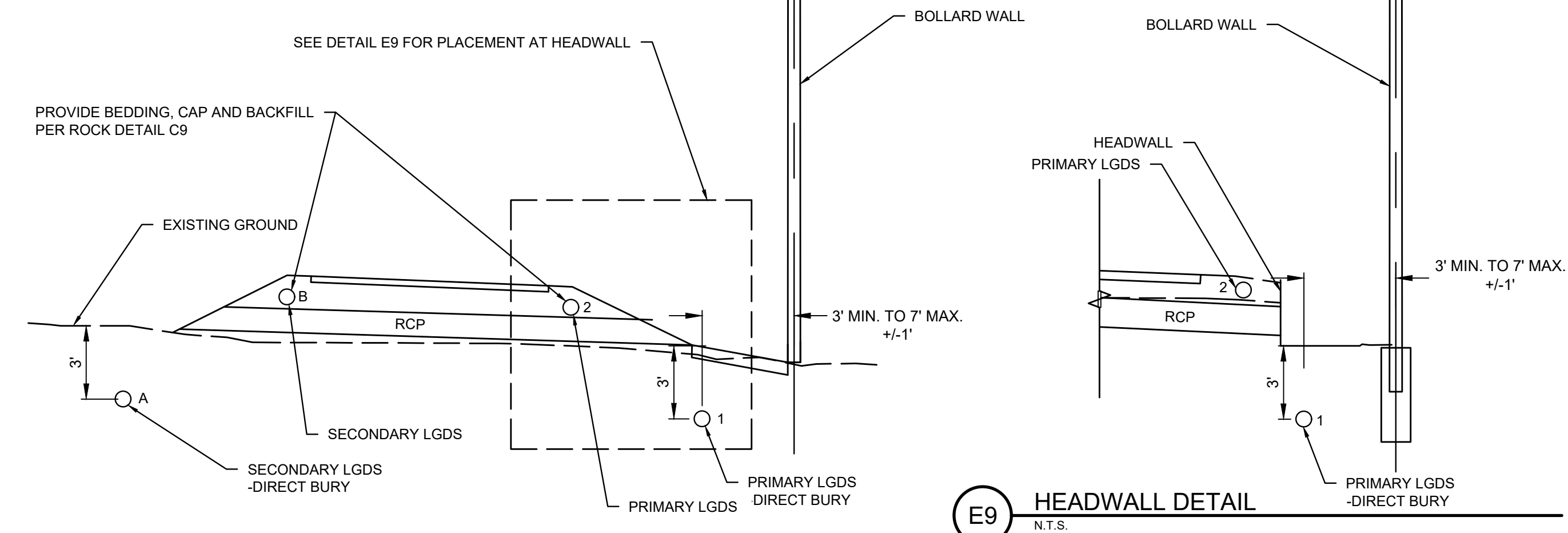


**D2** LGDS @ BOX CULVERTS ALT. 1  
N.T.S.

**NOTES:**  
 1. PLACE PRIMARY LGDS CABLE IN ONE OF THE FOLLOWING LOCATIONS. THE LISTED LOCATIONS ARE IN ORDER OF PREFERENCE AND PRECEDENCE:  
 LOCATION 1 - DIRECT BURY LGDS CABLE IN GAP BETWEEN THE CULVERT AND HIGH SCOUR FOUNDATION MOMENT SLAB. PREFERENCE IS TO HAVE 1' OF SOIL BETWEEN LGDS CABLE AND CONCRETE FOUNDATION (HORIZONTALLY) AND RIP RAP (VERTICALLY) TO ACHIEVE A 2' OR GREATER GAP; HOWEVER, A 1.5' MINIMUM GAP IS ALLOWED.  
 LOCATION 2 - ENCASE CONDUIT A MINIMUM 5" BELOW THE TOP OF CONCRETE.  
 LOCATION 3 - RUN CONDUIT, VIA HORIZONTAL DIRECTIONAL DRILLING, 3' BELOW FINISH GRADE.  
 2. FOR LOCATION 2, CAP FO CABLE WITH CONCRETE, SIMILAR TO ROCK TRENCH DETAIL C9, AT TRANSITION FROM FOUNDATION TO DIRECT BURY UNTIL AT 3' DEPTH.



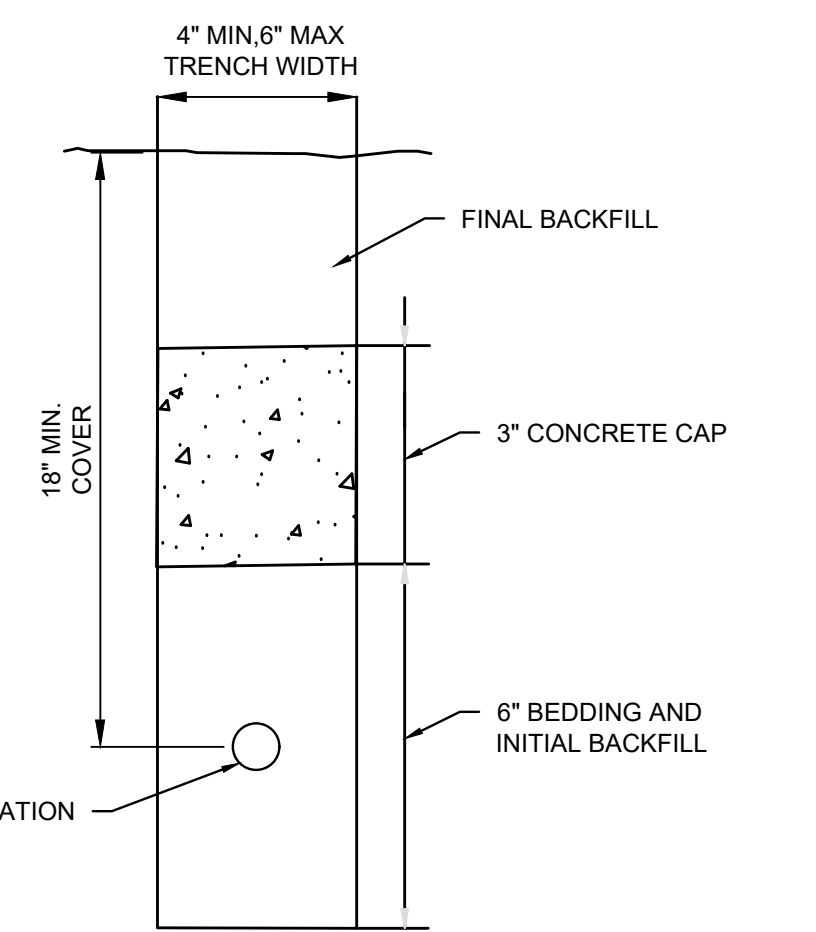
**A2** LGDS @ BOX CULVERTS ALT. 2  
N.T.S.



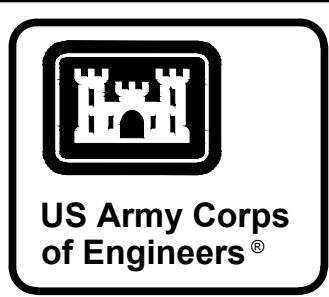
**E6** LGDS @ RCP CULVERTS  
N.T.S.

**NOTES:**  
 1. PLACE THE PRIMARY AND SECONDARY LGDS CABLE IN ONE OF THE FOLLOWING LOCATIONS.  
 PREFERRED OPTION - DIRECT BURY PRIMARY LGDS CABLE 3' MIN. TO 7' +/-1' MAX. FROM THE BOLLARD WALL (LOCATION 1), DIRECT BURY SECONDARY LGDS CABLE OUTSIDE OF RCP CULVERT FOOTPRINT (LOCATION A)  
 ALTERNATIVE OPTION 1 - PLACE PRIMARY LGDS CABLE IN LOCATION 2 IF LOCATION 1 REQUIREMENTS ARE NOT MET OR INTERFERES WITH RCP. PROVIDE BEDDING, CAP AND BACKFILL PER ROCK TRENCH DETAIL. IF LOCATION 2 IS UTILIZED FOR THE PRIMARY LGDS CABLE, OPTION A MUST BE USED FOR PLACEMENT OF SECONDARY LGDS CABLE.  
 ALTERNATIVE OPTION 2 - PLACE SECONDARY LGDS CABLE IN LOCATION B IF LOCATION A REQUIREMENTS ARE NOT MET OR INTERFERES WITH RCP. PROVIDE BEDDING, CAP AND BACKFILL PER ROCK TRENCH DETAIL. IF LOCATION B IS UTILIZED FOR THE SECONDARY LGDS CABLE, LOCATION 1 MUST BE USED FOR PLACEMENT OF PRIMARY LGDS CABLE.  
**LOCATION 2 AND B ARE NOT ALLOWED TO BE USED SIMULTANEOUSLY FOR PRIMARY AND SECONDARY CABLE, RESPECTIVELY.**  
 2. TARGET A 5 DEGREE MAXIMUM TRANSITION ANGLE IN THE LGDS FO CABLE MEASURED FROM THE VERTICAL PLANE.

**E9** HEADWALL DETAIL  
N.T.S.



**C9** TYPICAL ROCK TRENCH DETAIL  
N.T.S.



DATE	DESCRIPTION	MARK

DESIGNED BY: K. RUFENACH	ISSUE DATE: AUGUST 2020	SOLICITATION NO.:	CONTRACT NO.:
CHECKED BY: M. FORBES			
SUBMITTED BY: P. CAMPAGNOLA			
SIZE: ANSI D			

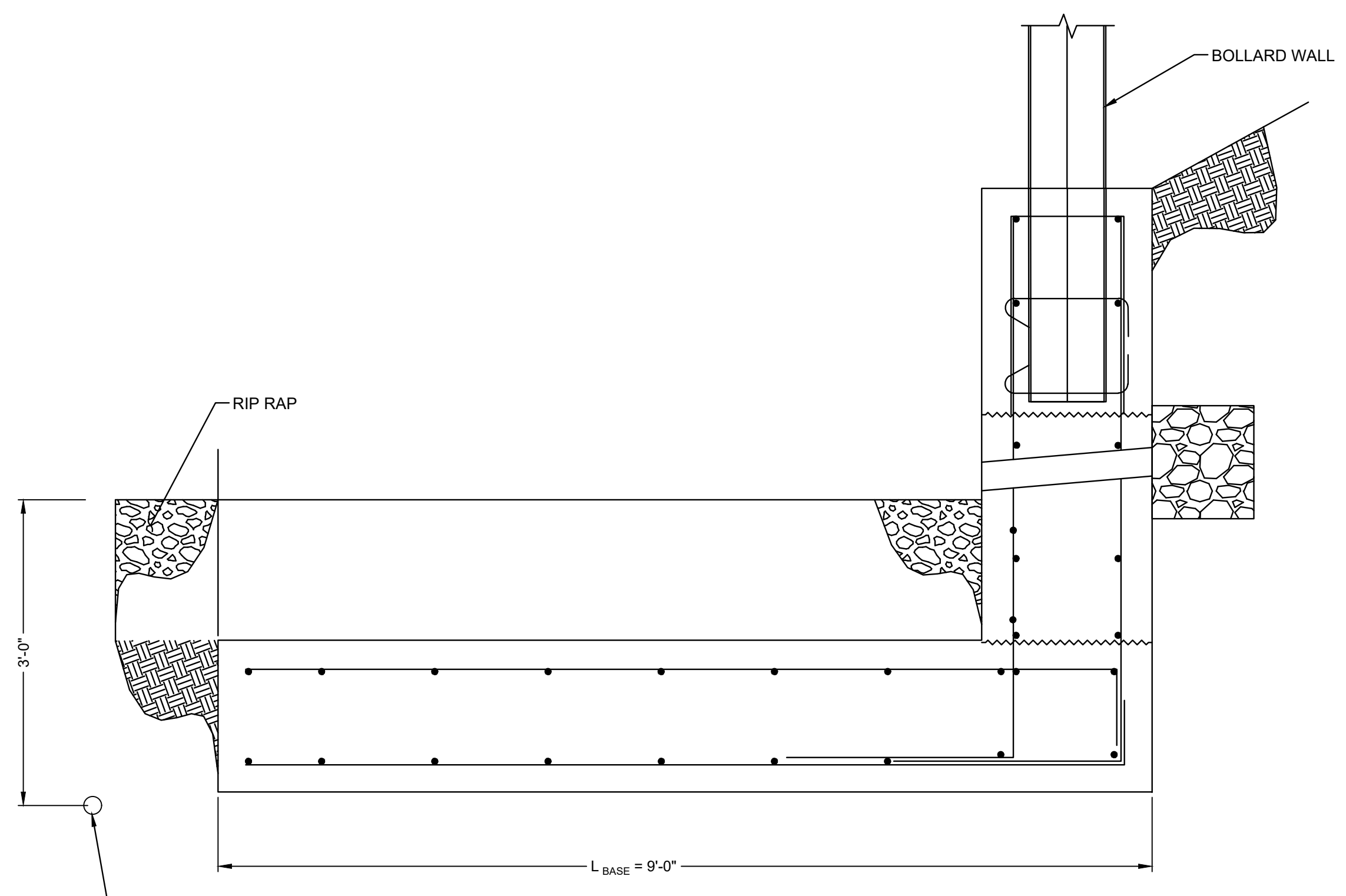
DEPARTMENT OF HOMELAND SECURITY  
 CUSTOMS AND BORDER PROTECTION  
 UNITED STATES BORDER PATROL  
 PROGRAM MANAGEMENT OFFICE DIRECTORATE

TACTICAL INFRASTRUCTURE  
 WALL, FENCE & GATE STANDARD DETAILS  
 VERSION V.5  
 LGDS PLACEMENT WITHIN ENFORCEMENT ZONE  
 SHEET 1 OF 3

