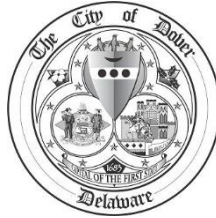


City of



Dover

April 24, 2024

To Whom It May Concern:

The City of Dover will receive sealed proposals on May 22, 2024, at 2:00 PM local time for the purpose of contracting for **GARRISON OAK STEEL PROJECT, RFP NUMBER 24-0037EL**. The proposal must be submitted with three (3) paper copies and one (1) electronic copy on either a CD/DVD or flash drive in a sealed envelope to: City of Dover Procurement Office, 710 William Street, Dover, DE 19904. **All vendors must complete the request for proposal (RFP) notice and send it via email to [doverwhse@dover.de.us](mailto:doverwhse@dover.de.us) or by fax to (302) 736-7178 if they intend to submit a proposal. Any vendor not returning the form may not receive published addenda.**

Your submission is not revocable for ninety (90) days following the response deadline indicated above.

**LATE SUBMISSIONS:**

A proposal received after the closing date and time for receipt of the proposals is late and shall not be considered. It is the responsibility of the submitter to ensure that the proposal is received prior to the closing date and time.

**QUESTIONS:**

If you have questions concerning this Request for Proposal, they must be made in writing and emailed to me at [doverwhse@dover.de.us](mailto:doverwhse@dover.de.us). **All questions must be submitted no later than May 8, 2024.** All questions will be compiled and answered in the form of an addendum and will be emailed to all prospective proposers who return the attached RFP notice and will be posted on the City of Dover web site, <https://www.cityofdover.com/bid-procurement>. All changes or corrections to this Request for Proposal will be handled by addenda issued by the Purchasing Office. The receipt of all addenda must be acknowledged in the proposal submission.

The City of Dover reserves the right to request corrections, clarifications, and/or additional information pertaining to the proposer's response.

Proposals will be opened publicly at the time and place designated in this letter. All proposals will be opened in the presence of the Procurement Manager or his/her designee. All other information contained in the proposals shall be considered confidential to avoid disclosure of contents prejudicial to competing offerors during the process of negotiation. The main purpose of the RFP opening is to reveal the name(s) of the proposer(s), not to serve as a forum for determining the award.

The contract shall be awarded within 90 days of the closing date to the offeror whose proposal is determined in writing to be most advantageous to the City. All prices must be held firm for a

minimum of 90 days from the date of the opening. The proposals and summaries shall not be open for public inspection until after receipt of a fully executed contract.

Public employees and elected officials must discharge their duties impartially so as to assure competitive access to governmental procurement by responsible contractors. Moreover, they should conduct themselves in such a manner as to foster public confidence in the integrity of City procurement. Dover Code Article II Section 30 (Appendix A of this policy), establishes standards of ethical conduct among public officials and employees. Vendors participating in the City procurement will be disqualified from the procurement if the employee, official or vendor is found to be in violation of the City's ethical standards and a referral of the matter will be presented to the Ethics Commission.

Please reference the City of Dover Purchasing Policy if you have any questions at:

<https://www.cityofdover.com/media/Purchasing/Policy/Purchasing%20Policy%20Final%2005-23-2022.pdf>.

The City of Dover reserves the right to waive technicalities, to reject any or all submissions, or any portion thereof, to advertise for new proposals, to proceed to do the work otherwise, or to abandon the work, if in the best interest of the City.

**All vendors must completely fill out, sign, date, and return the attached “Consent for Disclosure Under the Freedom of Information Act (FOIA)” form with their submission.** Failure to return the completed form will be deemed consent to the disclosure of all information included in the submission after the receipt of a signed contract or issuance of a purchase order. **Any and all proprietary information contained within the bid must be isolated and clearly marked.** The cover must indicate that the bid contains such information.

Minority, women, veteran, service-disabled veteran, and individuals with disabilities owned vendor preference shall be three percent (3%) of the value of the award. **The vendor must identify qualification and claim to the preference on the submitted proposal documents. The vendor must provide authoritative proof of minority ownership such as identification in the certification directory maintained by the State of Delaware Office of Supplier Diversity to qualify for this preference.** This preference is to be considered as a stand-alone and cannot be added to any other preference that may be allowed. This preference shall not apply to subcontractors.

Local vendor preference shall be considered for materials, equipment, construction contracts, and utility contracts. Local vendor preference shall be three percent (3%) of the annual value of the award. The term local vendor is defined as a gradually increasing range with preference assigned as follows:

Rule 1: Vendor located within the city limits of the City of Dover.

Rule 2: Vendor located within Kent County, Delaware (applicable only if no vendor qualifies under rule 1)

Rule 3: Vendor located within the State of Delaware (applicable only if no vendor qualifies under rules 1 & 2)

In the event that no vendor qualifies under rules 1, 2, or 3, no local vendor preference will be awarded. **The vendor must identify qualification and claim to the preference on the submitted proposal documents.** This preference is to be considered as stand-alone and cannot be added to any other preference that may be allowed.

A performance bond shall be required from the successful proposer for a construction contract. Such a bond shall be for the full amount of the contract. If the contractor fails to provide such a bond or a binder within fifteen days of the award of the contract, the award of the contract or the contract shall be void. The bond shall be released by the City of Dover upon successful completion of the contract and upon a detailed inspection of the contracted work.

In the event the contractor does not fulfill its obligations under the terms and conditions of this contract, the City of Dover may contract for an equivalent product on the open market. Any difference in cost between the contract prices herein and the price of open market product shall be the responsibility of the contractor. Under no circumstances shall monies be due the contractor in the event open market products can be obtained below contract cost. Any monies charged to the contractor may be deducted from an open invoice.

Neither the contractor nor the City of Dover shall be held liable for non-performance under the terms and conditions of this contract due but not limited to, government restriction, strike, flood, fire, or unforeseen catastrophe beyond either party's control. Each party shall notify the other in writing of any situation that may prevent performance under the terms and conditions of this contract.

Vendors must provide references to the City of Dover upon request. Vendor references may be checked to verify the proposer's ability to perform the contract requirements, the quality of work, and the ability to meet obligations.

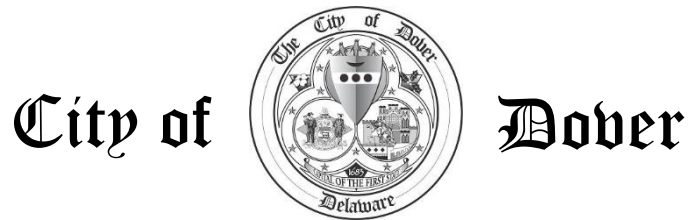
**ENVELOPES MUST BE MARKED "GARRISON OAK STEEL PROJECT, RFP NUMBER 24-0037EL."**

No faxed or emailed proposals will be accepted.

The City of Dover shall have the right to reject any or all proposals if deemed to be in the best interest of the City, such as but not limited to local vendor preference and minority vendor preference while awarding.

Sincerely,

Barry Wolfgang  
Contract and Procurement Manager  
City of Dover  
(302) 736-7795  
[www.cityofdover.com](http://www.cityofdover.com)



## REQUEST FOR PROPOSAL NOTICE

RFP Number: 24-0037EL

RFP Opening: May 22, 2024 at 2:00 P.M.

Description: Garrison Oak Steel Project

If you are interested in the Request for Proposal described above, you can download it in Adobe PDF format from our web site <http://www.cityofdover.com/bid-procurement>. Any amendments or other additional information related to this solicitation will be posted with the original document on the web site.

If you do not have internet access and want to receive this Request for Proposal, all subsequent amendments, or additional information on the RFP package, please provide the requested information to:

The City of Dover  
 Purchasing Office  
 710 William Street  
 Dover, DE 19904  
 Fax: (302) 736-7178, attention Procurement Manager  
 E-mail: [doverwhse@dover.de.us](mailto:doverwhse@dover.de.us)

Please complete the following and return this form to the City of Dover Purchasing Office.

	Vendor Response /Request
Company: _____	No submission at this time, please retain on vendor list
Address _____ _____	Please send complete RFP package
Contact: _____	I will download the RFP package
Phone _____	I intend to submit
Email _____	I do not intend to submit



**CONSENT FOR DISCLOSURE UNDER  
THE FREEDOM OF INFORMATION ACT (FOIA)**

**REQUESTS FOR PROPOSAL AND INVITATIONS TO BID**

From time to time, the City of Dover receives requests under the Freedom of Information Act (FOIA) for information submitted in response to Requests for Proposals and Invitations to Bid. This information shall be provided to those who request it under FOIA; however, in accordance with 29 Del. C. §10002(1)(2), trade secrets and commercial or financial information obtained from a person which is of a privileged or confidential nature are not deemed public records.

Please indicate your preference regarding the disclosure, under FOIA, of the information that you are submitting by checking the appropriate box and providing the information below. Please note that prior to issue of a purchase order or full execution of a contract, only the names of vendor(s) and bid tabulations will be released for Invitations to Bid, and only the names of vendor(s) and information deemed necessary for City Council to make an informed decision on award approval will be released for Requests for Proposals.

- I consent to the disclosure of all information included in this submission.
- This submission includes trade secrets and commercial or financial information which is of a privileged or confidential nature that is exempt from disclosure under 29 Del. C. §10002(1)(2). In accordance with 29 Del. C. §6923(j)(4) and §6924(j)(3), I have isolated and identified in writing the confidential portions of the submitted proposal/bid and attached a statement that explains and supports my claim that the proposal/bid items identified as confidential contain trade secrets or other proprietary data and I am prepared to defend against disclosure. I understand that any items not so identified are subject to disclosure.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Company Name: \_\_\_\_\_

Email Address: \_\_\_\_\_ Telephone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

\_\_\_\_\_

RFP/Bid No. \_\_\_\_\_

For additional information, please contact: City of Dover - City Clerk's Office  
P.O. Box 475  
Dover, DE 19903  
[cityclerk@dover.de.us](mailto:cityclerk@dover.de.us)  
Phone (302) 736-7008; FAX: (302) 736-5068

*Please note that this form is a public record and will be provided to those who request information regarding Requests for Proposals and Invitations to Bid under FOIA.*

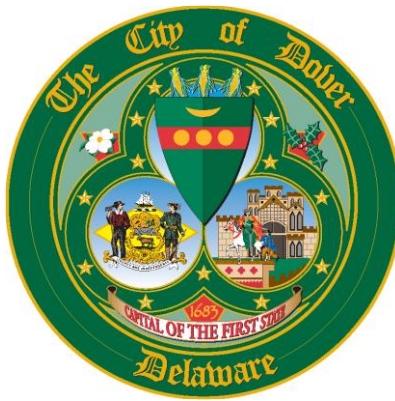
**CITY OF DOVER, DELAWARE**

**REQUEST FOR PROPOSALS**

**FOR**

**GARRISON OAK STEEL**

**RFP 24-0037EL**



**April 2024**

**Issued By:**

**City of Dover  
Purchasing Office  
710 William Street  
Dover, Delaware 19904  
(302) 736-7795**

**Prepared By:**

**City of Dover  
Electric Department  
860 Buttner Place  
Dover, DE 19904  
(302) 736-7070**

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**APPENDIX**

Appendix A

**SECTION RFP**

**REQUEST FOR PROPOSALS**

Sealed proposals will be received on behalf of the City of Dover Electric Department, (hereinafter called the "CoD") at the City of Dover Procurement Office, 710 William Street, Dover, DE 19904 no later than 2:00 p.m. EST on Wednesday, May 22, 2024. Proposals will then be publicly opened and read aloud immediately thereafter for the following:

**GARRISON OAK STEEL**

**Proposal No.: 24-0037EL**

**Contract Duration: Until Completion of Commissioning**

The City of Dover (CoD) Electric Department is soliciting written proposals from qualified firms to fabricate a steel structure for the Garrison Oak substation build. The primary objectives of the project are to:

1. Fabricate all steel materials referenced in attached documents. Bill of Material for steel can be found in the drawing A0500, Line ASE- Items A-H, K, P & R.
2. All materials are required to adhere to the Build America, Buy America (BABA) Act. <https://www.energy.gov/management/build-america-buy-america>

All requirements are described in the proposal documents entitled, **GARRISON OAK STEEL, Request for Proposal, RFP No.: 24-0037EL.**

The right is reserved, as the interests of the City of Dover may appear, to reject any and all proposals, to waive any information in proposals received, and to accept or reject any item(s) of any proposal.

City of Dover, Delaware

By Barry Wolfgang  
Contract and Procurement Manager  
City of Dover

END OF SECTION



**SECTION IFP**  
**INVITATION FOR PROPOSALS**

**RFP NUMBER:** 24-0037EL

Sealed Proposals, three (3) paper copies and one (1) electronic copy, will be received by the City of Dover Procurement Office, 710 William Street, Dover, DE no later than **2:00 P.M. on Wednesday, May 22, 2024**, for the **GARRISON OAK STEEL project**, at which time the proposals will be opened.

**I. NAME OF SOLICITING GOVERNMENT**

**City of Dover, Delaware**  
**City Hall – The Plaza**  
**P.O. Box 475**  
**Dover, Delaware 19903-0475**

**II. PURPOSE OF REQUEST**

- A. The City of Dover Electric Department is in the process of upgrading the electrical network and constructing a new electrical substation located at the corner of Garrison Oak and White Oak Roads. The steel needs to be fabricated for the structural aspect of supporting electric cables and other electrical materials such as transformer stands, and circuit breakers. Aubrey Silvey Engineering has provided specifications for steel materials.
- B. Delivery of the steel materials within this project will be at the earliest possible convenience, with a tentative goal of September 1, 2024.
- C. The City of Dover invites written proposals from qualified, Delaware licensed firms, which are interested in providing services, as outlined below.
- D. **All materials are required to adhere to the Build America, Buy America (BABA) Act.**  
<https://www.energy.gov/management/build-america-buy-america>

**III. GENERAL CONDITIONS**

- A. Current configuration is as follows:
  - 1. The Garrison Oak Substation is in the process of being constructed. The switchgear is expected to be delivered to the construction site approximately August 2024. The City of Dover Substation Technicians will erect and install the steel into the substation.
  - 2. Technicians will be required to attend a safety briefing before entering the electrical substation. The training will be documented and provided by COD personnel.
  - 3. Site visit prior to submitting proposal is preferred, but not mandatory. Please contact 302.674-7568 for coordination. Must provide at least 48 hours' notice.

**B. Project Management and Administration**

1. Project Management: The Proposer will monitor the progress of the project described below. Management responsibilities will include project scheduling and coordination, client contact, and supervision of the daily activities involved in the project.
2. Project Meetings: The Proposer will attend meetings with the City as it requires.
3. Project Support: The Proposer will provide the typing, filing, binding and copying of the various documents required for this project. The Proposer will provide a minimum of three (3) copies and one (1) electronic copy of the various documents required for this project to the City.

**IV. SCOPE OF WORK**

- A. The project includes the fabrication of steel materials specified in the attached documents.
- B. The CoD seeks a single Vendor who can meet or exceed the requirements of this RFP and who can supply the materials and provide technical assistance when needed.
- C. This RFP represents an effort undertaken by the CoD to provide a comprehensive specification with the goal of establishing a new electrical substation.
- D. Should the Vendor feel that it is appropriate to propose more than one solution; the CoD will entertain multiple responses to this RFP so long as they meet the specifications contained herein. The Vendor shall clearly indicate the major advantages and disadvantages of each response. This RFP is not a contract offer, and no contract will exist unless and until a written contract is signed by the CoD and the successful proposer.
- E. Interested parties should submit a proposal in accordance with the requirements and directions contained in this RFP. Proposers are prohibited from contacting any CoD employee, officer or official concerning this RFP, except the Designated Contact Person listed in this document. A proposer's failure to comply with this requirement may result in disqualification.

**V. QUALIFICATIONS**

- A. Firm Identification. The following questionnaire has been provided by the City of Dover. Please complete in typewritten form. Three (3) paper copies and one (1) electronic copy are to be submitted in the order outlined below. Illustrated brochure(s) and professional records may be attached and submitted to augment the data included in this questionnaire. Attach additional sheets as required or desired.
  1. Firm Name
  2. Established Year, State

3. Home office business address and telephone number
4. Branch office business address and telephone numbers
5. Key personnel to be involved in the performance of services: Name, Title, Years of experience
6. Provide a list of Municipal State, and Federal references which can be contracted.
7. Proof of insurance, complying with the **Instructions to Proposers** Section, including the following documentation:
  - Certificate of Insurance
  - Declaration Page
  - Insurance policy documents
8. Provide a copy of your firm's Affirmative Action and Equal Opportunity practices.
9. Please indicate if you are aware of any personal or organizational conflicts of interests. Provide an explanation of your firm's (or any sub-consultants that your firm is using in provision of these services) involvement in ongoing or pending litigation, claims, suits against the City of Dover, if any.
10. Provide and additional information which you feel may be pertinent to the provision of these services, but not specifically required elsewhere in the RFP.
11. The selected bidder is required to provide a City of Dover business license or prove they can obtain within thirty (30) calendar days.

- B. Statement of Understanding. State your understanding of the scope of services presented in the RFP and your role in accomplishing the scope of services.

## **VI. COMPENSATION**

- A. The proposal should clearly state the fees to be charged for the proposed work and should be provided on the attached Proposal Form. Contractor is responsible for paying all permit fees and any and all costs associated with actions required to be taken if this work requires a permit. Contractor is responsible for disposal costs for any material removed from the city as related to the project.

## **VII. SELECTION CRITERIA**

- A. In order to ascertain which proposal best meets the needs of the City, proposals will be independently evaluated, according to the following criteria, by two (2) or more qualified individuals of the City's staff:

	<b>Factor</b>	<b>Point Range</b>
A	Experience: The Proposer shall provide examples of relevant experience in successfully completing work like that identified in this project.	0 to 40
B	Cost: Overall all in equipment, labor and associated costs related to the design, shipment, installation, commissioning and training as related to the complete system.	0 to 30
C	References: References will be provided with current contact information for at least 3 other entities where projects were completed within the last 6 years.	0 to 10
D	Ability to deliver finished materials on or before September 1, 2024.	0 to 20
	<b>Maximum Points</b>	100

END OF SECTION

**SECTION IP**  
**INSTRUCTIONS TO PROPOSERS**

**I. PROPOSAL SUBMISSION**

A. All proposals should be delivered to:

**Barry Wolfgang**  
**Contract and Procurement Manager**  
**City of Dover Purchasing Office**  
**710 William Street**  
**Dover, Delaware 19904**

B. Questions regarding scope of services or proposal process:

1. To ensure fair consideration for all proposers, communication to or with any department or departmental staff during the submission process, will be prohibited except as provided in the third paragraph below. Any communication between the proposer and the City will be initiated by the appropriate staff member in order to obtain information or clarification needed to develop a proper, accurate evaluation of the proposal. Such communications initiated by a proposer may be grounds for disqualifying the offending proposer from consideration for award of the proposal and/or any future proposal.
2. Any questions relative to interpretation of the scope of services or the proposal process, shall be addressed as indicated below, in ample time before the period set for the receipt and opening of proposals.
3. Questions or comments should be directed **in writing** to:

**Barry Wolfgang**  
**Contract and Procurement Manager**  
**City of Dover Central Services Department**  
**710 William Street**  
**Dover, Delaware 19904**  
E-mail address: [doverwhse@dover.de.us](mailto:doverwhse@dover.de.us)

C. In order to be acceptable, **three (3) paper copies and one (1) electronic copy of the proposal must be submitted in a sealed envelope on the outside of which shall be plainly marked "Sealed Proposal: GARRISON OAK STEEL, RFP Opening April 24 1, 2024, 2:00 P.M. Proposal No.: 24-0037EL"**, together with the name, address, and license number, if applicable, of the company submitting the proposal. Proposals will be received until **2:00 P.M.** or hand delivered no later than **2:00 P.M. on May 22, 2023**, at which time they will be publicly opened in the **City of Dover Central Services Department, 710 William Street, Dover, Delaware 19904.**

D. Proposers are fully responsible for the timely delivery of proposals. Late proposals will not be accepted and will be returned to the proposer unopened. Telegraph, telephone, facsimile machine, and electronic mail proposals will not be accepted under any circumstances.

E. In the event that personal interviews are deemed necessary, and your business is included among those selected for interview, you will be contacted in order to schedule a mutually

agreeable date and time for the interview.

- F. It is anticipated that a final decision on the business to be selected will be made within thirty (30) days or upon approval by City Council, whichever occurs earlier. All proposers will subsequently be contacted and advised of the Department's decision.

## II. TERMS AND CONDITIONS

- A. The City reserves the right to reject any or all proposals, with or without cause, to waive technicalities, or to accept the proposal, which in its judgment best serves the interests of the City. The City further reserves the right to award the contract to the next most qualified proposer if the successful proposer does not execute a contract within thirty (30) days after being notified of the award of the proposal.
- B. The City reserves the right to request clarification of information submitted and to request additional information from one or more proposers. All costs associated with the presentation of the proposal and any supplemental information shall be borne solely by the proposer and shall not be passed on to the City under any circumstances.
- C. Any proposal may be withdrawn until the date and time stated above for the opening of the proposals. Any proposals not so withdrawn shall constitute an irrevocable offer to sell to the City the services indicated for a period of ninety (90) days, or until one or more of the proposals have been accepted by the Department, whichever occurs earlier.
- D. Any written agreement or contract resulting from the acceptance of a proposal shall be prepared on forms either supplied by or approved by the City, and shall contain, at a minimum, applicable provisions of this request for proposals. The City reserves the right to reject any agreement that does not conform to the request for proposals or any other City requirements for agreements and contracts. The following are representative of the provisions to be included within the contract documents:
  - 1. Termination - If through any cause, the firm selected shall fail to fulfill the obligations agreed to in a timely and efficient manner, the City shall have the right to terminate the contract by specifying the date of termination in a written notice to the firm at least thirty (30) days before the termination date. In this event, the firm shall be entitled to just and equitable compensation for the work satisfactorily completed.
  - 2. Assignment - The proposer shall not assign any interest in the contract and shall not transfer any interest in the same without the prior written consent of the City.
  - 3. Non-discrimination - The successful proposer must specify in the contract that the firm will not discriminate under the contract, against any person as provided in any federal, state, or local government laws and regulations.
  - 4. Certificate of Insurance - The Contractor selected must present proof of insurance coverage of a nature and amount deemed adequate by the City and be willing to execute a hold harmless indemnification for the City.

5. Publication of Information - No reports, information, or data given to or prepared by the firm under the contract shall be made available to any individual or organization by the firm without the prior written approval of the City. This provision shall only apply insofar as it does not conflict with the provisions of the Freedom of Information Act.
- E. The successful proposer shall be required to enter into a contract with the City of Dover which shall reflect the services requested in the Invitation for Proposals, without delay upon notice of award of contract.

### III. INSURANCE REQUIREMENTS

- A. Policies Required. At all times during the term of this Project No. 24-0037EL, the Contractor shall keep in force and affect all insurance policies as described below:
  1. Worker's Compensation and Employers' Liability Insurance. Statutory worker's compensation benefits and employers' liability insurance with a limit of liability no less than that required by Delaware law at the time of the application of this provision for each accident. This policy shall be endorsed to include a waiver of subrogation in favor of the City of Dover. The Contractor shall require subcontractors and others not protected under its insurance to obtain and maintain such insurance.
  2. Commercial General Liability Insurance. Policy will be written to provide coverage for, but not limited to, the following: premises and operations, products and completed operations, personal injury, blanket contractual coverage, broad form property damage, independent contractor's coverage with Limits of liability not less than \$1,000,000 general aggregate, \$1,000,000 products/completed operations aggregate, \$1,000,000 personal injury, \$2,000,000 each occurrence.
  3. Automobile Liability Insurance. Business automobile policy covering all owned, hired and non-owned private passenger autos and commercial vehicles. Limits of liability not less than \$1,000,000 each occurrence, \$1,000,000 aggregate.
  4. Qualification; Priority; Contractors' Coverage. The insurer must be authorized to do business under the laws of the State of Delaware. Such insurance will be primary. All contractors and all of their subcontractors who perform work on behalf of Contractor shall be responsible for carrying, in full force and effect, worker's compensation and employer's liability, and automobile liability insurance coverage.
  5. Certificate of Insurance; Other Requirements. At the execution of this Agreement and prior to each insurance policy expiration date during the term of this Agreement, Contractor will furnish the City of Dover with a Certificate of Insurance with the CITY named as an additional insured. The Certificate shall reference this Agreement and worker's compensation and property insurance waivers of subrogation required by this Agreement. City of Dover shall be given thirty (30) calendar days advance notice of cancellation or nonrenewal of insurance during the term of this Agreement.
  6. Limits. The limits of liability set out in this Agreement may be increased by mutual consent of the parties, which consent will not be unreasonably withheld by either

party, in the event of any factors or occurrences, including substantial increases in the level of jury verdicts or judgments or the passage of state, federal or other governmental compensation plans, or laws which would materially increase the City of Dover’s exposure to risk.

7. Deductible/Self-insurance Retention Amounts. Contractor shall be fully responsible for any deductible or self-insured retention amounts contained in its insurance program or for any deficiencies in the amounts of insurance maintained.

**IV. BID PROCESS SCHEDULE**

A. The City will use the following tentative timetable in the selection process:

Date	Event
Wednesday, April 24, and May 1, 2024	Publicly Advertise RFP #24-0037EL
Wednesday, May 8, 2024	Deadline for submitting questions
Tuesday, May 15, 2024	Addendum issued/answers to proposer’s questions published
<b>Friday, May 22, 2024</b>	<b>Proposal Deadline to submit final proposals (Proposal Opening). (3 original copies and 1 electronic copy by 2:00 pm)</b>
Wednesday, May 29, 2024	City Completes Evaluation of Proposals
Monday, June 24, 2024	City Issues Notice of Award
Tuesday, June 25, 2024	Contract Execution

END OF SECTION



**GARRISON OAK STEEL  
CITY OF DOVER, DELAWARE**

**PROPOSAL FORM**

Date: \_\_\_\_\_

Proposal of \_\_\_\_\_ (hereinafter called "PROPOSER"), organized and existing under the laws of the State of Delaware doing business as \_\_\_\_\_. To the City of Dover (hereinafter called "OWNER").

In compliance with the Invitation to Proposers, PROPOSER hereby proposes to perform all WORK for the **GARRISON OAK STEEL** for the City of Dover, RFP No. **24-0037EL**, in strict accordance with the SCOPE OF WORK and DNREC's Source Category Permit (if applicable), within the time set forth therein, and at the prices stated below. The PROPOSER has examined and fully understands the scope of work.

The PROPOSER declares that the attached documents therein referred to have been carefully examined and are understood. It is proposed and agreed if the Proposal is accepted to contract with the City of Dover the required work in the manner set forth in the documents.

\*Corporation, Partnership, or Individual as applicable.

PROPOSER acknowledges receipt of the following ADDENDUM (if applicable):

\_\_\_\_\_

The PROPOSER declares that the only person, firm or corporation, or persons, firms or corporations, that has or have any interest in this proposal or in the Contract or Contracts proposed to be taken is or are the undersigned; that this proposal is made without any connection or collusion with any person, firm or corporation, making a proposal for the same work.

The proposer agrees that this proposal shall be good and may not be withdrawn for a period of ninety (90) calendar days after the scheduled closing time for receiving proposals.

Upon receipt of written notice of the acceptance of this proposal, proposer will execute the formal contract attached within ten (10) days and deliver.

The names and addresses of all members of a firm or the names, addresses, and titles of every officer of a corporation as the case may be, must be given here by the member if the firm or by the officer or agent of the corporation who signs the Proposal.

Respectfully submitted:

---

Signature

---

Company Name

---

Title

---

Address

---

Date

---

Taxpayer ID Number

---

License Number (if applicable)  
SEAL – (If BID is by a corporation)

---

Telephone No.

If a Partnership, state names and addresses of Partners here:

<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

**GARRISON OAK STEEL  
RFP NO.:24-0037EL  
CITY OF DOVER, DELAWARE**

**PROPOSAL FORM**

PROPOSAL ITEM	UNIT	COST
Services to be provided to complete the Scope of Work described in <b>IFP Section IV.A-F</b> , including permit costs	LS	
<b>GRAND TOTAL:</b>		

**CHECK THE APPROPRIATE BOXES:**

REQUIRED CONTENT TO BE SUBMITTED WITH PROPOSAL	Yes	No
Firm Identification, as outlined per IFP, Section V.A	<input type="checkbox"/>	<input type="checkbox"/>
Statement of Understanding, as outlined per IFP, Section V.B	<input type="checkbox"/>	<input type="checkbox"/>
Proposer has attached proper information to satisfy the Selection Criteria, as outlined per IFP, Section VII.A	<input type="checkbox"/>	<input type="checkbox"/>
Insurance Requirements, as outlined per IP, Section III.A	<input type="checkbox"/>	<input type="checkbox"/>

The proposer agrees that this proposal shall be good and may not be withdrawn for a period of ninety (90) calendar days after the scheduled closing time for receiving proposals.

Respectfully submitted:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Address

\_\_\_\_\_  
Date

\_\_\_\_\_  
License Number (if applicable)  
SEAL – (If BID is by a corporation)

**Note:**

Contractor shall supply documentation to answer all requirements in the statement of Qualification section, located in Section IFP.

**Local Vendor Preference**

Circle One:    Rule 1                      Rule 2                      Rule 3                      None

**Minority Vendor Preference**

Circle One:    Yes                      No

END OF SECTION

## AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is made as of the \_\_\_\_ day of \_\_\_\_\_ in the year 2024, between The City of Dover, a Delaware Municipal Corporation, whose address is 15 Loockerman Plaza, Dover, Delaware 19901 (hereinafter referred to as the CITY), and \_\_\_\_\_, whose address is, \_\_\_\_\_ (hereinafter referred to as the CONTRACTOR).

**NOW, THEREFORE**, in consideration of the mutual benefits accruing to the parties to this Agreement, and for other good and valuable considerations, the parties agree as follows:

1. SERVICES

The CONTRACTOR shall perform the following services as identified in the: **REQUEST FOR PROPOSAL FOR GARRISON OAK STEEL, RFP NO.: 24-0037EL AND THE SUBMITTED PROPOSAL FORM AND DETAILED PAYMENT SCHEDULE**. Nothing herein shall limit the CITY's right to obtain proposals or services from other professionals for similar projects at any time the CITY so chooses.

2. INDEMNIFICATION

The CONTRACTOR, and any agent or subcontractor, shall defend, indemnify and hold harmless the CITY and its officials, officers, board members, council members, commissioners, representatives, employees, agents, and contractors, against any and all liability, costs, damages, fines, taxes, special charges by others, penalties, payments (including payments made under any Workers' Compensation Laws or under any plan for employees' disability and death benefits), and expenses (including reasonable attorney fees of the CITY and all other costs and expenses of litigation). Claims arising in any way, including any act, omission, failure, negligence or willful misconduct, in connection with the work, construction, maintenance, repair, presence, use, or operation by the CONTRACTOR, or the CONTRACTOR's officers, directors, employees, agents, and sub-contractors, shall be responsible for Claims. Such Claims include, but are not limited to, the following:

- a. Intellectual property infringement, libel and slander, trespass, unauthorized use of television or radio broadcast programs and other program material, and infringement of patents;
- b. Cost of work performed by the CITY that was necessitated by the CONTRACTOR's failure, or the failure of the CONTRACTOR's officers, directors, employees, agents, or sub-contractors, to perform work, or maintain CITY facilities in accordance with the requirements and specifications of this Agreement, or from any other work authorized under this Agreement;
- c. Damage to property, injury to or death of any person arising out of the performance or nonperformance of any work or obligation undertaken by the CONTRACTOR, or CONTRACTOR's officers, directors, employees, agents, and sub-contractors, pursuant to this Agreement;

3. PROCEDURE FOR INDEMNIFICATION

- a. The CITY shall give notice promptly to the CONTRACTOR of any claim or threatened claim, specifying the factual basis for such claim and the amount of the claim. If the claim relates to an action, suit or proceeding filed by a third party against the CITY, the notice shall be given to the CONTRACTOR by the CITY no later than ten (10) calendar days after written notice of the action, suit or proceeding was received by the CITY.
- b. Failure to timely give the required notice will not relieve the CONTRACTOR from its obligation to indemnify the CITY unless the CITY is materially prejudiced by such failure.
- c. The CITY will have the right at any time, by notice to the CONTRACTOR, to participate in or assume control of the defense of the claim with counsel of its choice, which counsel must be reasonably acceptable to the CONTRACTOR. The CONTRACTOR agrees to cooperate fully with the CITY. If the CITY so assumes control of the defense of any third-party claim, the CONTRACTOR shall have the right to participate in the defense at its own expense. If the CONTRACTOR does not so assume control or otherwise participate in the defense of any third-party claim, it shall be bound by the results obtained by the CITY with respect to the claim.
- d. If the CITY assumes the defense of a third-party claim as described above, then in no event will the CITY admit any liability with respect to, or settle, compromise or discharge, any third-party claim without the CONTRACTOR's prior written consent, and the CONTRACTOR will agree to any settlement, compromise or discharge of any third-party claim which the CITY may recommend which releases the CITY completely from such claim.
- e. Municipal Liability Limits. No provision of this Agreement is intended, or shall be construed, to be a waiver for any purpose by either entity of any applicable State limits on municipal liability.
- f. Disclaimer. The CITY makes no express or implied warranties with regard to its structures, fixtures, materials, or other equipment, all of which are hereby disclaimed. The CITY makes no other express or implied warranties, except to the extent expressly set forth in this Agreement. The CITY expressly disclaims any implied warranties of merchantability or fitness for a particular purpose
- g. Duty to Competent Supervision and Performance. The CONTRACTOR shall ensure that its employees, servants, agents, and subcontractors have the necessary qualifications, skill, knowledge, training, and experience to protect themselves, their fellow employees, employees of the CITY, and the general public, from harm or injury while performing work permitted pursuant to this Agreement. In addition, the CONTRACTOR shall furnish its employees, servants, agents, and subcontractors with competent supervision and sufficient and adequate tools and equipment for their work to be performed in a safe manner.
- h. Duty to Inform. The CONTRACTOR further warrants that it understands the imminent dangers (INCLUDING SERIOUS BODILY INJURY OR DEATH FROM FALLING) inherent in the work necessary to perform the work expected under this agreement by the CONTRACTOR's employees, servants, agents, contractors or subcontractors, and accepts as its duty and sole responsibility to notify and inform the CONTRACTOR's employees, servants, agents, contractors or subcontractors of such dangers, and to keep them informed regarding same.

4. INSURANCE

- a. Policies Required. At all times during the term of this Agreement, the CONTRACTOR shall keep in force and affect all insurance policies as described below:
- b. Worker's Compensation and Employers' Liability Insurance. Statutory worker's compensation benefits and employers' liability insurance with a limit of liability no less than that required by Delaware law at the time of the application of this provision for each accident. This policy shall be endorsed to include a waiver of subrogation in favor of the City of Dover. The CONTRACTOR shall require subcontractors and others not protected under its insurance to obtain and maintain such insurance.
- c. Commercial General Liability Insurance. Policy will be written to provide coverage for, but not limited to, the following: premises and operations, products and completed operations, personal injury, blanket contractual coverage, broad form property damage, independent contractor's coverage with limits of liability not less than \$1,000,000 general aggregate, \$1,000,000 products/completed operations aggregate, \$1,000,000 personal injury, \$2,000,000 each occurrence.
- d. Automobile Liability Insurance. Business automobile policy covering all owned, hired and non-owned private passenger autos and commercial vehicles. Limits of liability not less than \$1,000,000 each occurrence, \$1,000,000 aggregate.
- e. Qualification; Priority; Contractors' Coverage. The insurer must be authorized to do business under the laws of the State of Delaware. Such insurance will be primary. All contractors and all of their subcontractors who perform work on behalf of the CONTRACTOR shall be responsible for carrying, in full force and effect, worker's compensation and employer's liability, and automobile liability insurance coverage.
- f. Certificate of Insurance; Other Requirements. At the execution of this Agreement and prior to each insurance policy expiration date during the term of this Agreement, the CONTRACTOR will furnish the CITY with a Certificate of Insurance with the CITY named as an additional insured. The Certificate shall reference this Agreement and worker's compensation and property insurance waivers of subrogation required by this Agreement. The CITY shall be given thirty (30) calendar days advance notice of cancellation or nonrenewal of insurance during the term of this Agreement.
- g. Limits. The limits of liability set out in this Agreement may be increased by mutual consent of the parties, which consent will not be unreasonably withheld by either party, in the event of any factors or occurrences, including substantial increases in the level of jury verdicts or judgments or the passage of state, federal or other governmental compensation plans, or laws which would materially increase the CITY's exposure to risk.
- h. Deductible/Self-insurance Retention Amounts. The CONTRACTOR shall be fully responsible for any deductible or self-insured retention amounts contained in its insurance program or for any deficiencies in the amounts of insurance maintained.

5. CODES, LAWS, AND REGULATIONS

The CONTRACTOR will comply with all applicable codes, laws, regulations, standards, and ordinances in force during the term of this Agreement.

6. PERMITS, LICENSES, AND FEES

The CONTRACTOR will obtain and pay for all permits and licenses required by law that are associated with the CONTRACTOR's performance of the Scope of Services.

7. ACCESS TO RECORDS

The CONTRACTOR will maintain accounting records, in accordance with generally accepted accounting principles and practices, to substantiate all invoiced amounts. Said records will be available for examination by the CITY during the CONTRACTOR's normal business hours. Said records will be maintained for a period of three (3) years after the date of the invoice.

8. CONTINGENT FEES PROHIBITED

The CONTRACTOR warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the CONTRACTOR, to solicit or secure this Agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the CONTRACTOR any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. In the event of a breach of this provision, the CITY shall have the right to terminate this Agreement without further liability and at its discretion, deduct from the contract price, or otherwise recover, the full amount of any such fee, commission, percentage, gift or consideration paid in breach of this Agreement.

9. PAYMENT

CITY shall compensate the CONTRACTOR for their services as set forth in Attachment A, Basis for Payment. All requests for payment shall be accompanied by supporting documentation which will include proof of the specific work being completed on the facility in accordance to the schedule and other CITY required supporting documentation. Any reimbursement for expenses shall include receipts or copies of the invoices. No other costs or services shall be billed to the CITY.