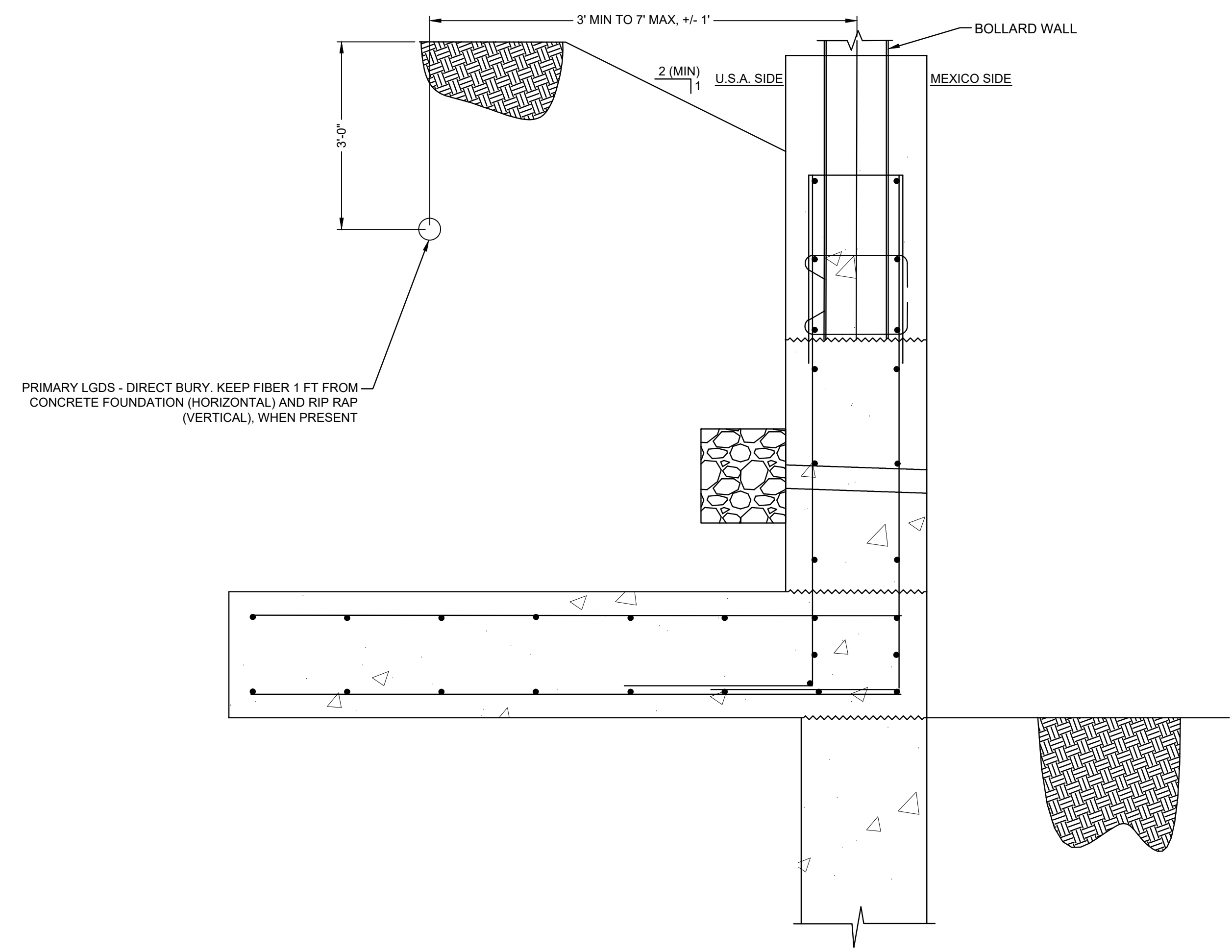
SHEET ID  
**EZ2**



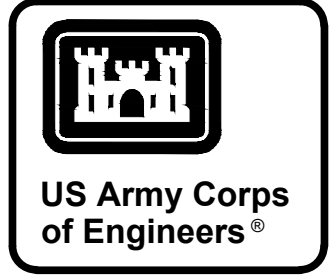




**C2** LGDS @ L-WALL ALT.1  
N.T.S.



**B8** LGDS @ L-WALL ALT.2  
N.T.S.



MARK	DESCRIPTION	DATE

DESIGNED BY: K. RUFFENACH	ISSUE DATE: AUGUST 2020
CHECKED BY: M. FLEIS	SOLICITATION NO.:
SUBMITTED BY: P. CAMPAGNOLA	CONTRACT NO.:
SIZE: ANSI D	

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TACTICAL INFRASTRUCTURE  
WALL, FENCE & GATE STANDARD DETAILS  
VERSION V.5  
LGDS PLACEMENT WITHIN ENFORCEMENT ZONE  
SHEET 3 OF 3

SHEET ID  
**EZ4**

## APPENDIX F

## SIGNAGE STANDARD DETAILS



W8-3

PAVEMENT ENDS

	A	B	C	D	E	F	G	H	J	K
	24	.375	.625	4 C	2.5	.5	11.188	5.313	5.438	1.5
<b>C</b>	30	.5	.75	5 C	3	.75	13.938	6.625	6.875	1.875
	36	.625	.875	6 C	3.5	1	16.75	7.875	8.25	2.25

WARNING SIGN COLORS:

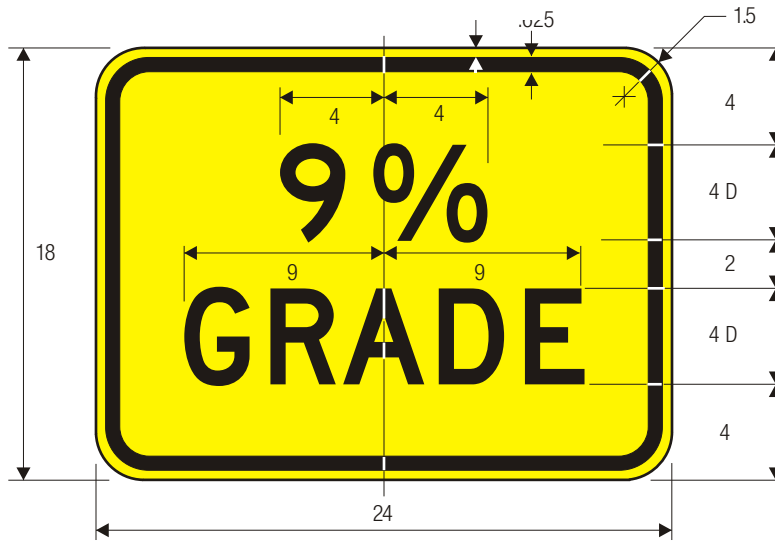
LEGEND — BLACK

BACKGROUND— YELLOW (RETROREFLECTIVE)

TTC SIGN COLORS:

LEGEND — BLACK

BACKGROUND— ORANGE (RETROREFLECTIVE)



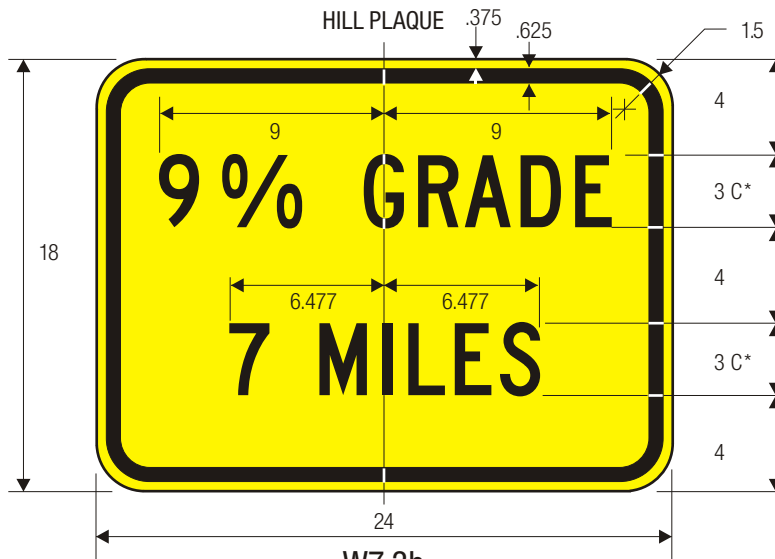
W7-3

HILL PLAQUE



W7-3a

HILL PLAQUE



W7-3b

HILL PLAQUE

\*Series 2000 Standard Alphabets.

COLORS: LEGEND — BLACK  
BACKGROUND — YELLOW (RETROREFLECTIVE)



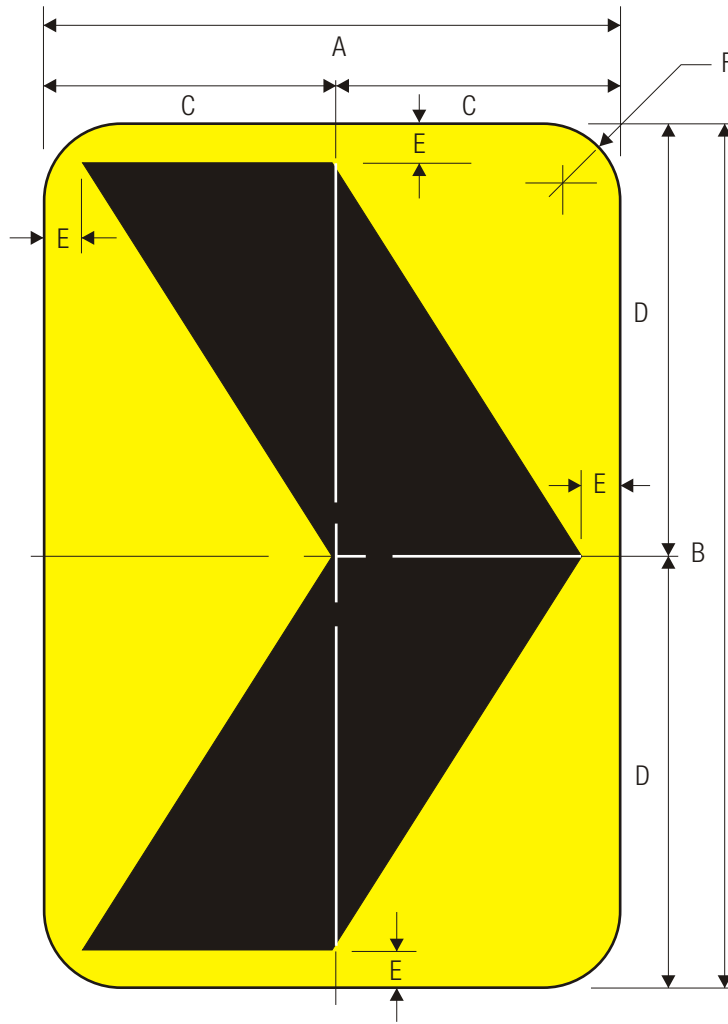
W5-3

ONE LANE BRIDGE

A	B	C	D	E	F	G	H	J
24	.375	.625	4 C	2.5	10.625	10.625	7.688	1.5
30	.5	.75	5 C	3.25	13.313	12.688	9.125	1.875
<b>C</b> 36	.625	.875	6 C	4	16	15.25	11.5	2.25
48	.75	1.25	8 C	5	21.25	20.25	15.375	3

WARNING SIGN COLORS:  
 LEGEND — BLACK  
 BACKGROUND— YELLOW (RETROREFLECTIVE)

TTC SIGN COLORS:  
 LEGEND — BLACK  
 BACKGROUND— ORANGE (RETROREFLECTIVE)



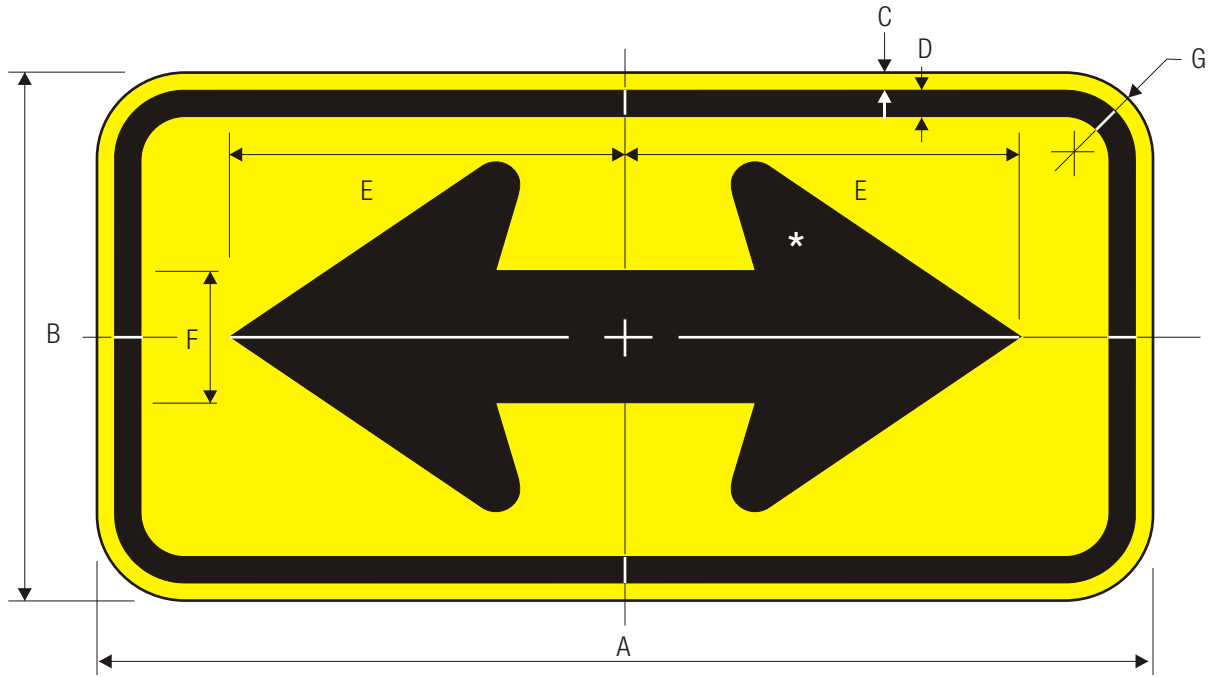
W1-8L

W1-8R  
CHEVRON ALIGNMENT

	A	B	C	D	E	F
	12	18	6	9	.5	1.5
<b>C</b>	18	24	9	12	.75	1.5
	24	30	12	15	.875	1.5
	30	36	15	18	1	1.875
	36	48	18	24	1.125	2.25

WARNING SIGN COLORS:  
 LEGEND – BLACK  
 BACKGROUND– YELLOW (RETROREFLECTIVE)

TTC SIGN COLORS:  
 LEGEND – BLACK  
 BACKGROUND– ORANGE (RETROREFLECTIVE)



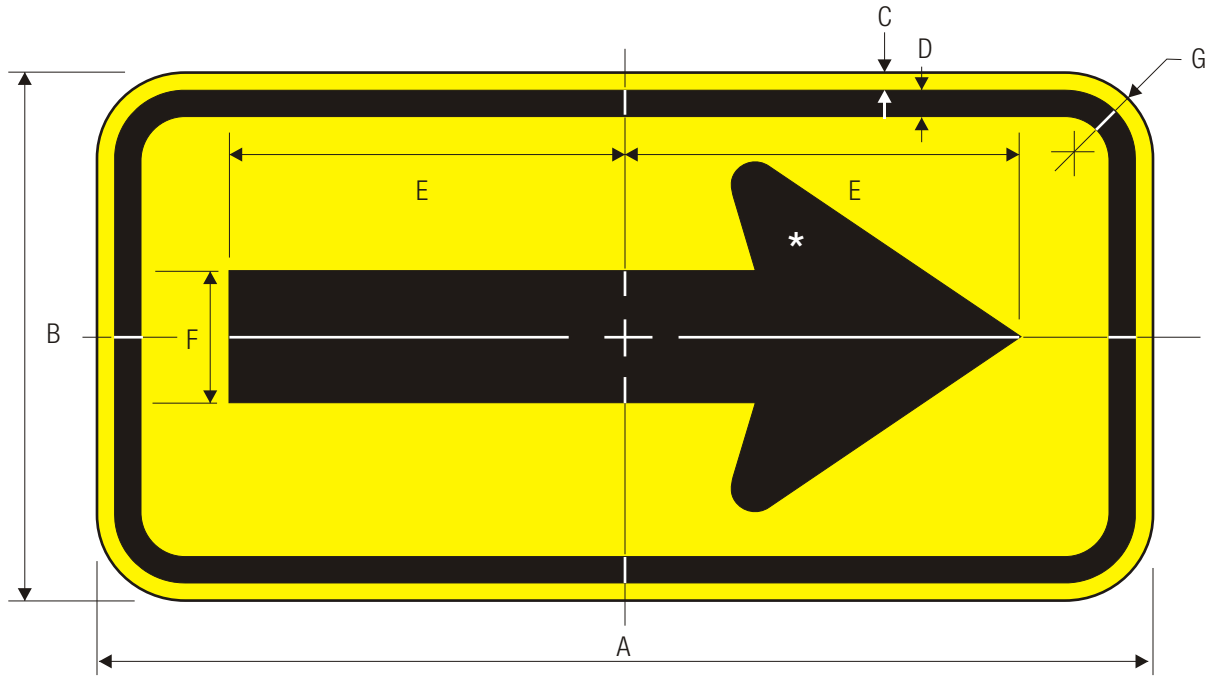
W1-7  
TWO DIRECTION LARGE ARROW

\*See standard arrow details

	A	B	C	D	E	F	G
	24	12	.375	.625	10.375	3.25	1.5
	36	18	.375	.625	15.625	5	1.5
<b>C</b>	48	24	.5	.75	20.5	6.5	1.875
	60	30	.625	.875	25.375	8	2.25

WARNING SIGN COLORS:  
LEGEND — BLACK  
BACKGROUND— YELLOW (RETROREFLECTIVE)