10. INDEPENDENT CONTRACTOR

The CONTRACTOR is an independent contractor and as such will be responsible for paying his own Federal income tax and self-employment tax, or any other taxes applicable to the compensation paid under this agreement.

11. ASSIGNMENT

Neither party shall have the power to assign any of the duties or rights or any claim arising out of or related to the Agreement, whether arising in tort, contract, or otherwise, without the written consent of the other party. These conditions and the entire Agreement are binding on the heirs, successors, and assigns of the parties hereto.

12. NO THIRD PARTY BENEFICIARIES

This Agreement gives no rights or benefits to anyone other than the CONTRACTOR and the CITY.

13. JURISDICTION

The laws of the State of Delaware shall govern the validity of this Agreement, its interpretation and performance, and any other claims related to it. In the event of any litigation arising under or construing this Agreement, venue shall lie only in Kent County, Delaware.



14. TERM AND TERMINATION

All or part of this Agreement may be terminated by the CITY for its convenience on fifteen (15) days written notice to the CONTRACTOR. In such event, the CONTRACTOR will be entitled to compensation for services competently performed up to the date of termination. In the event of termination not the fault of the CONTRACTOR, the CONTRACTOR shall be compensated for with Reimbursable Expenses then due and all Termination Expenses.

15. CONTACT PERSON

The primary contact person under this Agreement for the CONTRACTOR shall be Name: \_\_\_\_\_, Phone No.: \_\_\_\_\_, Address: \_\_\_\_\_. The primary contact person under this Agreement for the CITY shall be Shawn Burgett, Engineering Services and System Operations Superintendent, 302-674-7568, Electric Department.

16. APPROVAL OF SERVICE PERSONNEL

The CITY reserves the right to approve the contact person and the persons actually performing the services on behalf of the CONTRACTOR pursuant to this Agreement. If the CITY, in its sole discretion, is dissatisfied with the contact person or the person or persons actually performing the services on behalf of the CONTRACTOR pursuant to this Agreement, the CITY may require the CONTRACTOR assign a different person or persons be designated to be the contact person or to perform the services hereunder.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement on the respective dates under each signature.

(CONTRACTOR)

CITY OF DOVER

By: \_\_\_\_\_

By: Dave Hugg \_\_\_\_\_

Title: \_\_\_\_\_

Title: City Manager \_\_\_\_\_

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT A**

**BASIS FOR PAYMENT**

**NOTICE OF AWARD**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PROJECT Description: Construction Improvements for the **GARRISON OAK STEEL, RFP No.: 24-0037EL.**

The OWNER has considered the BID submitted by you for the above described WORK in response to its Invitation for Proposals and Instructions for Proposers.

You are hereby notified that your base BID has been accepted for the amount of:  
\_\_\_\_\_ (\$ \_\_\_\_\_).

You are required by the Information for Bidders to execute the Agreement and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said certificates of insurance within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 202\_\_.

The City of Dover, Owner

Signature: \_\_\_\_\_

Printed: \_\_\_\_\_

Title: \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE OF AWARD is hereby acknowledged

Firm Name: \_\_\_\_\_

this the \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_

Signature: \_\_\_\_\_ Printed: \_\_\_\_\_

Title: \_\_\_\_\_

END OF SECTION

**NOTICE TO PROCEED**

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Project: **GARRISON OAK STEEL, RFP 24-0037EL**

You are hereby notified to commence WORK in accordance with the Agreement dated \_\_\_\_\_, 2024 on or before \_\_\_\_\_, 2024 and you are to complete the WORK within 120 days thereafter. Work progress updates are to be provided to COD on a weekly basis. The date of completion of all work is therefore anticipated by 1 Oct 2024.

The City of Dover, Owner

Signature: \_\_\_\_\_

Printed: \_\_\_\_\_

Title: \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE TO PROCEED is hereby acknowledged

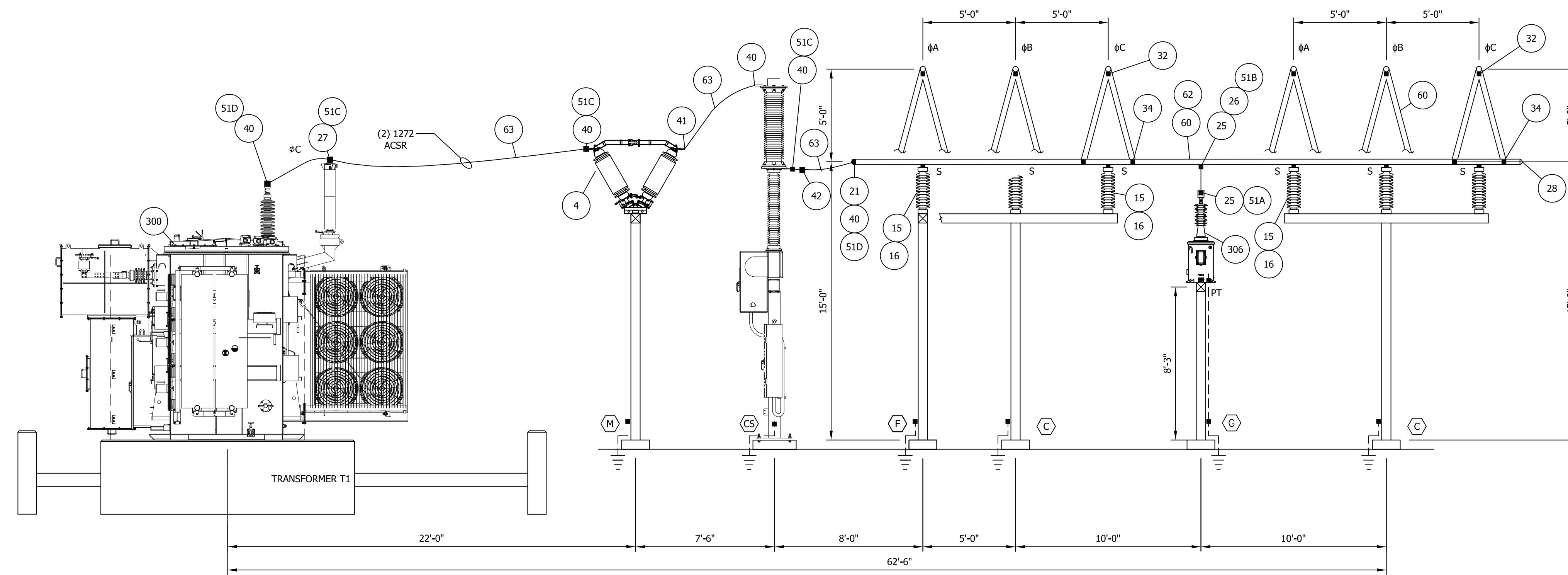
by \_\_\_\_\_

this the \_\_\_\_\_ day of \_\_\_\_\_, 202\_

By: \_\_\_\_\_ Title: \_\_\_\_\_

Employer Identification Number: \_\_\_\_\_

END OF SECTION



SECTION 1

REFERENCE DRAWINGS

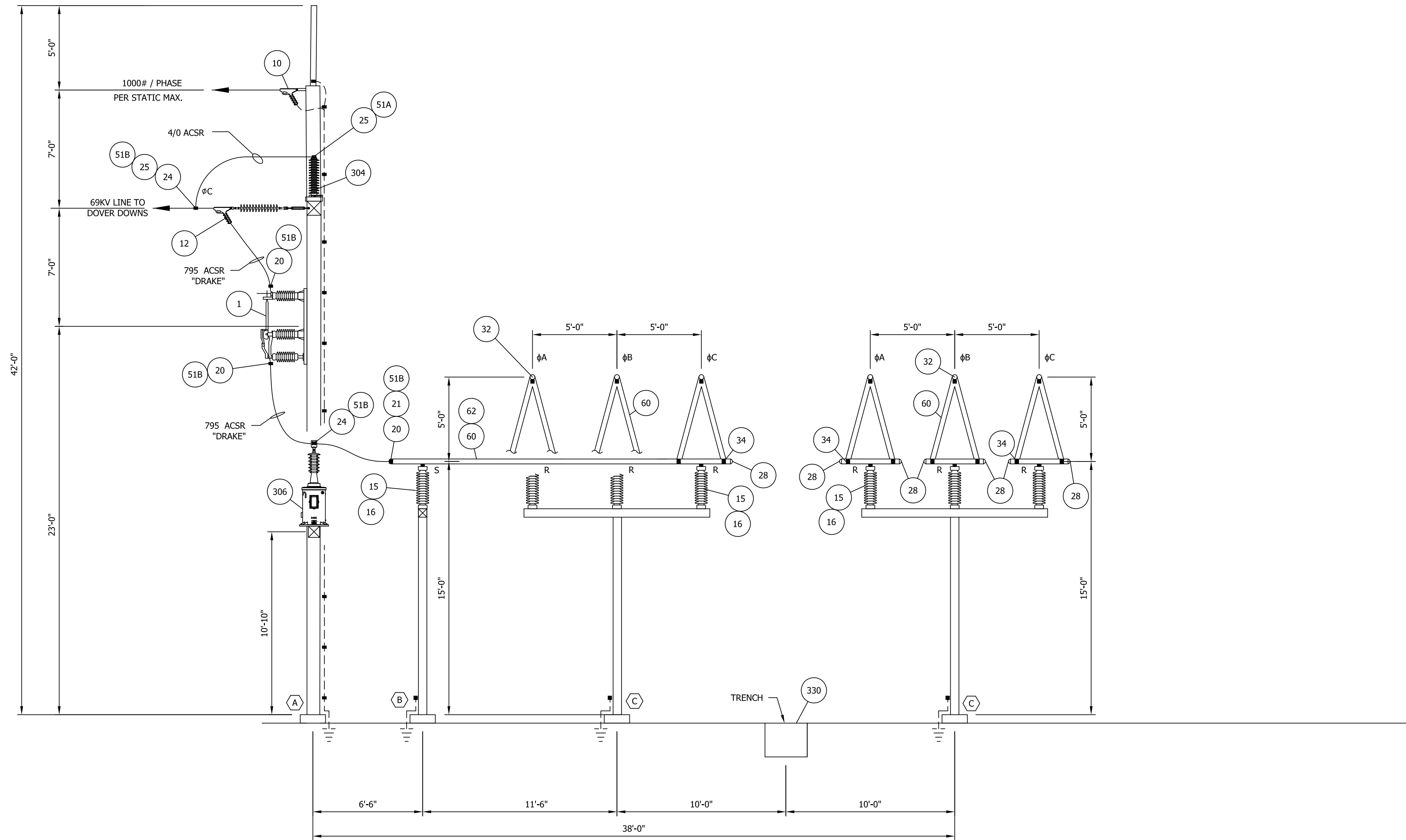
A0002	SUBSTATION INSTALLATION GUIDE
A0102	SUBSTATION PLAN PHASE 1
E0100	SUBSTATION SINGLE LINE DIAGRAM

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT THE WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

REV	DATE	DRN	CK	APP	DESCRIPTION
3	09/14/23	JLF	MAR	MAR	ISSUE FOR CONSTRUCTION
2	9/23/21	JLF	MAR	MAR	ISSUE FOR BID
1	7/28/21	JLF	MAR	MAR	RE-ISSUED FOR APPROVAL
0	4/8/21	KDC	MAR	PHM	ISSUED FOR APPROVAL

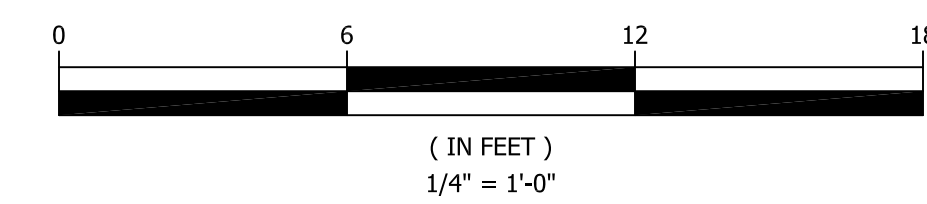
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SUBSTATION					69-12.47KV SUBSTATION				
TITLE					SECTIONS				
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER					
47019	KDC	PHM	PHM	A0200					
SCALE	N.T.S.								
AUBREY SILVEY ENTERPRISES, INC.					ASSOCIATED SUBSTATION ENGINEERING, INC.				
<small>Engineer • Procure • Construct</small> <small>www.silvey.com/epc 770-537-1144</small>					<small>www.aseng.com 770-537-0033</small>				



SECTION 2

REFERENCE DRAWINGS	
A0002	SUBSTATION INSTALLATION GUIDE
A0102	SUBSTATION PLAN PHASE 1
E0100	SUBSTATION SINGLE LINE DIAGRAM

GRAPHIC SCALE

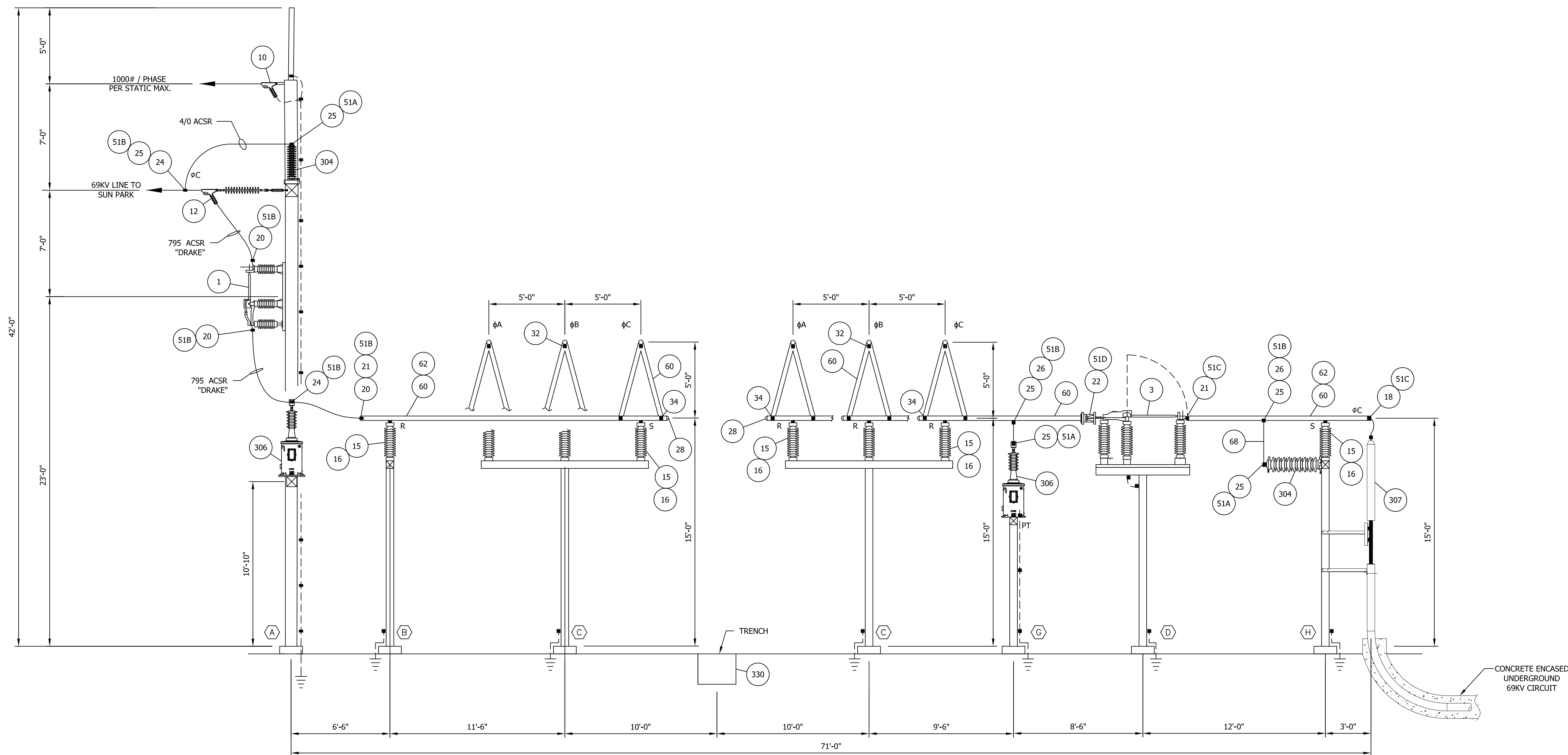


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ENGINEERING SEAL

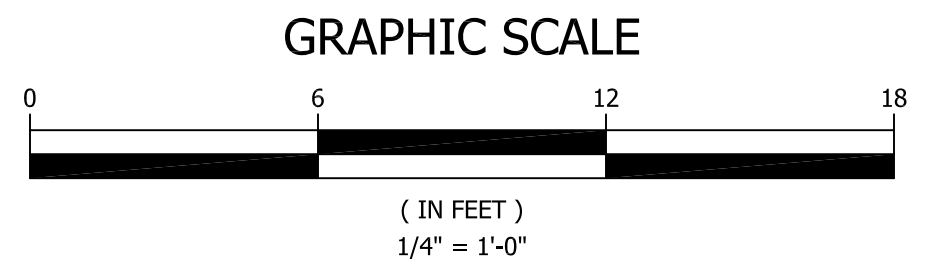
REV	DATE	DRN	CK	APP	DESCRIPTION
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2	9/23/21	JLF	MAR	MAR	ISSUE FOR BID
1	7/28/21	JLF	MAR	MAR	RE-ISSUED FOR APPROVAL
0	4/8/21	KDC	MAR	PHM	ISSUED FOR APPROVAL

CUSTOMER				CITY OF DOVER DOVER, DE			
SUBSTATION				69-12.47KV SUBSTATION			
TITLE				SECTIONS			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER			
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AUBREY SILVEY ENTERPRISES, INC.				ASSOCIATED SUBSTATION ENGINEERING, INC.			
www.silvey.com/epc				www.aseng.com			

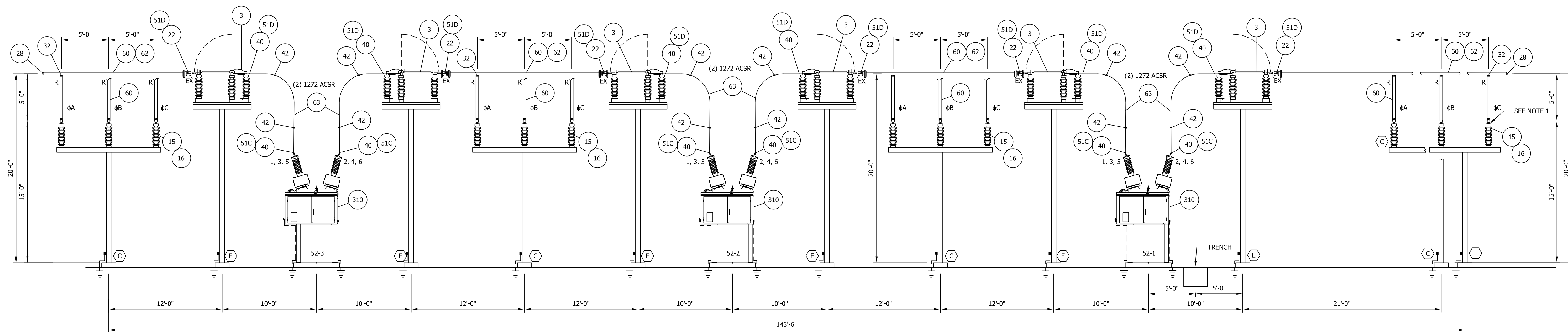


SECTION 3

REFERENCE DRAWINGS	
A0002	SUBSTATION INSTALLATION GUIDE
A0102	SUBSTATION PLAN PHASE 1
E0100	SUBSTATION SINGLE LINE DIAGRAM



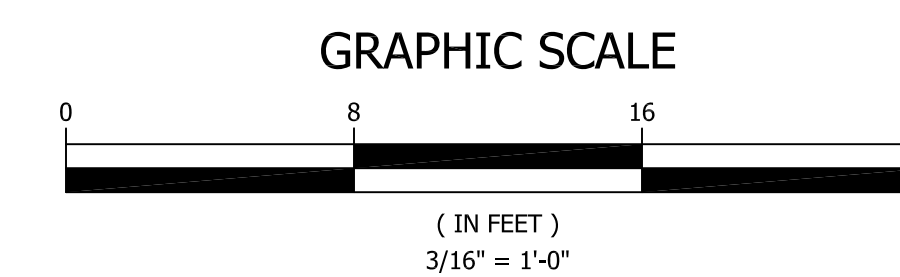
THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT THE WRITTEN CONSENT OF  ASSOCIATED SUBSTATION ENGINEERING, INC.  ENGINEERING SEAL	CUSTOMER <b>CITY OF DOVER</b> DOVER, DE
	SUBSTATION <b>69-12.47KV SUBSTATION</b>
	TITLE <b>SECTIONS</b>
	PROJECT NUMBER 47019 SCALE 1/4" = 1'-0"
AUBREY SILVEY ENTERPRISES, INC. ASSOCIATED <b>EPC DIVISION</b> SUBSTATION Engineer • Procure • Construct ENGINEERING, INC. www.silvey.com/epc 770-537-1144 www.aseng.com 770-537-0033	
REV DATE DRN CK APP DESCRIPTION	3 09/14/23 JLF MAR MAR ISSUE FOR CONSTRUCTION 2 9/23/21 JLF MAR MAR ISSUE FOR BID 1 7/28/21 JLF MAR MAR RE-ISSUED FOR APPROVAL 0 4/8/21 KDC MAR PHM ISSUED FOR APPROVAL



**SECTION 4**

REFERENCE DRAWINGS	
A0002	SUBSTATION INSTALLATION GUIDE
A0102	SUBSTATION PLAN PHASE 1
E0100	SUBSTATION SINGLE LINE DIAGRAM

NOTE:  
1. INSTALL BUS COUPLER (BOM ITEM 36) IN EACH PHASE. SEE DRAWING A0102 FOR LOCATIONS.



THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT THE WRITTEN CONSENT OF

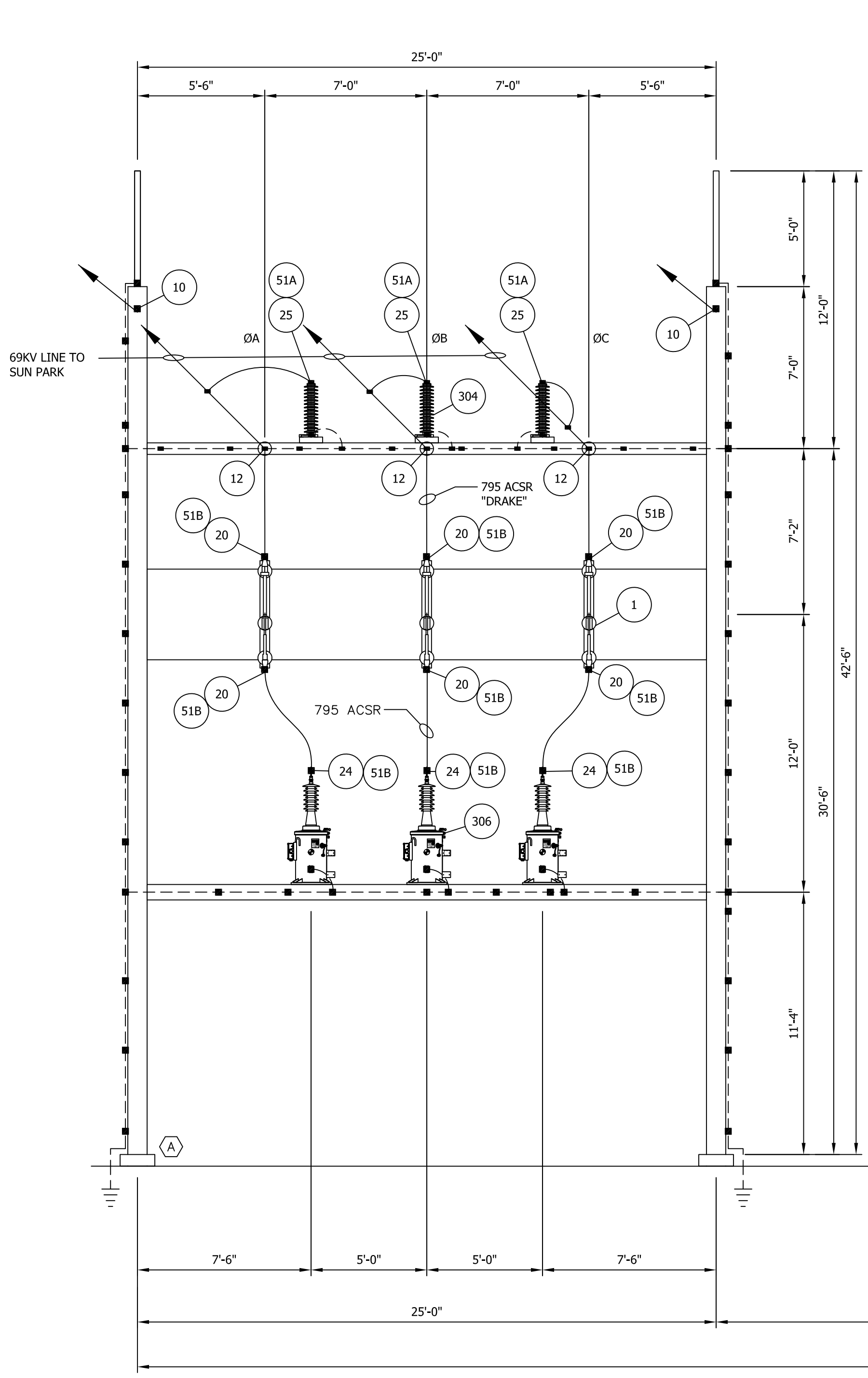
ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

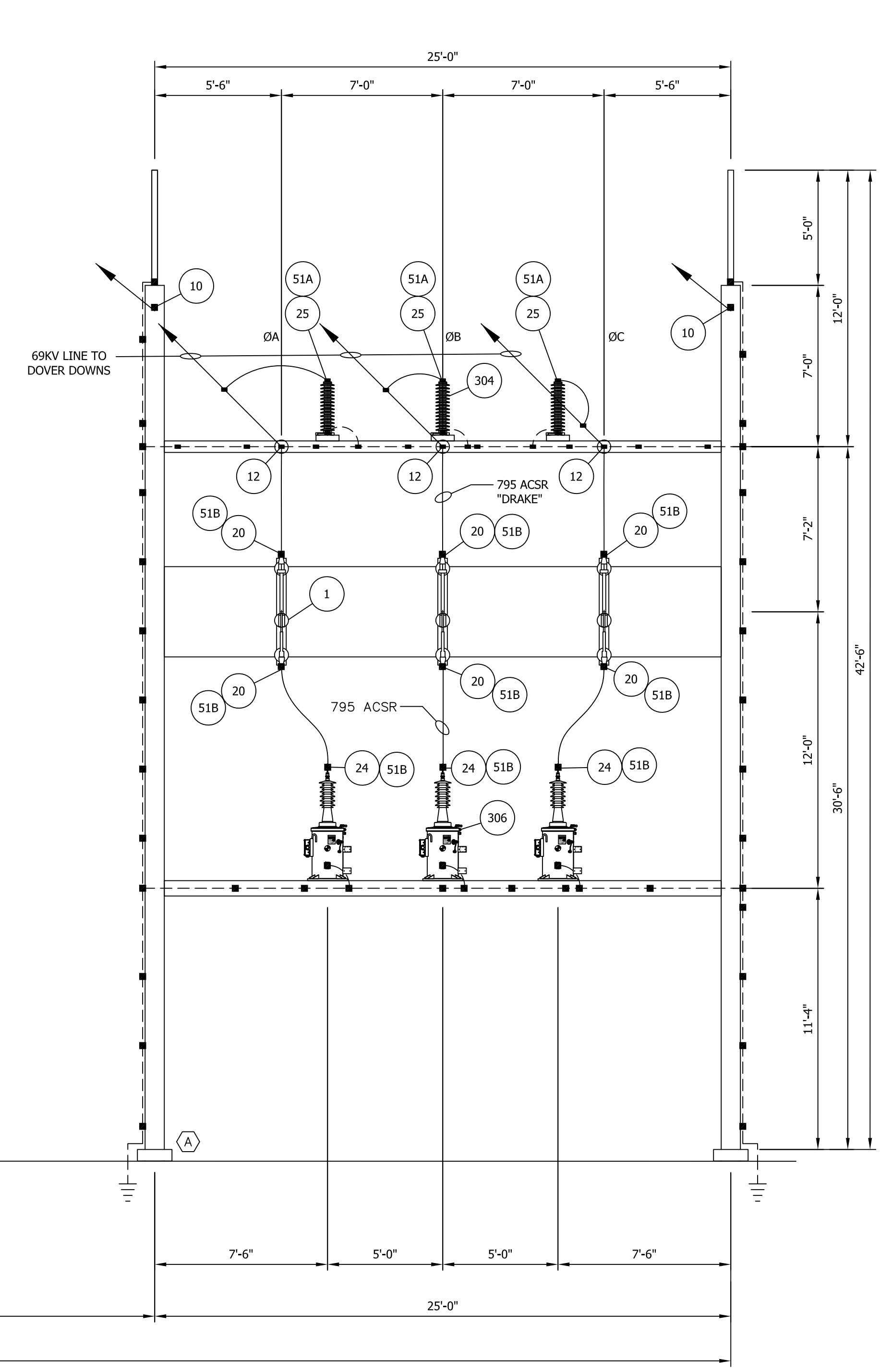
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3	8/24/23	LLS	MAR	MAR	ISSUED FOR CONSTRUCTION
2	9/23/21	JLF	MAR	MAR	ISSUE FOR BID
1	7/28/21	JLF	MAR	MAR	RE-ISSUED FOR APPROVAL
0	4/8/21	KDC	MAR	PHM	ISSUED FOR APPROVAL

CUSTOMER				CITY OF DOVER DOVER, DE			
SUBSTATION				69-12.47KV SUBSTATION			
TITLE				SECTIONS			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER			
47019	KDC	PHM	PHM	A0203			
SCALE				3/16" = 1'-0"			
AUBREY SILVEY ENTERPRISES, INC.				ASSOCIATED SUBSTATION ENGINEERING, INC.			
<small>Engineer • Procure • Construct</small> <small>www.silvey.com/epc 770-537-1144</small>				<small>www.aseng.com 770-537-0033</small>			

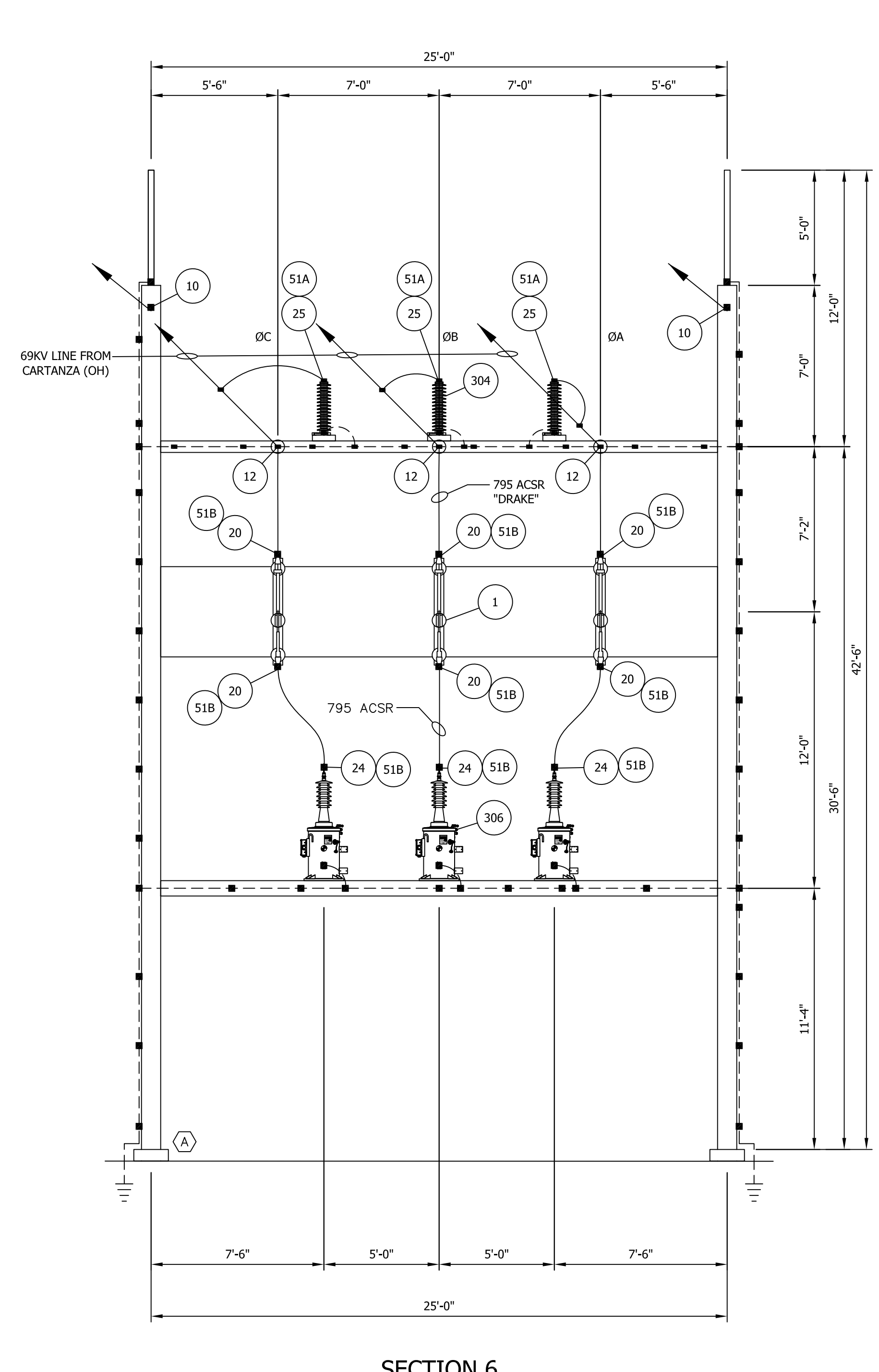




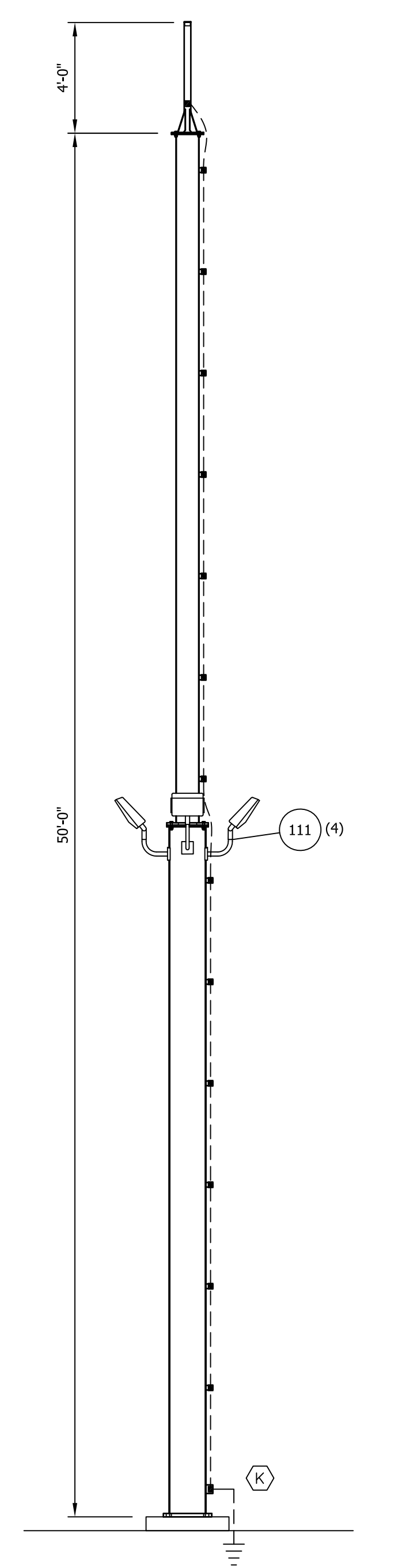
SECTION 5



SECTION 6



SECTION 7

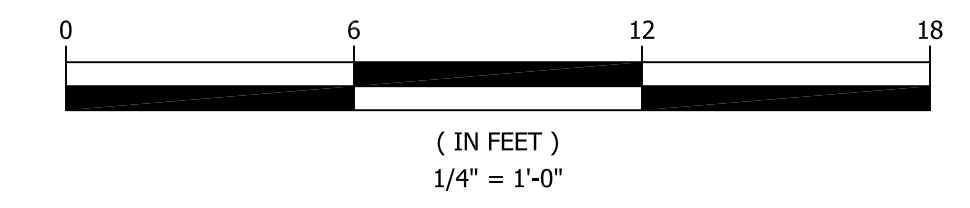


SECTION 8

\* INSTALL TERMINAL PAD VERTICALLY

REFERENCE DRAWINGS	
A0002	SUBSTATION INSTALLATION GUIDE
A0102	SUBSTATION PLAN PHASE 1
E0100	SUBSTATION SINGLE LINE DIAGRAM

GRAPHIC SCALE



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ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

REV	DATE	DRN	CK	APP	DESCRIPTION
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0	4/8/21	KDC	MAR	PHM	ISSUED FOR APPROVAL

CUSTOMER				CITY OF DOVER DOVER, DE			
SUBSTATION				69-12.47KV SUBSTATION			
TITLE				SECTIONS			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER			
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SCALE				1/4" = 1'-0"			
AUBREY SILVEY ENTERPRISES, INC.				ASSOCIATED SUBSTATION ENGINEERING, INC.			
<b>EPC DIVISION</b> Engineer • Procure • Construct www.silvey.com/epc 770-537-1144				<b>ASSOCIATED SUBSTATION ENGINEERING, INC.</b> www.aseng.com 770-537-0033			

**CITY OF DOVER**  
**69/12.47KV SUBSTATION**  
**DOVER, DE**  
**BILL OF MATERIAL**

ASE-ITEM #	QTY.	SPARE	DESCRIPTION	MFG OR EQUAL	MFG PART
		LOT	HOT DIPPED GALVANIZED (ASTM-123-ZINC) STEEL STRUCTURES COMPLETE WITH ERECTION BOLTS, PER THE FOLLOWING:		
A	4		69KV, "H" FRAME, SINGLE BAY DEAD END STRUCTURE, PULLOFF BEAM FOR 30'-6" CONDUCTOR HEIGHT AND PROVISIONS FOR MOUNTING LIGHTNING ARRESTERS, 69KV GOAB SWITCH, 7'-0" PHASE SPACING, 2000 KIP MAX. TENSION, 37'-6" STATIC WIRE HEIGHT, 1000 KIP MAX. TENSION, METERING BEAM FOR MOUNTING METERING UNITS	CHAPMAN'S	
B	4		69 KV, BUS SUPPORT STRUCTURE 15'-0" BUS HEIGHT, 5'-0" PHASE SPACING	CHAPMAN'S	
C	8		69 KV, 45 DEG BUS SUPPORT STRUCTURE 15'-0" BUS HEIGHT, 5'-0" PHASE SPACING	CHAPMAN'S	
D	1		69 KV, 3 PHASE SWITCH STAND, 15'-0" BUS HEIGHT, 5'-0" PHASE SPACING INCOMING UNDERGROUND LINE DISCONNECT WITH PROVISIONS FOR SWING HANDLE OP-MECH	CHAPMAN'S	
E	12		69 KV, 3 PHASE SWITCH STAND, 20'-0" BUS HEIGHT, 5'-0" PHASE SPACING WITH PROVISIONS FOR SWING HANDLE OP-MECH	CHAPMAN'S	
F	1		69 KV, 2 PHASE BUS SUPPORT STRUCTURE 15'-0" BUS HEIGHT, 5'-0" PHASE SPACING	CHAPMAN'S	
G	1		69KV, THREE PHASE POTENTIAL TRANSFORMER STAND	CHAPMAN'S	
H	1		69KV, THREE PHASE ARRESTER / TERMINATOR STAND	CHAPMAN'S	
K	3		LIGHTNING MAST (HEIGHT 54'-0")	CHAPMAN'S	
P	13		3'X4' SWITCH GROUND MAT	CHAPMAN'S	
R	LOT		HEADED ANCHOR BOLTS - ASTM 1554-36 BOLTS AND ASTM A563 HARDWARE	THREADED FASTENERS	
	24		1" DIA. X 24" WITH (2) HHN & (2) FW		2B8B
	184		1" DIA. X 30" WITH (2) HHN & (2) FW		2B8
	32		1 1/2" DIA. X 48" WITH (2) HHN & (2) FW		2B12
1	3		69 KV, 350 KV BIL, 3 PST, GROUP OPERATED VERTICAL BREAK SW.	USCO	AVR-07220
			ON 7'-0" PHASE SPACING, RATED 2000 AMPS. CONTINUOUS, 100KA		
			MOMENTARY, VERTICALLY MOUNTED COMPLETE WITH:		
			A) ALUMINUM LIVE PARTS		
			B) NEMA TR-216 GRAY STATION POST INSULATORS		
			C) STANDARD ARCING HORNS		

ASE-ITEM #	QTY.	SPARE	DESCRIPTION	MFG OR EQUAL	MFG PART
			D) GALVANIZED STEEL BASES		
			E) MANUAL TYPE "SWING HANDLE" OPERATING MECHANISMS		
			F) PROVISIONS FOR PADLOCKING IN OPEN OR CLOSED POSITION		
3	13		69 KV, 350 KV BIL, 3 PST, GROUP OPERATED VERTICAL BREAK SW.	USCO	AVR-07220
			ON 5'-0" PHASE SPACING, RATED 2000 AMPS. CONTINUOUS, 100KA		
			MOMENTARY, HORIZONTALLY MOUNTED COMPLETE WITH:		
			A) ALUMINUM LIVE PARTS		
			B) NEMA TR-216 GRAY STATION POST INSULATORS		
			C) STANDARD ARCING HORNS		
			D) GALVANIZED STEEL BASES		
			E) MANUAL TYPE "SWING HANDLE" OPERATING MECHANISM		
			F) PROVISIONS FOR PADLOCKING IN OPEN OR CLOSED POSITION		
			G) 12 AT 20'-0" BUS HEIGHT		
			H) 1 AT 15'-0" BUS HEIGHT		
4	1		69 KV, 350 KV BIL, 3 PST, GROUP OPERATED VEE SWITCH	USCO	AGCH5V-07220
			ON 5'-0" PHASE SPACING, RATED 2000 AMPS. CONTINUOUS, 80KA		
			MOMENTARY, HORIZONTALLY MOUNTED COMPLETE WITH:		
			A) ALUMINUM LIVE PARTS		
			B) NEMA TR-216 GRAY STATION POST INSULATORS		
			C) STANDARD ARCING HORNS		
			D) GALVANIZED STEEL BASES		
			E) MANUAL TYPE "SWING HANDLE" OPERATING MECHANISM		
			F) PROVISIONS FOR PADLOCKING IN OPEN OR CLOSED POSITION		
10	6		DEADEND ASSEMBLY FOR STATIC WIRE EACH CONSISTING OF:		
		A	1 - ANCHOR SHACKLE (30K)	SEFCOR	AH-1219-BNC
		B	1 - STRAIN CLAMP FOR 3/8" H.S.S.	SEFCOR	FQD-65
12	9		DEADEND ASSEMBLY FOR INCOMING CONDUCTOR EACH CONSISTING OF:		
		A	1 - ANCHOR SHACKLE (30K)	SEFCOR	AH-1219-BNC
		B	1 - SUSPENSION INSULATOR	OHIO BRASS	S025036S2010
		C	1 - STRAIN CLAMP FOR 795 ACSR "DRAKE"	SEFCOR	AQD-120-SF
15	42		69 KV, 350 KV BIL, STANDARD STRENGTH, GRAY STATION POST	NEWELL	231006
			INSULATOR, 5" DIA. BOLT CIRCLE MOUNTING, NEMA TR-216		
			38 - FOR BUS INSULATORS		
			1 - FOR SPARE		
16	41		BUS SUPPORT CLAMP, WELD TYPE, 3" SPS AL SCH 40, 5" BC	SEFCOR	ASWH-62-5-SE
18	3		TERMINAL, ALUM. WELD TYPE, 3" SPS ALUM. TO 4 HOLE PAD, 90 DEG.	SEFCOR	WFTC90-62-4B

ASE-ITEM #	QTY.	SPARE	DESCRIPTION	MFG OR EQUAL	MFG PART
20	27		TERMINAL, ALUM. COMPRESSION TYPE, 795 MCM ACSR "DRAKE" TO 4 HOLE PAD	SEFCOR	AL-1108-4B
21	18		TERMINAL, ALUM. WELD TYPE, 3" SPS ALUM. TO 4 HOLE PAD	SEFCOR	WFTC-62-4B
22	39		EXPANSION TERMINAL, ALUM. WELD TYPE, 3" SPS ALUM. TO 4 HOLE PAD	SEFCOR	WFXTC-62-4B
24	18		TEE, ALUM. COMPRESSION TYPE, 795 MCM ACSR "DRAKE" TO 4 HOLE 3" PAD	SEFCOR	ATCF-1108-4A
25	30		TERMINAL, ALUM. COMPRESSION TYPE, 4/0 ACSR "PENGUIN" TO 4 HOLE 3" PAD	SEFCOR	AL-563-4A
26	6		TEE, WELD TYPE 3" SPS ALUM. TO NEMA 4 HOLE 3" PAD	SEFCOR	WTF-6269-4A
27	3		TEE, BOLTED TYPE, DUAL 1272 MCM ACSR TO 4 HOLE 3" PAD	SEFCOR	ASPC-41-6-4A
28	30		END FITTING, DRIVE ON TYPE FOR 3" AL SPS ALUM.	SEFCOR	DP-62-AL
32	24		ANGLE VEE, ALUM. WELD TYPE, 3" SPS AL. RUN TO (2) 3" SPS AL TAP	SEFCOR	WFVT15-6262
34	48		ANGLE TEE, ALUM. WELD TYPE, 3" SPS AL. RUN TO 3" SPS AL TAP	SEFCOR	WFTT15-6262
36	3		COUPLER, WELD TYPE 3" SPS ALUM. TO 3" SPS ALUM.	SEFCOR	WSC-6262
40	84		TERMINAL, ALUM. COMPRESSION TYPE, FOR (2) 1272MCM 45/7 STR. ACSR TO 4 HOLE PAD	SEFCOR	AL2-1345-4B
41	12		TERMINAL, ALUM. COMPRESSION TYPE, FOR (2) 1272MCM 45/7 STR. ACSR TO 4 HOLE PAD, 45 DEG.	SEFCOR	AL2-1345-4B-45
42	78		CABLE SPACER, BOLTED TYPE FOR (2) 1272MCM ACSR 45/7 STR.	SEFCOR	ASPC-43-4
51	LOT		TERMINAL MOUNTING HARDWARE	THREADED FASTENERS	
	180		A) 1/2" X 2" S.S. BOLT, NUT, TWO (2) FW & TWO (2) LW		
	320		B) 1/2" X 2-1/4" S.S. BOLT, NUT, TWO (2) FW & TWO (2) LW		
	240		C) 1/2" X 2-1/2" S.S. BOLT, NUT, TWO (2) FW & TWO (2) LW		
	380		D) 1/2" X 2-3/4" S.S. BOLT, NUT, TWO (2) FW & TWO (2) LW		
52			EQUIPMENT MOUNTING HARDWARE	THREADED FASTENERS	
	260		A) 1/2" X 1-1/4" GALV. HEX HD BOLT, ONE FW & LW (INSULATORS)		
	280		B) 5/8" X 2-1/4" GALV. HEX HD BOLT, NUT, ONE FW & LW (SWITCHES AND PTS)		
	60		C) 5/8" X 3-1/4" GALV. HEX HD BOLT, NUT, ONE FW & LW (ARRESTERS)		
	14		D) 1/2" X 22" GALV. THREADED ROD, TWO (2) NUT, TWO (2) FW & TWO (2) LW (LIGHT MOUNTS)		

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ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

CUSTOMER		CITY OF DOVER	
SUBSTATION		DOVER, DE	
TITLE		69-12.47KV SUBSTATION	
PROJECT NUMBER		SUBSTATION BOM	
47019	DRAWN	CHECKED	APPROVED
JLF	MAR	MAR	A0500
SCALE		N.T.S.	
REV		DATE	
2	09/14/23	TLG	MAR
1	9/23/21	JLF	MAR
0	4/8/21	JLF	MAR
DESCRIPTION		ISSUE FOR CONSTRUCTION	
DESCRIPTION		ISSUE FOR BID	
DESCRIPTION		ISSUED FOR APPROVAL	

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 www.silvey.com/epc 770-537-1144 www.aseng.com 770-537-0033

# CITY OF DOVER 69/12.47KV SUBSTATION DOVER, DE BILL OF MATERIAL

ASE-ITEM #	QTY.	SPARE	DESCRIPTION	MFG OR EQUAL	MFG PART
60	1280	40	FEET, 3" SPS SEAMLESS ALUMINUM TUBING, SCHEDULE 40, ALLOY 6063-T6, 40 FT. LENGTHS	WILLIAMS METALS	
62	1100		FEET, DAMPING CABLE FOR 3" SPS SCH 40 AL. BUS, 266.6MCM ACSR "PARTRIDGE"	METRO WIRE	PARTRIDGE
63	950		FEET, 1272 MCM ACSR CABLE, 45/7 STRANDING	METRO WIRE	BITTERN
66	150		FEET, 795 MCM ACSR CABLE, 26/7 STRANDING	METRO WIRE	DRAKE
68	120		FEET, 4/0 AWG. ACSR CABLE, 6/1 STRANDING, "PENGUIN"	METRO WIRE	PENGUIN
75	2100		FEET, 4/0 AWG. STRAND COPPER, S.D. (ABOVE GRADE STRUCTURE AND EQUIPMENT TAPS/GROUNDING)	METRO WIRE	
76	550		FEET, # 2 AWG. SOLID COPPER, TINNED, S.D.	METRO WIRE	
79	45		GROUND CLAMP, BRONZE BOLTED, PARALLEL RUN: 1/0 - 4/0 STR, TAP: #8 STR. To #1 STR.	SEFCOR	PDC-1107
80	28		CONNECTOR, BRONZE COMPRESSION, 4/0 AWG. COPPER TO 2 HOLE PAD	BURNDY	YGHA28-2N
81	45		GROUND CLAMP, BRONZE BOLTED, PARALLEL #6 STR. TO 4/0 STR.	SEFCOR	PL-50
82	200		GROUND CLAMP, BRONZE BOLTED, 1/C, #4 - 300 CU TO FLAT	SEFCOR	GTC-14
83	60		GROUND CLAMP, BRONZE BOLTED, 2/C, #4 - 300 CU TO FLAT	SEFCOR	GTC2-14
89	1		TERMINAL, BRONZE BOLTED, # 6 - 250 MCM, CU. TO 4 HOLE PAD	SEFCOR	FNCT-12-4A
90	24		TERMINAL, BRONZE BOLTED, # 6 - 250 MCM, CU. TO 2 HOLE PAD	SEFCOR	FNCT-12-2A
<b>FENCE GROUNDING</b>					
91	4		GROUND CLAMP, FOR 4/0 STR. CU. TO 3" O.D. CORNER POST	SEFCOR	GU1-6012
92	50		GROUND CLAMP, FOR 4/0 STR. CU. TO 2 1/2" O.D. LINE POST	SEFCOR	GU1-5812
93	4		GROUND CLAMP, FOR 4/0 STR. CU. AND FLEX BRAID TO 4" O.D. GATE POST	SEFCOR	GU1-6312
94	4		GROUND CLAMP, FOR FLEX BRAID TO 2" O.D. GATE FRAME	SEFCOR	GBR-54
95	4		FLEXIBLE SHUNT, 24" LONG FOR GATE POST TO GATE FRAME CONN.	SEFCOR	XBG146-D-24
96	200		SPLIT BOLT, BRONZE FOR #6 SOLID COPPER (TINNED) TO FENCE BARBED WIRE	SEFCOR	BN-N-2SP



ASE-ITEM #	QTY.	SPARE	DESCRIPTION	MFG OR EQUAL	MFG PART
<b>BELOW GRADE GROUNDING</b>					
101	11000		FEET, 4/0 AWG, 7 STRAND, S.D. BARE COPPER ( 7 - 1500 FOOT REELS )	METRO WIRE	
102	41		3/4" x 8'-0" LONG, NON-SECTIONAL OR SECTIONAL GROUND RODS (PWC348)	CADWELD	PWC348
104	41		COMPRESSION CONNECTOR 4/0 COPPER TO 3/4" GROUND ROD	BURNDY	YGL34C29
105	350		TEE COMPRESSION CONNECTOR 4/0 COPPER TO 4/0 COPPER	BURNDY	YGH29C29
106	204		CROSS COMPRESSION CONNECTOR 4/0 COPPER TO 4/0 COPPER	BURNDY	YGL29C29
111	20		A) LED LIGHTS B) SHORTING CAPS C) BULL HORNS	AEL AEL IRBY	ACPOLED-PK3-M VOLT-WFL-40K-T M-BZSDP-TL-NL 5560-SC EQ-701
300	1		69 / 12.47KV POWER TRANSFORMER WITH LIGHTNING ARRESTERS	GE PROLEC	
304	12		69 KV, STATION CLASS LIGHTNING ARRESTER 48 KV (MCOV) INCOMING LINES	OHIO BRASS	
306	12		69KV, POTENTIAL TRANSFORMER, 350:1 AND 600:1 RATIO	TBD	
307	3		69KV, CABLE TERMINATORS	TBD	
310	6		69 KV, 2000A SF6 CIRCUIT BREAKER WITH EACH BUSHING HAVING 2 SETS OF 2000:5 MRCT, CLASS C800	SIEMENS	SPS2 72.5
315	1		CIRCUIT SWITCHER WITH INTREGRAL DISCONNECT BLADE, RATED 1200AMPS	SOUTHERN STATES	CSV 72.5
320	4		POTENTIAL TRANSFORMER JUNCTION BOX	HOFFMAN	
321	11		YARD LIGHT JUNCTION BOX	HOFFMAN	
323	6		CABLE CLAMPS FOR INCOMING U/G CABLE	TYCO	
330	LOT		CABLE TRENCH SYSTEM	TBD	
340	1		SCADA PANEL	TBD	
350	9		RELAY PANELS (30"W x 30" D x 90"H) REFERENCE DRAWINGS 39218B03-B04	TBD	

ASE-ITEM #	QTY.	SPARE	DESCRIPTION	MFG OR EQUAL	MFG PART
360	LOT		CONDUIT	TBD	
370	LOT		CONTROL CABLE	TBD	
380	LOT		GALVANIZED CHAIN LINK FENCE, & STONE SURFACING	TBD	
410	1		SWITCHGEAR #1 BUILDING CONTAINING THE FOLLOWING:	TBD	
420	1		12.47KV SWITCHGEAR	SIEMENS	
430	1		AC PANEL	TBD	
440	1		AUTOMATIC THROVOVER SWITCH, NEMA 1, 3 phase	TBD	
450	1		DC PANEL	TBD	
460	1		BATTERY CHARGER	TBD	
470	1		BATTERY SYSTEM	TBD	
480	1		BATTERY RACK	TBD	
490	1		BATTERY SPILL CONTAINMENT SYSTEM	TBD	
500	1		EYE WASH STATION	Bradley	S19-220
510	2		FIRE EXTINGUISHERS	Kidde	Grainger 4T889
520	1		WORK TABLE 30" X 48"	Grainger	3W252
530	2		SAFETY DISCONNECT	TBD	
540	2		HVAC UNITS	TBD	
550	1		1 - EXHAUST FAN	TBD	
560	1		1 - INTAKE VENT	TBD	
570	2		EMERGENCY EXIT LIGHT	TBD	

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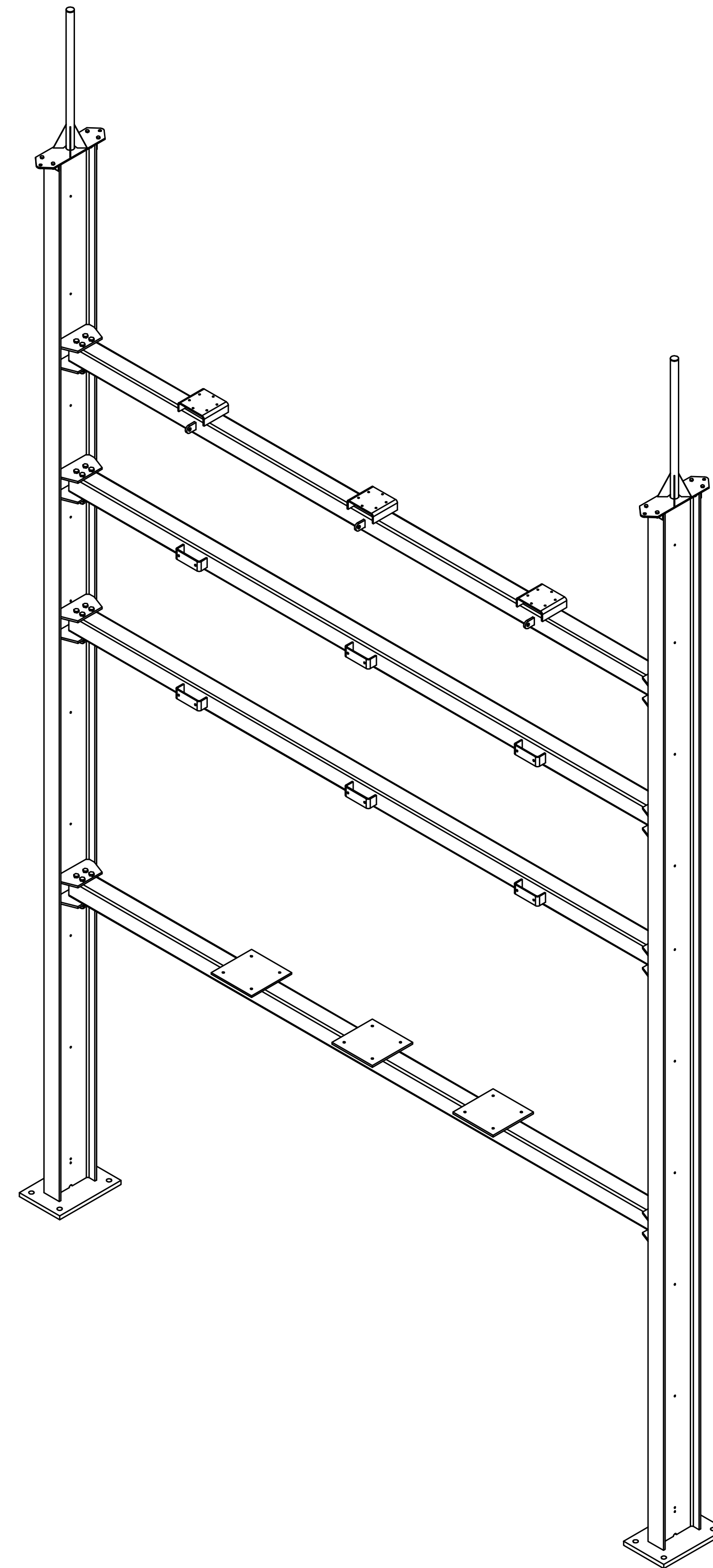
ENGINEERING SEAL

CUSTOMER		CITY OF DOVER DOVER, DE			
SUBSTATION		69-12.47KV SUBSTATION			
TITLE		SUBSTATION BOM			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER	
47019	JLF	MAR	MAR	A0501	
SCALE	N.T.S.				
 					
REV	DATE	DRN	CK	APP	DESCRIPTION
2	09/14/23	TLG	MAR	MAR	ISSUE FOR CONSTRUCTION
1	9/23/21	JLF	MAR	MAR	ISSUE FOR BID
0	4/8/21	JLF	MAR	MAR	ISSUED FOR APPROVAL

# STRUCTURE "A"

## "2-COLUMN H-FRAME STRUCTURE"

TOTAL STRUCTURE WEIGHT = 11,118.22 LBS.



ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
8	1 1/2"	4'-0"	GALVANIZED ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554-GR55)

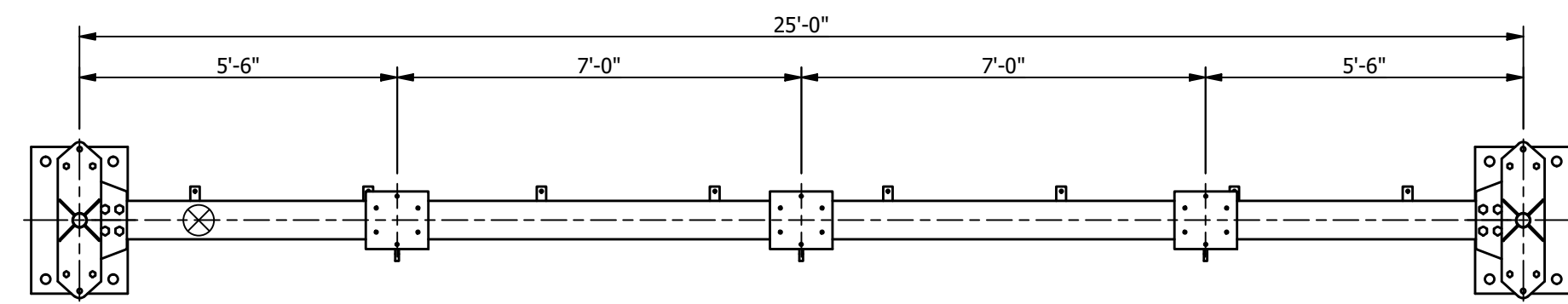
**MAKE STRUCTURE "A"**  
**"4" - TIMES**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SA100	STRUCTURE "A" COVER SHEET
SA200	STRUCTURE "A" ELEVATIONS
SA300	STRUCTURE "A" ASSEMBLIES & DETAILS BOM
SA301	STRUCTURE "A" ASSEMBLIES & DETAILS BOM

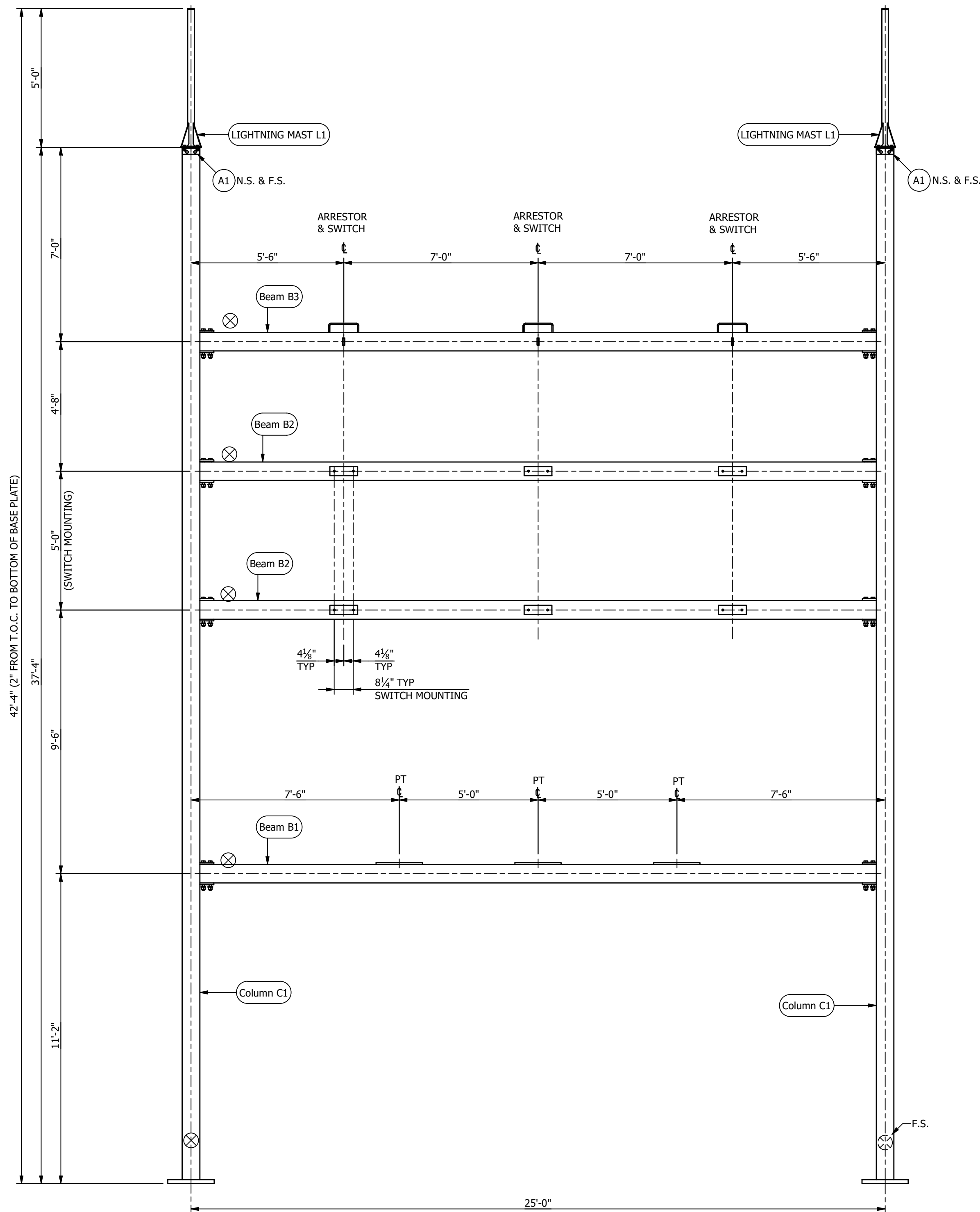
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ENGINEERING SEAL

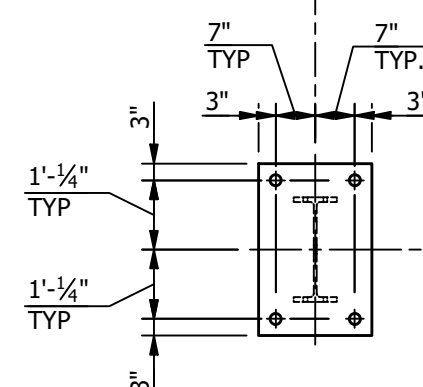
CITY OF DOVER		DOVER, DELAWARE	
SUBSTATION 69-12.47 KV SUBSTATION			
TITLE STR. A - COVER SHEET			
PROJECT NUMBER 47019	DRAWN JLF	CHECKED JKG	APPROVED MAR
SCALE NTS			DRAWING NUMBER SA100
AUBREY SILVEY ENTERPRISES, INC. <b>EPC DIVISION</b> www.silvey.com/epc		ASSOCIATED SUBSTATION ENGINEERING, INC. <b>ASE</b> www.aseng.com	
REV 1	DATE 9/14/23	DRN JRG	CK JKG
0	9/23/21	KDC	JKG
APP MAR	DESCRIPTION ISSUED FOR CONSTRUCTION		
APP MAR	ISSUE FOR BID		



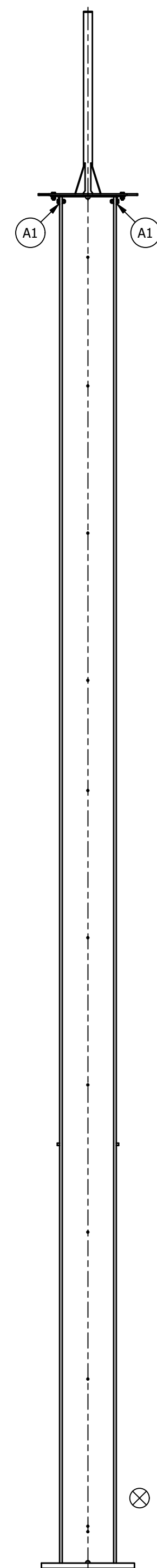
PLAN VIEW



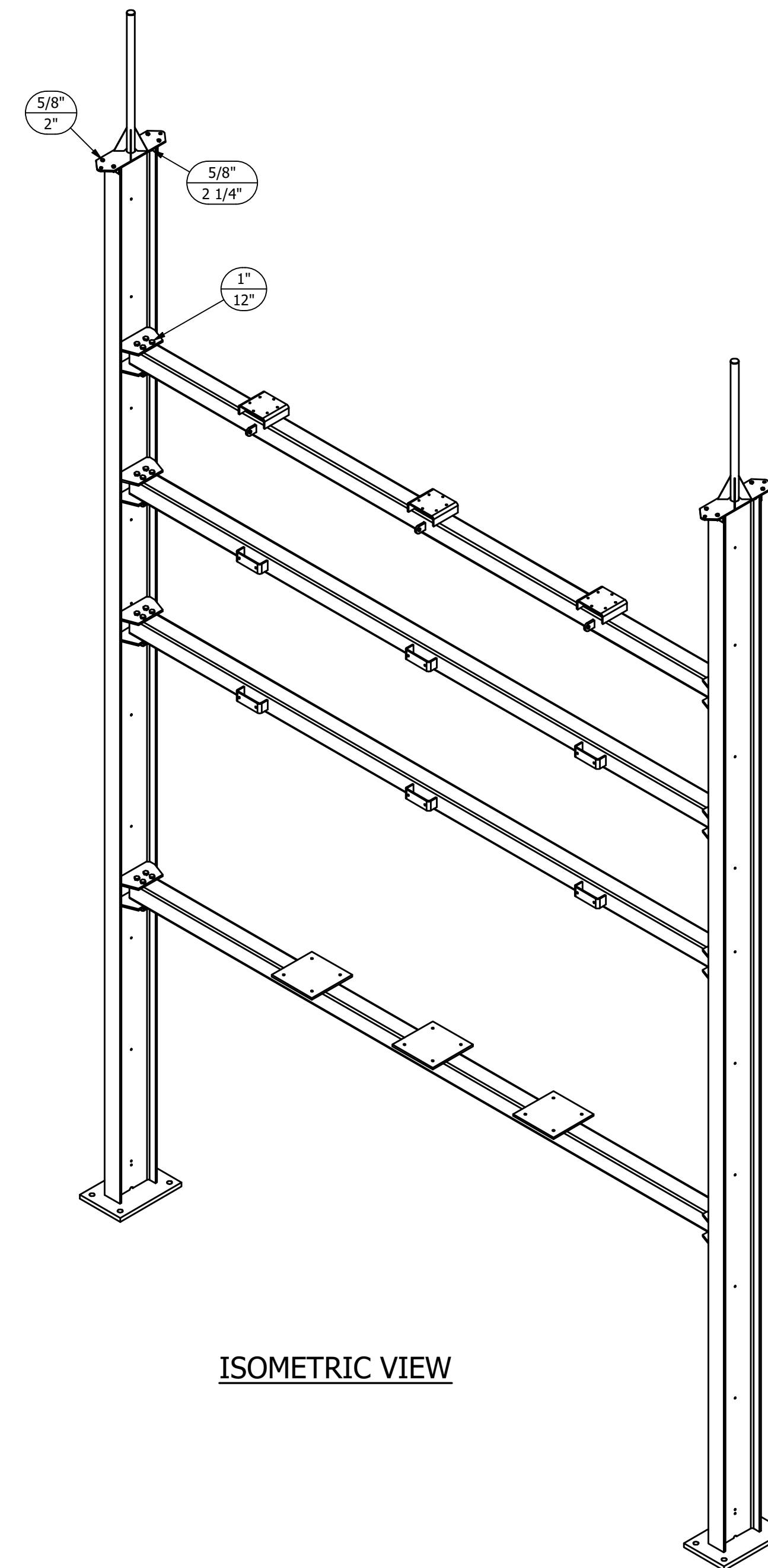
FRONT ELEVATION



ANCHOR BOLT LAYOUT



RIGHT ELEVATION



ISOMETRIC VIEW

ASSEMBLY LIST

MARK	QTY
Beam B1	1
Beam B2	2
Beam B3	1
Column C1	2
LIGHTNING MAST L1	2

MATERIAL LIST

MARK	QTY	DESCRIPTION
A1	4	L3 X 3 X 3/8

NOTES:

1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE C. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE STRUCTURE "A"  
"4" - TIMES**

REFERENCE DRAWINGS

DRAWING NUMBER	DESCRIPTION
SA100	STRUCTURE "A" COVER SHEET
SA200	STRUCTURE "A" ELEVATIONS
SA300	STRUCTURE "A" ASSEMBLIES & DETAILS BOM
SA301	STRUCTURE "A" ASSEMBLIES & DETAILS BOM