W1-6R

ONE DIRECTION LARGE ARROW



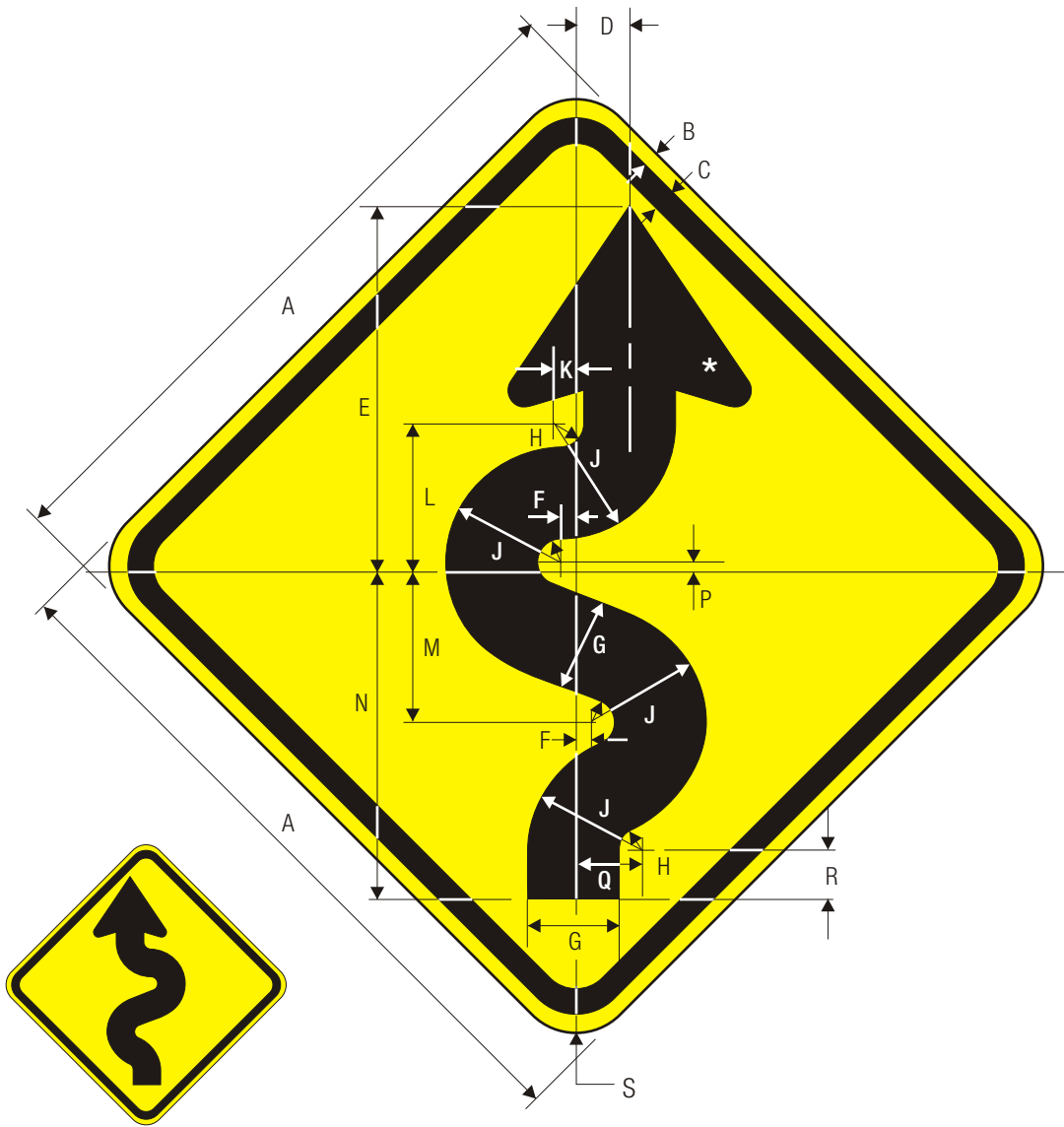
W1-6L

\*See standard arrow details

	A	B	C	D	E	F	G
	24	12	.375	.625	9.625	3.25	1.5
	36	18	.375	.625	14.625	5	1.5
<b>C</b>	48	24	.5	.75	19.5	6.5	1.875
	60	30	.625	.875	24.375	8	2.25

WARNING SIGN COLORS:  
 SYMBOL – BLACK  
 BACKGROUND– YELLOW (RETROREFLECTIVE)

TTC SIGN COLORS:  
 SYMBOL – BLACK  
 BACKGROUND– ORANGE (RETROREFLECTIVE)



W1-5L

W1-5R  
WINDING ROAD

\*See standard arrow details

A	B	C	D	E	F	G	H	J	K	L	M
18	.375	.625	1	9.625	.375	2.5	.625	3	1	4	4
24	.375	.625	1.25	12.75	.5	3.25	.875	4.125	1.25	5.188	5.25
30	.5	.75	1.563	15.938	.625	4.063	1.094	5.156	1.563	6.484	9.563
36	.625	.875	1.875	19.125	.75	4.875	1.313	6.188	1.875	7.781	7.875
48	.75	1.25	2.5	25.5	1	6.5	1.75	8.25	2.5	10.375	10.5

**C**

N	P	Q	R	S
8.625	.25	2	1.25	1.5
11.375	.25	2.5	1.598	1.5
14.219	.313	3.125	2	1.875
17.063	.375	3.75	2.406	2.25
22.75	.5	5	3.188	3

COLORS: LEGEND – BLACK  
BACKGROUND– YELLOW (RETROREFLECTIVE)

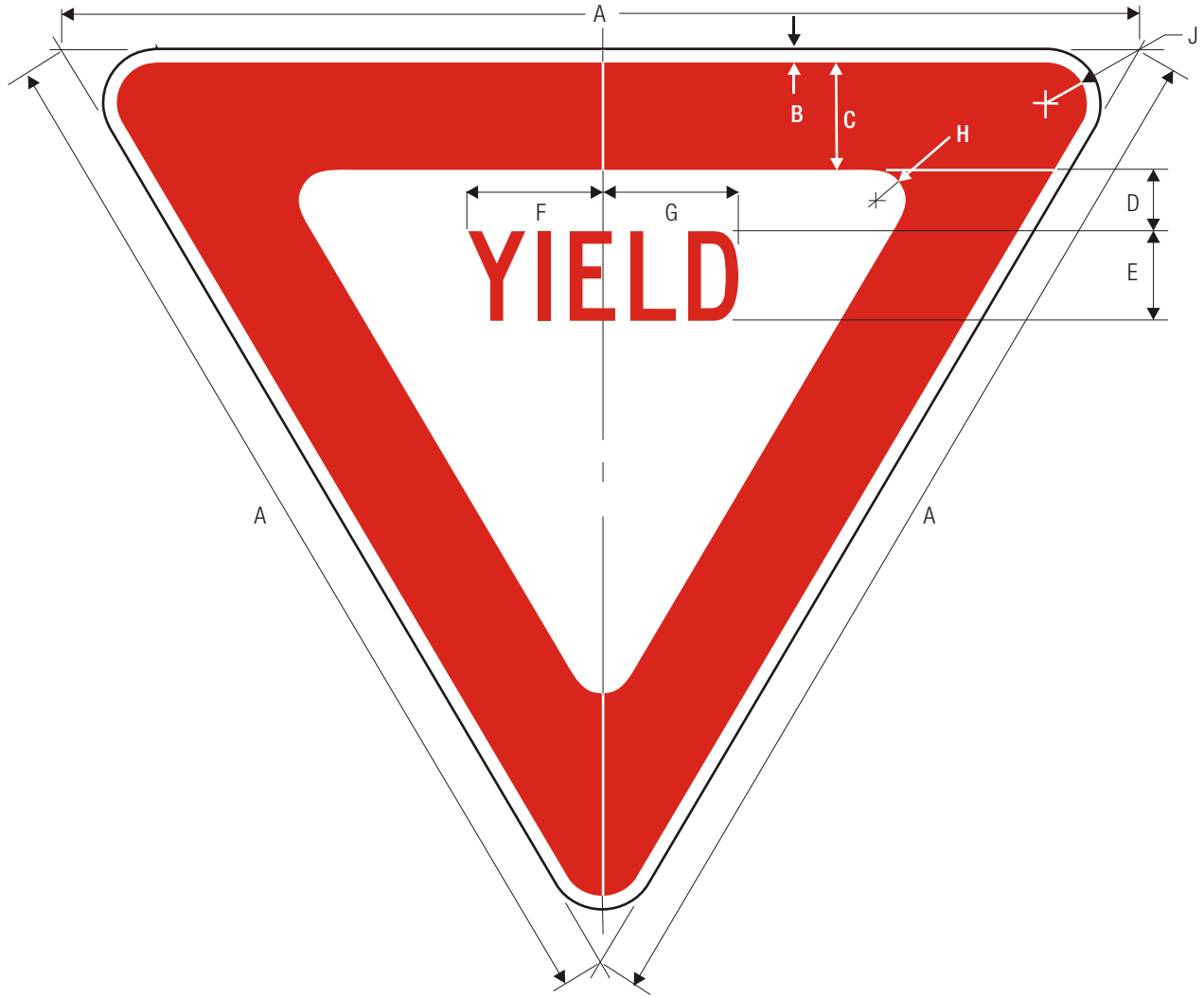


R2-1  
SPEED LIMIT

\* Optically space numerals about centerline.

A	B	C	D	E	F	G	H	J	K	L
18	24	0.375	0.625	3	3 E	2	8 E	7.052	5.491	1.5
24	30	0.375	0.625	4	4 E	2	10 E	9.403	7.321	1.5
30	36	0.5	0.75	4.5	5 E	2.5	12 E	11.754	9.151	1.875
36	48	0.625	0.875	6	6 E	5	14 E	14.105	10.981	2.25
48	60	0.75	1.25	8	8 E	6	16 E	18.806	14.642	3

COLORS: LEGEND, BORDER – BLACK  
BACKGROUND – WHITE (RETROREFLECTIVE)

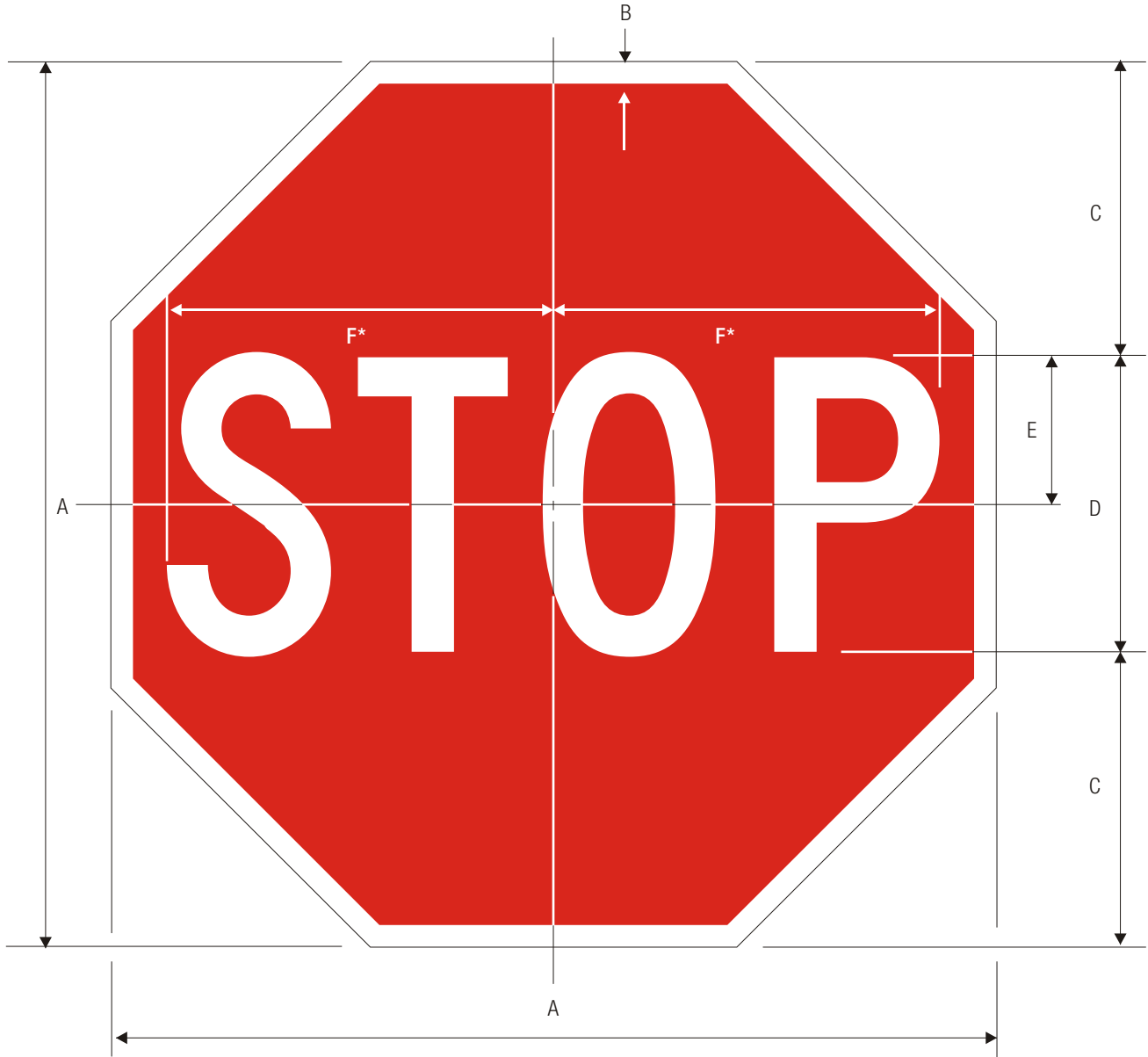


R1-2  
YIELD

A	B	C	D	E	F	G	H	J
18	.375	2	1	1.5 C	2.375	2.188	.625	1.5
24	.375	3	1.375	2 C	3.25	3	.875	1.5
30	.625	4	1.75	2.5 C	3.938	3.625	.875	1.5
36	.75	5	2	3 C	4.688	4.375	1.25	2
48	1	6	2.75	4 C	6.25	5.875	2	3
60	1.5	8	3.5	5 C	7.875	7.25	2.5	4

**C**

COLORS: LEGEND – RED (RETROREFLECTIVE)  
BACKGROUND – WHITE (RETROREFLECTIVE)