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ENGINEERING SEAL

REV	DATE	DRN	CK	APP	DESCRIPTION
1	9/14/23	JRG	JKG	MAR	ISSUED FOR CONSTRUCTION
0	9/23/21	KDC	JKG	MAR	ISSUE FOR BID

CITY OF DOVER  
DOVER, DELAWARE

SUBSTATION  
**69-12.47 KV SUBSTATION**

TITLE  
**STR. A - ELEVATIONS**

PROJECT NUMBER 47019	DRAWN JLF	CHECKED JKG	APPROVED MAR	DRAWING NUMBER SA200
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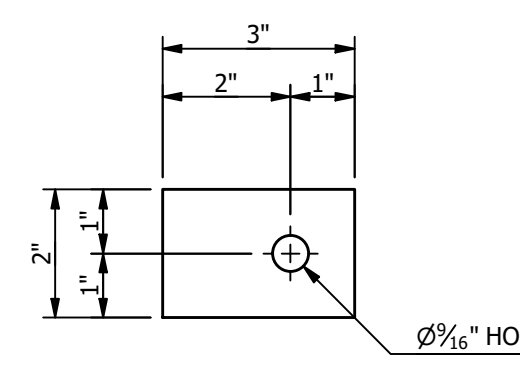
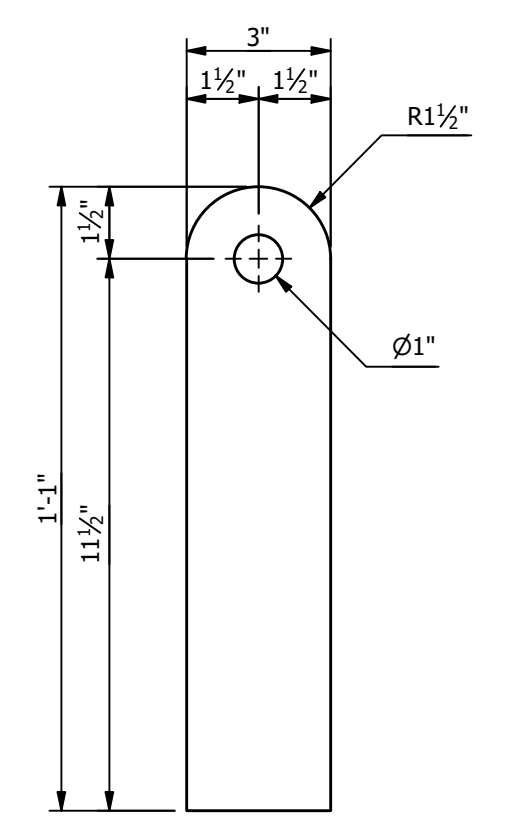
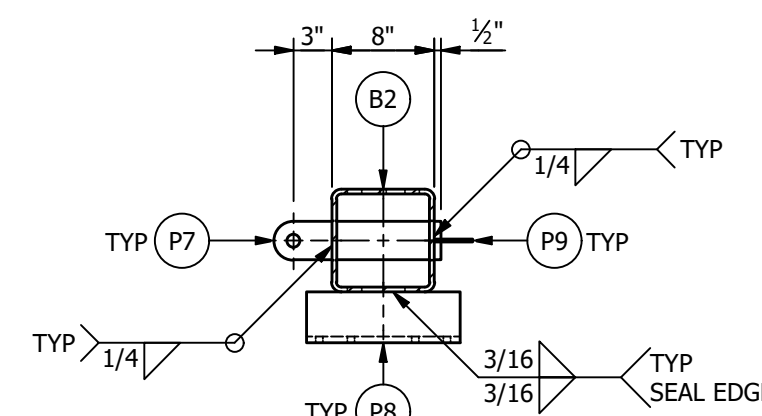
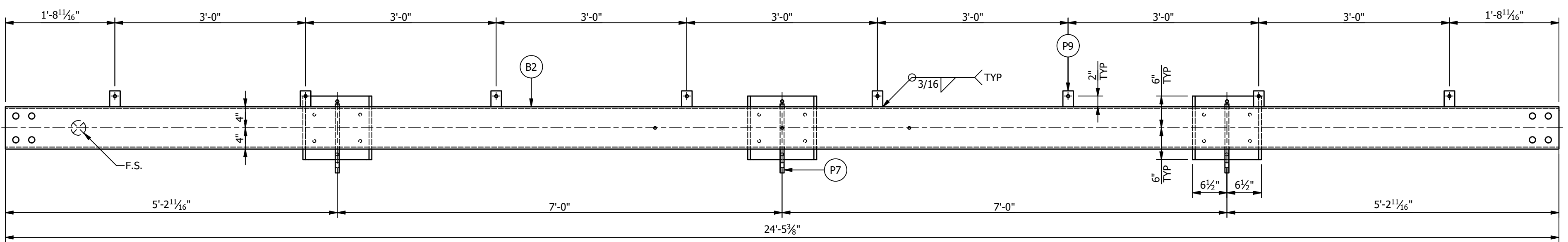
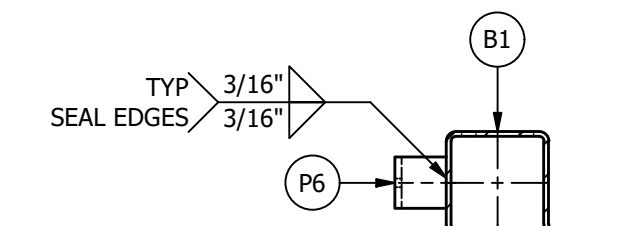
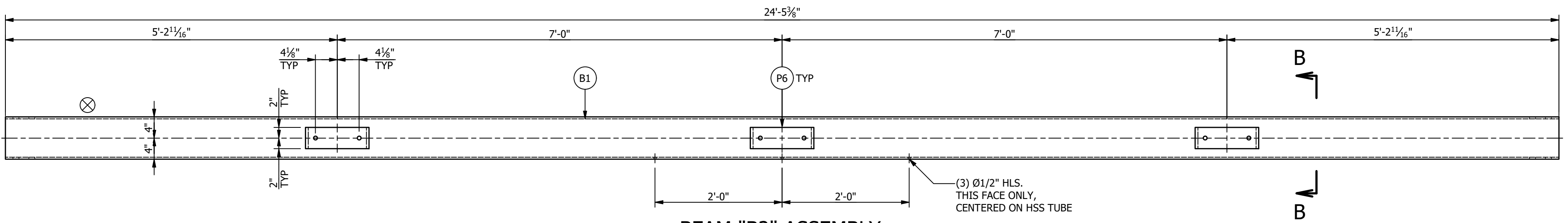
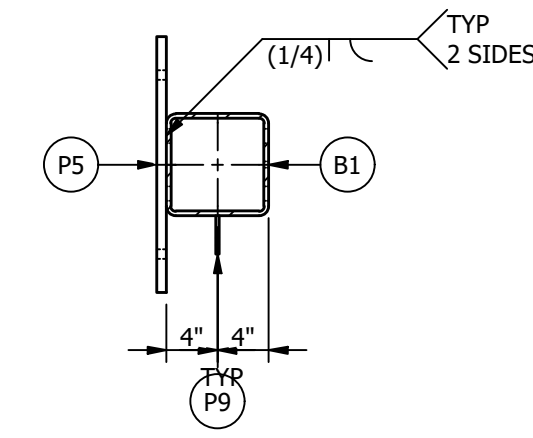
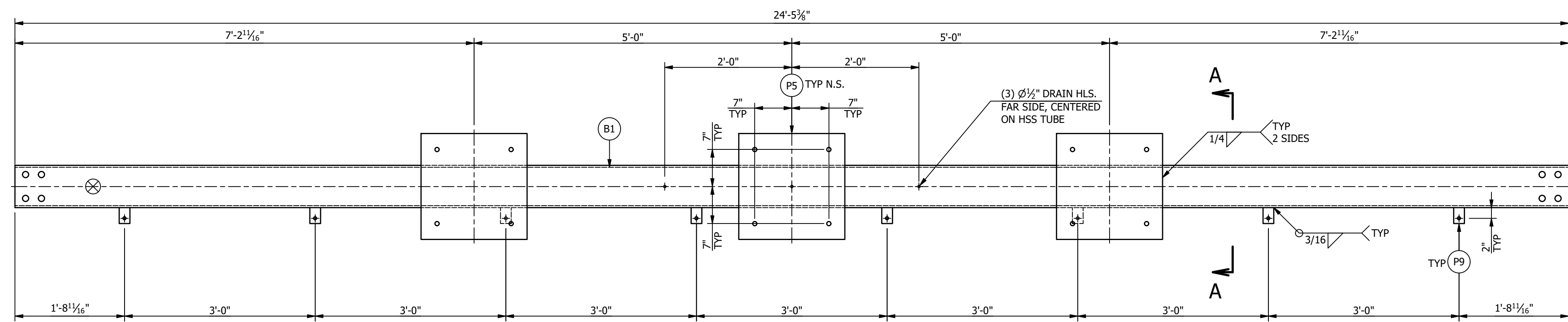
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**MATERIAL LIST**

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
B1	3	HSS8 X 8 X 3/8	24'-5 3/8"	2764.10
B2	1	HSS8 X 8 X 3/8	24'-5 3/8"	921.37
P5	3	PL3/4 X 20	1'-8"	255.21
P6	6	PL1/2 X 4	1'-6 1/4"	62.10
P7	3	PL3/4 X 3	1'-1"	24.88
P8	3	PL1/2 X 12	1'-7 1/4"	98.26
P9	16	PL1/4 X 3	0'-2"	6.81

BLK. WGT. = 4,132.73 LBS.  
GALV. WGT. = 4,277.38 LBS.

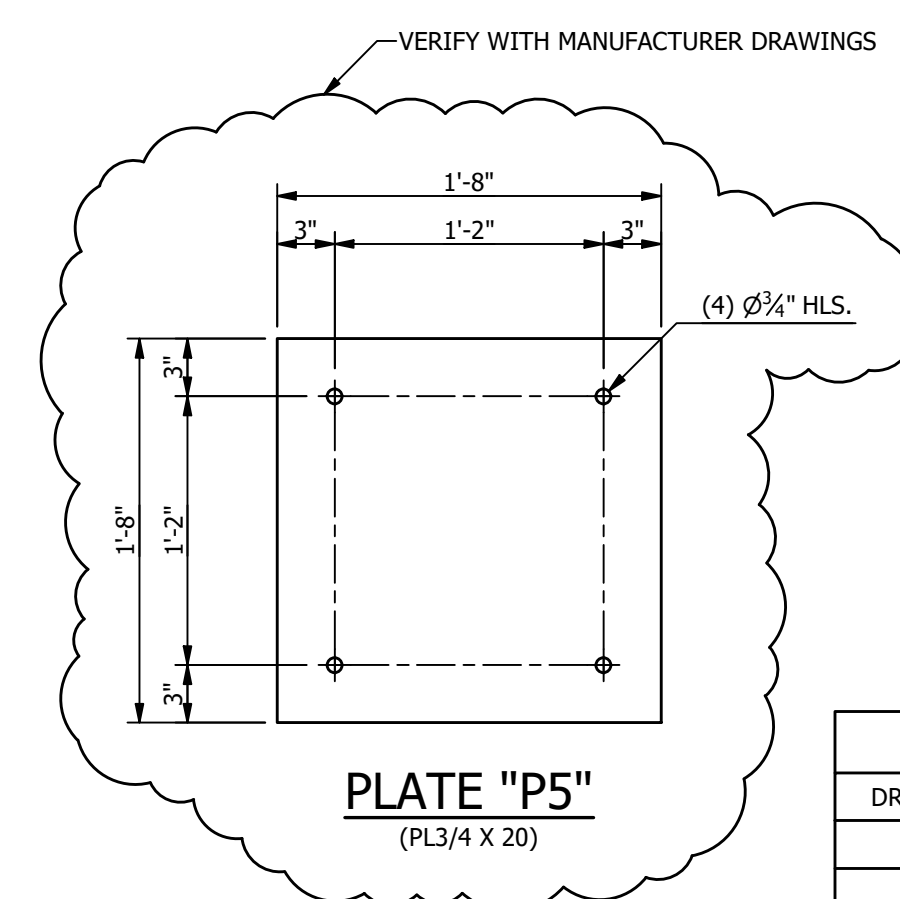
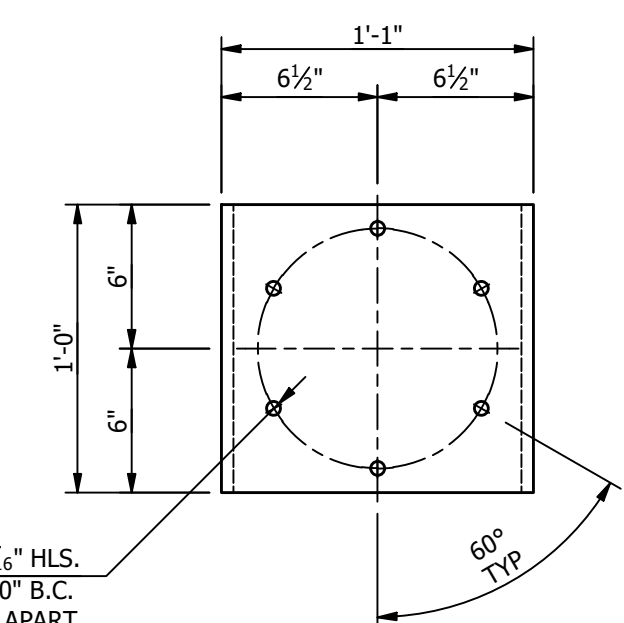
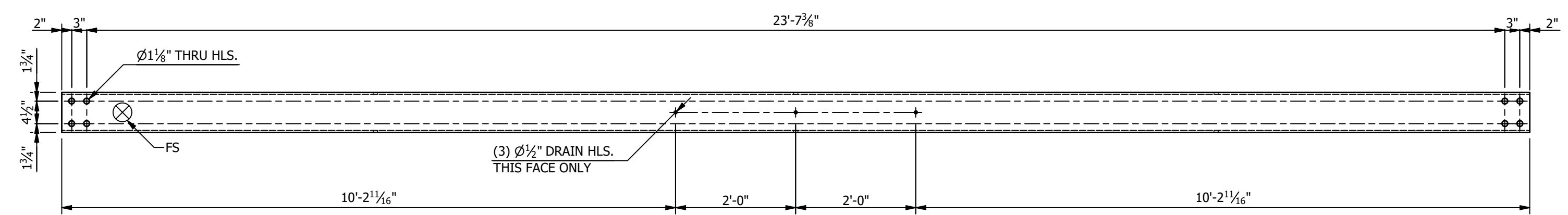
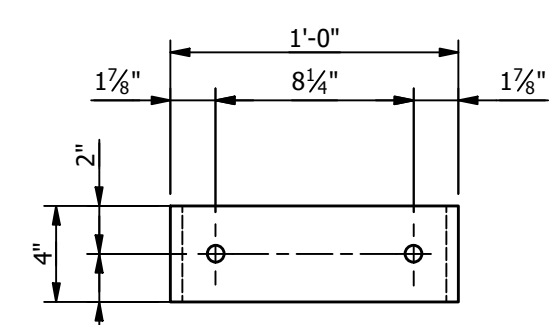
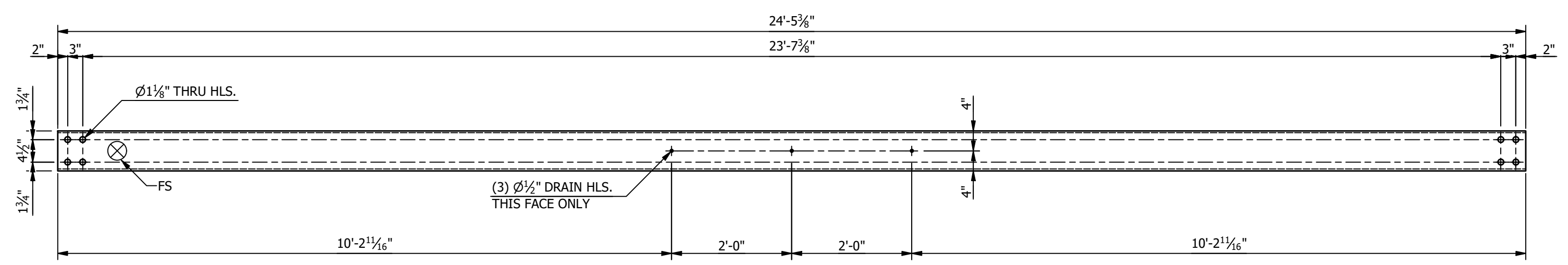


SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXA

**NOTES:**

1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE C. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

MAKE THIS SHEET "4" - TIMES



**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SA100	STRUCTURE "A" COVER SHEET
SA200	STRUCTURE "A" ELEVATIONS
SA300	STRUCTURE "A" ASSEMBLIES & DETAILS BOM
SA301	STRUCTURE "A" ASSEMBLIES & DETAILS BOM

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.	ENGINEERING SEAL		CITY OF DOVER DOVER, DELEWARE		
			SUBSTATION 69-12.47 KV SUBSTATION		
			TITLE STR. A - ASSEMBLIES & DETAILS		
			PROJECT NUMBER 47019		
		SCALE NTS			
		DRAWN JLF			
		CHECKED JKG			
		APPROVED MAR			
		DRAWING NUMBER SA300			
		AUBREY SILVEY ENTERPRISES, INC.			
		ASSOCIATED SUBSTATION ENGINEERING, INC.			
		EPC DIVISION			
		Engineer • Procure • Construct			
		www.silvey.com/epc 770-637-1144			
		www.aseng.com 770-637-0033			
REV	DATE	DRN	CK	APP	DESCRIPTION
1	9/14/23	JRG	JKG	MAR	ISSUED FOR CONSTRUCTION
0	9/23/21	KDC	JKG	MAR	ISSUE FOR BID

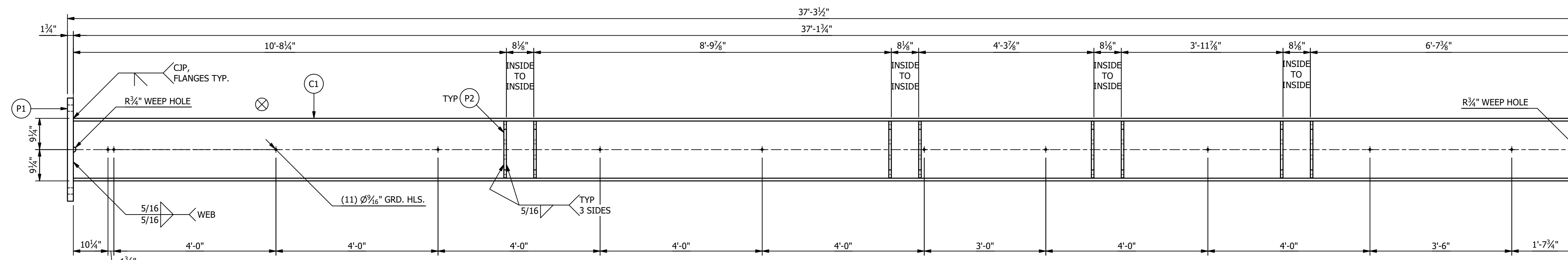
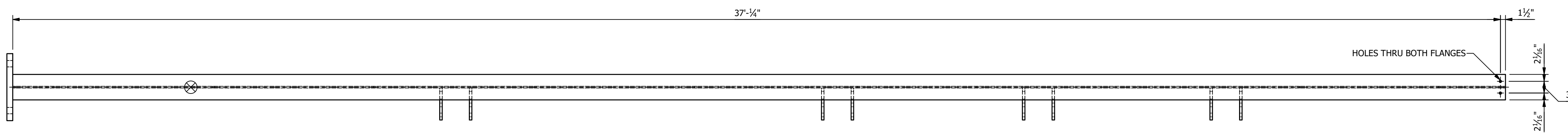
**MATERIAL LIST**

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
A1	4	L3 X 3 X 3/8	0'-7 1/2"	18.00
C1	2	W18 X 71	37'-1 3/4"	5274.71
L1	2	2 1/2" DIA SCH 40 PIPE STANDARD WEIGHT	5'-0"	57.90
L2	2	2" SCH 40 PIPE CAP (INSTALL AFTER GALV.)		.00
P1	2	PL1 3/4 X 20	2'-6 1/2"	605.41
P2	16	PL3/4 X 9 9/16	1'-4 3/4"	545.03
P3	8	PL1/4 X 4 1/2	0'-10"	25.52
P4	2	PL1/2 X 9	2'-8 1/2"	82.94

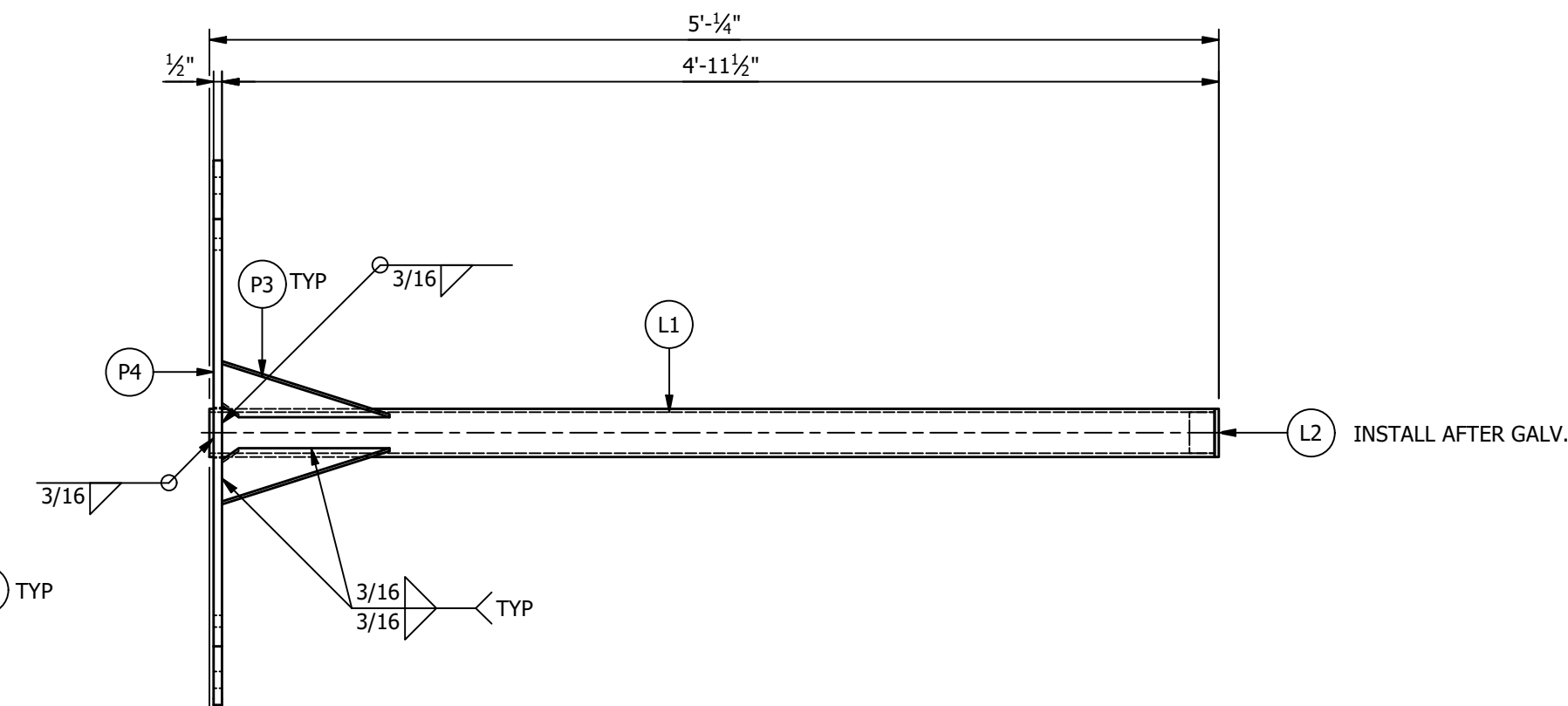
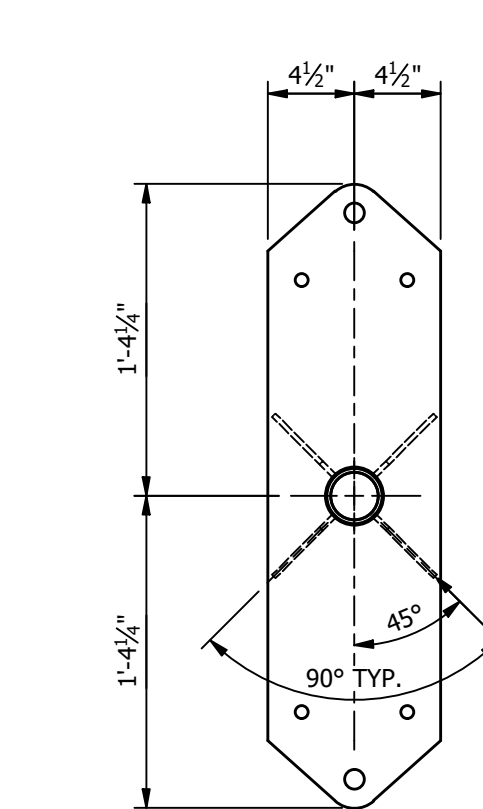
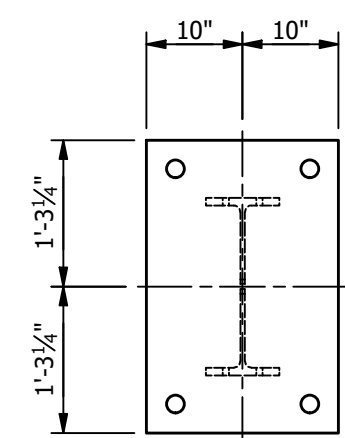
BLK. WGT. = 6,609.51 LBS.  
 GALV. WGT. = 6,840.84 LBS.  
 TOTAL STR. BLK. WGT. = 10,742.24 LBS.  
 TOTAL STR. GALV. WGT. = 11,118.22 LBS.

**STRUCTURE BOLT ASSEMBLIES**

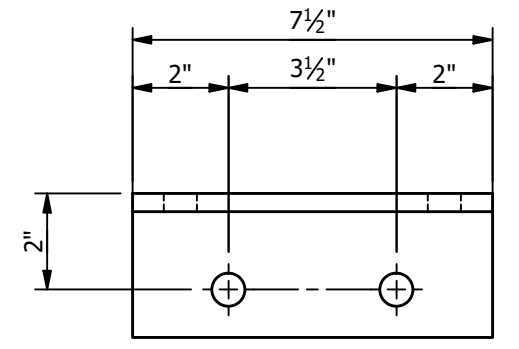
QTY	DIA	LENGTH	DESCRIPTION
36	1"	12"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN
10	5/8"	2 1/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN
10	5/8"	2"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN



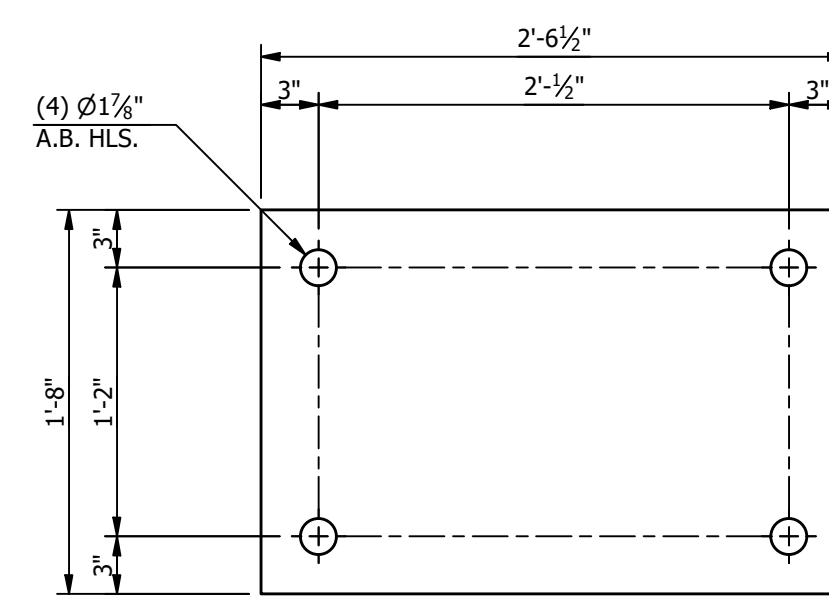
**COLUMN "C1" ASSEMBLY**



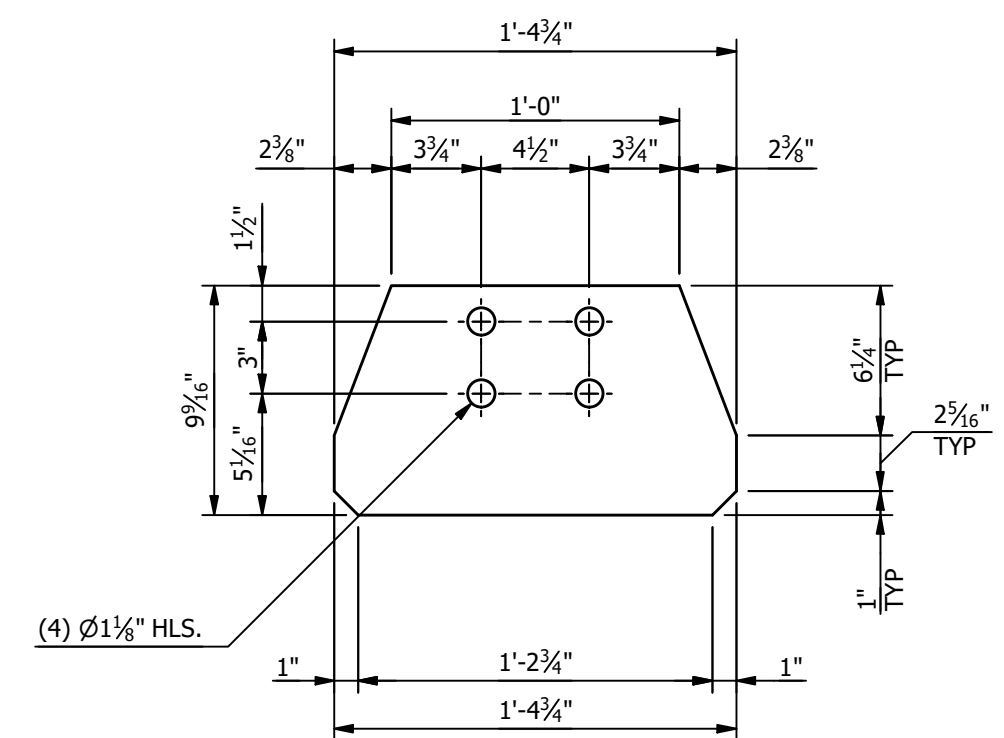
**LIGHTING MAST "L1" ASSEMBLY**



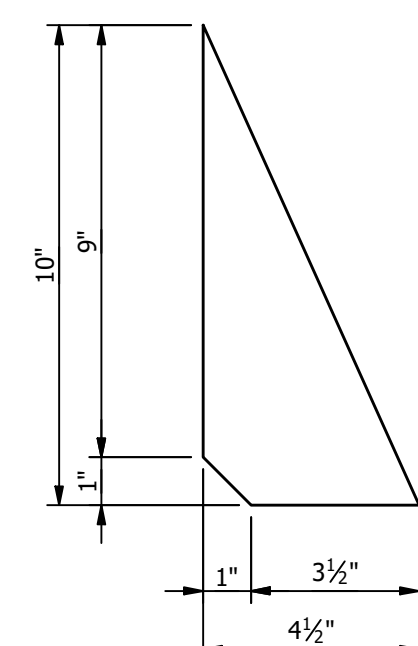
**ANGLE "A1"**  
(L3 X 3 X 3/8)



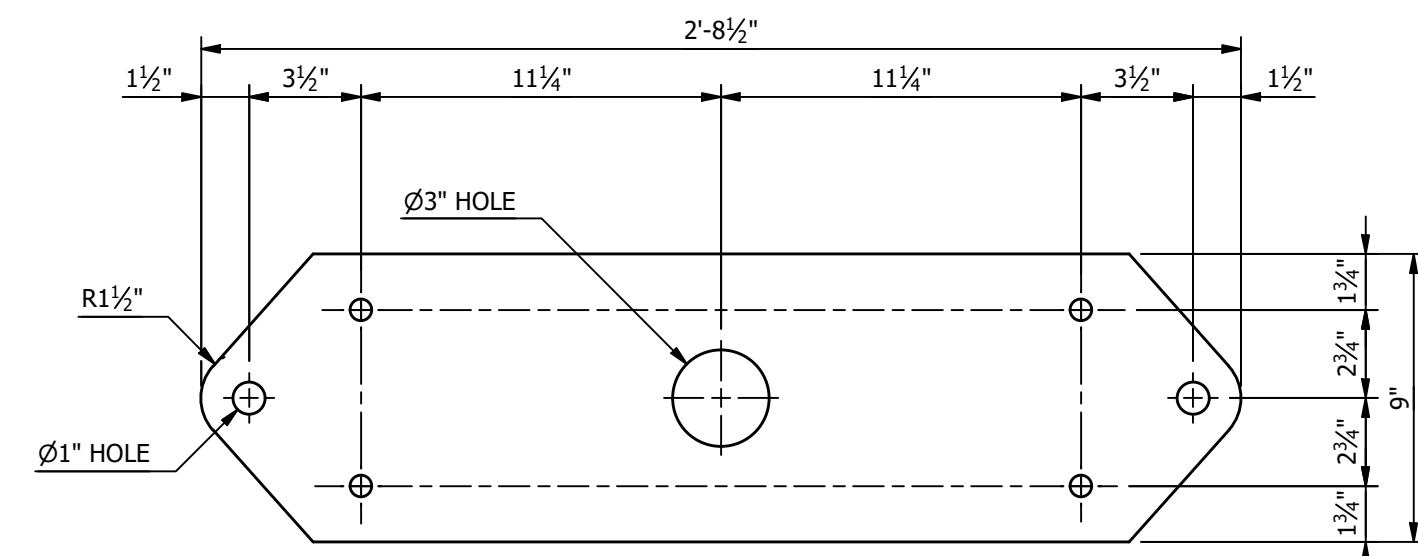
**PLATE "P1"**  
(PL1 3/4 X 20)



**PLATE "P2"**  
(PL3/4 X 9 9/16)



**PLATE "P3"**  
(PL1/4 X 4 1/2)



**PLATE "P4"**  
(PL1/2 X 9)

**SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXA**

**NOTES:**

- ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE C. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
- ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
- ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
- ALL HOLES Ø1 1/16" FOR Ø5/8" BOLTS UNLESS NOTED.
- MINIMUM EDGE DISTANCE 7/8" UNLESS NOTED.
- PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
- ALL WELDING ELECTRODES SHALL BE E70XX.
- ⊗ MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE THIS SHEET "4" - TIMES**

**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SA100	STRUCTURE "A" COVER SHEET
SA200	STRUCTURE "A" ELEVATIONS
SA300	STRUCTURE "A" ASSEMBLIES & DETAILS BOM
SA301	STRUCTURE "A" ASSEMBLIES & DETAILS BOM

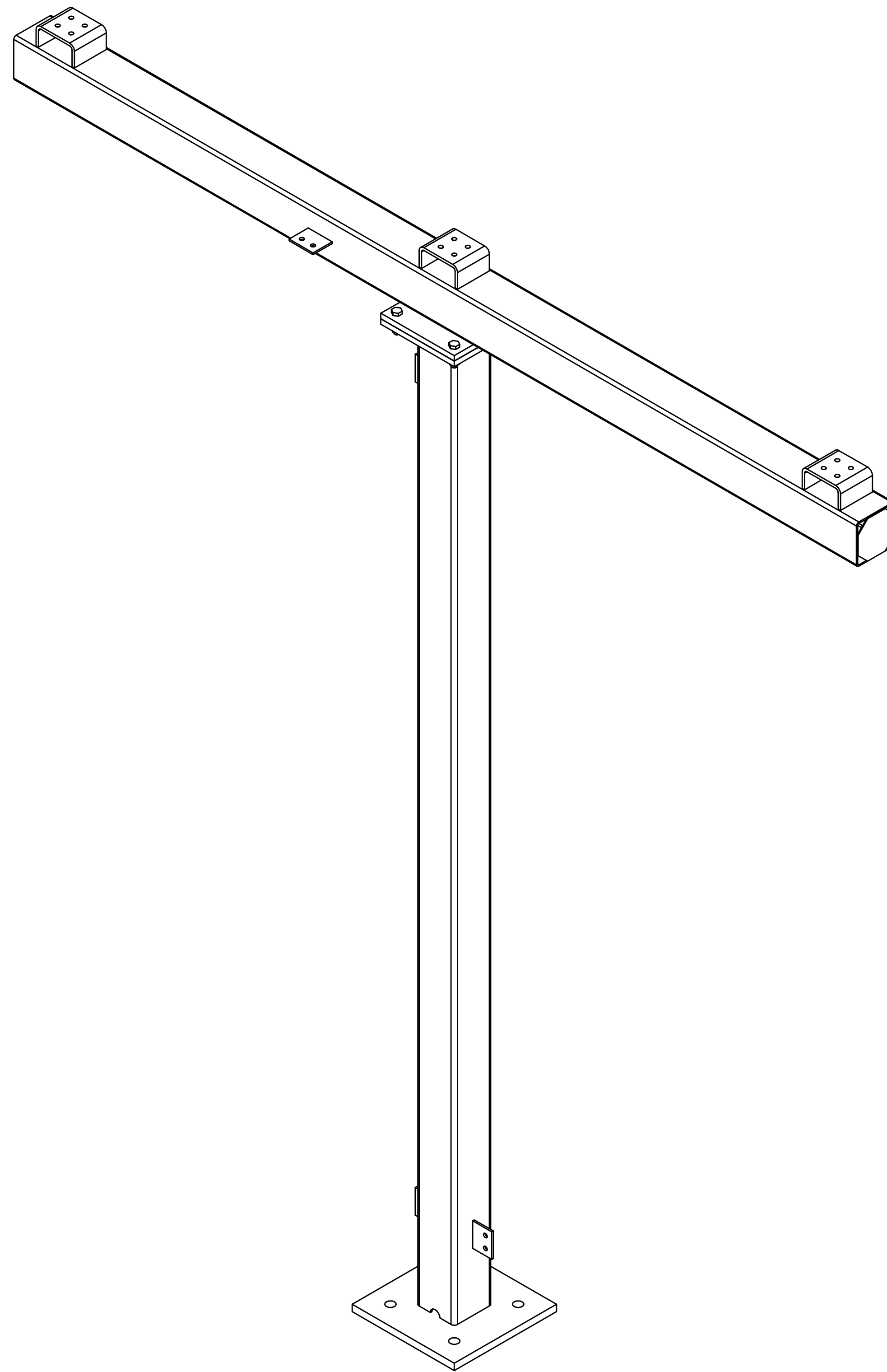
THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

CUSTOMER		CITY OF DOVER DOVER, DELEWARE	
SUBSTATION		69-12.47 KV SUBSTATION	
TITLE		STR. A - ASSEMBLIES & DETAILS	
PROJECT NUMBER	47019	DRAWN	JLF
SCALE	NTS	CHECKED	JKG
REV	DATE	DRN	CK
1	9/14/23	JRG	JKG
0	9/23/21	KDC	JKG
ISSUED FOR CONSTRUCTION		APPROVED	
ISSUE FOR BID		DRAWING NUMBER	
		SA301	
AUBREY SILVEY ENTERPRISES, INC.			
EPC DIVISION		ASSOCIATED SUBSTATION ENGINEERING, INC.	
www.silvey.com/epc		www.aseng.com	

**STRUCTURE "B"**  
**"69KV 1-COLUMN 3-PHASE BUS SUPPORT"**  
 TOTAL STRUCTURE WEIGHT = 540.07 LBS.

ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)



**MAKE STRUCTURE "B"**  
**"4" - TIMES**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SB100	STRUCTURE "B" COVER SHEET
SB200	STRUCTURE "B" ELEVATIONS
SB300	STRUCTURE "B" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY  
 AND IS NOT TO BE USED, REPRODUCED OR COPIED  
 WITHOUT WRITTEN CONSENT OF  
 ASSOCIATED SUBSTATION ENGINEERING, INC.