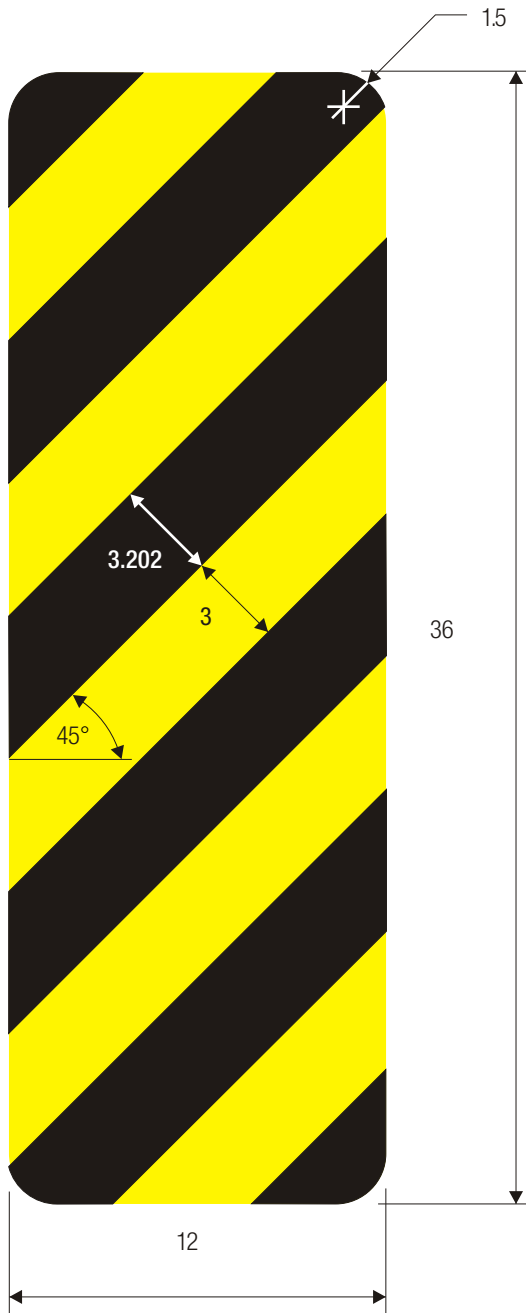


R1-1  
STOP

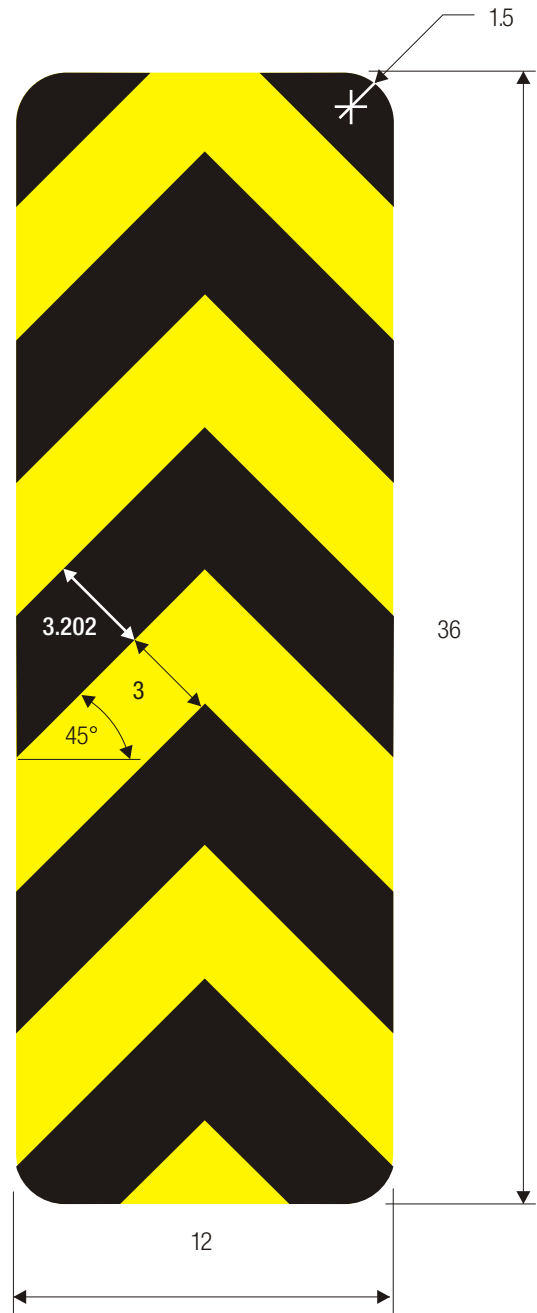
\*Reduce spacing 40%

	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
<b>C</b>	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

COLORS: LEGEND — WHITE (RETROREFLECTIVE)  
BACKGROUND — RED (RETROREFLECTIVE)



OM3-R

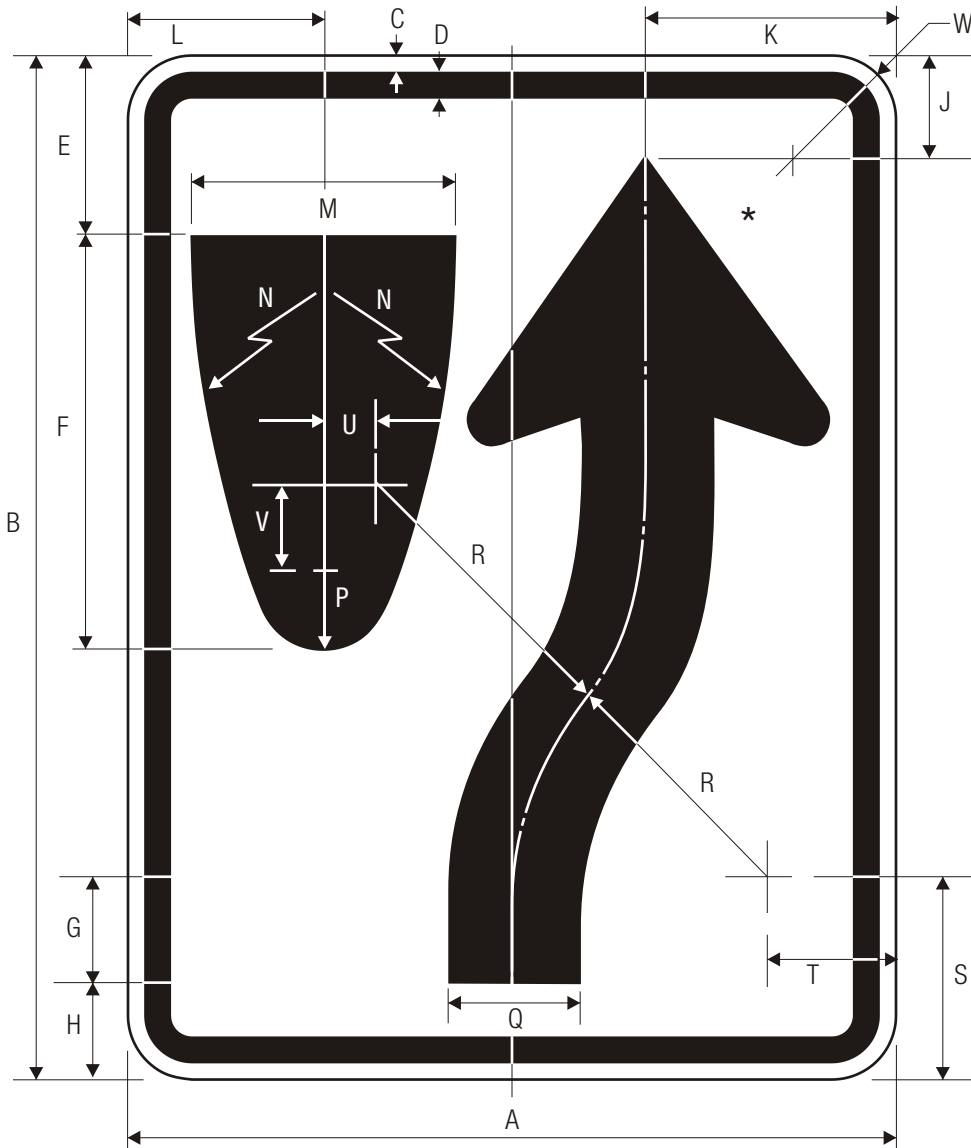


OM3-C



OM3-L

COLORS: STRIPES -BLACK  
BACKGROUND-YELLOW (RETROREFLECTIVE)



**R4-7**  
KEEP RIGHT

\*See page 6-2 for arrow design.

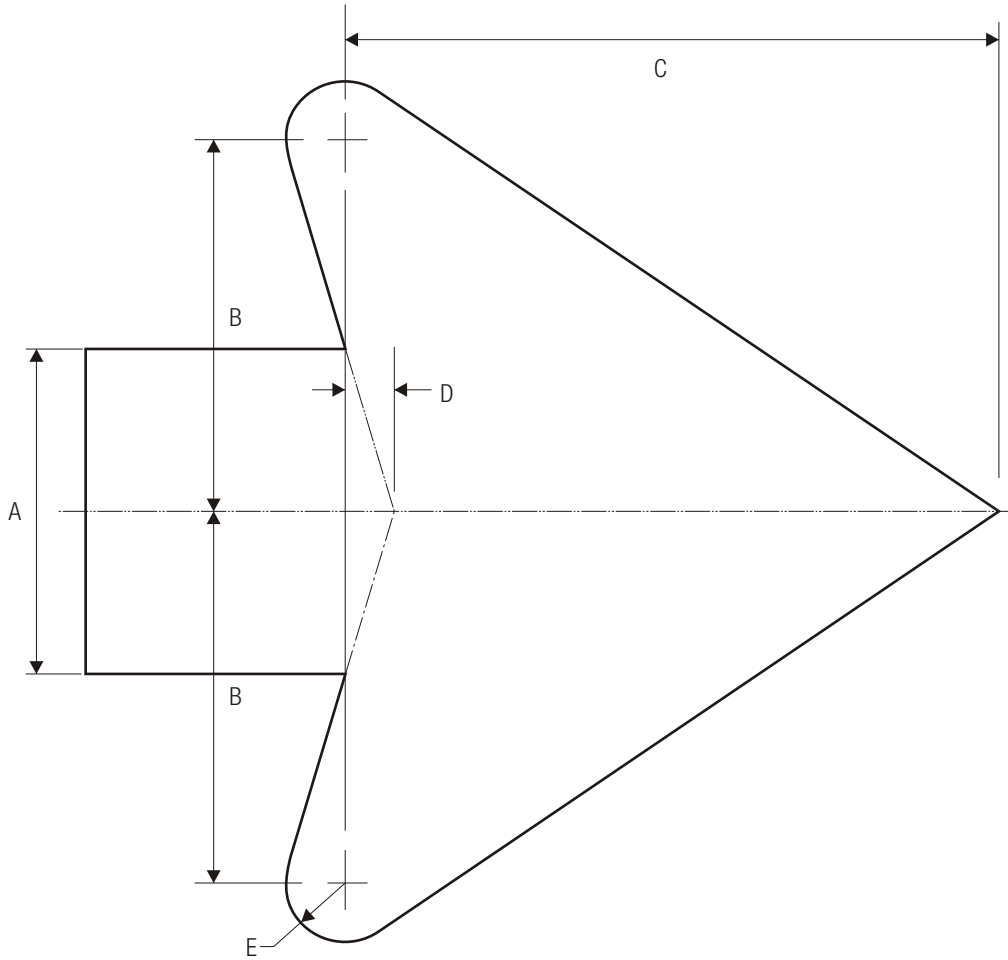
**C**

A	B	C	D	E	F	G	H	J	K	L	M
12	18	.375	.438	4	5.5	1.1	3.28	3.28	3.86	3.526	3.472
18	24	.375	.625	3.375	9.375	1.875	2.25	1.375	5.5	4.688	6
24	30	.375	.625	4.5	12.5	2.5	3	1.875	7.375	6.25	8
36	48	.625	.875	6.75	18.75	3.75	4.5	2.813	11.125	9.375	12
48	60	.75	1.25	9	25	5	6	3.75	14.813	12.5	16

N	P	Q	R	S	T	U	V	W
13	.831	1.75	4.212	4.38	1.826	.375	.5	1.5
22.5	1.5	3	6.75	4.125	2.25	1.063	.438	1.5
30	2	4	9	5.5	3	1.375	2.813	1.5
45	3	6	13.5	8.25	4.5	2	2.75	2.25
60	4	8	18	11	6	2.688	5	3

LEGEND — BLACK  
BACKGROUND — WHITE (RETROREFLECTIVE)

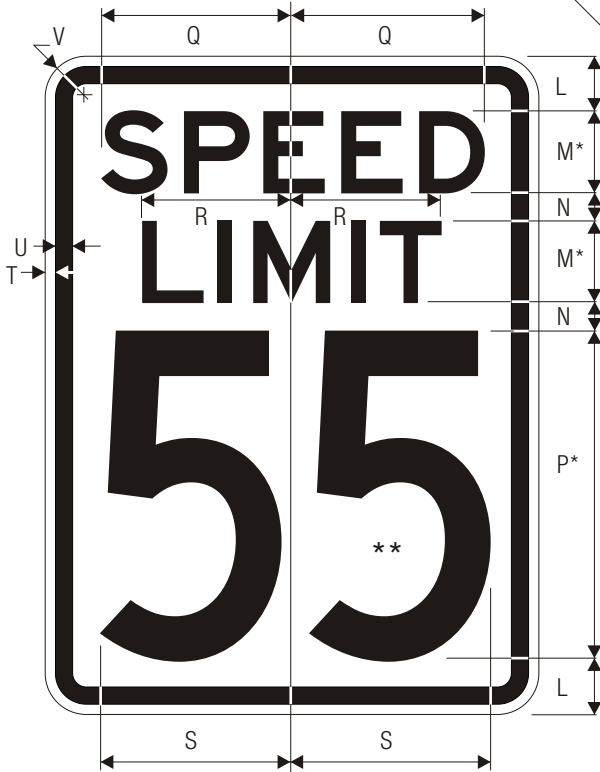
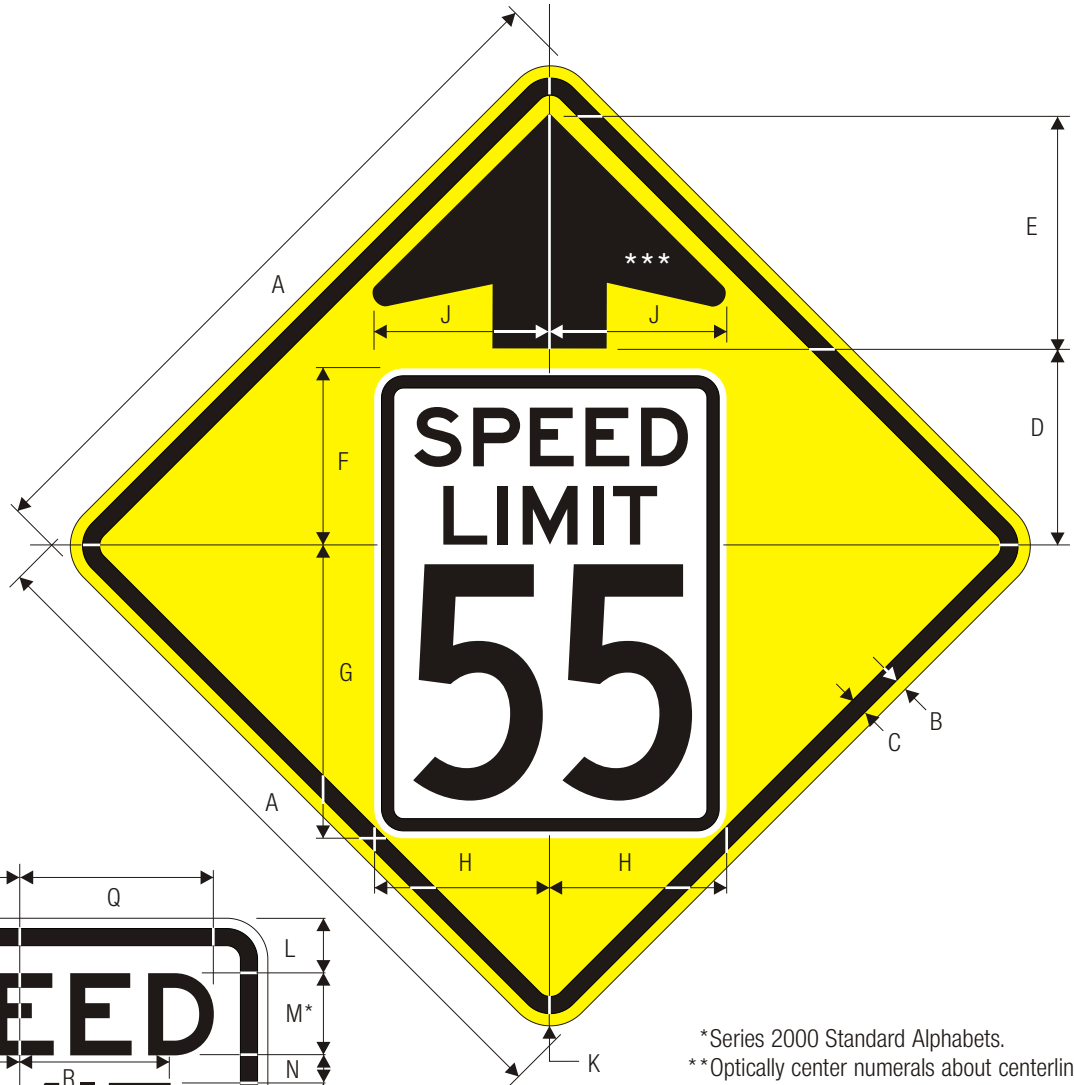
### STANDARD ARROW DETAILS



A	B	C	D	E
2	2.313	4.063	.313	.375
2.25	2.625	4.5	.375	.438
2.5	2.875	5.063	.375	.5
2.625	3	5.25	.375	.5
2.75	3	5.563	.438	.563
3	3.5	6.125	.438	.563
3.125	3.625	6.375	.5	.625
3.25	3.75	6.625	.5	.625
3.313	3.813	6.688	.5	.688
3.5	4	7.125	.563	.688
3.75	4.313	7.625	.563	.75
4	4.625	8.125	.625	.813
4.063	4.75	8.25	.625	.813
4.25	4.875	8.625	.625	.813
4.375	5	8.875	.688	.875
4.5	5.188	9.125	.688	.875

A	B	C	D	E
4.75	5.438	9.625	.75	1
4.875	5.625	9.875	.75	1
5	5.75	10.125	.75	1
5.25	6	10.625	.813	1.063
5.5	6.375	11.125	.875	1.125
5.75	6.625	11.688	.875	1.125
6	6.875	12.188	.938	1.188
6.5	7.5	13.188	1	1.625
7	8	14.188	1.063	1.375
7.5	8.625	15.188	1.125	1.5
8	9.188	16.25	1.25	1.625





W3-5  
SPEED REDUCTION

\*Series 2000 Standard Alphabets.  
\*\*Optically center numerals about centerline.  
\*\*\*See page 6-3 for symbol design.

	A	B	C	D	E	F	G
<b>C</b>	36	.625	.875	10	12	9	15
	48	.75	1.25	11.75	18	10.75	19.25
	H	J	K	L	M	N	P
	9	9	2.25	2	3 E	1	12 C
	12	12	3	2.25	4 E	1.25	15 C
	Q	R	S	T	U	V	
	7	5.46	7.126	.375	.625	2.25	
	9.327	7.279	9.258	.375	.625	3	

WARNING SIGN COLORS:

BORDER & ARROW – BLACK  
 SYMBOL – SEE R2-1  
 BACKGROUND – YELLOW (RETROREFLECTIVE)

TTC COLORS:

BORDER & ARROW – BLACK  
 SYMBOL – SEE R2-1  
 BACKGROUND – ORANGE (RETROREFLECTIVE)



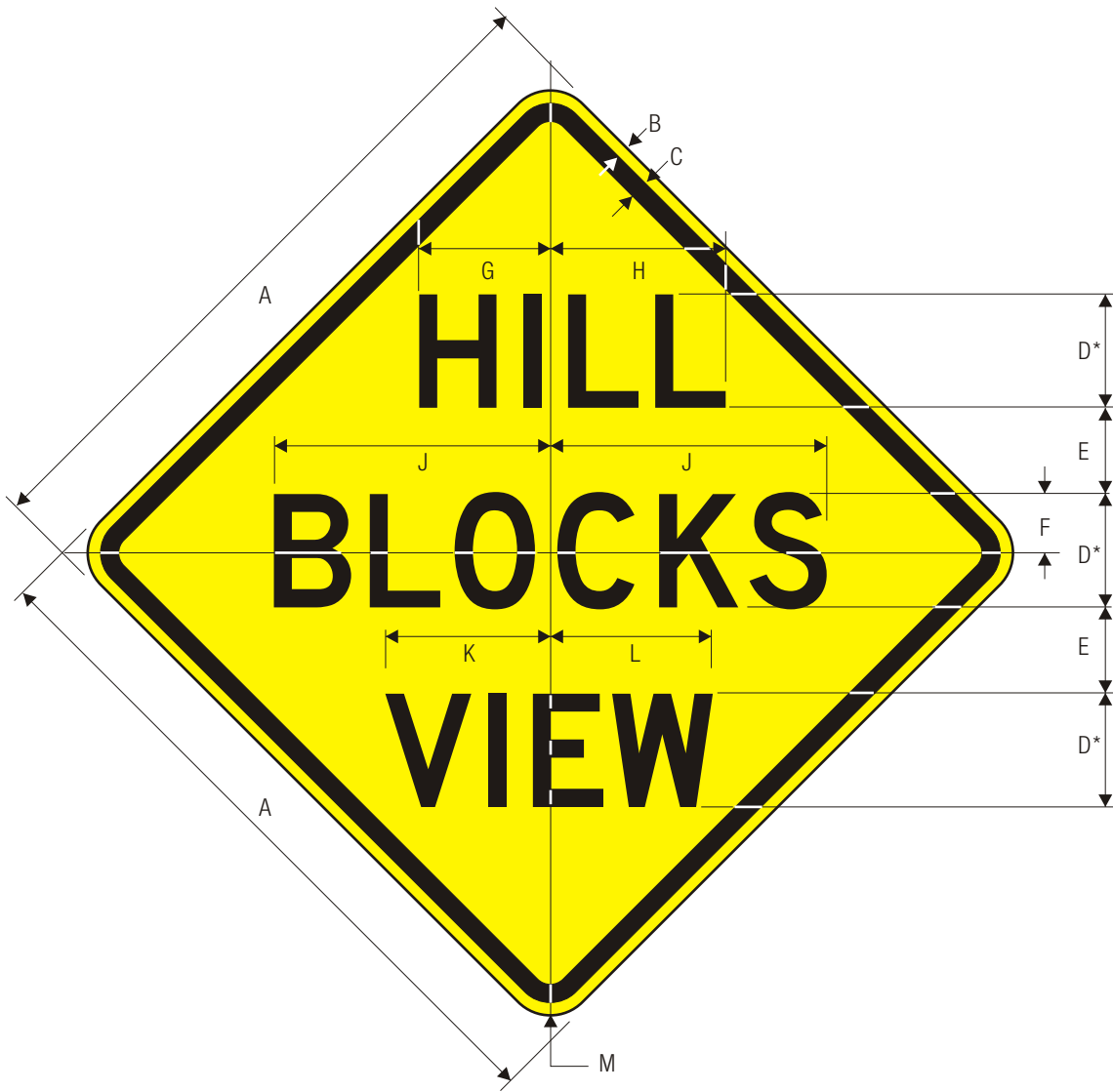
W5-1  
ROAD NARROWS

**C**

A	B	C	D	E	F	G	H	J	K	L
30	.5	.75	5 D	3	1.75	7.875	8.625	14.75	15.125	1.875
36	.625	.875	6 D	3.5	2	9.5	10.313	17.625	18.25	2.25
48	.75	1.25	8 D	4	3	12.688	13.75	23.5	24.375	3

WARNING SIGN COLORS:  
 LEGEND — BLACK  
 BACKGROUND— YELLOW (RETROREFLECTIVE)

TTC SIGN COLORS:  
 LEGEND — BLACK  
 BACKGROUND— ORANGE (RETROREFLECTIVE)



**W7-6**  
HILL BLOCKS VIEW

\*Series 2000 Standard Alphabets.

A	B	C	D	E	F	G	H	J	K	L	M
24	.375	.625	4 D	3	2	4.803	6	9.747	5.844	5.724	1.5
<b>C</b> 30	.5	.75	5 D	3.802	2.601	5.764	7.765	12.189	7.285	7.165	1.875
36	.625	.875	6 D	4.483	3	6.845	9.367	14.631	8.886	8.446	2.25
48	.75	1.25	7 D	5.243	3.522	8.326	10.608	17.052	10.167	10.047	3

COLORS: LEGEND — BLACK  
BACKGROUND — YELLOW (RETROREFLECTIVE)



**W8-18**  
ROAD MAY FLOOD

A	B	C	D	E	F	G	H	J	K	L	M
24	0.375	0.625	4 C	2	2.5	1.5	5.522	4.282	6.553	7.053	1.5
36	0.625	0.875	6 C	3	4	2	8.283	6.423	9.954	10.454	2.25
48	0.75	1.25	8 C	4	5	3	11.044	8.564	13.105	14.105	3

**COLORS:** LEGEND, BORDER — BLACK  
BACKGROUND — YELLOW (RETROREFLECTIVE)

## **APPENDIX G IBWC RIVER BOUNDARY DESIGN REQUIREMENTS**



## **TWO-DIMENSIONAL HYDRAULIC MODELING METHODOLOGY**

For projects within the Rio Grande floodplain, proponents shall demonstrate through hydraulic modeling that the projects do not cause any adverse hydraulic impacts to either the United States or to Mexico, consistent with Article IV-B of the 1970 Boundary Treaty.

The following methodology shall be adopted to develop georeferenced hydraulic models of the existing condition and the proposed condition with the bollard fence, and to analyze the hydraulic impacts.

### **Software:**

The latest version of the U.S. Army Corps of Engineers (USACE) HEC-RAS software, currently HEC-RAS 5.0.7, shall be used for the analysis. This is a free, public domain software and an industry standard.

### **Data Collection:**

The model extent shall cover the project area and cover a reach sufficiently upstream and downstream from the project area. This ensures that the hydraulic results in the project area are not impacted by the boundary conditions. LiDAR data shall be collected to cover this extent. The LiDAR data shall also cover sufficient width to include the width of the floodplain due to the design flow in this reach. An estimate of the extent of the floodplain due to the design flow in the project reach may be obtained from existing one-dimensional HEC-RAS models, if they are available for the Rio Grande reach of interest. In areas without levees, it is recommended that additional width be included, to be conservative.

Because the LiDAR data does not capture the geometry of the main channel of the Rio Grande below the water, cross-section surveys shall be conducted from bank to bank of the main channel. Cross-section surveys shall be conducted at a maximum spacing of 1,000 feet, with closer spacing at locations of curvature, urbanization and changes in geometry.

All data shall be referenced to the horizontal North American Datum (NAD) of 1983 and the North American Vertical Datum (NAVD) of 1988.

### **One-Dimensional (1D)/Two-Dimensional (2D) Model Development:**

A 1D/2D hydraulic model shall be developed for the analysis. The 1D portion includes the main channel and the 2D portion, the floodplains on the U.S. and Mexican sides. HEC-RAS supports multiple computational meshes of variable grid sizes within the two-dimensional (2D) modeling domain. A maximum 150-foot base grid size shall be used for the model. Break lines shall be added to locations where there is a barrier to the flow or controls to flow direction. They shall be placed inside a 2D flow area to align the mesh to geometric features such as road and levees, and along the main channel banks, among others.

A bathymetry surface shall be generated with the surveyed main channel cross sections. This surface shall be used to cut cross sections where necessary for the model. Because the Rio Grande consists of many



tight meanders, the 1D channel shall be simulated using cross-sections at a maximum 600-foot interval, and their width would represent the active main channel.

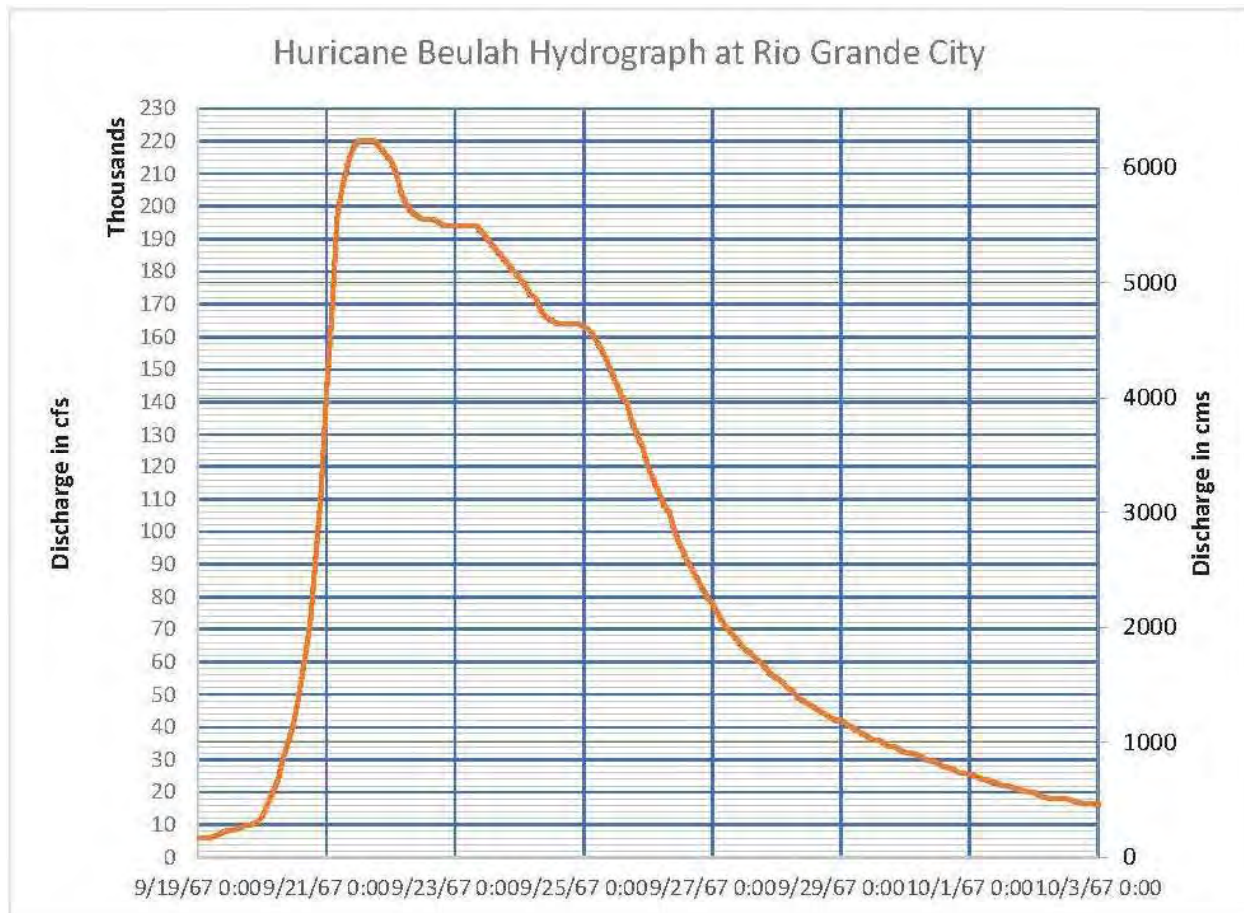
There shall be a mesh on each side of the river's floodplain, one in the U.S. and the other in Mexico. The connection between the 1D main channel and 2D flow area mesh shall be implemented according to the HEC-RAS guidelines using features such as the lateral weir.

Break lines and finer grid elements shall be added around the proposed bollard fence alignment. The final geometry shall consist of two identical meshes for the "Existing Condition" and "Proposed Condition" models, allowing comparisons between them.

### **Inflow Hydrograph:**

A suitable inflow hydrograph based on the design flood shall be adopted in consultation with the U. S. International Boundary and Water Commission (USIBWC). During Hurricane Beulah, a peak discharge of 220,000 cfs was recorded at midnight of September 22<sup>nd</sup> – 23<sup>rd</sup> 1967 at Rio Grande City as shown in Figure 1. The IBWC design flow at Rio Grande City of 250,000 cfs is based on the peak flow from Hurricane Beulah.