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

CUSTOMER			
CITY OF DOVER DOVER, DELAWARE			
SUBSTATION			
69-12.47KV SUBSTATION			
TITLE			
STR. B - COVER SHEET			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED
47019	JLF	CVC	MAR
SCALE	DRAWING NUMBER		
NTS	SB100		
AUBREY SILVEY ENTERPRISES, INC.			
<b>EPC DIVISION</b> Engineer • Procure • Construct www.silvey.com/epc 770-637-1144		<b>ASSOCIATED SUBSTATION ENGINEERING, INC.</b> www.aseng.com 770-637-0033	

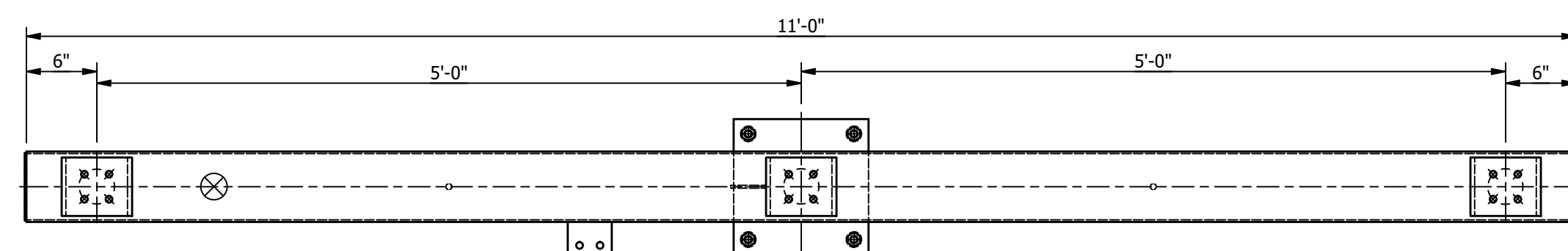
ENGINEERING SEAL



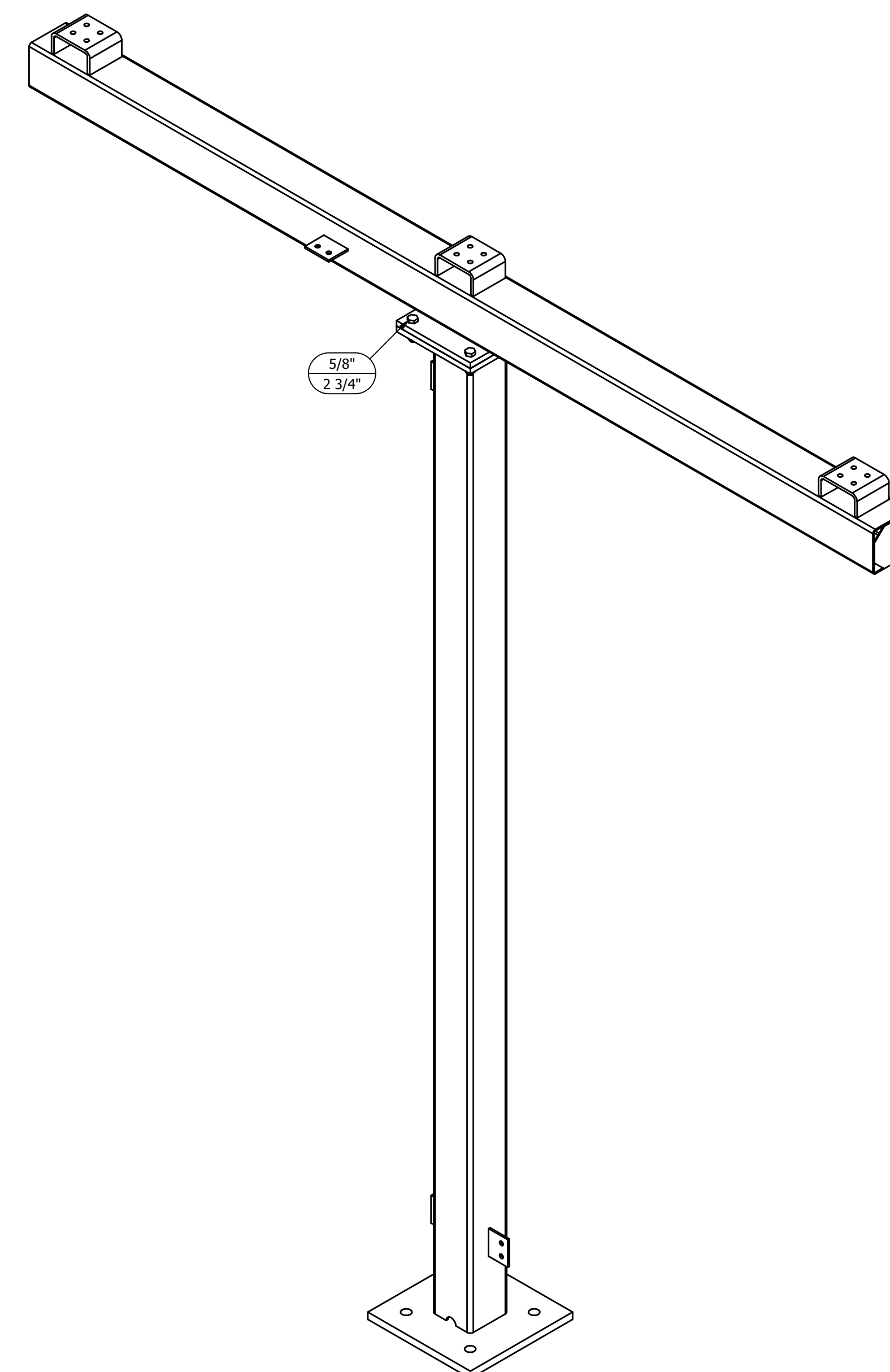
ASSEMBLIES		
MARK	QTY	DESCRIPTION
B1	1	BEAM "B1"
C1	1	COLUMN "C1"

**NOTES:**

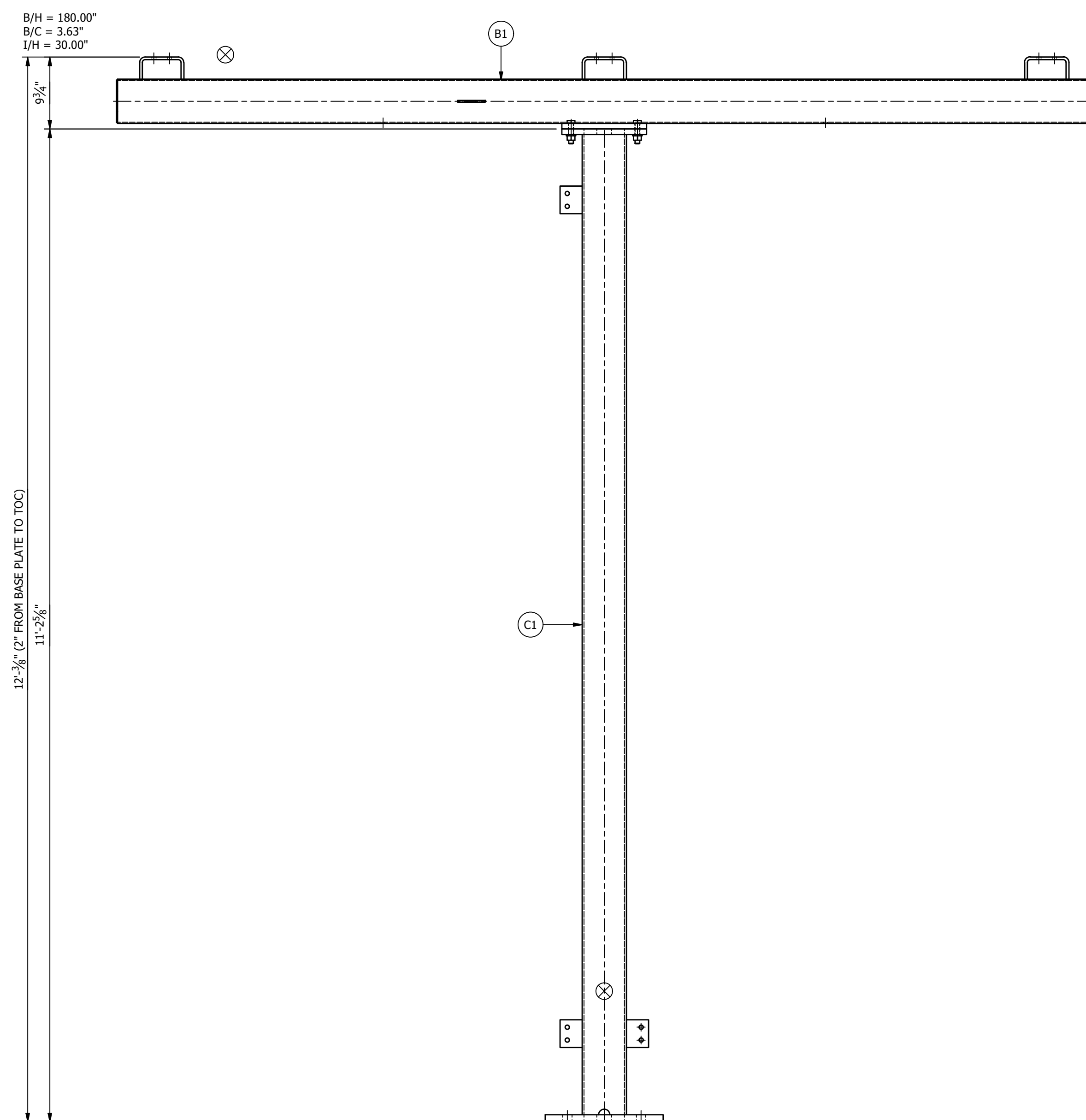
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



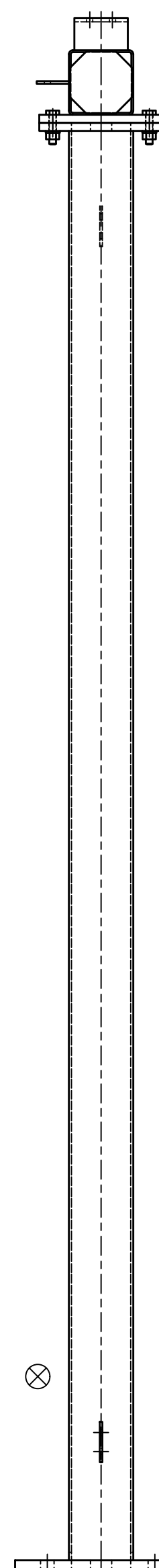
PLAN VIEW



ISOMETRIC VIEW

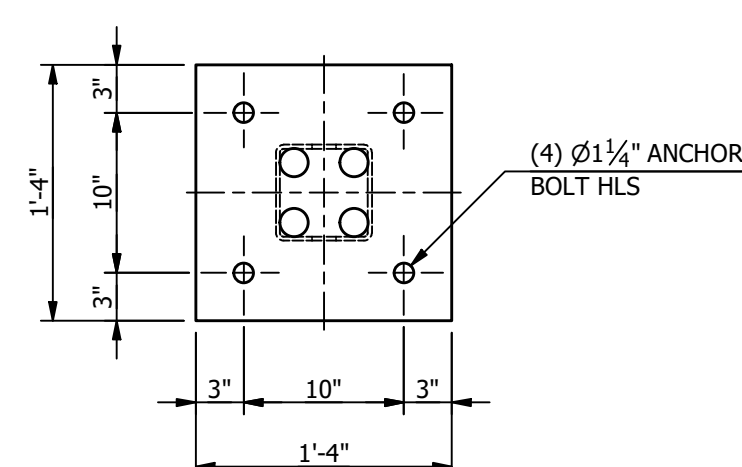


FRONT ELEVATION



RIGHT ELEVATION

**MAKE STRUCTURE "B"  
"4" - TIMES**

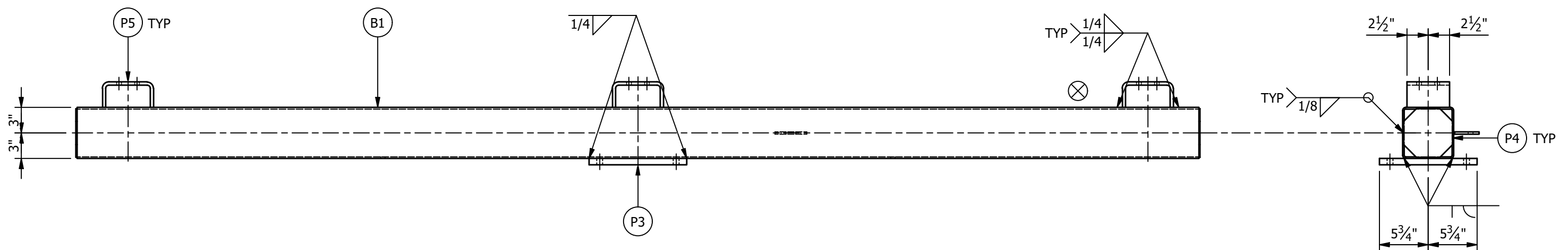
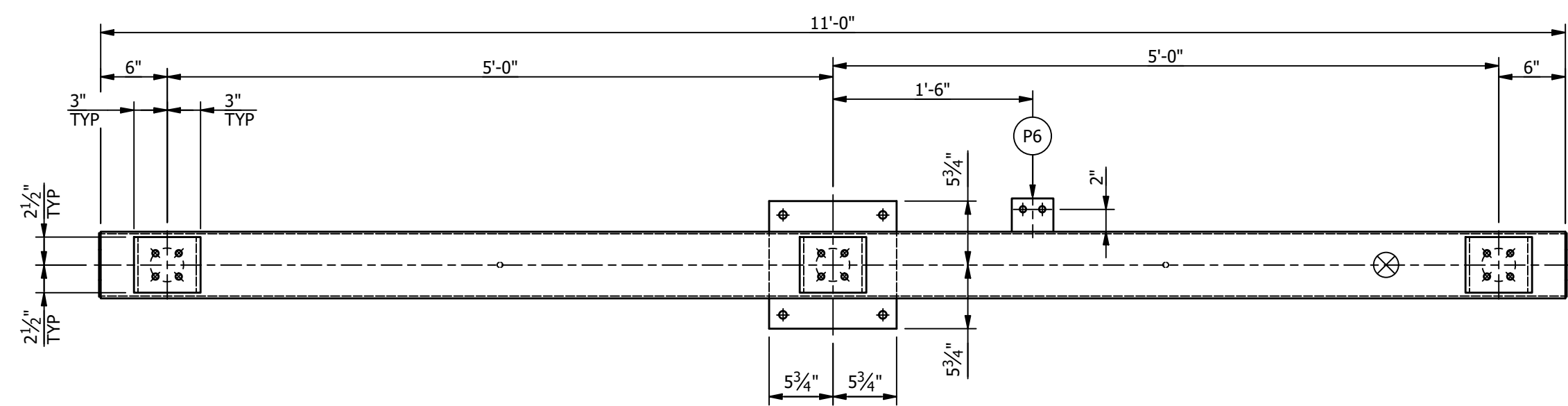


REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SB100	STRUCTURE "B" COVER SHEET
SB200	STRUCTURE "B" ELEVATIONS
SB300	STRUCTURE "B" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

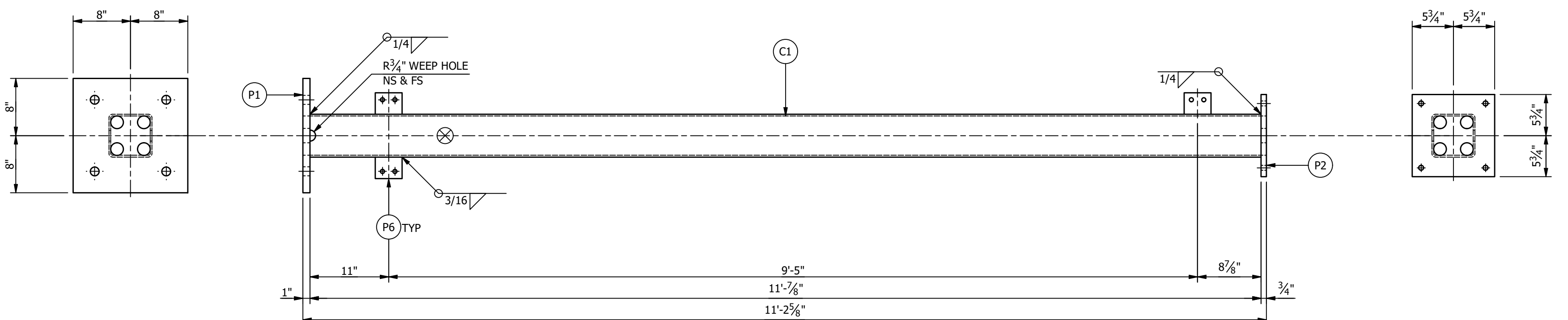
THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

CUSTOMER		CITY OF DOVER DOVER, DELAWARE			
SUBSTATION		69-12.47KV SUBSTATION			
TITLE		STR. B - ELEVATIONS			
PROJECT NUMBER	47019	DRAWN	CHECKED	APPROVED	DRAWING NUMBER
SCALE	NTS	JLF	CVC	MAR	SB200
AUBREY SILVEY ENTERPRISES, INC.		ASSOCIATED SUBSTATION ENGINEERING, INC.			
EPC DIVISION		www.aseng.com 770-637-0033			
REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

ENGINEERING SEAL



BEAM "B1" ASSEMBLY



COLUMN "C1" ASSEMBLY

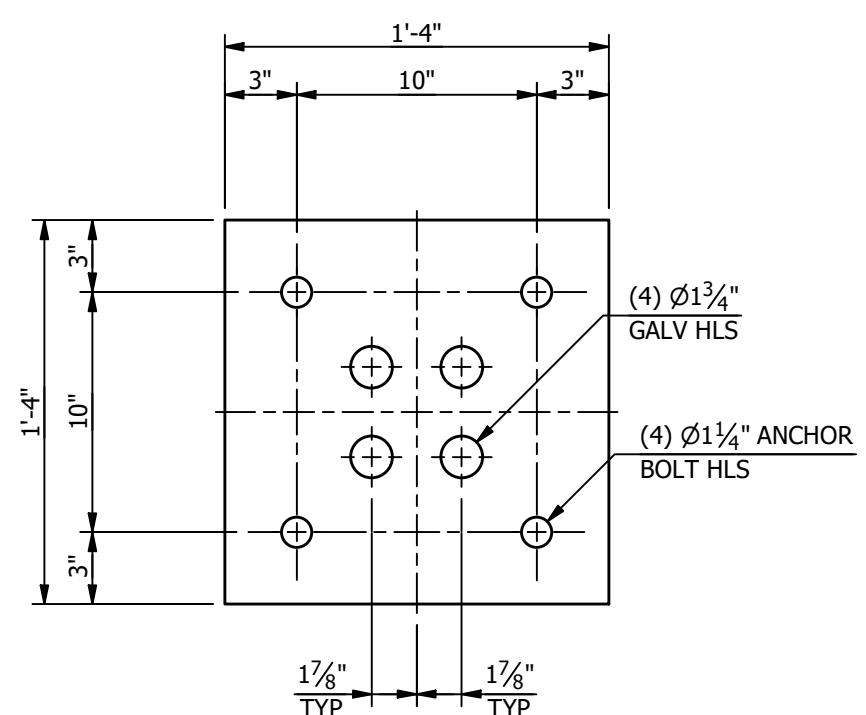


PLATE "P1"  
(PL1 X 16)

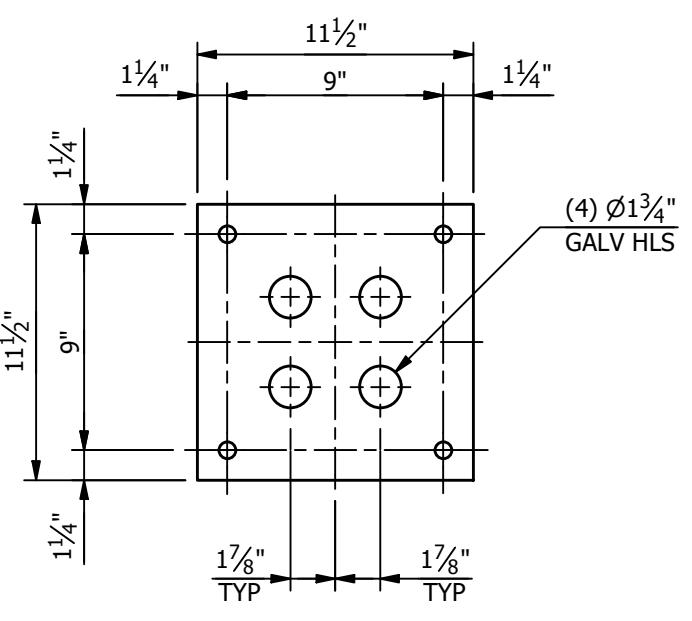


PLATE "P2"  
(PL3/4 X 11 1/2)

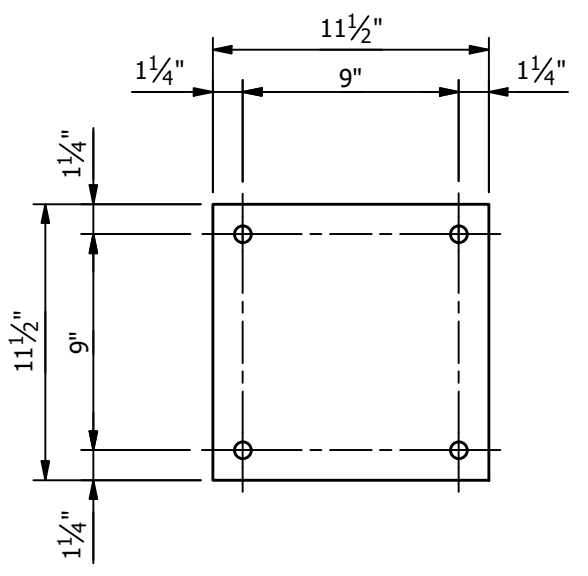


PLATE "P3"  
(PL3/4 X 11 1/2)

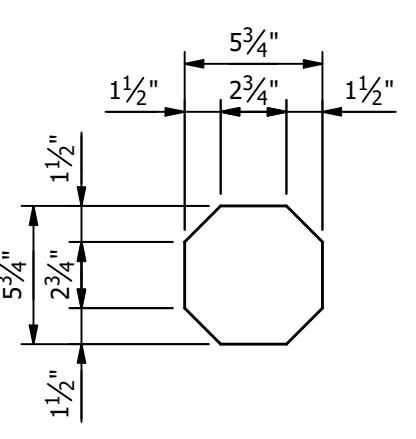


PLATE "P4"  
(PL1/8 X 5 3/4)

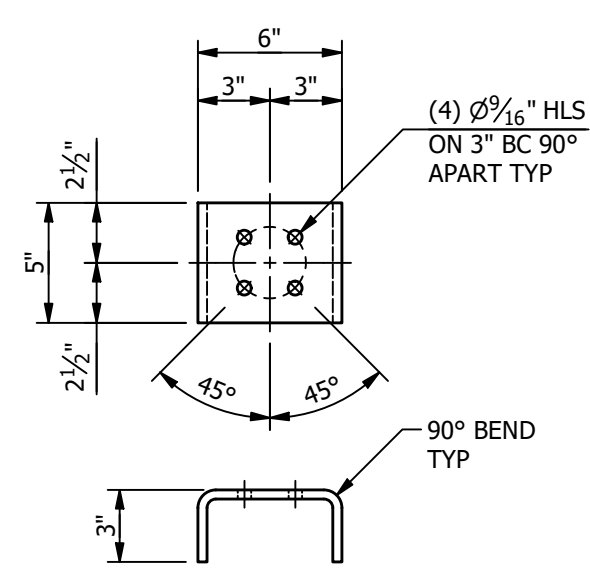


PLATE "P5"  
(PL3/8 X 5 BENT)

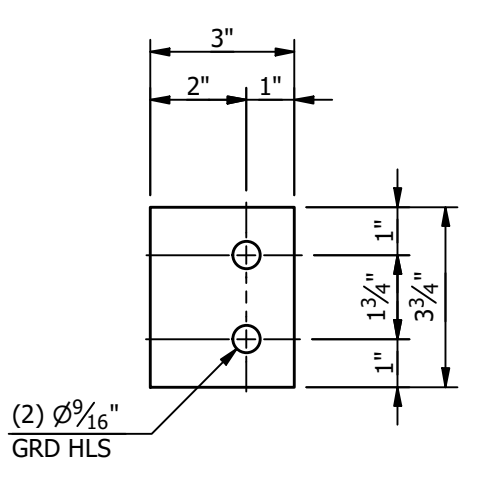


PLATE "P6"  
(PL1/4 X 3)

**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
B1	1	HSS6 X 6 X 3/16	11'-0"	159.79
C1	1	HSS6 X 6 X 1/4	11'-7/8"	210.59
P1	1	PL1 X 16	1'-4"	72.59
P2	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P3	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P4	2	PL1/8 X 5 3/4	0'-5 3/4"	2.34
P5	3	PL3/8 X 5 BENT	0'-10 11/16"	17.05
P6	4	PL1/4 X 3	0'-3 3/4"	3.19

TOTAL BLK WGT = 521.81 LBS.  
TOTAL GALV WGT = 540.07 LBS.

**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
5	5/8"	2 3/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHH

**SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THIS PIECE MARK XX BECOMES XXB**

- NOTES:**
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
  2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
  3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
  4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
  5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
  6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
  7. ALL WELDING ELECTRODES SHALL BE E70XX.
  8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE THIS SHEET "4" - TIMES**

**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SB100	STRUCTURE "B" COVER SHEET
SB200	STRUCTURE "B" ELEVATIONS
SB300	STRUCTURE "B" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

**CITY OF DOVER**  
DOVER, DELAWARE

**69-12.47KV SUBSTATION**

**STR. B - ASSEMBLIES & DETAILS**

PROJECT NUMBER 47019	DRAWN JLF	CHECKED CVC	APPROVED MAR	DRAWING NUMBER SB300
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AUBREY SILVEY ENTERPRISES, INC.  
**EPC DIVISION**  
Engineer • Procure • Construct  
www.silvey.com/epc 770-637-1144

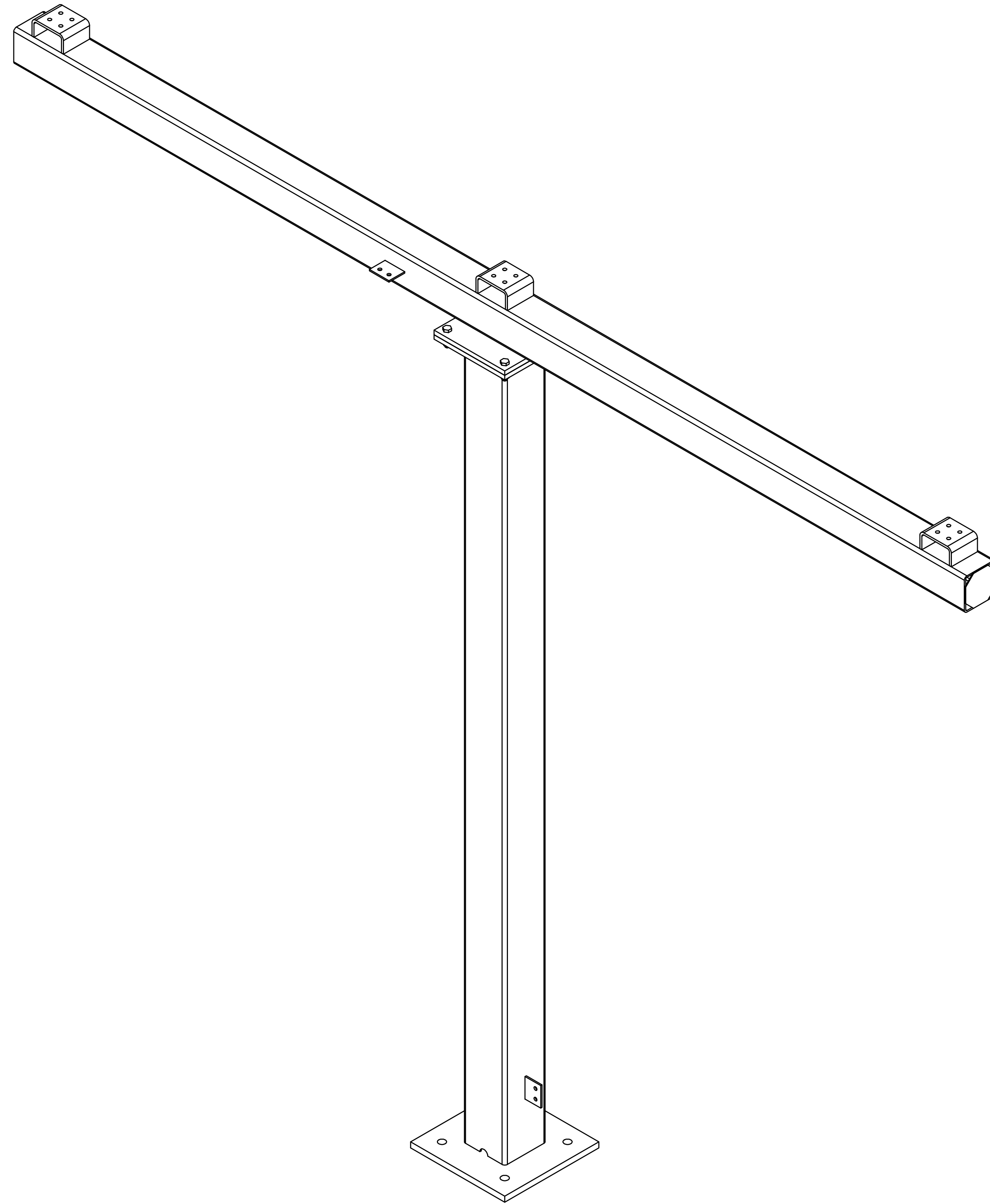
**ASSOCIATED SUBSTATION ENGINEERING, INC.**  
www.aseng.com 770-637-0033

ENGINEERING SEAL

# STRUCTURE "C"

## "69KV 1-COLUMN 3-PHASE 45 DEG BUS SUPPORT"

TOTAL STRUCTURE WEIGHT = 792.69 LBS.



ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)

**MAKE STRUCTURE "C"  
"8" - TIMES**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SC100	STRUCTURE "C" COVER SHEET
SC200	STRUCTURE "C" ELEVATIONS
SC300	STRUCTURE "C" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

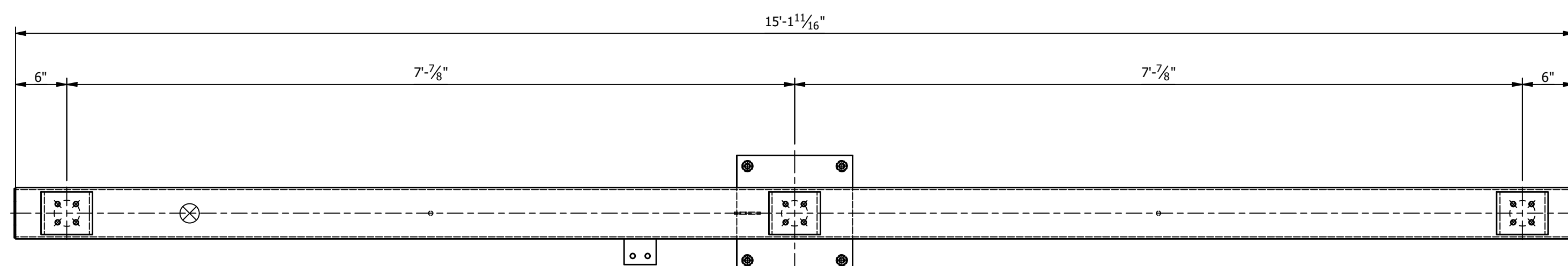
ENGINEERING SEAL	THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.										CUSTOMER <b>CITY OF DOVER</b> DOVER, DELAWARE		
											SUBSTATION <b>69-12.47KV SUBSTATION</b>		
											TITLE <b>STR. C - COVER SHEET</b>		
											PROJECT NUMBER 47019		
										SCALE NTS		DRAWN JLF	
										CHECKED CVC		APPROVED MAR	
										DRAWING NUMBER SC100		ASSOCIATED SUBSTATION ENGINEERING, INC. 	
										AUBREY SILVEY ENTERPRISES, INC. 		ENGINEER • Procure • Construct www.silvey.com/epc 770-637-1144	
										ASSOCIATED SUBSTATION ENGINEERING, INC. 		ENGINEER • Procure • Construct www.aseng.com 770-637-0033	

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	KDC	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

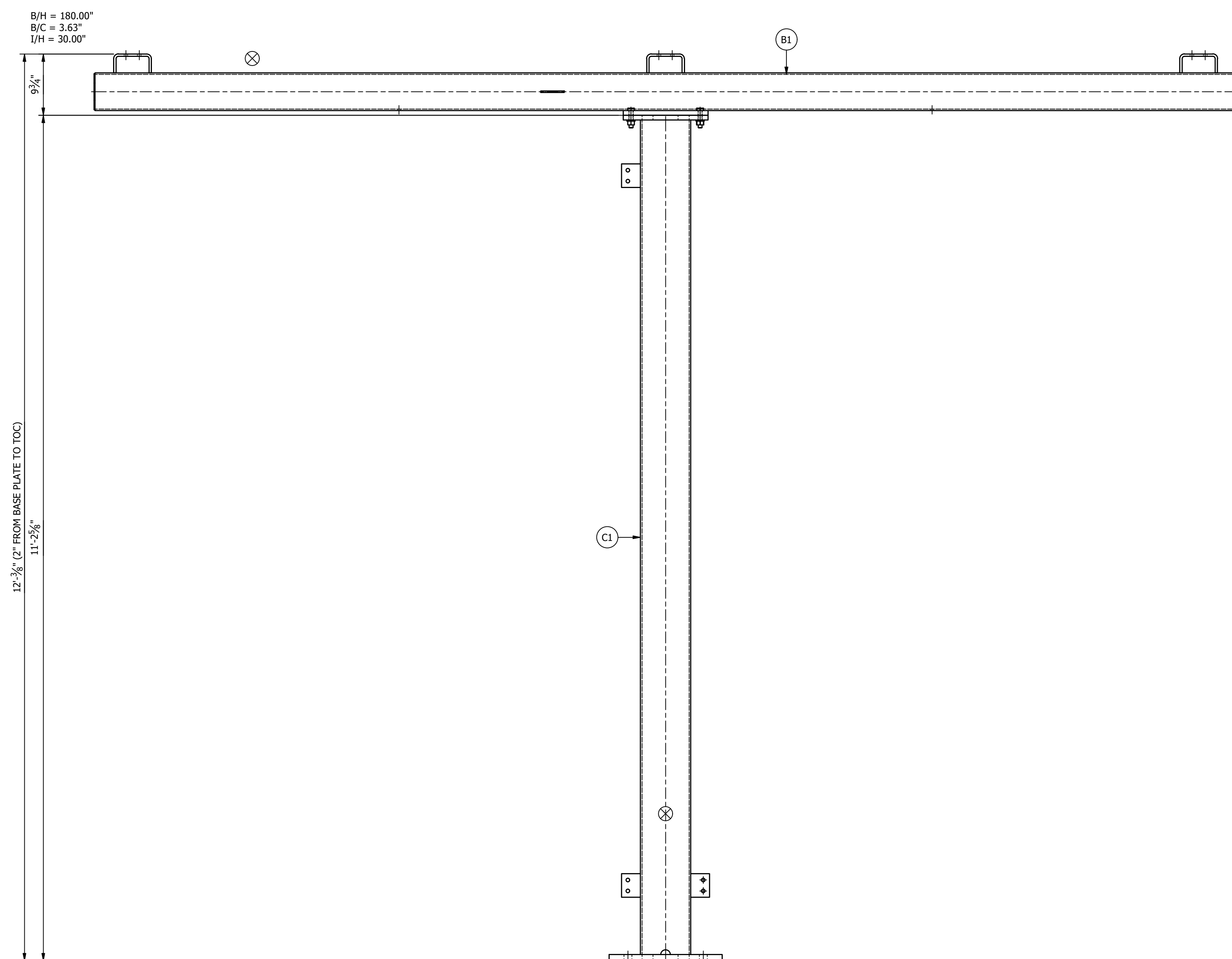
ASSEMBLIES		
MARK	QTY	DESCRIPTION
B1	1	BEAM "B1"
C1	1	COLUMN "C1"

**NOTES:**

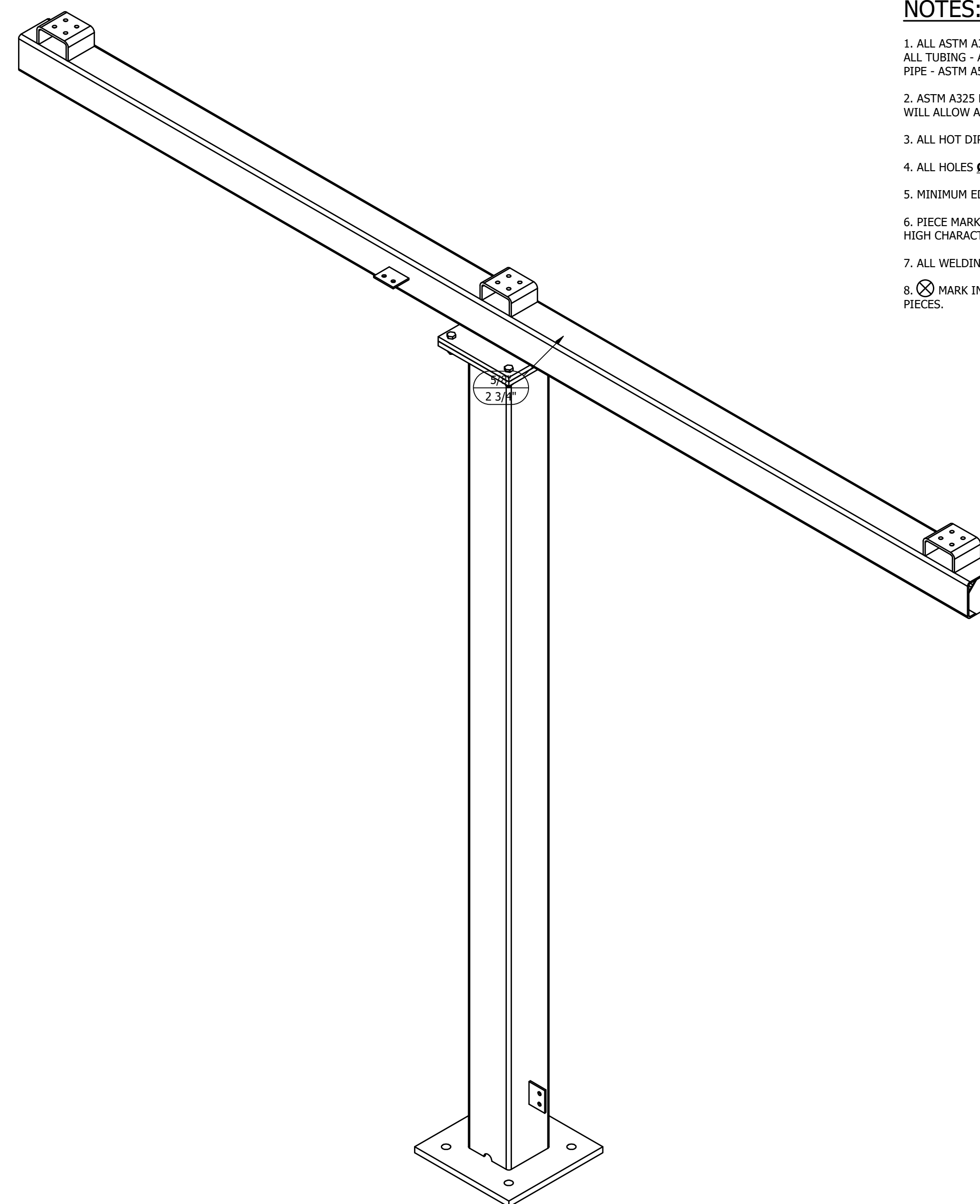
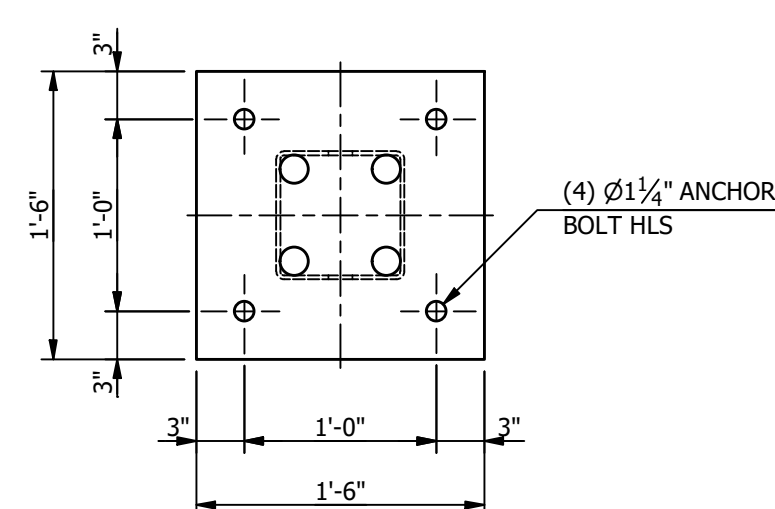
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 1\frac{1}{16}$ " FOR  $\phi 5/8$ " BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8$ " UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN  $3/8$ " HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