**Figure 1: Hurricane Beulah Hydrograph, September 22-23, 1967.**





### **Roughness Coefficients:**

Manning's roughness coefficients (n-values) for the main channel may be used similar to those in the Rio Grande 1D HEC-RAS model of S&B (2008) or HEC-RAS models at the project reach if they exist. The floodplain roughness coefficients (2D areas) shall be developed using land use Geographic Information System (GIS) datasets from the U.S. Geological Survey (USGS) and Instituto Nacional de Estadística y Geografía (INEGI) data webservices. The land use types in the U.S. and Mexican sides of the floodplain shall be noted for selecting the roughness coefficients. Example values for n-values include: main channel and open water = 0.05; developed open space = 0.03; developed low and medium intensity = 0.068; barren land (bare ground) = 0.03; deciduous forest = 0.08; evergreen forest = 0.10; mixed forest = 0.12; shrub/scrub = 0.10; herbaceous = 0.07; hay/pasture = 0.05; cultivated crops = 0.05; woody wetlands = 0.20; emergent wetlands = 0.20. Values from the literature shall also be consulted. However, n-values may be suitably modified using engineering judgment and consistent with values in the engineering literature to address modeling issues such as numerical stability and volume conservation. ArcGIS shapefile of land use polygons may be created and associated with the corresponding roughness coefficients for use in the HEC-RAS model.

### **Boundary Conditions:**

The boundary conditions are applied upstream and downstream. As explained above, the modeling domain shall extend sufficiently upstream and downstream of the bollard fence extent to ensure that the boundary conditions do not impact the hydraulic variables at the fence location.

### **Modeling Approach:**

The hydraulic modeling shall use the Full Momentum (Saint Venant) equations for the computations. These equations provide accurate solutions in situations such as highly dynamic flood waves, tight bends as seen in the meanders of the Rio Grande, and detailed water surface elevations and velocities at structures, among other situations as described in the HEC-RAS 2D Modeling Users Manual. Guidelines for grid size and timestep provided in the manual shall be followed to ensure that the model runs meet the Courant condition guidelines, exhibit good stability and excellent volume conservation.

### **Numerical Stability Tolerance Values:**

The following 1D and 2D settings (Figure 2, Figure 3 and Figure 4) shall be used for the computation of the models. Settings may be adjusted depending on the performance of the models. The cross-section hydraulic table parameters shall be modified as necessary to improve model stability. The unsteady hydraulic models shall demonstrate excellent volume conservation results and have numerical instabilities eliminated or minimized.





Figure 2: General 1D Unsteady Numerical Control Values

HEC-RAS Unsteady Computation Options and Tolerances

General (1D Options) | 2D Flow Options | 1D/2D Options

Unsteady Flow Options

Theta [implicit weighting factor] (0.6-1.0):	1	Number of warm up time steps (0 - 100,000):	100
Theta for warm up [implicit weighting factor] (0.6-1.0):	1	Time step during warm up period (hrs):	
Water surface calculation tolerance [max=0.2](ft):	0.05	Minimum time step for time slicing (hrs):	
Storage Area elevation tolerance [max=0.2](ft):	0.05	Maximum number of time slices:	20
Flow calculation tolerance [optional] (cfs):		Lateral Structure flow stability factor (1.0-3.0):	3
Max error in water surface solution (Abort Tolerance)(ft):	100	Inline Structure flow stability factor (1.0-3.0):	3
Maximum number of iterations (0-40):	40	Weir flow submergence decay exponent (1.0-3.0):	3
Maximum iterations without improvement (0-40):		Gate flow submergence decay exponent (1.0-3.0):	1
		DSS Messaging Level (1 to 10, Default = 4)	4

Geometry Preprocessor Options

Family of Rating Curves for Internal Boundaries

- Use existing internal boundary tables when possible.
- Recompute at all internal boundaries

1D Equation Solver

- Skyline/Gaussian (Default: Faster for dendritic systems)
- Pardiso (Optional: May be faster for large interconnected systems)

Number of cores to use with Pardiso solver: All Available

OK Cancel Defaults ...

Figure 3: 2D Flow Options Tolerance Values

HEC-RAS Unsteady Computation Options and Tolerances

General (1D Options) | 2D Flow Options | 1D/2D Options

Use Coriolis Effects (only when using the momentum equation)

Number of cores to use in 2D computations: All Available

Parameter	(Default)	811	812
1 Theta (0.6-1.0):	1	1	1
2 Theta Warmup (0.6-1.0):	1	1	1
3 Water Surface Tolerance [max=0.2](ft)	0.05	0.05	0.05
4 Volume Tolerance (ft)	0.05	0.05	0.05
5 Maximum Iterations	40	40	40
6 Equation Set	Diffusion Wave	Diffusion Wave	Diffusion Wave
7 Initial Conditions Time (hrs)			
8 Initial Conditions Ramp Up Fraction (0-1)	0.1	0.1	0.1
9 Number of Time Slices (Integer Value)	1	1	1
10 Eddy Viscosity Transverse Mixing Coefficient		2	2
11 Boundary Condition Volume Check	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 Latitude for Coriolis (-90 to 90)			

OK Cancel Defaults ...



**Figure 4: 1D/2D Tolerance Options**

HEC-RAS Unsteady Computation Options and Tolerances

General (1D Options) | 2D Flow Options | **1D/2D Options**

Maximum iterations between 1D and 2D (0=off, 1 to 20):	20
Water surface tolerance (ft):	0.05
Flow Tolerance (%)	0.1
Minimum flow tolerance (cfs):	10

OK Cancel Defaults ...

**Existing Condition Model:**

An existing condition 1D/2D HEC-RAS model shall be developed using the above elements.

**Model Calibration:**

The existing condition HEC-RAS 1D/2D model shall be calibrated to match the water surface elevations from nearby gaging stations and historical highwater marks. The model needs to simulate the design flow elevation or higher by adjusting input parameters within a reasonable range. Values of historical flood elevation values from Hurricane Beulah, Hurricane Alex and similar events may also be used for the calibration. It is recognized, however, that site conditions may have changed over time from features such as sediment and vegetation, limiting calibration efforts.

**Proposed Condition Model:**

The proposed bollard fence shall be included in the existing condition model geometry by features such as a lateral weir using the HEC-RAS 2D Internal Hydraulic structures component. The lateral weir internal cross-section captures the terrain profile for the existing conditions, and for the proposed condition the bollard fence shall be represented by modifying the internal cross-sections. The 2D Internal Hydraulic structure uses the “Normal 2D Equation” or the “Weir Equation” to compute the exchange of flows across the structure.



Detailed examination of the impacts of the proposed bollard fence shall be facilitated using break lines within the 2D modeling domain. The bollard fence may be represented by a shapefile imported into HEC-RAS and break lines within the HEC-RAS break line module. Break lines force a finer computational grid within the 2D area.

In the existing condition, the break lines represent the existing terrain. In the proposed condition, the break lines are converted to interior 2D connections using the existing terrain stations and elevations. The stations and elevations shall be processed to generate the stations and elevations to the height of the bollard fence at the existing ground. Since each lateral weir segment can only accommodate a maximum of 500 stations, multipliers (example 8 to 10) may be used to combine the bollard spacing and thickness. To represent the entire length of the proposed bollard fence, multiple segments of lateral weirs may be required.

Flood flows generate debris. Therefore, blockage due to debris shall be evaluated at or above 30% along the length of the proposed bollard fence.

#### **Interim Condition Model:**

In case the bollard fence is constructed in multiple phases, interim condition hydraulic modeling is required for each phase. These models would be developed similar to the proposed condition model described above. The first interim condition model would use the existing condition model as a starting point and input the interim construction project. The next interim condition model would use the first interim condition model as the starting point and add the next phase of the project. The proposed condition model would represent the full build out condition of the project. Fence segments that are not physically contiguous but are in close proximity to other fence segments may be considered as one project. Coordination with the USIBWC is recommended to determine if non-contiguous segments must be considered as one project. The succession of hydraulic models from the existing condition model to the proposed condition model shall show the cumulative infrastructure development within the floodplain.

#### **Hydraulic Impact Calculations - Water Surface Elevation Increases:**

For 2D hydraulic models, Water Surface Elevations (WSE) shall be compared by developing existing and proposed condition maximum WSE rasters using the HEC-RAS Mapper tools. The existing condition raster shall be subtracted from the proposed condition raster in ArcGIS tools to develop a third raster showing the difference. This new raster shows the increase in maximum WSE between the existing and proposed conditions. The raster can identify regions or clusters of changes in WSE. A map showing these WSEL increases with a legend on the magnitude of these increases shall be prepared for including in the technical report. The map shall be of sufficient size to clearly identify the WSE differences and the legend indicating the values shall be legible.

For 1D hydraulic models, threshold limits for WSE increases are a maximum of three (3) inches in urban areas and six (6) inches in rural areas. WSE increase is the difference between the proposed and existing condition WSE. These thresholds are valid, however, only in reaches of the Rio Grande without flood



control levees. In leveed areas, any increase in WSE represents a decrease in the levee freeboard and an increase in the flood risk to landside communities in the U.S. and Mexico.

Therefore, there shall be no increase in the WSE values in the proposed condition in leveed areas.

### **Hydraulic Impact Calculations - Percent Flow Deflections:**

For 1D models, the hydraulic impacts due to increases in percent deflection of flows are calculated as follows. Looking downstream, the flow in the U.S. portion is the flow in the left half of the main channel and the left floodplain. The flow in the Mexican portion is the flow in the right half of the main channel and the right floodplain.

These flows can be obtained for each cross section from the 1D HEC-RAS model output using the HEC-RAS variables 'Q Left,' 'Q Channel,' and 'Q Right' which represent the left overbank, main channel and right overbank flows, respectively. For example, the proposed condition flow on the Mexican side, QMXproposed, is calculated as half the proposed condition flow in the main channel (because the centerline of the main channel is the boundary between U.S. and Mexico) plus the total proposed condition flow in the right overbank (Mexico). This calculation is repeated for the existing condition flow in Mexico, QMXexisting. Similarly, the proposed condition U.S. flow, QUSproposed, and existing condition U.S. flow, QUSexisting, are calculated. To calculate the deflection of flows towards Mexico, QMXexisting is subtracted from the QMXproposed, and the difference is divided by QMXexisting. This is then expressed as a percentage. This process is repeated to calculate the percent deflection of flows towards the U.S.

The flows in the 1D/2D model can be analyzed for deflection impacts in an equivalent manner using profile lines, or profile cross-sections, within HEC-RAS Mapper. The various flows are represented by the 2D mesh in the U.S. (left overbank), the 1D channel component (the channel), and the 2D mesh in Mexico (right overbank). The profile cross-sections are drawn left to right across the 2D mesh as extensions of the 1D channel component cross-sections at intervals of 1,000 feet. The percent deflections of flow are calculated similar to the 1D models, using the maximum peak discharge, an optional output variable in HEC-RAS Mapper for the profile lines. Because of the flow direction variations throughout the reach, these profile lines are drawn perpendicular to the general flow direction in the floodplain at the prescribed locations. A figure of the cross-section locations for impact calculations shall be submitted in advance for review. Additional cross sections may be added later for impact calculations at locations of interest.

At each cross section, the percent deflection of flow to either the U.S. or to Mexico shall not exceed +5%. The results shall be presented in a spreadsheet showing the calculations explained above.

### **Technical Report:**

The hydraulic modeling and results shall be documented in detail in a technical report. The report shall be signed and sealed by a Professional Engineer registered in the State of Texas. The report is intended to be a stand-alone technical document that can be referred in future, for example, in case modifications to the bollard fence are required based on observed adverse hydraulic impacts to flood events. The report shall include a discussion of the purpose of the study, study area, modeling methodology and model development, results and discussion. The results shall discuss the hydraulic impacts resulting from the proposed bollard fence project. The report shall also include relevant figures, floodplain maps, WSE difference rasters, deflection calculation tables and appendices. A Digital Video Disc (DVD) or External



Hard Drive shall be submitted with digital model files, impact calculations and a Readme file describing the contents.

**Reference:**

S&B Infrastructure, Ltd., Lower Rio Grande Flood Control Project, HEC-RAS Hydraulic Model Update and Validation (Peñitas to River Mile 28 and Off-River Floodways in Texas and Mexico), prepared for the International Boundary and Water Commission, July, 2008.



## TECHNICAL DRAINAGE REPORT REQUIREMENTS FOR USIBWC REVIEW

### Cover Letter with Contact Information

#### Formal Drainage Report:

Purpose of Study

Location

Site Description (off-site and on-site drainage conditions, prominent drainage features such as levees)

FEMA Floodplains

Proposed Conditions

Methodology (hydrologic and hydraulic analysis for existing and proposed conditions with list of software used with version numbers)

Results and Discussion (discuss hydraulic impacts, compliance with criteria from relevant agencies)

Conclusions

List of References

#### Appendices containing the following:

**Figures:** Relevant figures such as vicinity map, soils maps, land use maps, drainage basin map, floodplain map, FEMA FIRM

Figures should preferably be in color, legible and convey technical information with prominent features labeled. Include multiple figures to convey information clearly if needed.

Relevant engineering drawings describing the proposed project

**Model Outputs:** Calculation tables, hydrologic model outputs, hydraulic model outputs. HEC-RAS Standard Table 1, profile plots, cross-section plots, HEC-RAS generated report. Storm drain calculations, scour and sediment calculations

**Reference Material:** Include relevant documents such as portions from criteria manuals, FEMA FIRM, FEMA FIS table for discharges, geotechnical reports, earlier drainage reports

**DVD:** Readme file describing DVD contents, hydrologic models, hydraulic models, spreadsheet calculations, effective FEMA models, GIS and CADD files, reference studies

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Calculation of Hydraulic Impacts