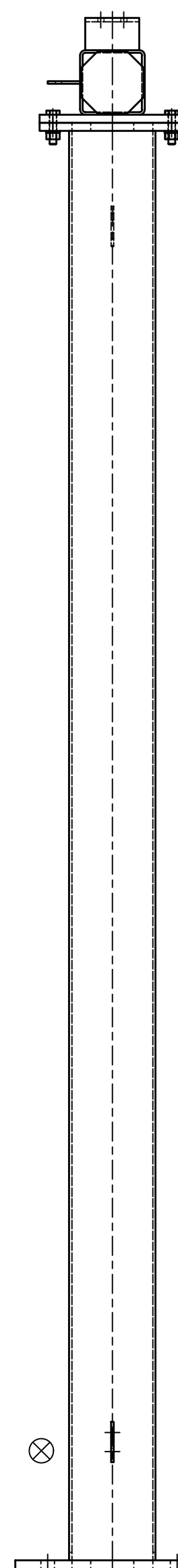
PLAN VIEW



FRONT ELEVATION



ISOMETRIC VIEW



RIGHT ELEVATION

**MAKE STRUCTURE "C"  
"8" - TIMES**

REFERENCE DRAWINGS

DRAWING NUMBER	DESCRIPTION
SC100	STRUCTURE "C" COVER SHEET
SC200	STRUCTURE "C" ELEVATIONS
SC300	STRUCTURE "C" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

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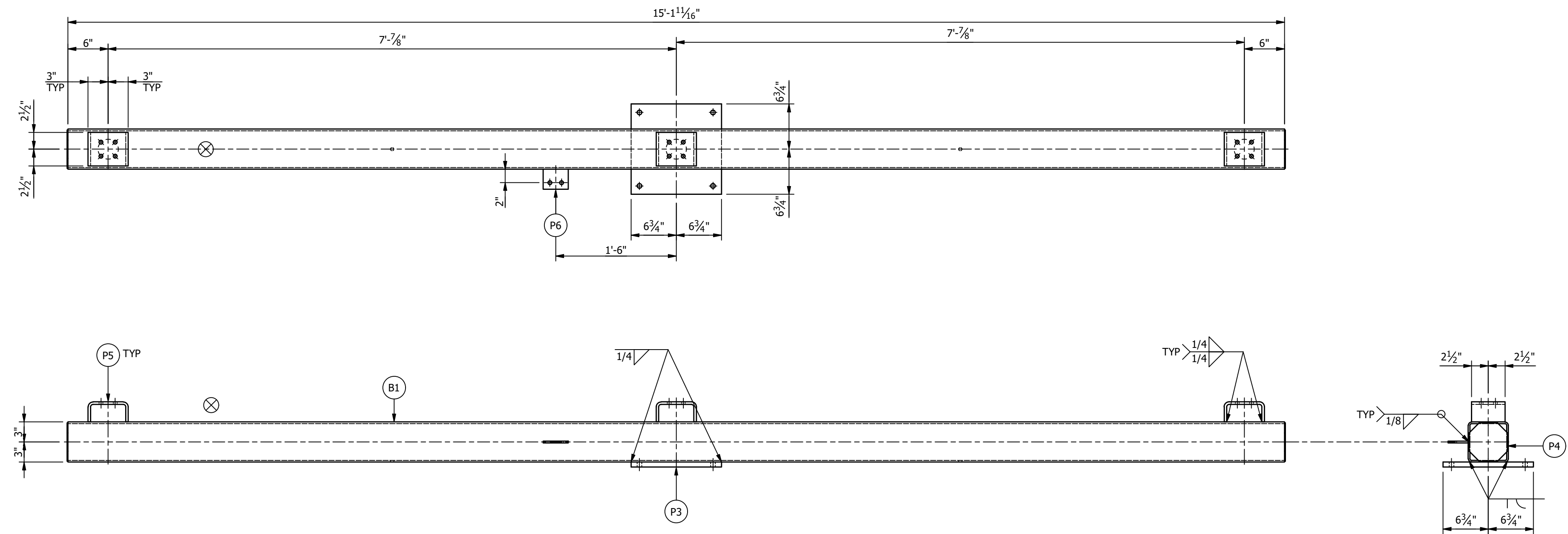
ENGINEERING SEAL

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	KDC	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

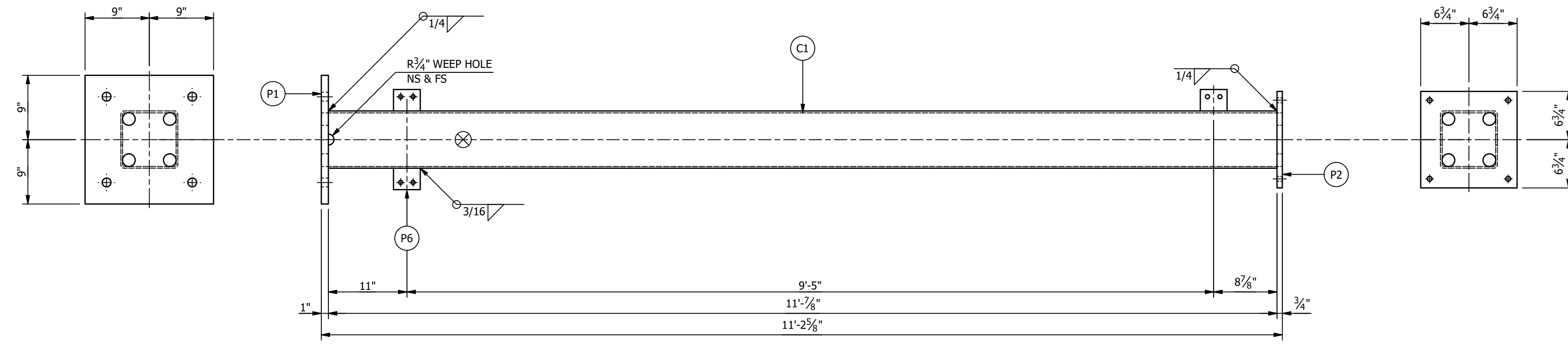
CUSTOMER		CITY OF DOVER DOVER, DELAWARE	
SUBSTATION		69-12.47KV SUBSTATION	
TITLE		STR. C - ELEVATIONS	
PROJECT NUMBER	47019	DRAWN	JLF
SCALE	NTS	CHECKED	CVC
		APPROVED	MAR
		DRAWING NUMBER	SC200

AUBREY SILVEY ENTERPRISES, INC.  
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BEAM "B1" ASSEMBLY



COLUMN "C1" ASSEMBLY

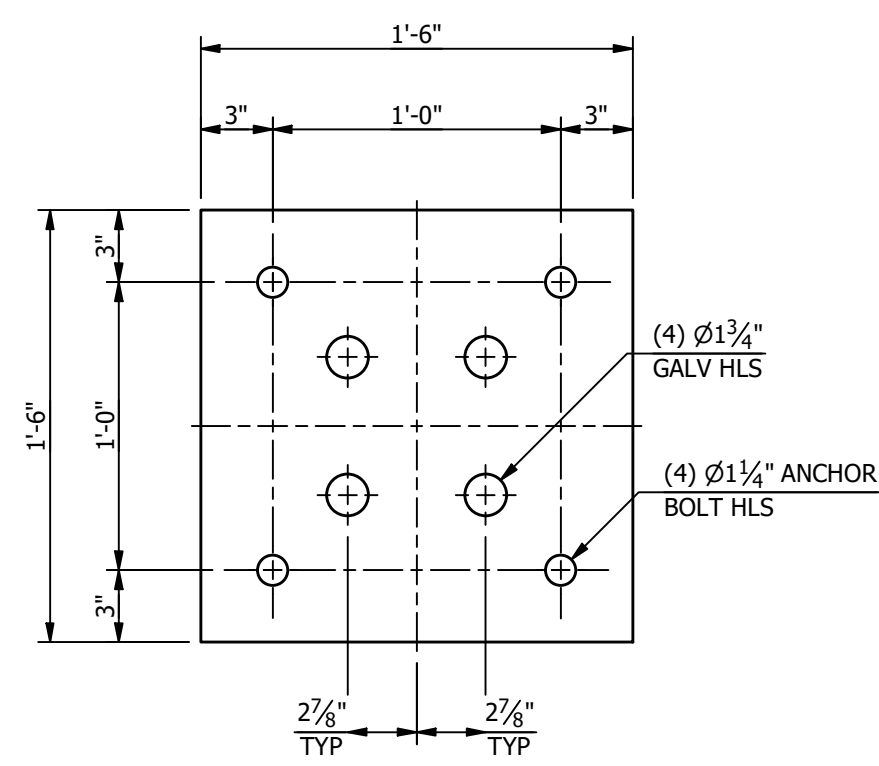


PLATE "P1"  
(PL1 X 18)

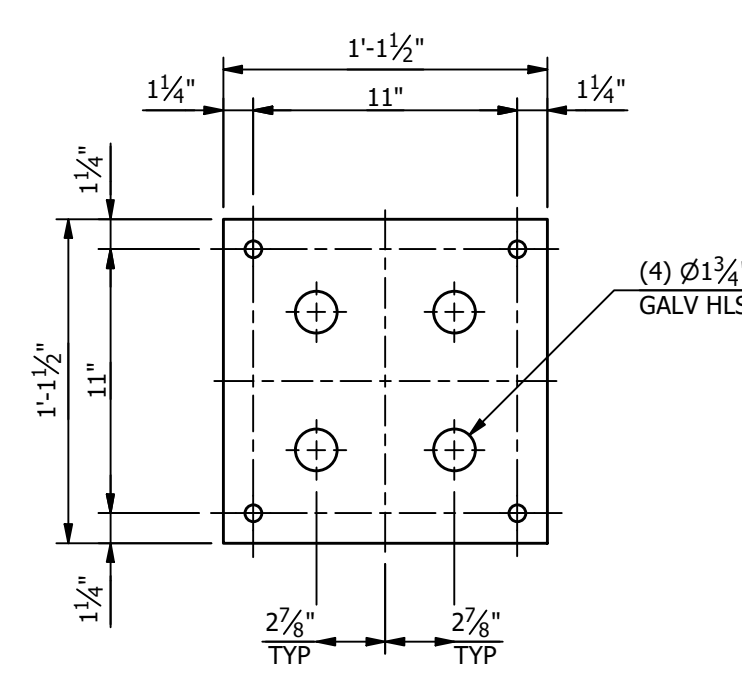


PLATE "P2"  
(PL3/4 X 13 1/2)

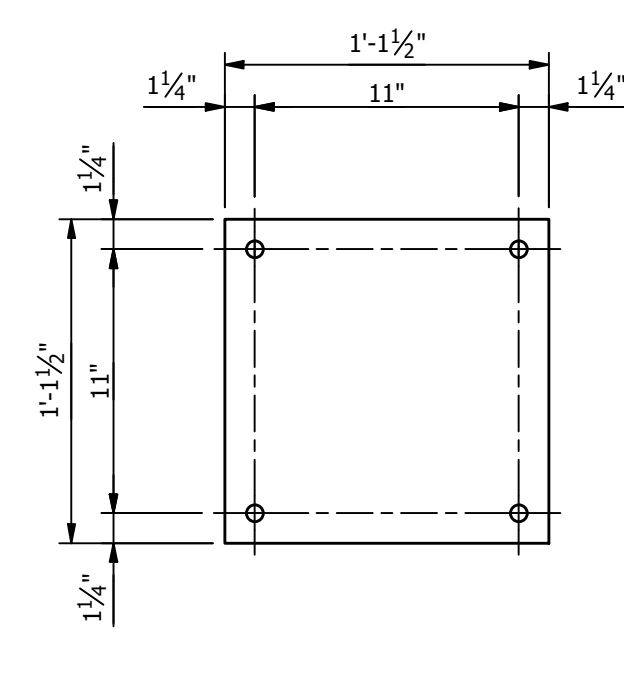


PLATE "P3"  
(PL3/4 X 13 1/2)

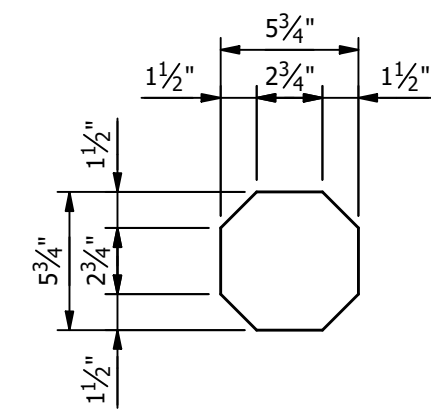


PLATE "P4"  
(PL1/8 X 5 3/4)

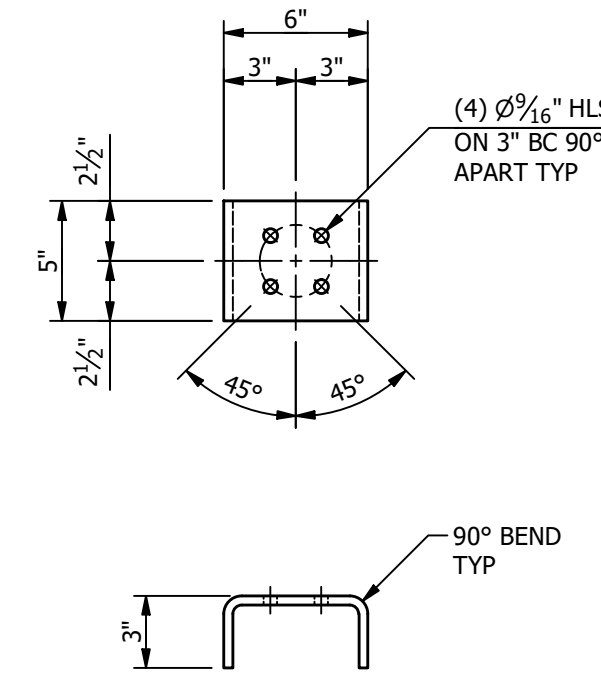


PLATE "P5"  
(PL3/8 X 5 BENT)

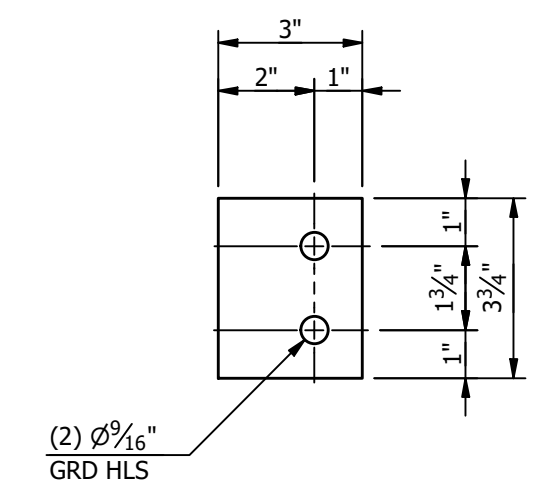


PLATE "P6"  
(PL1/4 X 3)

**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
B1	1	HSS6 X 6 X 1/4	15'-1 11/16"	287.95
C1	1	HSS8 X 8 X 1/4	11'-7/8"	285.95
P1	1	PL1 X 18	1'-6"	91.88
P2	1	PL3/4 X 13 1/2	1'-1 1/2"	38.76
P3	1	PL3/4 X 13 1/2	1'-1 1/2"	38.76
P4	2	PL1/8 X 5 3/4	0'-5 3/4"	2.34
P5	3	PL3/8 X 5 BENT	0'-10 11/16"	17.05
P6	4	PL1/4 X 3	0'-3 3/4"	3.19

TOTAL BLK WGT = 765.56 LBS.  
TOTAL GALV WGT = 792.69 LBS.

**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
5	5/8"	2 3/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHH

**SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THIS PIECE MARK XX BECOMES XXC**

- NOTES:**
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
  2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
  3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
  4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
  5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
  6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
  7. ALL WELDING ELECTRODES SHALL BE E70XX.
  8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE THIS SHEET "8" - TIMES**

**REFERENCE DRAWINGS**

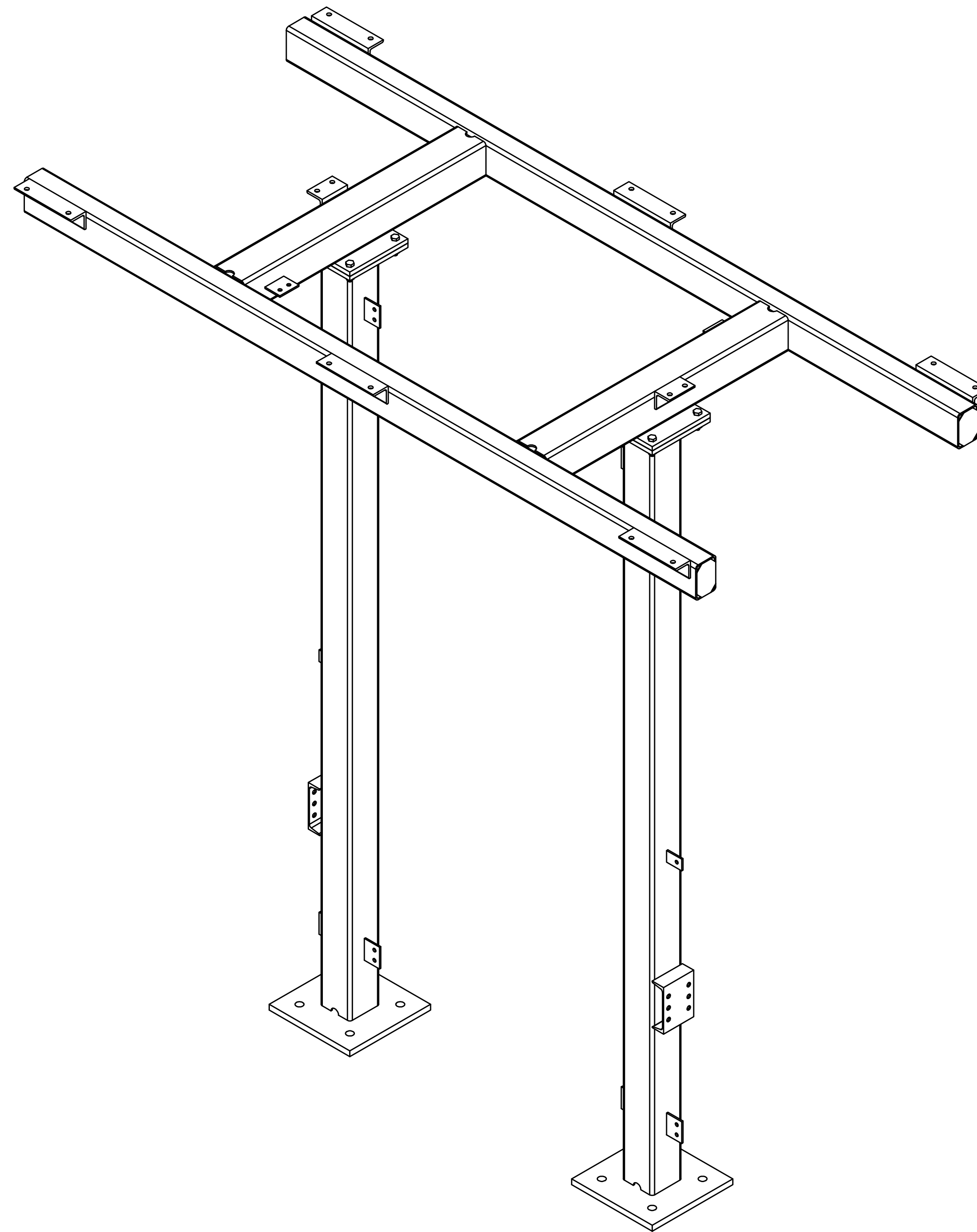
DRAWING NUMBER	DESCRIPTION
SC100	STRUCTURE "C" COVER SHEET
SC200	STRUCTURE "C" ELEVATIONS
SC300	STRUCTURE "C" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.	<b>CITY OF DOVER</b> DOVER, DELAWARE					
	<b>69-12.47KV SUBSTATION</b>					
	<b>STR. C - ASSEMBLIES &amp; DETAILS</b>					
	PROJECT NUMBER 47019	DRAWN JLF	CHECKED CVC	APPROVED MAR	DRAWING NUMBER SC300	
SCALE NTS	2 9/14/23 JRG JKG MR ISSUED FOR CONSTRUCTION	1 9/23/21 JLF JKG MR ISSUE FOR BID	0 7/28/21 JLF CVC MR ISSUED FOR APPROVAL	REV DATE DRN CK APP DESCRIPTION	AUBREY SILVEY ENTERPRISES, INC. <b>EPC DIVISION</b> Engineer • Procure • Construct www.silvey.com/epc 770-637-1144	ASSOCIATED SUBSTATION ENGINEERING, INC. <b>ASE</b> www.aseng.com 770-637-0033

ENGINEERING SEAL



ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
8	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)

**STRUCTURE "D"**  
**"69KV 2-COLUMN 3-PHASE SWITCH STAND"**  
TOTAL STRUCTURE WEIGHT = 1,280.69 LBS.



**MAKE STRUCTURE "D"**  
**"1" - TIME**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SD100	STRUCTURE "D" COVER SHEET
SD200	STRUCTURE "D" ELEVATIONS
SD300	STRUCTURE "D" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

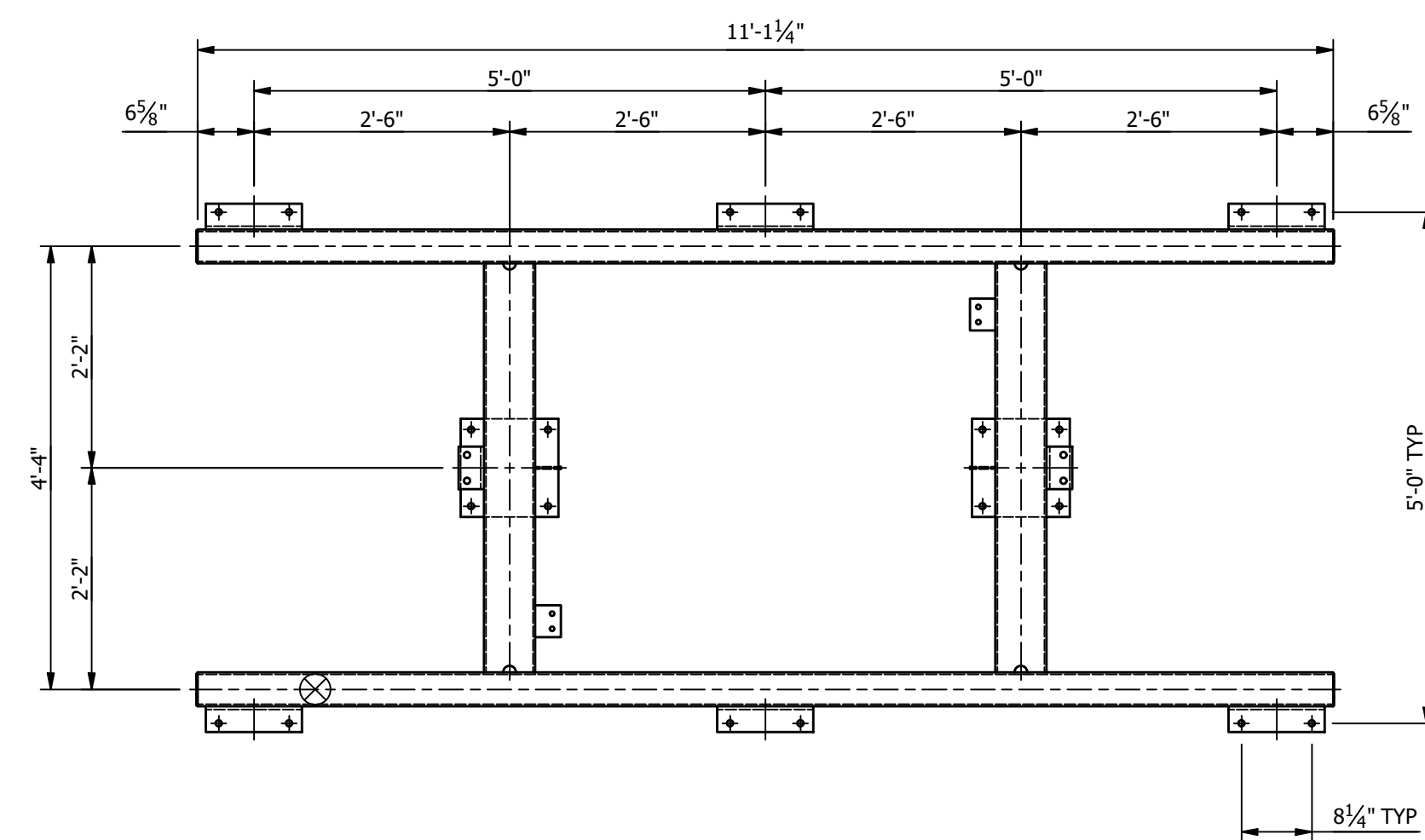
CUSTOMER				<b>CITY OF DOVER</b> DOVER, DELEWARE			
SUBSTATION				<b>69-12.47 KV SUBSTATION</b>			
TITLE				<b>STR. D - COVER SHEET</b>			
PROJECT NUMBER 47019	DRAWN JLF	CHECKED JKG	APPROVED MAR	DRAWING NUMBER SD100	AUBREY SILVEY ENTERPRISES, INC.		
SCALE NTS	 <b>EPC DIVISION</b> <small>Engineer • Procure • Construct</small> www.silvey.com/epc 770-637-1144		 <b>ASSOCIATED SUBSTATION ENGINEERING, INC.</b> www.aseng.com 770-637-0033				

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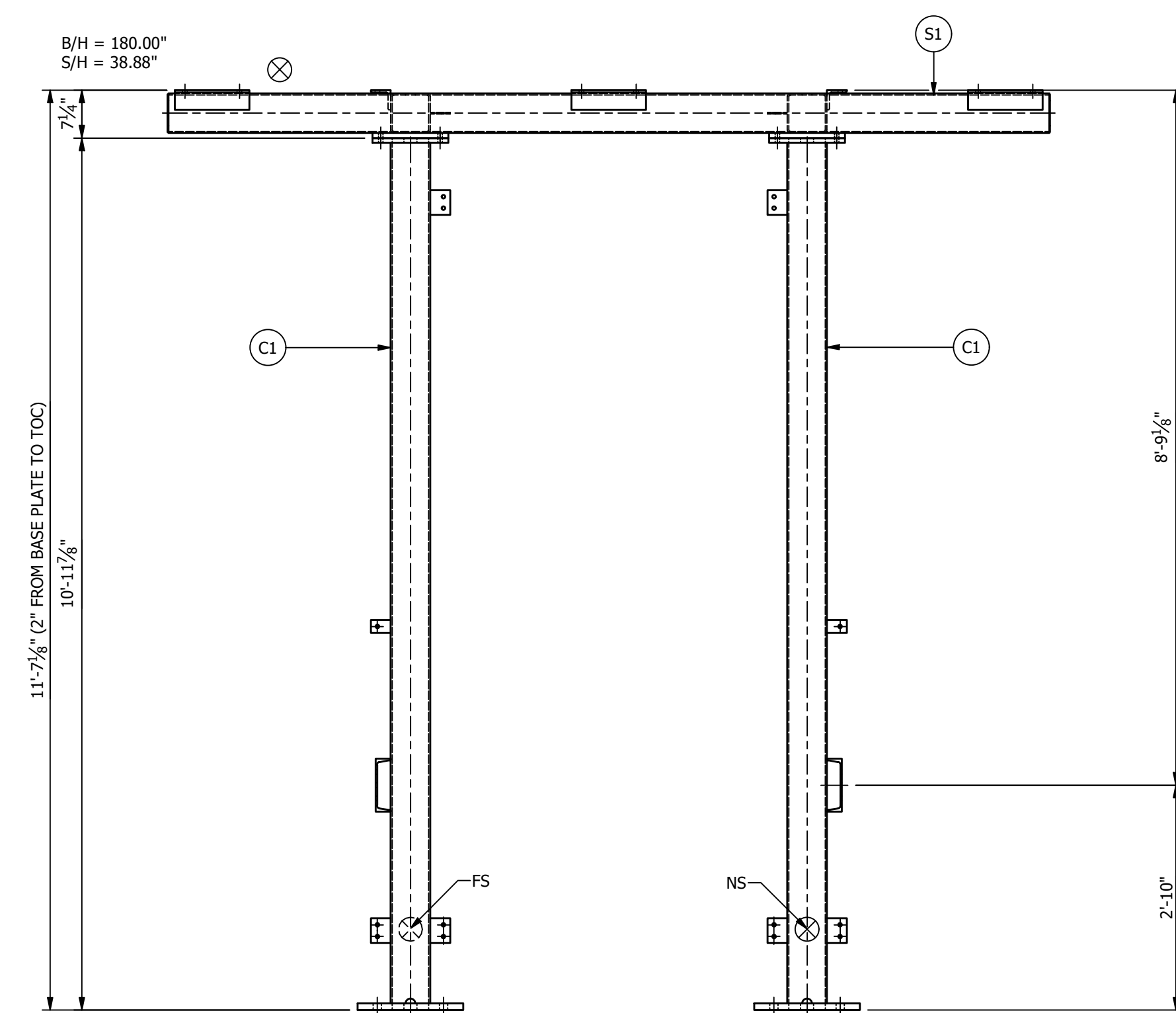
ENGINEERING SEAL

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	KDC	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

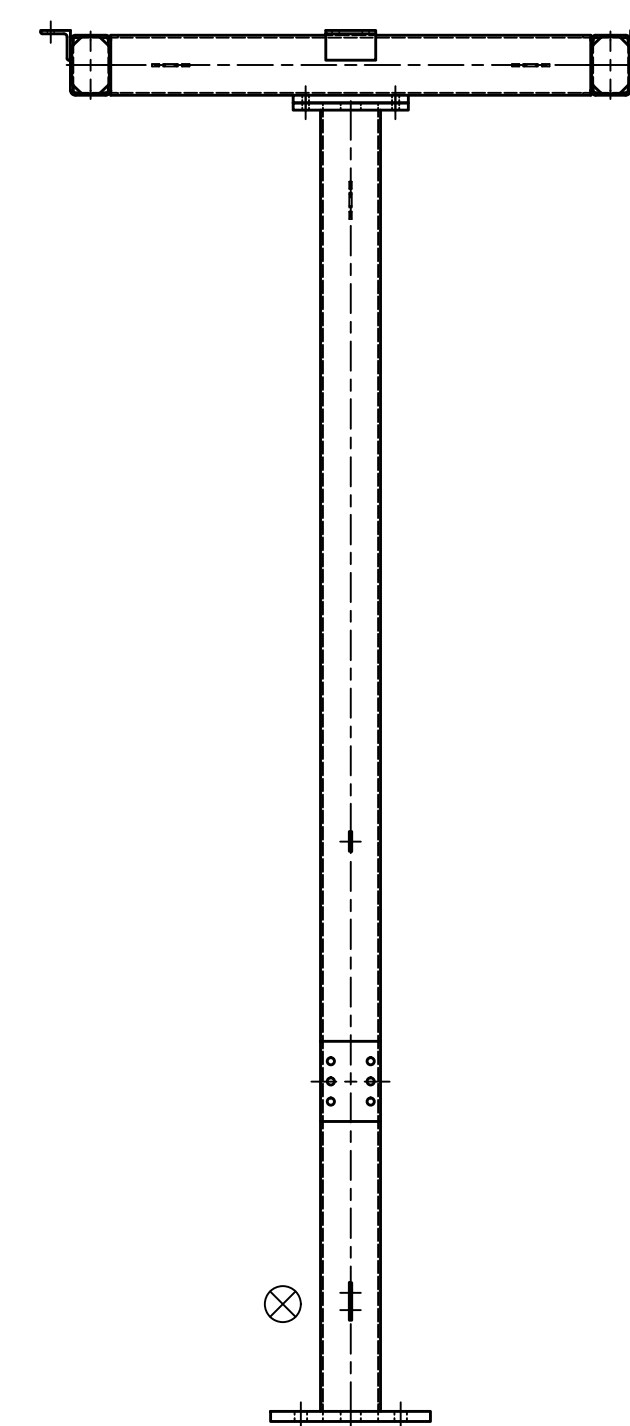
ASSEMBLIES		
MARK	QTY	DESCRIPTION
C1	2	COLUMN "C1"
S1	1	SWITCH FRAME "S1"



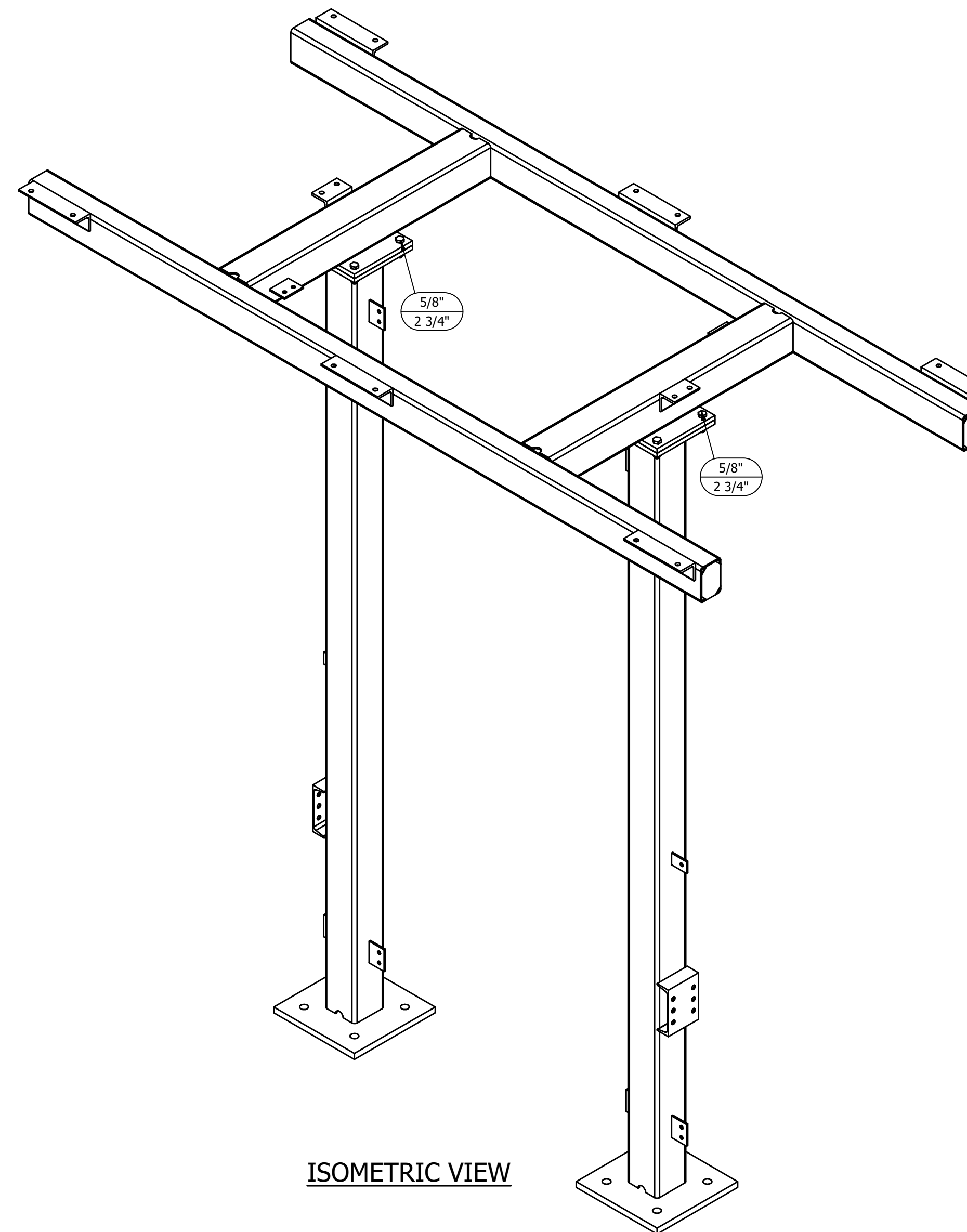
PLAN VIEW



FRONT ELEVATION



RIGHT ELEVATION

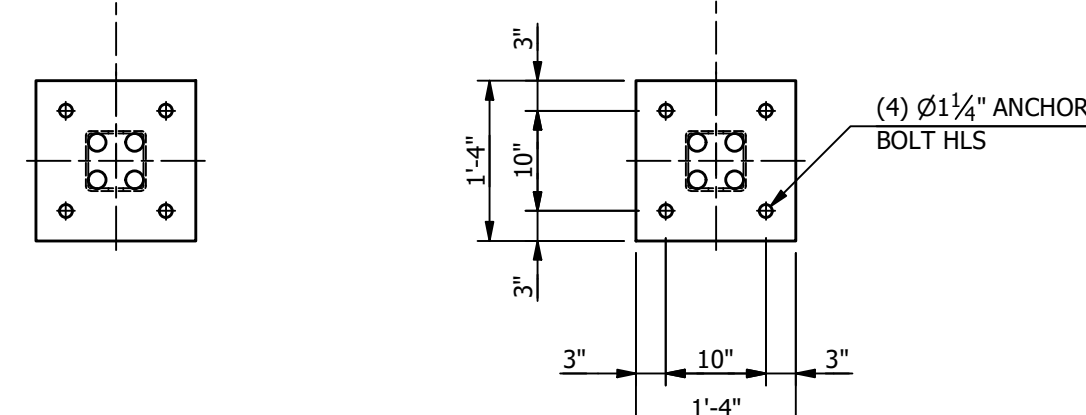


ISOMETRIC VIEW

NOTES:

1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 1 1/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN  $3/8"$  HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE STRUCTURE "D"  
"1" - TIME**

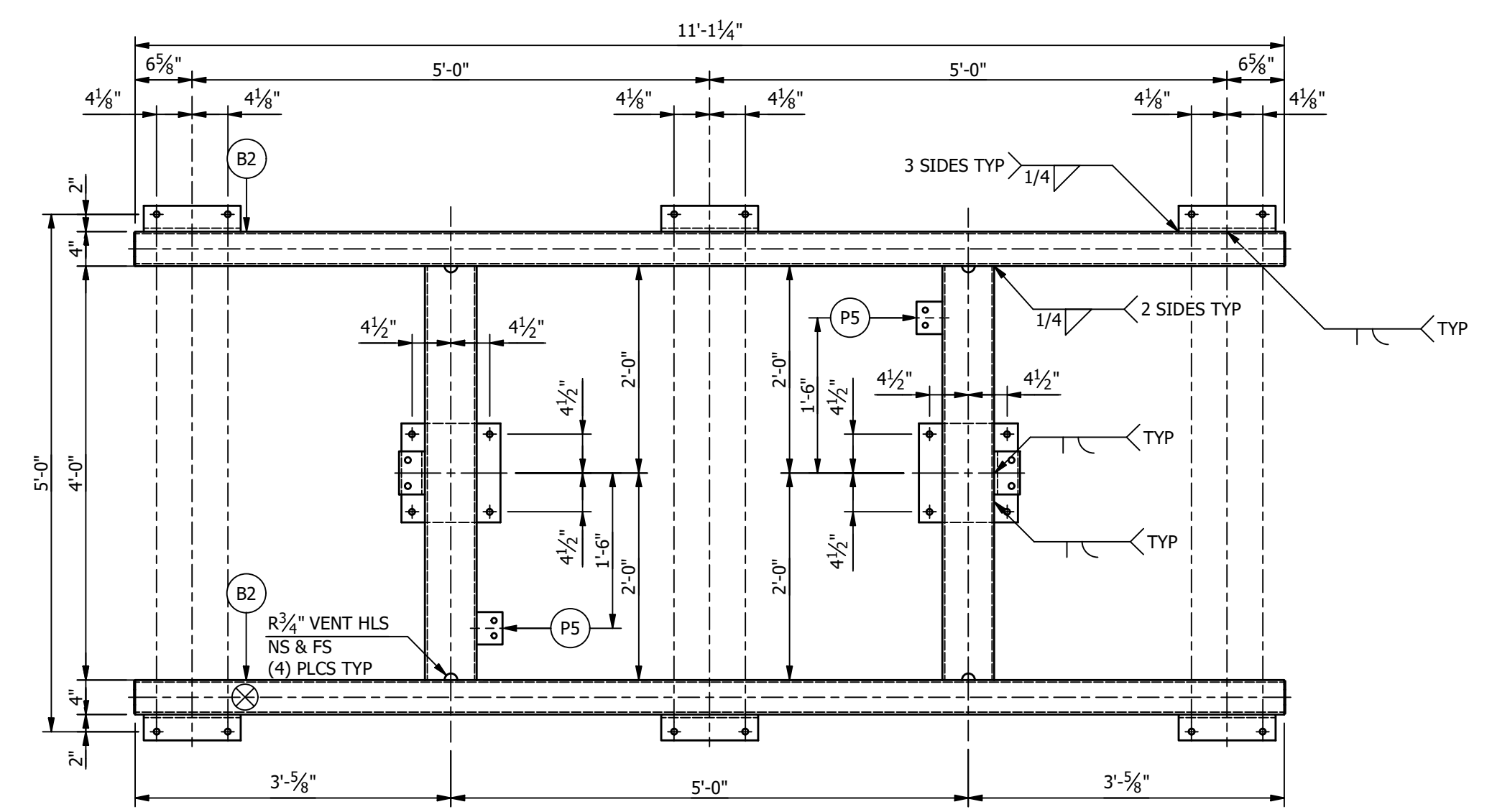


REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SD100	STRUCTURE "D" COVER SHEET
SD200	STRUCTURE "D" ELEVATIONS
SD300	STRUCTURE "D" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

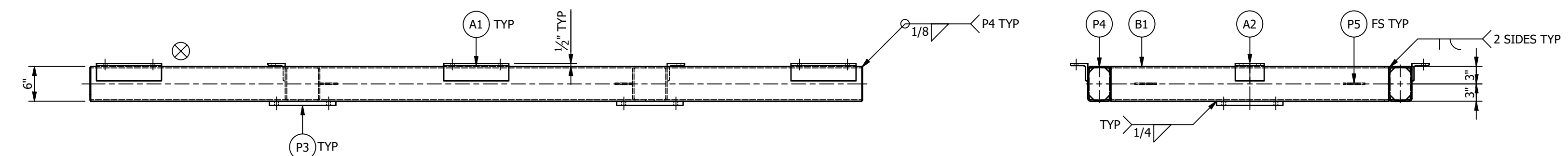
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ENGINEERING SEAL		CITY OF DOVER DOVER, DELEWARE	
		SUBSTATION 69 -12.47 KV SUBSTATION	
		TITLE STR. D - ELEVATIONS	
PROJECT NUMBER 47019	DRAWN JLF	CHECKED JKG	APPROVED MAR
SCALE NTS			DRAWING NUMBER SD200
2	9/14/23	JRG	JKG
1	9/23/21	KDC	JKG
0	7/28/21	JLF	CVC
REV	DATE	DRN	CK
		APP	DESCRIPTION
			ISSUED FOR CONSTRUCTION
			ISSUE FOR BID
			ISSUED FOR APPROVAL

AUBREY SILVEY ENTERPRISES, INC. **ASSOCIATED SUBSTATION ENGINEERING, INC.**  
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**SWITCH FRAME "S1" ASSEMBLY**



**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
A1	6	L3 X 3 X 3/8	0'-11 1/4"	40.50
A2	2	L3 X 3 X 3/8	0'-5"	6.00
B1	2	HSS6 X 6 X 1/4	4'-0"	152.15
B2	2	HSS4 X 6 X 1/4	11'-1 1/4"	346.79
C1	2	HSS6 X 6 X 1/4	10'-10 1/8"	412.46
M1	2	C8 X 11.5	0'-6"	11.50
P1	2	PL1 X 16	1'-4"	145.19
P2	2	PL3/4 X 11 1/2	0'-11 1/2"	56.25
P3	2	PL3/4 X 11 1/2	0'-11 1/2"	56.25
P4	4	PL1/8 X 5 3/4	0'-3 3/4"	3.06
P5	8	PL1/4 X 3	0'-3 3/4"	6.38
P6	2	PL1/4 X 3	0'-2"	.85

TOTAL BLK WGT = 1,237.38 LBS.  
TOTAL GALV WGT = 1,280.69 LBS.

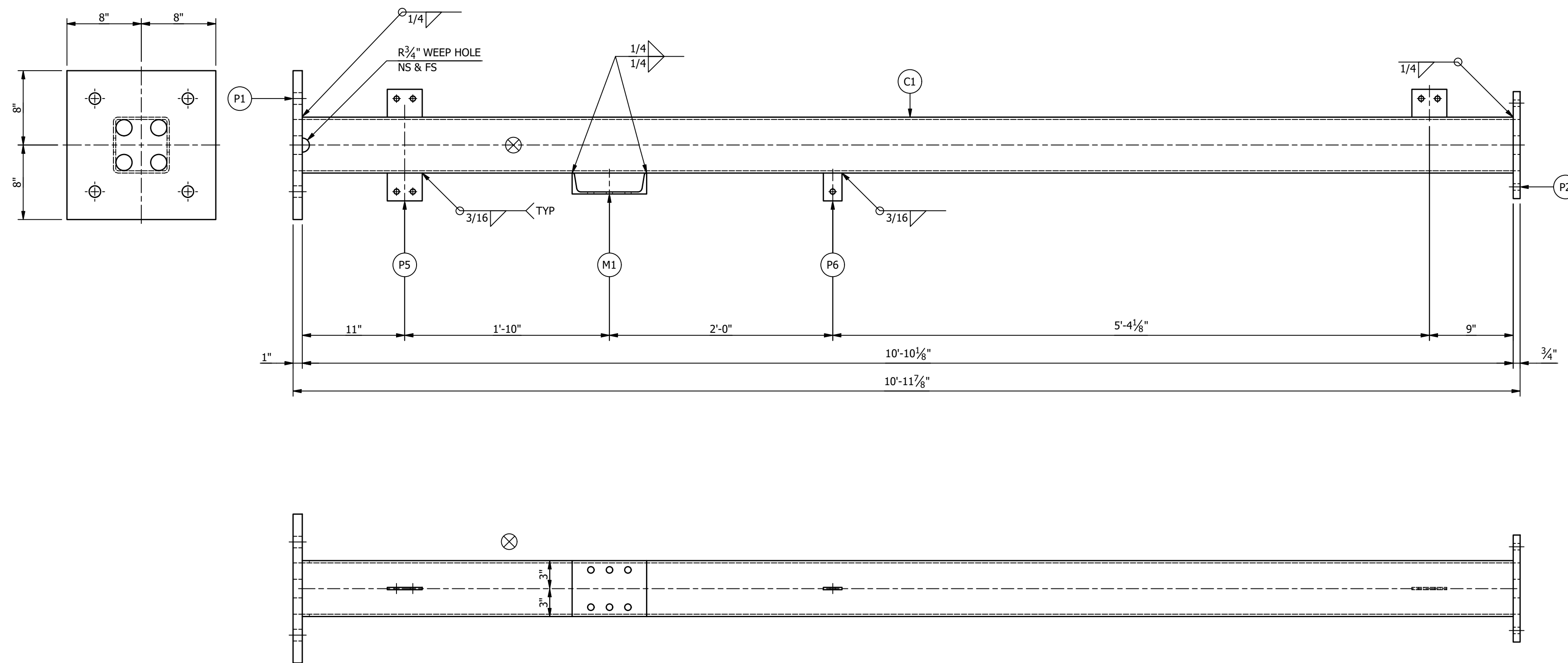
**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
9	5/8"	2 3/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN

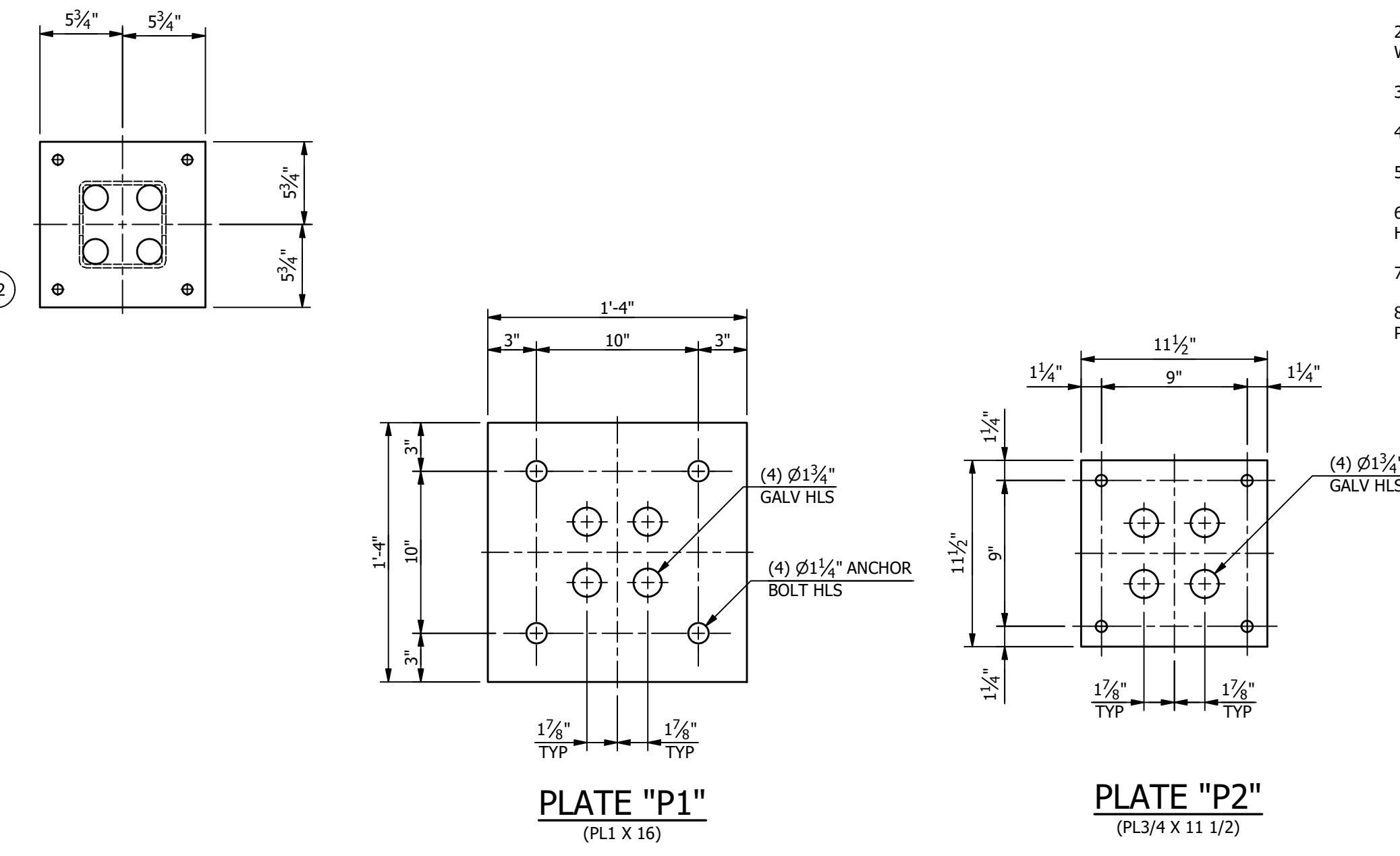
**SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXD**

**NOTES:**

- ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
- ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
- ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
- ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
- MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
- PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
- ALL WELDING ELECTRODES SHALL BE E70XX.
- ⊗ MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



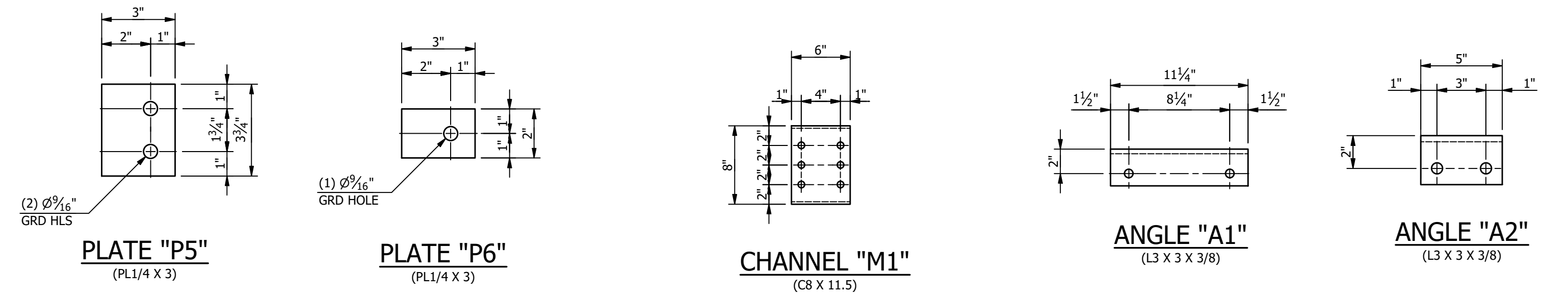
**COLUMN "C1" ASSEMBLY**



**PLATE "P1"**  
(PL1 X 16)

**PLATE "P2"**  
(PL3/4 X 11 1/2)

**MAKE THIS SHEET "1" - TIME**



**PLATE "P5"**  
(PL1/4 X 3)

**PLATE "P6"**  
(PL1/4 X 3)

**CHANNEL "M1"**  
(C8 X 11.5)

**ANGLE "A1"**  
(L3 X 3 X 3/8)

**ANGLE "A2"**  
(L3 X 3 X 3/8)

**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SD100	STRUCTURE "D" COVER SHEET
SD200	STRUCTURE "D" ELEVATIONS
SD300	STRUCTURE "D" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	KDC	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

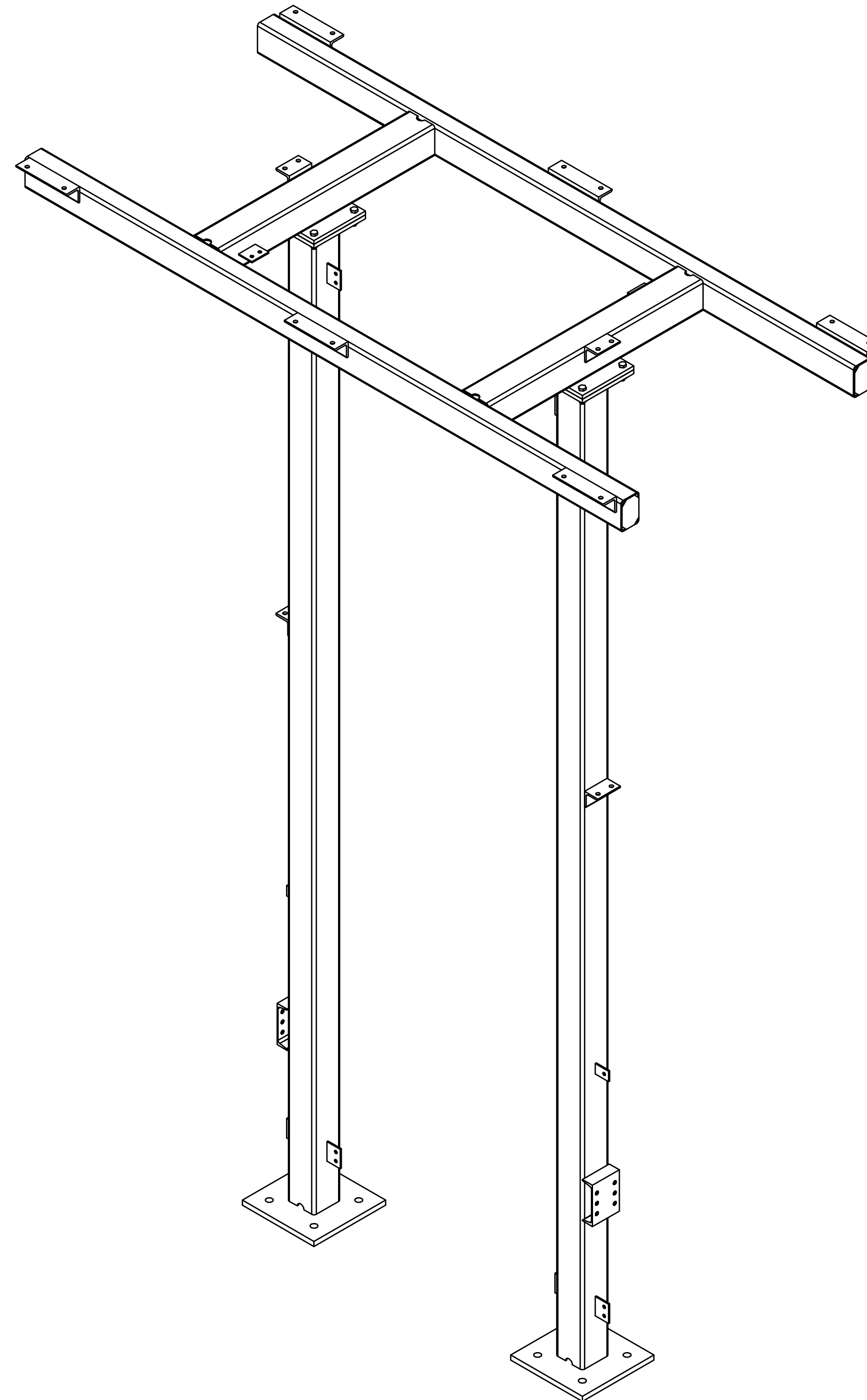
CITY OF DOVER DOVER, DELEWARE	
SUBSTATION 69-12.47 KV SUBSTATION	
TITLE STR. D - ASSEMBLIES AND DETAILS	
PROJECT NUMBER 47019	DRAWN JLF
SCALE NTS	CHECKED JKG
APPROVED MAR	
DRAWING NUMBER SD300	
AUBREY SILVEY ENTERPRISES, INC. <b>EPC DIVISION</b> Engineer • Procure • Construct www.silvey.com/epc 770-637-1144	
ASSOCIATED SUBSTATION ENGINEERING, INC. www.aseng.com 770-637-0033	

ENGINEERING SEAL



**STRUCTURE "E"**  
**"69KV 2-COLUMN 3-PHASE SWITCH STAND"**  
 TOTAL STRUCTURE WEIGHT = 1,483.73 LBS.

ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
8	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)



**MAKE STRUCTURE "E"**  
**"12" - TIMES**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SE100	STRUCTURE "E" COVER SHEET
SE200	STRUCTURE "E" ELEVATIONS
SE300	STRUCTURE "E" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

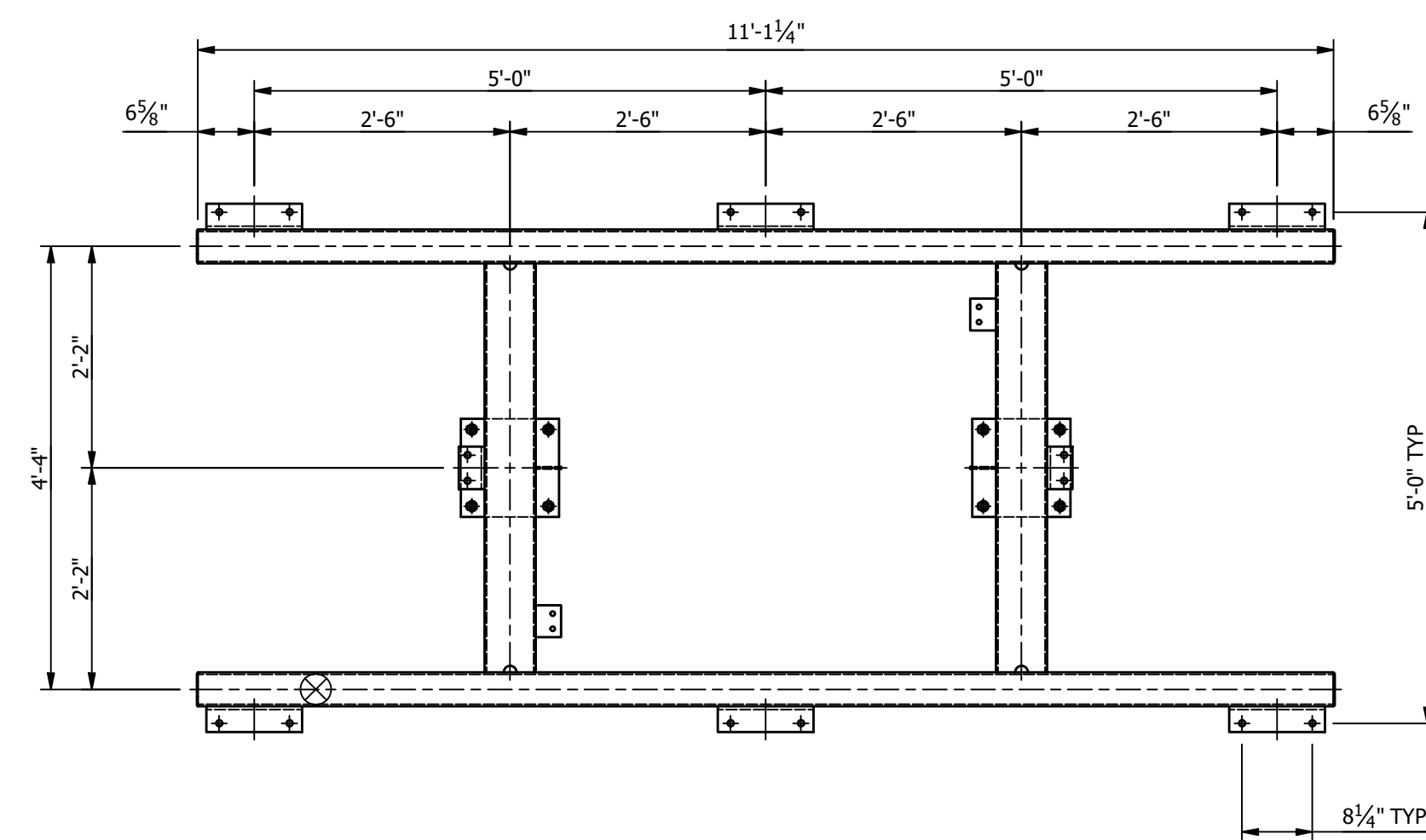
CUSTOMER		CITY OF DOVER DOVER, DELEWARE			
SUBSTATION		69-12.47 KV SUBSTATION			
TITLE		STR. E - COVER SHEET			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER	
47019	JLF	JKG	MAR	SE100	
SCALE	NTS				
AUBREY SILVEY ENTERPRISES, INC. <b>EPC DIVISION</b> ASSOCIATED SUBSTATION ENGINEERING, INC. Engineer • Procure • Construct www.silvey.com/epc 770-637-1144 www.aseng.com 770-637-0033					

ENGINEERING SEAL	THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.				
	REV	DATE	DRN	CK	APP
	2	9/14/23	JRG	JKG	MR
	1	9/23/21	JLF	JKG	MR
0	7/28/21	JLF	CVC	MR	
ISSUED FOR CONSTRUCTION					DESCRIPTION

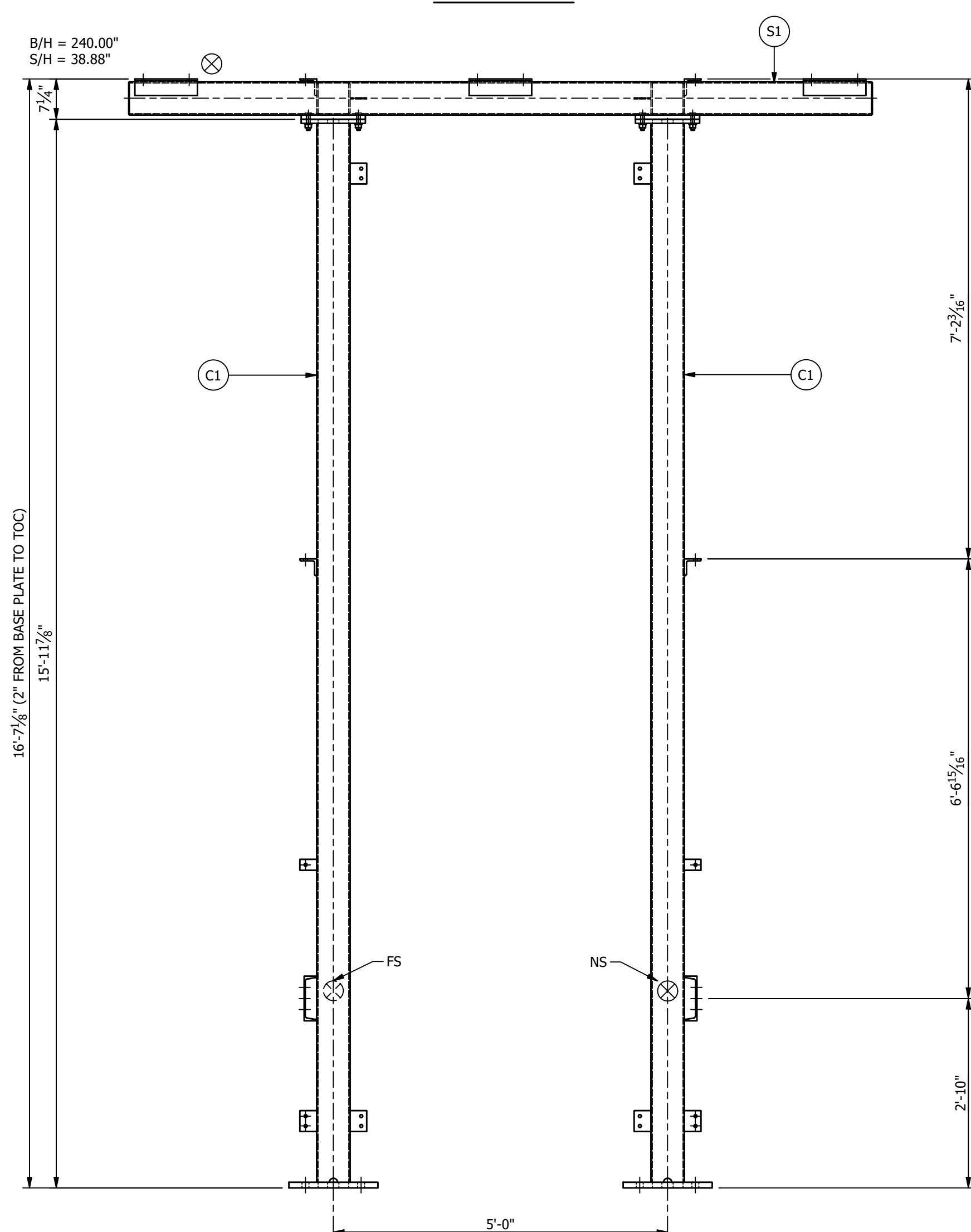
ASSEMBLIES		
MARK	QTY	DESCRIPTION
C1	2	COLUMN "C1"
S1	1	SWITCH FRAME "S1"
5/8" X 2	8	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HNN

**NOTES:**

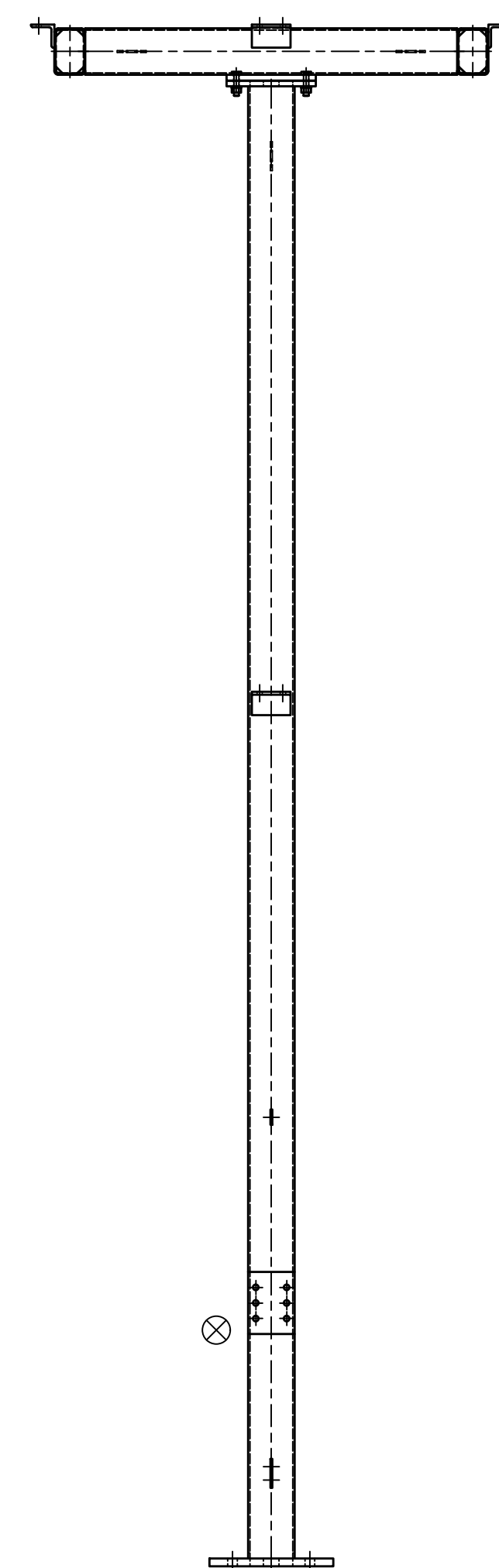
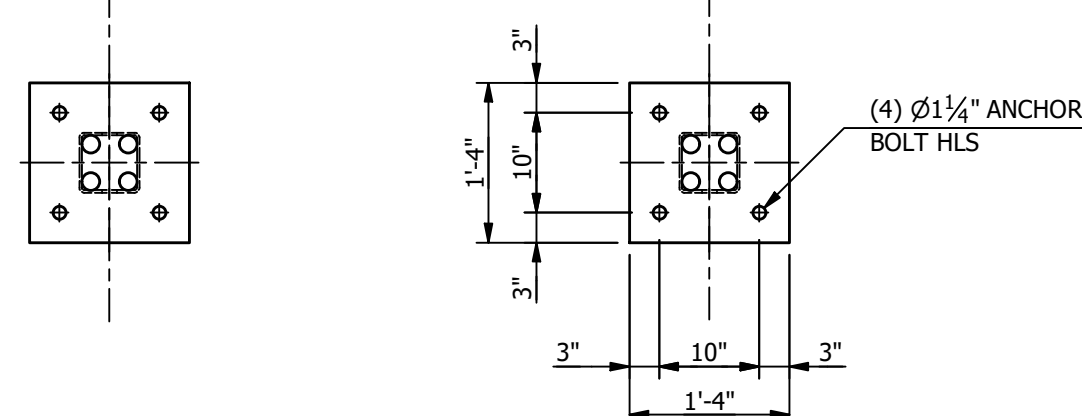
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 1\frac{1}{16}"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN  $3/8"$  HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