HYDRAULIC IMPACTS

RS	Proposed Condition			Existing Condition			WSEL (m)	Vel (m/s)	WSEL (m)	Vel (m/s)	DIF WSEL (m)	DIF Vel (m/s)	Proposed Condition QMS (cms)	Existing Condition QMS (cms)	Deflection US (cms)	MX (cms)	Percent Deflection US	MX	
	QIn (cms)	QOut (cms)	QCh (cms)	QIn (cms)	QOut (cms)	QCh (cms)													QMS (cms)
1000	945.14	2149.05	1565.36	118.42	1.88	118.42	1.88	118.42	1.88	0.00	0.00	1319.89	3640.11	-0.0050	0.0050	0.00%	0.00%		
999	131.65	2453.66	1473.29	118.42	1.84	118.42	1.84	118.42	1.84	0.00	0.00	1310.30	2648.82	-0.0150	0.0050	0.00%	0.00%		
998	199.12	2088.92	1671.96	118.42	1.85	118.42	1.85	118.42	1.85	0.00	0.00	1243.59	2738.05	-0.0050	0.0050	0.00%	0.00%		
997	200.64	2040.62	1718.72	118.42	1.79	118.42	1.79	118.42	1.79	0.00	0.00	1220.95	2738.05	-0.0050	0.0050	0.00%	0.00%		
996	167.88	2068.23	1723.89	118.41	1.78	118.41	1.78	118.41	1.78	0.00	0.00	1202.01	2757.91	-0.0150	0.0050	0.00%	0.00%		
995	306.58	1875.76	1777.67	118.39	1.88	118.39	1.88	118.39	1.88	0.01	0.01	1244.47	2715.54	-0.0050	0.0050	0.00%	0.00%		
994	331.06	1921.45	1707.49	118.39	1.85	118.39	1.85	118.39	1.85	0.00	0.00	1291.79	2668.22	-0.0050	0.0050	0.00%	0.00%		
993	364.35	1851.4	1744.25	118.38	1.86	118.38	1.86	118.38	1.86	0.00	0.00	1290.05	2669.94	-0.0050	0.0050	0.00%	0.00%		
992	359.39	1821.38	1779.23	118.38	1.86	118.38	1.86	118.38	1.86	0.00	0.00	1270.08	2689.91	-0.0200	0.0050	0.00%	0.00%		
991	329.73	1973.87	1656.41	118.37	1.83	118.37	1.83	118.37	1.83	0.00	0.00	1316.68	2643.34	-0.0100	0.0050	0.00%	0.00%		
990	278.07	2204.54	1477.4	118.36	1.77	118.36	1.77	118.36	1.77	0.00	0.00	1380.34	2578.66	-0.0100	0.0050	0.00%	0.00%		
989	317.77	1942.69	1699.54	118.35	1.85	118.35	1.85	118.35	1.85	0.00	0.00	1289.12	2670.88	-0.0100	0.0050	0.00%	0.00%		
988	346.82	2174.23	1438.95	118.35	1.75	118.35	1.75	118.35	1.75	0.00	0.00	1433.94	2526.06	-0.0100	0.0050	0.00%	0.00%		
987	360	2040.92	1559.08	118.33	1.85	118.33	1.85	118.33	1.85	0.00	0.00	1380.46	2579.54	-0.0100	0.0050	0.00%	0.00%		
986	343.31	2252.41	1364.27	118.32	1.83	118.32	1.83	118.32	1.83	0.00	0.00	1469.53	2490.47	-0.0150	0.0050	0.00%	0.00%		
985	248.02	2338.05	1373.92	118.32	1.78	118.32	1.78	118.32	1.78	0.00	0.00	1417.05	2542.94	-0.0150	0.0050	0.00%	0.00%		
984	333.28	2163.23	1463.51	118.31	1.82	118.31	1.82	118.31	1.82	0.00	0.00	1414.90	2545.12	-0.0050	0.0050	0.00%	0.00%		
983	350.94	2255.25	1353.81	118.31	1.69	118.31	1.69	118.31	1.69	0.00	0.00	1478.57	2481.44	-0.0150	0.0050	0.00%	0.00%		
982	367.47	2166.44	1426.09	118.29	1.83	118.29	1.83	118.29	1.83	0.00	0.00	1450.69	2509.31	-0.0150	0.0050	0.00%	0.00%		
981	432.04	2200.52	1327.44	118.28	1.84	118.28	1.84	118.28	1.84	0.00	0.00	1532.30	2427.70	-0.0100	0.0050	0.00%	0.00%		
980	457.73	2116.6	1386.67	118.25	1.83	118.25	1.83	118.25	1.83	0.00	0.00	1515.03	2444.97	-0.0050	0.0050	0.00%	0.00%		
979	357.45	2295.83	1306.72	118.25	1.8	118.25	1.8	118.25	1.8	0.00	0.00	1505.37	2454.62	-0.0150	0.0050	0.00%	0.00%		
978	282.18	2514.17	1163.65	118.24	1.77	118.24	1.77	118.24	1.77	0.00	0.00	1539.27	2420.74	-0.0200	0.0050	0.00%	0.00%		
977	370.38	2392.11	1316.35	118.24	1.83	118.24	1.83	118.24	1.83	0.00	0.00	1496.82	2543.39	-0.0200	0.0050	0.00%	0.00%		
976	318.3	2456.1	1346.11	118.23	1.78	118.23	1.78	118.23	1.78	0.00	0.00	1484.91	2543.39	-0.0200	0.0050	0.00%	0.00%		
975	202.19	2407	1150.71	118.23	1.71	118.23	1.71	118.23	1.71	0.00	0.00	1455.76	2504.21	-0.0200	0.0050	0.00%	0.00%		
974	923.13	2492.52	1395.35	118.23	1.61	118.23	1.61	118.23	1.61	0.00	0.00	1638.39	2324.61	-0.0050	0.0050	0.00%	0.00%		
973	787.96	2033.87	1138.17	118.24	1.43	118.24	1.43	118.24	1.43	0.00	0.00	1804.90	2155.11	-0.0250	0.0050	-0.03%	-0.03%		
972	1278.84	1870.49	860.68	118.25	1.35	118.25	1.35	118.25	1.35	0.00	0.00	1964.09	1796.39	0.4750	-0.4650	0.02%	-0.02%		
971	1265.63	1915.06	821.23	118.24	1.34	118.24	1.34	118.24	1.34	0.00	0.00	2002.20	1756.80	-1.0000	1.0000	-0.05%	0.06%		
970	1269.03	1915.06	775.92	118.24	1.3	118.24	1.3	118.24	1.3	0.00	0.00	2262.20	1733.45	0.3000	-0.3000	0.01%	-0.02%		
969	1256.22	1688.94	1014.84	118.23	1.4	118.23	1.4	118.23	1.4	0.00	0.00	2100.52	1859.50	0.1750	-0.1750	0.01%	0.01%		
968	1150.49	1976.81	832.7	118.22	1.38	118.22	1.38	118.22	1.38	0.00	0.00	2138.90	1821.08	-0.0300	0.0300	0.00%	-0.00%		
967	1066.34	2046.61	847.05	118.21	1.4	118.21	1.4	118.21	1.4	0.00	0.00	2088.65	1871.94	1.8500	-1.8500	0.08%	-0.08%		
966	1128.56	1638.97	1192.47	118.21	1.46	118.21	1.46	118.21	1.46	0.00	0.00	2089.65	2011.42	-0.5350	0.5350	-0.03%	-0.03%		
965	1061.49	2079.2	819.31	118.21	1.26	118.21	1.26	118.21	1.26	0.01	0.01	1948.05	2011.42	0.5750	-0.5750	0.03%	-0.03%		
964	1153.89	1527.05	1280.07	118.2	1.36	118.2	1.36	118.2	1.36	0.00	0.00	2101.09	1858.91	-0.5850	0.5850	-0.03%	-0.03%		
963	1205.51	1477.97	1279.52	118.19	1.45	118.19	1.45	118.19	1.45	0.00	0.00	1916.42	2043.60	-0.5850	0.5850	-0.03%	-0.03%		
962	1021.46	2276.62	661.92	118.18	1.35	118.18	1.35	118.18	1.35	0.00	0.01	1941.50	2027.12	8.6150	-8.6150	0.45%	-0.42%		
961	951.21	2285.44	723.35	118.17	1.42	118.17	1.42	118.17	1.42	0.00	0.00	2159.77	1809.11	8.8800	-8.8800	0.36%	-0.41%		
960	880.03	2345.57	811.18	118.15	1.51	118.15	1.51	118.15	1.51	0.00	0.00	2093.93	1866.07	2086.32	-2086.32	7.6100	-7.6100	0.21%	-0.21%
959	803.26	2345.57	811.18	118.15	1.51	118.15	1.51	118.15	1.51	0.00	0.00	1976.05	1983.97	4.3300	-4.3300	0.30%	-0.29%		
958	621.9	2457.31	880.79	118.13	1.56	118.13	1.56	118.13	1.56	0.00	0.00	1850.56	2109.45	3.9500	-3.9500	0.18%	-0.16%		
957	840.17	2172.22	947.61	118.12	1.67	118.12	1.67	118.12	1.67	0.00	0.00	1928.28	2037.72	3.4400	-3.4400	0.17%	-0.16%		
956	805.06	2088.1	1086.85	118.1	1.75	118.1	1.75	118.1	1.75	0.00	0.01	1928.28	2037.72	3.4400	-3.4400	0.09%	-0.08%		
955	982.51	1869.19	1106.3	118.1	1.67	118.1	1.67	118.1	1.67	0.00	0.00	1869.11	2090.90	1.7000	-1.7000	0.00%	0.00%		
954	652	2342.03	965.98	118.08	1.7	118.08	1.7	118.08	1.7	0.00	0.00	1917.11	2042.90	0.0000	0.0000	0.00%	0.00%		
953	692.4	2118.93	1116.1	118.06	1.84	118.06	1.84	118.06	1.84	0.00	0.00	1823.02	2137.00	0.0000	0.0000	0.00%	0.00%		
952	692.4	2118.93	1116.1	118.06	1.91	118.06	1.91	118.06	1.91	0.00	0.00	1769.31	2199.80	0.0000	0.0000	0.00%	0.00%		
951	769.85	2139.47	1110.68	118.04	1.92	118.04	1.92	118.04	1.92	0.00	0.00	1779.59	2180.42	0.0000	0.0000	0.00%	0.00%		
950	748.34	2123.93	1089.69	118.02	1.99	118.02	1.99	118.02	1.99	0.00	0.00	1808.33	2151.68	0.0000	0.0000	0.00%	0.00%		
949	503.34	2465.6	981.07	118.01	1.88	118.01	1.88	118.01	1.88	0.00	0.00	1736.14	2223.87	0.0000	0.0000	0.00%	0.00%		
948	473.87	2463.72	992.4	117.98	1.97	117.98	1.97	117.98	1.97	0.00	0.00	1720.73	2238.26	0.0000	0.0000	0.00%	0.00%		
					0.01		0.01			0.01	0.01				8.88	1.00	0.45%	0.06%	
					0.00		0.00			0.00	0.00				-8.88	-1.00	-0.05%	-0.49%	

**APPENDIX H IBWC LAND BOUNDARY DESIGN REQUIREMENTS**





## TECHNICAL DRAINAGE REPORT REQUIREMENTS FOR USIBWC REVIEW

### Cover Letter with Contact Information

#### Formal Drainage Report:

Purpose of Study

Location

Site Description (off-site and on-site drainage conditions, prominent drainage features such as levees)

FEMA Floodplains

Proposed Conditions

Methodology (hydrologic and hydraulic analysis for existing and proposed conditions with list of software used with version numbers)

Results and Discussion (discuss hydraulic impacts, compliance with criteria from relevant agencies)

Conclusions

List of References

#### Appendices containing the following:

**Figures:** Relevant figures such as vicinity map, soils maps, land use maps, drainage basin map, floodplain map, FEMA FIRM

Figures should preferably be in color, legible and convey technical information with prominent features labeled. Include multiple figures to convey information clearly if needed.

Relevant engineering drawings describing the proposed project

**Model Outputs:** Calculation tables, hydrologic model outputs, hydraulic model outputs. HEC-RAS Standard Table 1, profile plots, cross-section plots, HEC-RAS generated report. Storm drain calculations, scour and sediment calculations

**Reference Material:** Include relevant documents such as portions from criteria manuals, FEMA FIRM, FEMA FIS table for discharges, geotechnical reports, earlier drainage reports

**DVD:** Readme file describing DVD contents, hydrologic models, hydraulic models, spreadsheet calculations, effective FEMA models, GIS and CADD files, reference studies

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## **LAND BOUNDARY PROJECT REQUIREMENTS**

This document outlines the hydrologic and hydraulic modeling, erosion protection and additional documents to be submitted to the United States Section of the International Boundary and Water Commission (USIBWC) in advance of projects along the land boundary between the United States and Mexico. Additional requirements related to boundary delineation and demarcation are also described. Examples of these projects include the U.S. Customs and Border Protection (CBP) border fence projects constructed within the Roosevelt Easement (within 60 feet of the border), access roads, the U.S. General Services Administration (GSA) Port of Entry facilities and related projects.

The purpose of these requirements is to avoid adverse hydraulic and erosional impacts to either the United States or Mexico and to maintain the structural integrity of the boundary monuments and visibility between the adjacent monuments, as well as maintaining access to these monuments. They are also intended to maintain the integrity of any existing intermediate markers between the boundary demarcation. The procedures outlined below are also intended to prevent inadvertent encroachment or construction in the territory of Mexico.

### **DRAINAGE ANALYSIS**

The extent of the analysis required shall depend upon the complexity of the project. The methods used for the analysis shall be consistent with established engineering practice. In many cases, local municipalities have detailed criteria especially suited for local conditions, and these shall also be used.

### **Hydrology**

For projects along the land boundary where rivers or washes flow from either U.S. to Mexico or vice versa, the 100-year 24-hour discharges for the washes shall be determined from the upstream contributing watershed.

Depending upon the nature of the project, discharges of additional return periods such as the 25-year or the 50-year may also need to be analyzed as determined by the IBWC or for meeting local municipal drainage or other agency requirements. Analysis of lower return-period discharges may be necessary if there are clear adverse hydraulic impacts or erosional impacts anticipated from site conditions such as existing scour holes.

The discharges are estimated using various methods such as the rational method, the Natural Resources Conservation Service (NRCS) TR-55 method and the U.S. Geological Survey (USGS)

regression equations. The discharges may also be obtained by developing detailed hydrologic models using, for example, the U.S. Army Corps of Engineers HEC-1 and HEC-HMS (version 4.3 or latest) software. For sites with flat terrain where clearly defined washes are not identifiable, two-dimensional software such as FLO-2D may also be used to generate hydrographs. Suitable design rainfall values may be obtained from sources such as the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation Frequency Data Server. The design rainfall depths are combined with hydrograph transform methods (for example, Snyder, Clark, Soil Conservation Service or SCS, User Specified hydrograph), loss parameters (for example, Green-Ampt, SCS, initial and uniform), and reservoir and channel routing procedures (for example Modified Puls, Muskingum-Cunge) to develop the hydrologic model. For large watersheds, estimates of discharges obtained for tributary washes shall be checked for reasonableness by comparison with regional envelope curves, historical storms and discharge per unit area values reported in the literature.

Drainage areas less than one (1) square mile may be analyzed using the rational method or TR-55. For drainage areas greater than one (1) square mile up to ten (10) square miles, the TR-55 method may be used. For drainage areas larger than ten (10) square miles, discharges may be calculated using the HEC-1 or HEC-HMS software or the USGS regression equations.

### **Hydraulics**

Washes along the land boundary flow either south into Mexico or north into the United States. The hydraulic analysis and impact calculations are intended to assure that there are no adverse hydraulic impacts or adverse erosional impacts to either country resulting from a proposed project.

Hydraulic analysis shall be conducted for sizing drainage structures such as low water crossings, roadside ditches, culverts, bridges, gates and for generating water surface profiles.

For smaller projects across tributary washes such as a minor culvert, nomographs and/or simpler models may be used for the analysis. For most projects, a steady state hydraulic analysis using the latest version of the public domain USACE HEC-RAS software, currently version 5.0.7, shall be used for the analysis. It is preferable to develop georeferenced hydraulic models which permit display of cross-sections on aerial images and GIS-based floodplain mapping.

For border fence projects or similar types of projects obstructing transboundary flows, existing (natural, without fence) and proposed (with fence) condition one-dimensional (1D) steady state hydraulic models shall be developed for existing and proposed conditions to evaluate the hydraulic impacts along the modeled reach. The latest version of the USACE HEC-RAS software,

currently version 5.0.7, shall be used for the analysis. Flood flows generate debris. Therefore, blockage due to debris at or above 20% shall be included by reducing the opening size between the bollards representing the fence in the proposed condition model. As part of the hydraulic calculations such as normal depth calculations and sizing of culverts, software such as the U.S. Federal Highway Administration (FHWA) HY-8 and similar public domain and proprietary software may be used.

In particular situations, 1D unsteady flow analysis or two-dimension (2D) modeling may also be required. One-dimensional (1D) unsteady flow analysis can be useful in describing the passage of a flood through a structure and can be used in situations where it is important to know how long high water surface elevations would last. The unsteady analysis also helps in optimizing the sizing of hydraulic structures such as detention basins and channels, resulting in cost savings. Two-dimensional (2D) modeling may be required in locations where there are no distinct washes and flow is predominantly sheet flow. Two-dimensional (2D) modeling may be conducted using software such as HEC-RAS or FLO-2D. The project proponent is strongly encouraged to meet with the USIBWC in advance of projects to discuss site conditions and other issues which may necessitate specific modeling requirements.

### **Data Collection**

The hydraulic model extent shall cover the project area and cover a reach sufficiently upstream and downstream from the project area. This ensures that the hydraulic results in the project area are not impacted by the boundary conditions. This also ensures that the water surface elevations for the existing and proposed conditions are the same at the upstream and downstream ends of the model. LiDAR data shall be collected to cover this extent. The LiDAR data shall also cover sufficient width to include the width of the floodplain due to the design flow in this reach. Because the LiDAR data does not capture the geometry of the main channel below the water, cross-section surveys shall be conducted. For smaller projects, cross section surveys may be sufficient to define the geometry.

All data shall be referenced to the horizontal North American Datum (NAD) of 1983 and the North American Vertical Datum (NAVD) of 1988.

### **Hydraulic Impact Calculations - Water Surface Elevation Increases**

The hydraulic impact calculations are intended to assure that there are no adverse flooding impacts to the United States or to Mexico due to the proposed project. Water surface elevations (WSE) along the modeled reach typically increase due to the proposed project near the location of the project. At locations further upstream and downstream, the WSE values from the proposed

condition gradually approach those of the existing condition values until there are no differences in the WSE values between the existing and proposed conditions. WSE values shall be evaluated all at cross sections/locations along the modeled reach and the differences tabulated.

For 1D hydraulic models, threshold limits for water surface elevation increases are a maximum of three (3) inches in urban areas and six (6) inches in rural areas. WSE increase is the difference between the proposed and existing condition WSE. Both existing and proposed condition hydraulic models shall have similar cross sections. WSE increases shall be calculated at each cross section of the hydraulic model. Tabulated hydraulic impact calculations shall also be provided in Excel worksheet to facilitate easier review. Threshold value of WSE rise shall not be violated along the entire modeled reach. If WSE increases are above the threshold limits, gates shall be included in the proposed fence and represented as openings in the hydraulic model to mitigate the impacts and lower them to below threshold levels.

For hydraulic impact calculations for 2D modeling, the USIBWC document 'Two-Dimensional Hydraulic Modeling Methodology' shall be consulted.

### **Erosion Protection**

Suitable erosion protection shall be provided for the proposed structures to prevent the development of scour holes and erosion. Such protection shall be based on guidelines provided in technical engineering manuals and include surface treatments such as loose riprap, grouted riprap, concrete, and energy dissipaters, among others based on soil types, flow velocities and other factors. Components of scour in bridge structures can be determined using the HEC-RAS software.

### **Sediment Transport**

The potential of projects to change the sediment transport characteristics may need to be evaluated in some cases. An example would be a project causing a change in the flow regime resulting in sediment deposition or removal. This requires sediment transport modeling using software such as HEC-RAS. The modeling will provide an insight into the changes in sediment deposition and aggradation patterns between existing and proposed conditions. Where impacts are considered to be excessive, suitable measures must be adopted to minimize changes to sediment transport behavior along a wash or river. For sediment-laden flows, the discharge for each basin shall be increased appropriately using sediment bulking factors.

### **Technical Report**

The drainage analysis shall be well documented in a formal drainage report. The report shall include contact information, sections describing purpose of the study, location, site description (off-site and on-site drainage conditions, prominent drainage features), proposed conditions, modeling methodology and model development, results including hydraulic impact calculations, discussion, conclusions and list of references. The report shall also include relevant figures, floodplain maps, WSE difference calculation tables and appendices. A Digital Video Disc (DVD) or External Hard Drive shall be submitted with digital model files, impact calculations and a Readme file describing the contents.

The report is intended to be a stand-alone technical document that can be referred to in the future, for example, to mitigate adverse impacts. The report shall be signed and sealed by a Professional Engineer registered in the state of the project.

### **BOUNDARY MONUMENTS**

In order to ensure U.S. Government's compliance with Minute No. 244 entitled "Maintenance of the International Land Boundary Monuments (Minute 244)" dated December 4, 1973, both sections of the IBWC are required to perform maintenance of the monuments that mark the international boundary to assure their permanence and visibility. Both the United States and Mexican Sections of the IBWC maintain 276 international monuments, 259 principal monuments and 18 intermediaries. To assure compliance to Minute 244, and to maintain the integrity of the international boundary line, all projects relating to the area in and around the monuments must be coordinated with the USIBWC. At no point will any work begin that will affect the International Boundary Line, monuments and/or the characteristics of the landscape. The proponent shall perform no work on the monuments. Any intermediate boundary markers placed by the IBWC between adjacent monuments shall also not be impacted by the proposed project. Access to the monuments and intermediate boundary markers must not be adversely impacted.

### **BOUNDARY DELINEATION AND DEMARCATION**

The project proponent shall reach out to the USIBWC in advance of the project construction for the international boundary delineation at the location of the project. The USIBWC survey team together with representatives from the Mexican Section of the IBWC shall perform the international boundary delineation along the reach of the project. They shall also verify the construction stake outs of the proposed project. In the case of the bollard fence project, it shall be ensured that proposed fence is set at a minimum of three (3) feet away from the border on the U.S. side. These procedures shall ensure that there are no encroachments of the proposed

construction into the country of Mexico. In situations where the USIBWC survey team is not able to be physically present to perform the border delineation and verification of construction stake outs, the project proponent shall contact the USIBWC surveyor on how to proceed. In the case of GSA Port of Entry projects, the boundary delineation shall also help determine the alignment of the boundary markers and location of the boundary plaques to be installed upon the completion of the project.

### **CONSTRUCTION CONSIDERATIONS**

The project proponent shall assure that they take construction means and methods and site conditions, such as subsurface soil conditions, into account in determining the alignment/location of a project. During construction of the proposed project, no equipment, personnel, and material shall cross the international boundary line.

### **SUMMARY**

The proponent is strongly encouraged to consult with the USIBWC sufficiently in advance, recommended four (4) months, of a proposed project construction start date to discuss site conditions and other issues which may require specific modeling requirements. The requirements described in this document shall be followed in preparing submittals for review and in site work. The documents shall be submitted at least two (2) months in advance of any proposed construction start date. Any significant review comments shall be addressed before the start of construction. For detailed 2D modeling and complex projects, a complete package shall be submitted at least three (3) months before the proposed construction start date.

### **REFERENCES**

The following list of references is intended to be a guide and should not be considered a comprehensive list of technical resources.

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Texas Department of Transportation, *Hydraulic Design Manual*, September 2019.

<http://onlinemanuals.txdot.gov/txdotmanuals/hyd/index.htm>

U.S. Army Corps of Engineers, *HEC-1 Flood Hydrograph Package*, Davis, California, 1990.

U.S. Army Corps of Engineers, *Hydrologic Engineering Center - River Analysis System (HEC-RAS)* Version 5.0.7, March 2019.

U.S. Army Corps of Engineers, *Hydrologic Engineering Center - Hydrologic Modeling System (HEC-HMS)* Version 4.3, September 2018.

United States International Boundary and Water Commission (USIBWC), *Technical Drainage Report Requirements for USIBWC Review*.

## APPENDIX I RVSS TOWER DESIGN REQUIREMENTS

### **Remote Video Surveillance System (RVSS) Tower**

The remote video surveillance system (RVSS) towers specified in this project are to be 120'-tall freestanding monopole towers with an approximate 10' x 10' rectangular platform, complete with railing, to which various electronic sensor payloads are supported.

The towers, platforms, foundations, sensor mounts, and other appurtenances shall be designed and constructed with the following considerations:

#### **Tower Design:**

- Tower designs shall comply with the criteria of the National Association of Tower Erectors TIA-222-H (TIA-222-H), including any revisions, supplements, and errata, and other applicable requirements of the latest international building code.

#### **Design Considerations:**

- Site specific design criteria (including wind, ice, seismic, exposure (terrain), topography, relative height, and unusual local wind and ice conditions) shall be governed by the stricter of TIA-222-H, local site conditions, or the requirements of the Request for Proposal (RFP). The utilized site specific design criteria, assumptions, considerations, and governing load conditions shall be clearly identified in the tower design documentation. Refer to RFP Appendix F for tower sensor suites which are anticipated for installation.

#### **Structural Classification:**

- Towers shall be designed in accordance with structure strength Class III for essential communication towers as described in TIA-222-H.

#### **Operational Wind Conditions:**

- The tower shall support the complete operational performance of equipment payloads without any performance degradation for TIA-222-H service load wind conditions.
- As appropriate to site specific local conditions, equipment payloads shall include high-wind loading mounting kits in order to support payload operational performance and survival under adverse conditions.

#### **Survival Wind Conditions:**

- The tower, including appurtenances and equipment payloads, shall be capable of surviving maximum wind forces in accordance with the stricter of TIA-222-H, local site conditions, or RFP requirements without incurring permanent deformation (with and without ice).

#### **Ice Loads:**

- Tower design ice loads shall be the stricter of TIA-222-H, local site conditions, or local jurisdiction requirements without incurring permanent deformation. As appropriate to site specific local conditions, equipment payloads shall include ice shields in order to support payload operational performance and survival under adverse conditions.

#### **Deflection**

Tower twist and sway deflection shall be limited to the stricter of TIA-222-H or sensor and microwave payload equipment deflection tolerances under service wind loads. In no case shall tower deflection exceed TIA-222-H microwave antenna serviceability limit state conditions that allow for up to a 3 dB degradation in radio frequency signal level (TIA Annex D (B)).

Plumb:

- The tower with proposed appurtenances shall comply with the plumb limitations that are set forth in TIA-222-H.

Additional Capacity:

- New towers, with all proposed components, appurtenances, and planned equipment payloads shall be designed for an initial worst case loading and superstructure rating in order to support 100% growth factor in tower loading. The tower foundation and anchoring system shall be designed to support the maximum structural capacity of the tower superstructure in order to provide for future growth in tower foundation system loading.

Tower Climbing Facilities:

- Towers shall include a face-mounted fixed ladder on the outside of the tower with a flexible safety climb cable extending the entire height of the tower. Ladders shall be fixed to towers (i.e., rungs) or integrated with the tower structure (i.e., step bolts) as appropriate for the type of tower that is utilized. Climbing facilities shall be compliant with TIA-222-H section 12 requirements (class a systems), as well as 29 CFR 1910.268(h) and 29 CFR 1910.27. Ladders shall provide required clearances from nearby objects. Ladder cages are not recommended due to the need to service the tower at various heights.

Aviation Obstruction Lighting:

- Based on regulatory requirements, tower location, height, and customer preference, selfpowered FAA-compliant visible obstruction lighting shall be provided in order to comply with 14 CFR 77, 47 CFR 17 and FAA AC 70/7460-1K. When utilized, the light shall include appropriate remote failure notification to support the notification of fixture failure to the appropriate FAA flight service station.
- Depending on customer preference, a self-powered IR obstruction light shall be provided at the top of each tower to support air operations.

Lightning Protection:

- The tower shall have an Earth Electrode System conforming to FAA-STD-019E.
- The tower shall have a lightning protection system installed conforming to FAA-STD-019E to include; two (2) separate LPS down conductors, and a minimum of two (2) air terminals that are a minimum of 10' above the tower platform base.

# Tactical Infrastructure Design Standards – Version 5

## List of Updates

The following list provides notable changes throughout the document. In addition to changes specifically listed below, general editing and formatting where completed but not specifically listed.

### Chapter 1

Section 1.1.1: changed nomenclature to Patrol Road and Maintenance Road (typical throughout)

Section 1.1.1.1: added shoulders to typical section

Section 1.1.1.3: replaced temporary construction road with maintenance description, to match Version 4 errata

Section 1.2: clarified that pavement design is the responsibility of the DOR based on minimum criteria provided

Section 1.2.2: removed redundant language regarding road profile already provided in vertical profile section

Section 1.2.4: removed reference to Appendix A, DOR prepares specifications based on minimum criteria provided (typical throughout)

Section 1.3: added requirement for shoulders and reducing road widths and clarified requirements for safety shoulders and clear and grub

Section 1.3.1: changed requirement from 4% or greater to 2% to 4% unless otherwise approved and cross slopes on steeper grades

Section 1.3.2: provided safety shoulder requirement for river border enforcement zones

Section 1.4: clarified that geometric standards apply to all roads with final design being responsibility of DOR based on minimum criteria

Section 1.4.1: provided examples of areas with reduced speed

Section 1.4.3.1: updated profile grade criteria for patrol/maintenance roads to match Version 4 errata

Section 1.4.3.2: clarified that K values do not pertain to LWC and maintenance roads but additional safety measures are required to match Version 4 errata

Section 1.4.3.3: updated requirement for line of site to top of wall foundation

Section 1.4.4: updated design speeds requirements to match Version 4 errata

Section 1.5: updated requirement to include wall and maintenance road for bridge consideration, connection of wall to bridge and that DOR is responsible for final design based on minimum criteria provided

Section 1.7: clarified that final drainage design is responsibility of DOR based on minimum criteria provided

Section 1.7.1: provided reference to IBWC requirements in Appendix G

Section 1.7.2: provided reference to IBWC land border design requirements in Appendix G and clarified culvert crossing design

Section 1.7.3: clarified that in addition to conveying off-site drainage across roads, LWC are to be designed to drainage roadside ditches and used in low lying areas that experience ponding, and that LWC are the first option for drainage conveyance

Section 1.7.4: clarified that culverts need to meet rise in WSE requirements, otherwise bridges should be considered and provided stand-off distances for culverts to match Version 4 errata

Section 1.7.4.1: clarified grate requirements along the river border

Section 1.7.5: clarified that roadside ditches are required unless otherwise approved during design phase

Section 1.7.6: clarified that the wall is the only infrastructure required to withstand the IBWC design flood

## Chapter 2

Section 2.2.1: clarified wall height measurement and that DOR is responsible for final design based on minimum criteria provided

Section 2.2.1.1: clarified percent grade requirements, that anti-climb plate (when required) is placed on MX side of the wall and foundation requirements

Section 2.2.2: Clarified that at a minimum vehicle impact, wind and flood loading shall be evaluated, provided reference to IBWC requirements on land border, updated wall step requirements, clarified wall height measurement, added that the wall shall not act as a dam, added construction tolerance requirements and clarified that weathering steel is only to be used when specified by CBP

Section 2.3.1: clarified that the DOR is responsible for final design based on minimum requirements provided

Section 2.3.2: clarified that weathering steel is only to be used when specified by CBP

Section 2.4: clarified that the DOR is responsible for final design based on minimum requirements provided

Section 2.4.1: added requirement that river border wall scour design shall use IBWC design flood

## Chapter 3

Section 3.1: provided gate location requirements and clarified that DOR is responsible for final design based on minimum requirements provided

Section 3.2: clarified that gate foundations are the responsibility of DOR

Section 3.2.1.1: clarified lock location requirements

Section 3.2.1.2: change pedestrian gate height in walls over 18-ft

Section 3.2.2: clarified deflection/load requirement is at end of gate leaf and that maximum clearance between any part of gate is 4-inches

Section 3.3.1: provided requirements for bollard slide and swing gates and when mesh sliding gates are to be used

Section 3.3.2: updated requirements for the three motorized gate types

Section 3.4: clarified bollard spacing relative to whether anti-climb plate is specified and that foundation design is responsibility of DOR

Section 3.4.1: clarified maximum spacing is 5" for all parts and incorporated Version 4 errata

Section 3.5: added drainage lift gate design standards

#### Chapter 4 (Changed from Lighting only to Electrical)

Section 4.1.1: updated code requirements

Section 4.1.2: removed requirement to consider non-LED lighting

Section 4.1.3: updated requirements for default luminaire

Section 4.1.4: updated lighting level requirements and better distinguished between land and river border lighting

Section 4.1.5: removed pole diameter/dimension requirement and provided range for pole heights

Section 4.1.6: clarified emergency lighting at gates

Section 4.1.7: changed risk category selection to DOR responsibility

Section 4.1.8: added requirements for photocells; and LGDS triggered lighting (when specified by CBP)

Section 4.2: provided fiber option general design standards

Section 4.3: provided camera general design standards

Section 4.4: provided RVSS general design standards

Section 4.5: consolidated power distribution standards

Section 4.6: clarified light pole loading requirement for flood considerations to match Version 4 errata

#### Chapter 5 (Changed from References to Enforcement Zone Standards)

Section 5.1: provided enforcement zone types and definitions

Section 5.2: provided enforcement zone design criteria

**EXHIBIT L**

**INTENTIONALLY OMITTED**



**EXHIBIT M**  
**Map (Design**  
**Criteria Package)**  
**[See attached 1 page]**

**REDACTED FOR**  
**SB 20**

**TFC Contract No. 23-039-000**

**SLSCO LTD**

**Hughes Ranch  
Del Rio/Maverick County  
Exhibit M-1**

**CONFIDENTIAL**

**Map  
[See attached 1 Page]**

**REDACTED FOR SB 20**