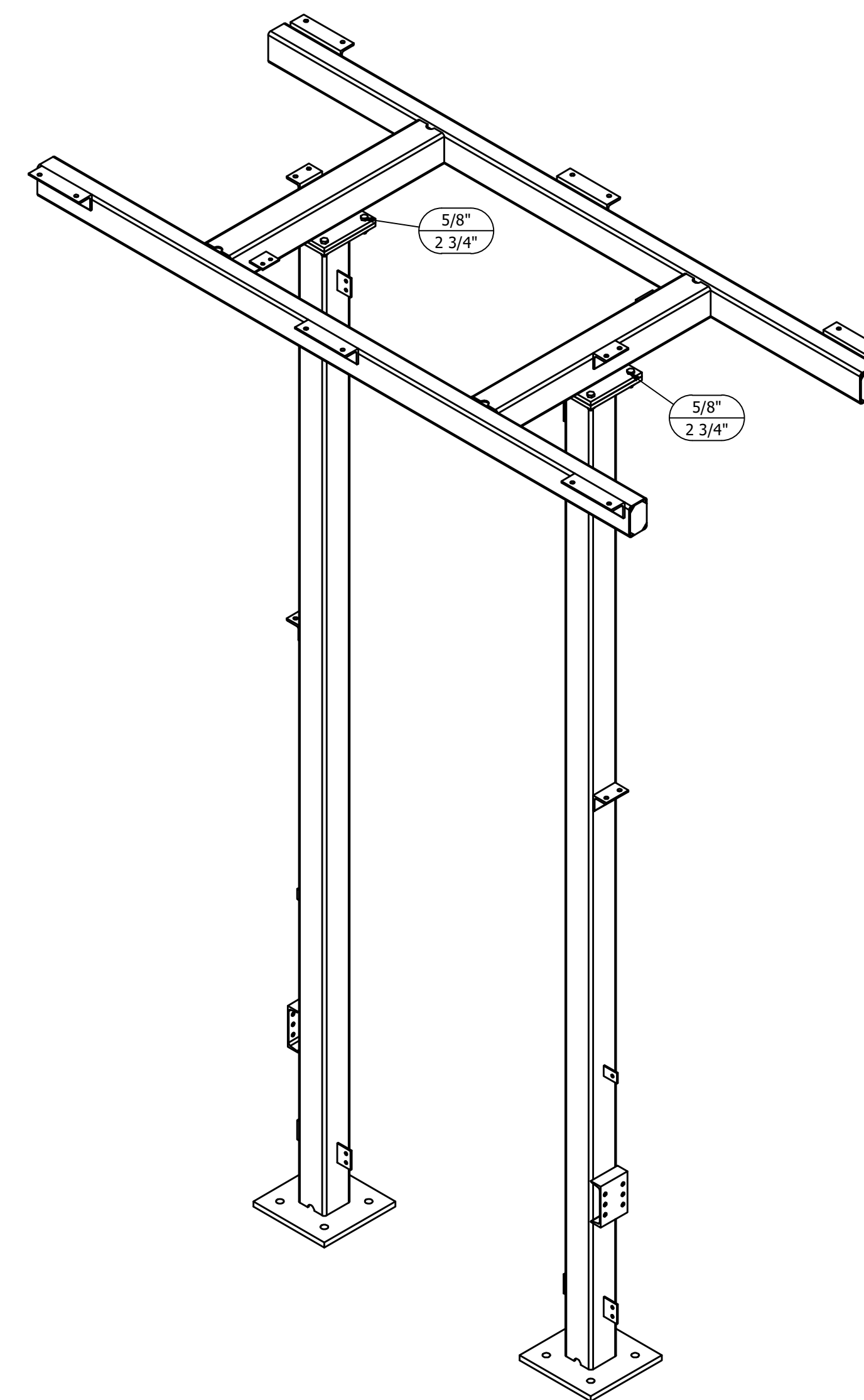
PLAN VIEW



FRONT ELEVATION



RIGHT ELEVATION



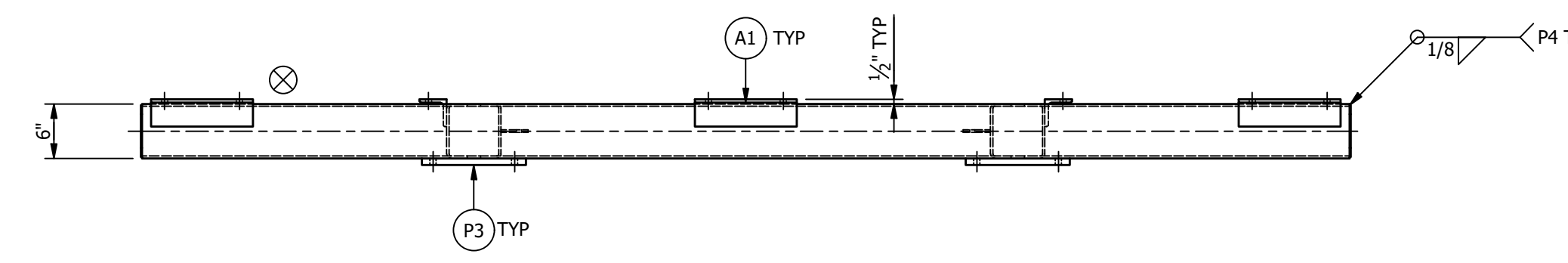
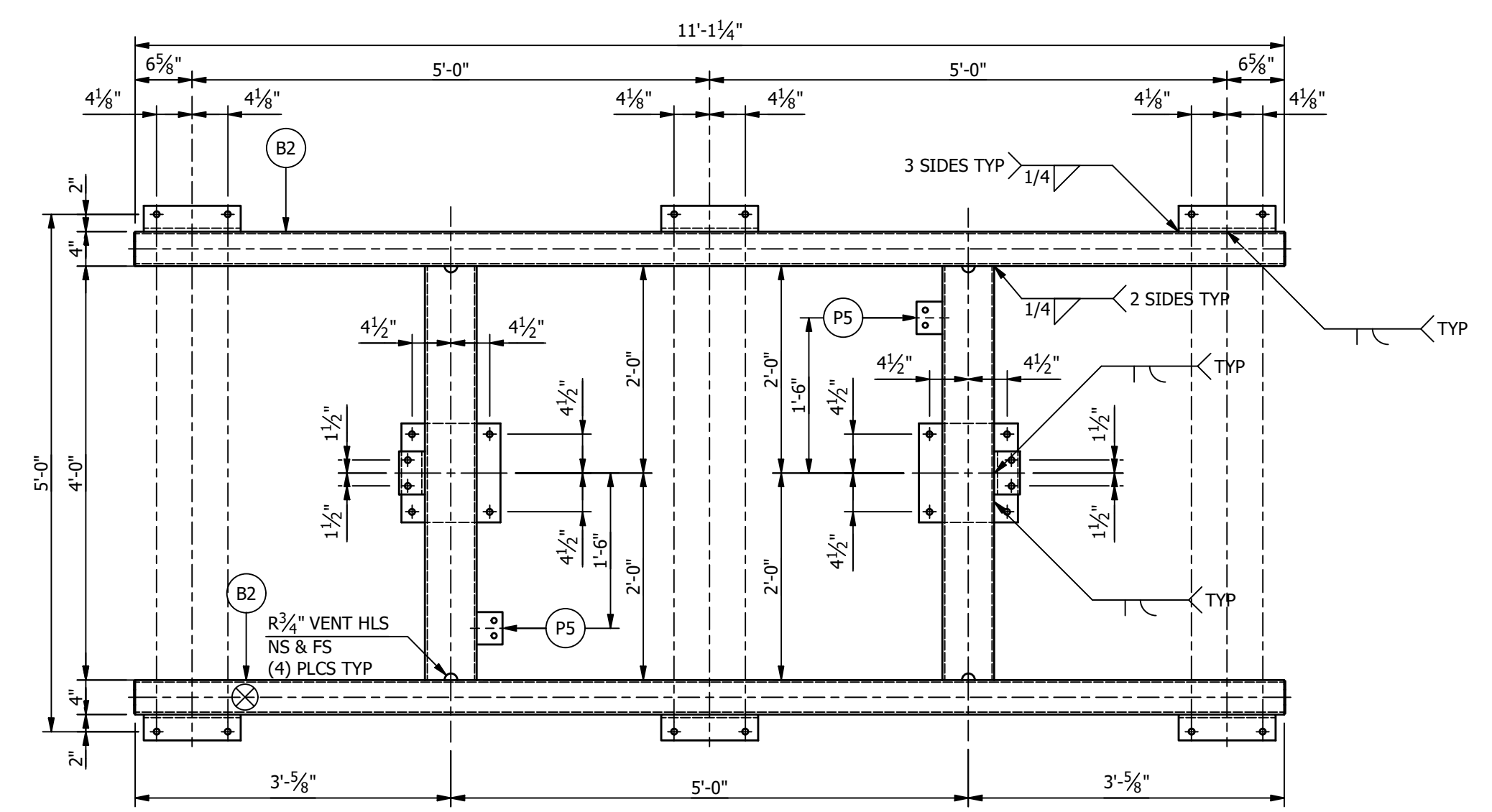
ISOMETRIC VIEW

**MAKE STRUCTURE "E"  
"12" - TIMES**

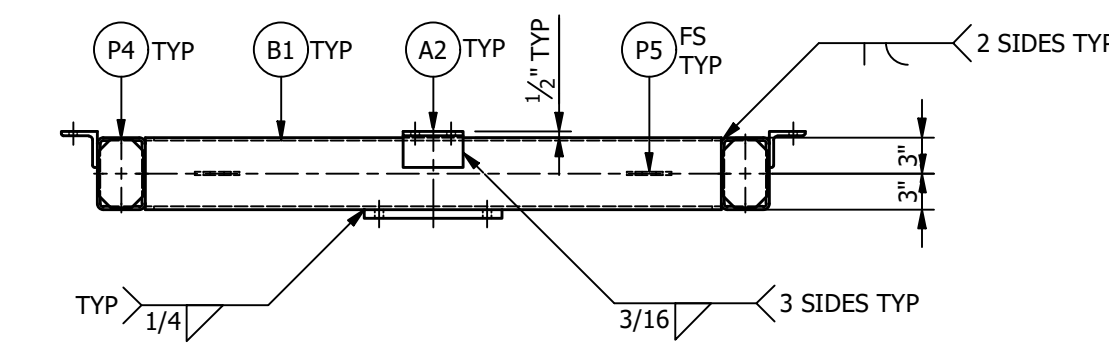
REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SE100	STRUCTURE "E" COVER SHEET
SE200	STRUCTURE "E" ELEVATIONS
SE300	STRUCTURE "E" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL		CITY OF DOVER DOVER, DELEWARE	
		SUBSTATION 69 -12.47 KV SUBSTATION	
		TITLE STR. E - ELEVATIONS	
PROJECT NUMBER 47019	DRAWN JLF	CHECKED JKG	APPROVED MAR
SCALE NTS			DRAWING NUMBER SE200
AUBREY SILVEY ENTERPRISES, INC. <b>EPC DIVISION</b> www.silvey.com/epc		ASSOCIATED SUBSTATION ENGINEERING, INC. <b>ASE</b> www.aseng.com	
REV	DATE	DRN	CK
2	9/14/23	JRG	JKG
1	9/23/21	JLF	JKG
0	7/28/21	JLF	CVC
		APP	
		DESCRIPTION	
		ISSUED FOR CONSTRUCTION	
		ISSUE FOR BID	
		ISSUED FOR APPROVAL	



SWITCH FRAME "S1" ASSEMBLY



SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXE

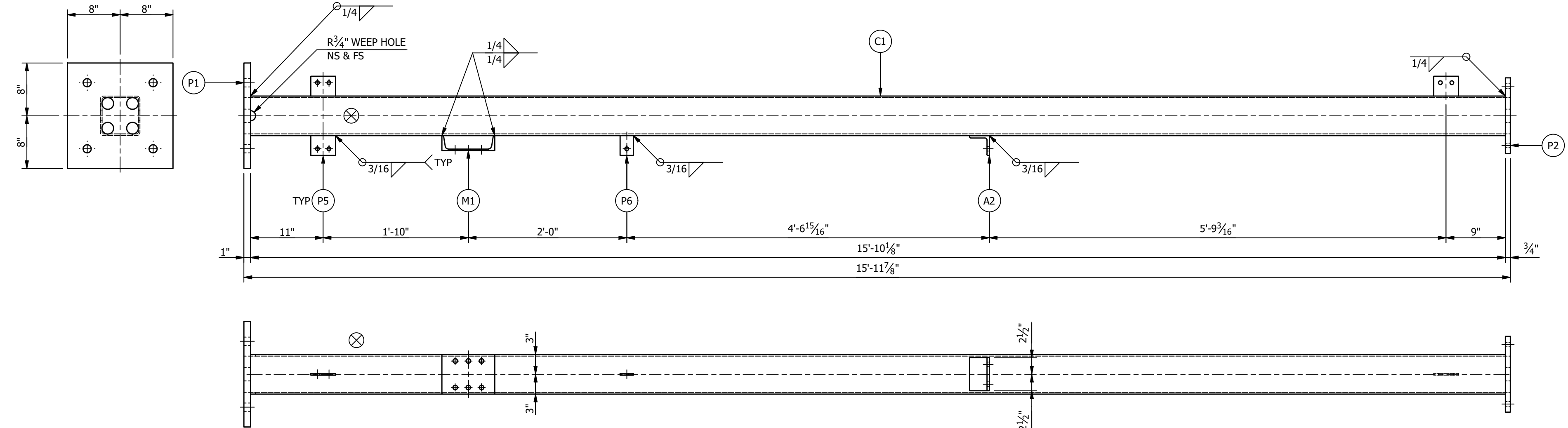
\*\*\*BILL OF MATERIAL\*\*\*

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
A1	6	L3 X 3 X 3/8	0'-11 1/4"	40.50
A2	4	L3 X 3 X 3/8	0'-5"	12.00
B1	2	HSS6 X 6 X 1/4	4'-0"	152.15
B2	2	HSS4 X 6 X 1/4	11'-1 1/4"	346.79
C1	2	HSS6 X 6 X 1/4	15'-10 1/8"	602.64
M1	2	C8 X 11.5	0'-6"	11.50
P1	2	PL1 X 16	1'-4"	145.19
P2	2	PL3/4 X 11 1/2	0'-11 1/2"	56.25
P3	2	PL3/4 X 11 1/2	0'-11 1/2"	56.25
P4	4	PL1/8 X 5 3/4	0'-3 3/4"	3.06
P5	8	PL1/4 X 3	0'-3 3/4"	6.38
P6	2	PL1/4 X 3	0'-2"	.85

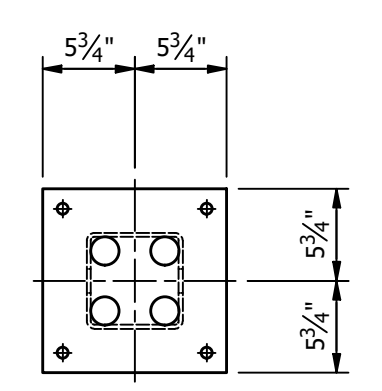
TOTAL BLK WGT = 1,433.56 LBS.  
TOTAL GALV WGT = 1,483.73 LBS.

STRUCTURE BOLT ASSEMBLIES

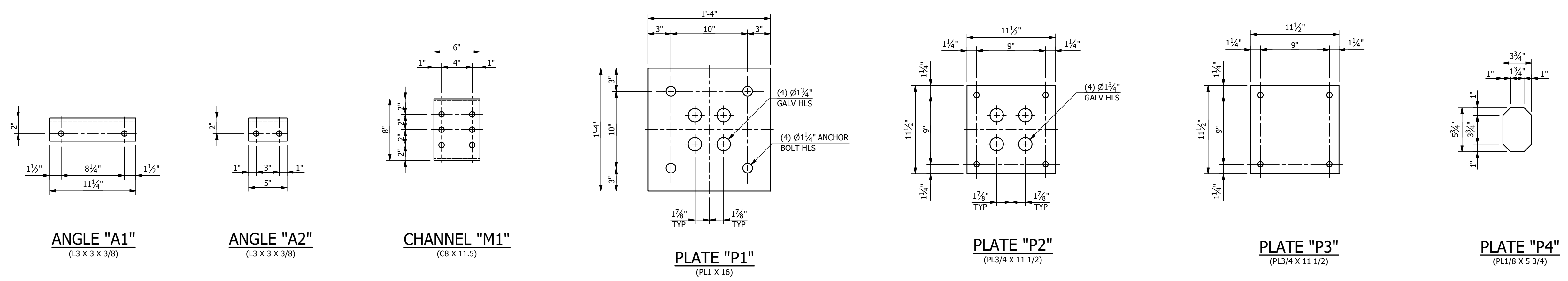
QTY	DIA	LENGTH	DESCRIPTION
9	5/8"	2 3/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN



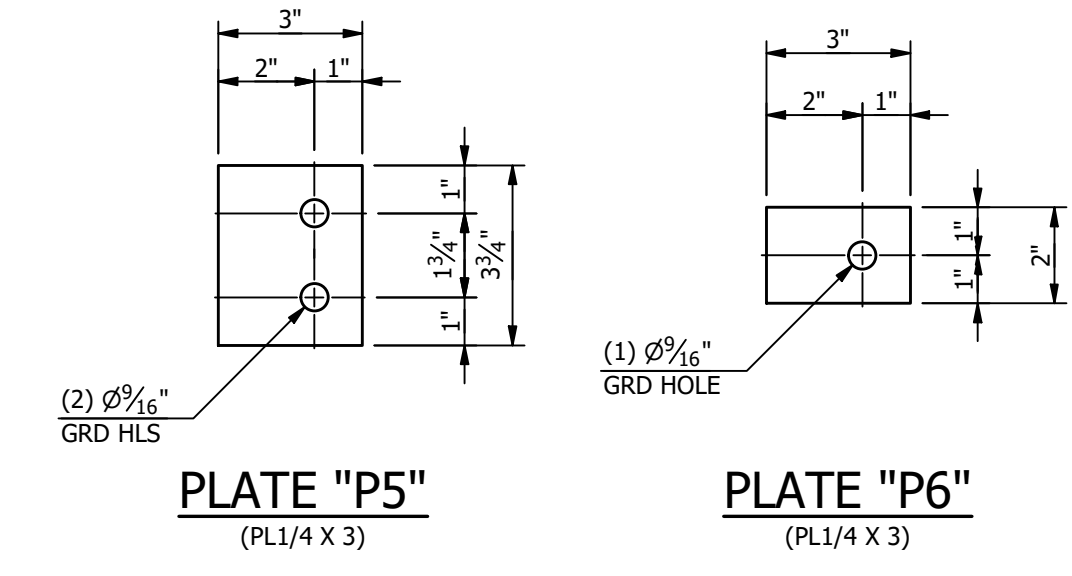
COLUMN "C1" ASSEMBLY



- NOTES:
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
  2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
  3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
  4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
  5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
  6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
  7. ALL WELDING ELECTRODES SHALL BE E70XX.
  8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



MAKE THIS SHEET "12" - TIMES



REFERENCE DRAWINGS

DRAWING NUMBER	DESCRIPTION
SE100	STRUCTURE "E" COVER SHEET
SE200	STRUCTURE "E" ELEVATIONS
SE300	STRUCTURE "E" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

CITY OF DOVER  
DOVER, DELEWARE

SUBSTATION  
69-12.47 KV SUBSTATION

TITLE  
STR. E - ASSEMBLIES AND DETAILS

PROJECT NUMBER  
47019

SCALE  
NTS

DRAWN  
JLF

CHECKED  
JKG

APPROVED  
MAR

DRAWING NUMBER  
SE300

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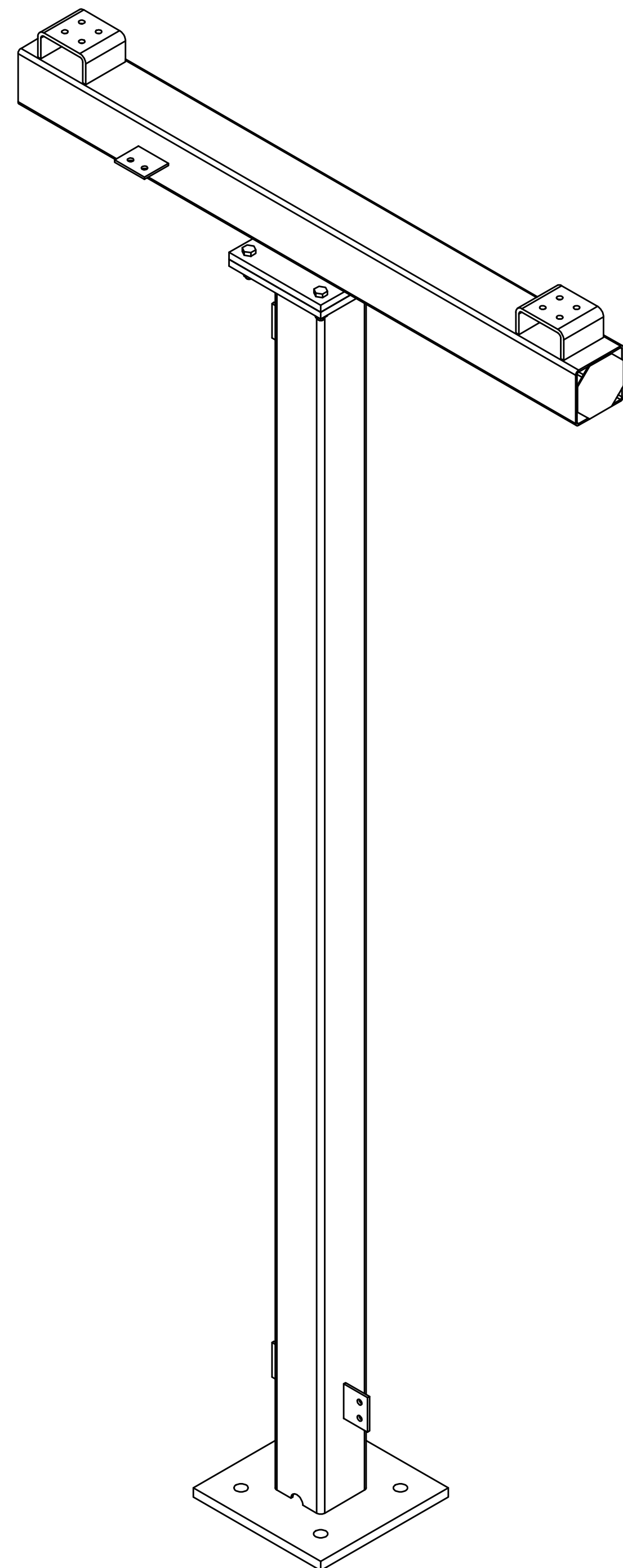
ENGINEERING SEAL

# STRUCTURE "F"

## "69KV 1-COLUMN 2-PHASE BUS SUPPORT"

TOTAL STRUCTURE WEIGHT = 456.51

ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)



**MAKE STRUCTURE "F"**  
"1" - TIME

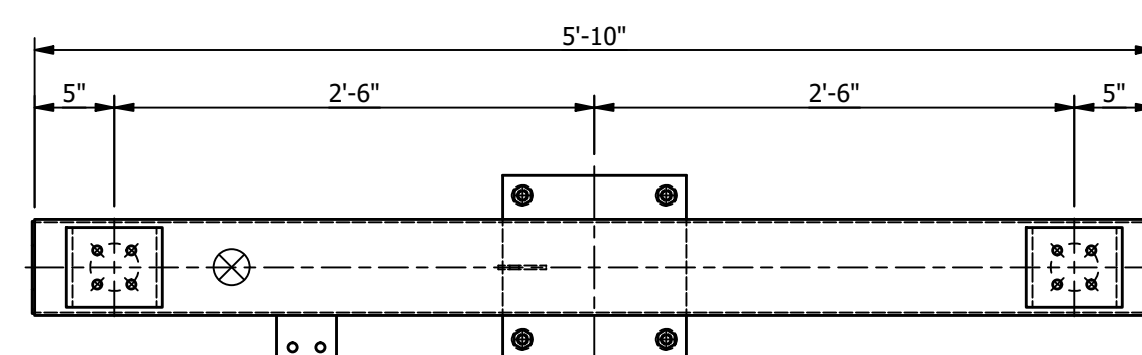
REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SF100	STRUCTURE "F" COVER SHEET
SF200	STRUCTURE "F" ELEVATIONS
SF300	STRUCTURE "F" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

ENGINEERING SEAL	THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.										
		CITY OF DOVER DOVER, DE									
		SUBSTATION 69-12.47 KV SUBSTATION									
		TITLE STR. F - COVER SHEET									
		PROJECT NUMBER 47019	DRAWN JLF	CHECKED CVC	APPROVED MAR	DRAWING NUMBER SF100					
SCALE NTS	AUBREY SILVEY ENTERPRISES, INC.     ASSOCIATED SUBSTATION ENGINEERING, INC. <b>EPC DIVISION</b> <b>AS E</b> ASSOCIATED SUBSTATION ENGINEERING, INC. Engineer • Procure • Construct     www.aseng.com     770-637-0033										
REV	DATE	DRN	CK	APP	DESCRIPTION						
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION						
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID						
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL						

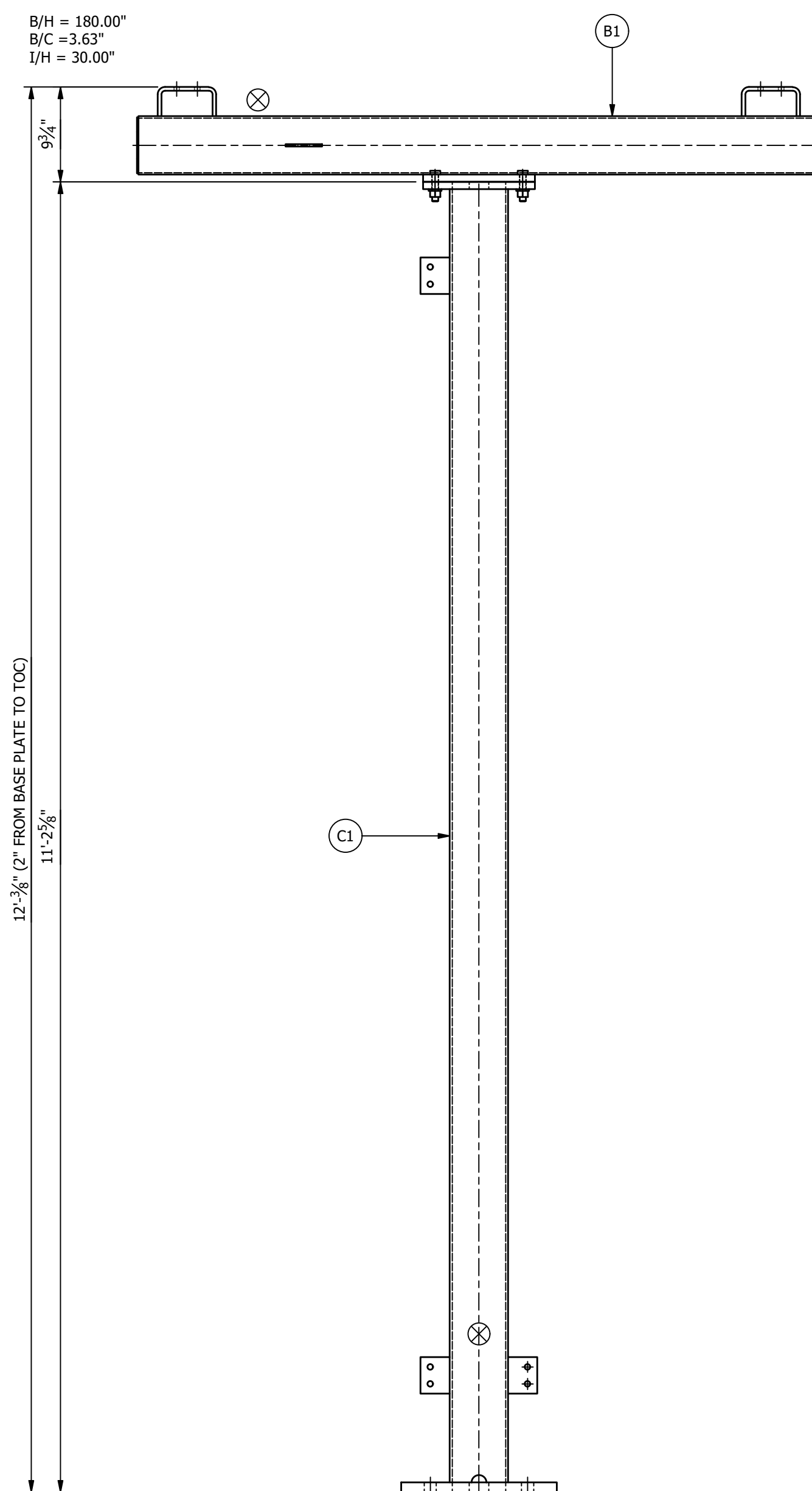
ASSEMBLIES		
MARK	QTY	DESCRIPTION
B1	1	BEAM "B1"
C1	1	COLUMN "C1"

**NOTES:**

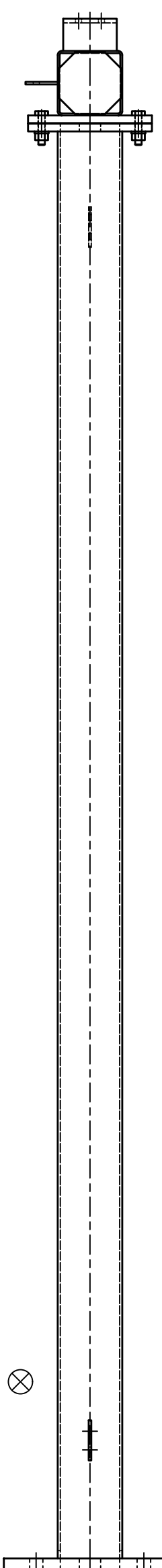
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 1 1/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



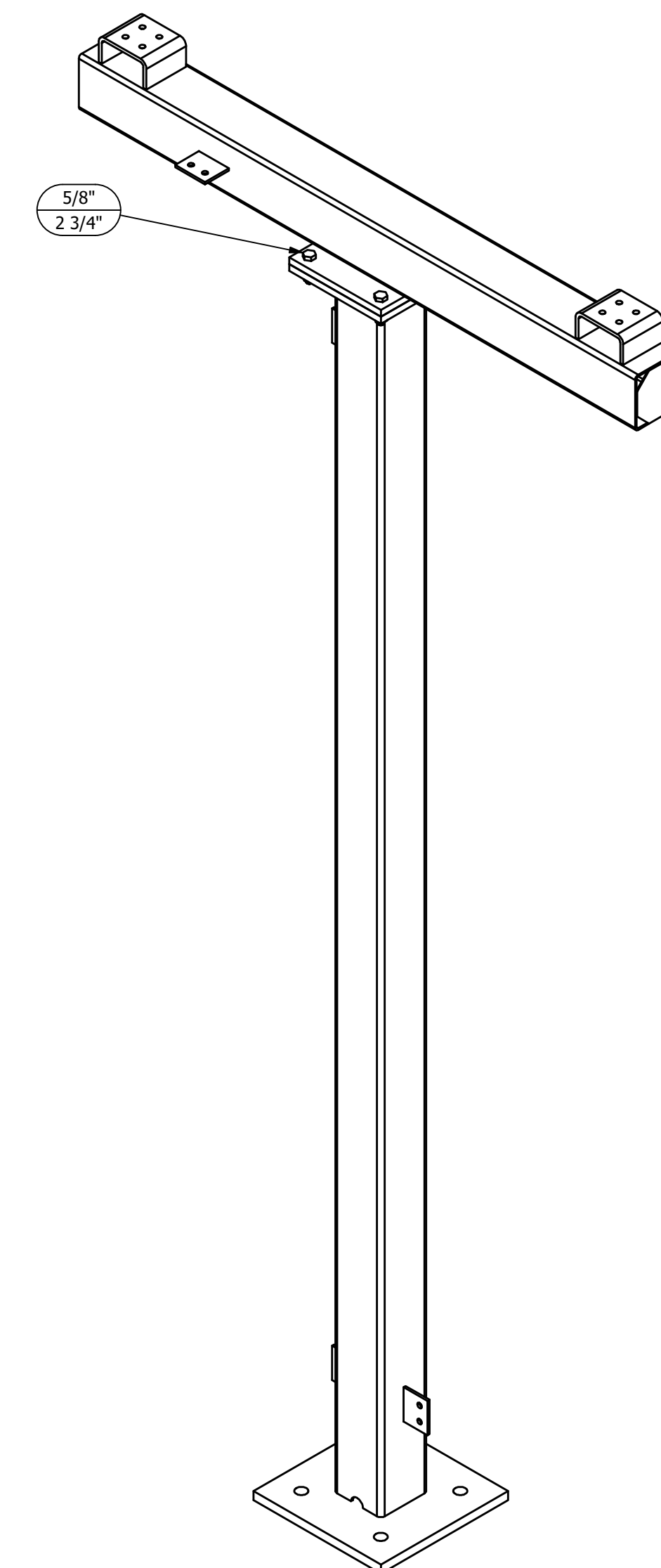
PLAN VIEW



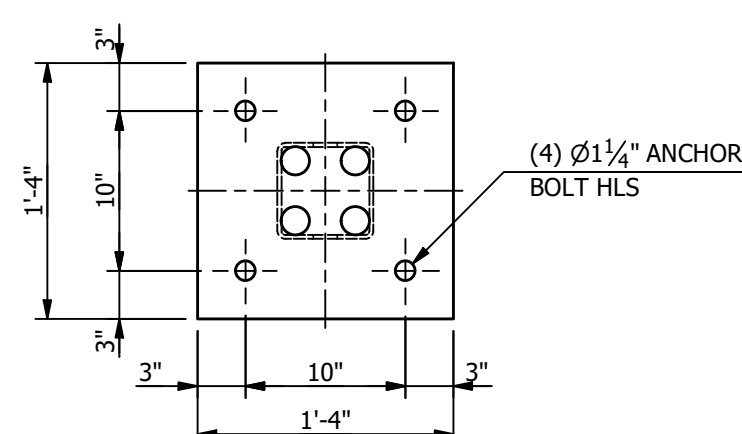
FRONT ELEVATION



RIGHT ELEVATION



ISOMETRIC VIEW



(4)  $\phi 1 1/2"$  ANCHOR BOLT HLS

**MAKE STRUCTURE "F"  
"1" - TIME**

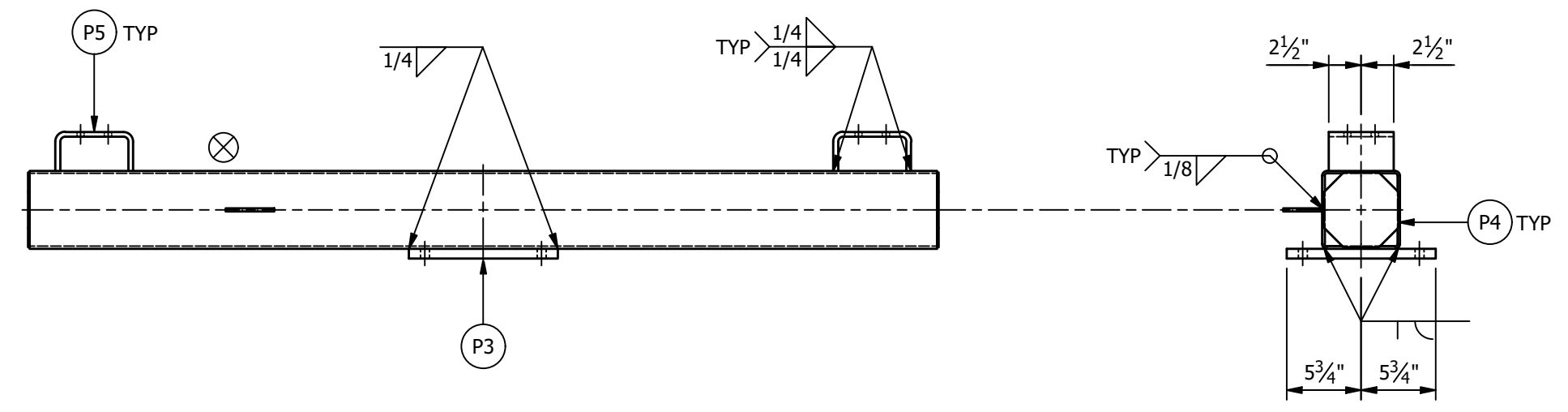
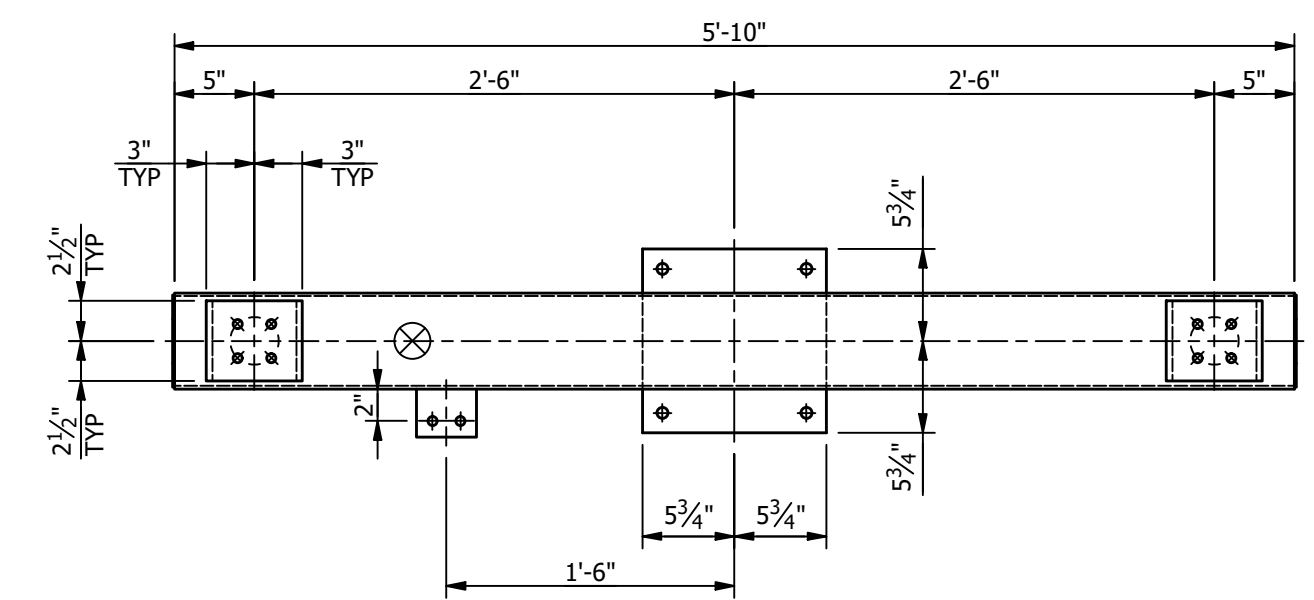
REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SF100	STRUCTURE "F" COVER SHEET
SF200	STRUCTURE "F" ELEVATIONS
SF300	STRUCTURE "F" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

CUSTOMER			
CITY OF DOVER DOVER, DE			
SUBSTATION			
69-12.47 KV SUBSTATION			
TITLE			
STR. F - ELEVATIONS			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED
47019	JLF	CVC	MAR
SCALE	NTS		DRAWING NUMBER
			SF200
AUBREY SILVEY ENTERPRISES, INC.			
EPC DIVISION		ASSOCIATED SUBSTATION ENGINEERING, INC.	
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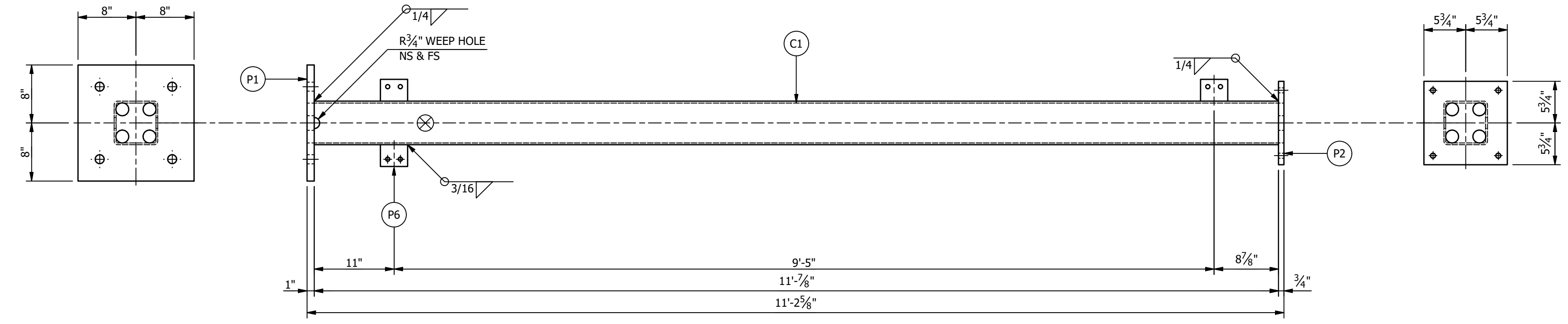
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REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

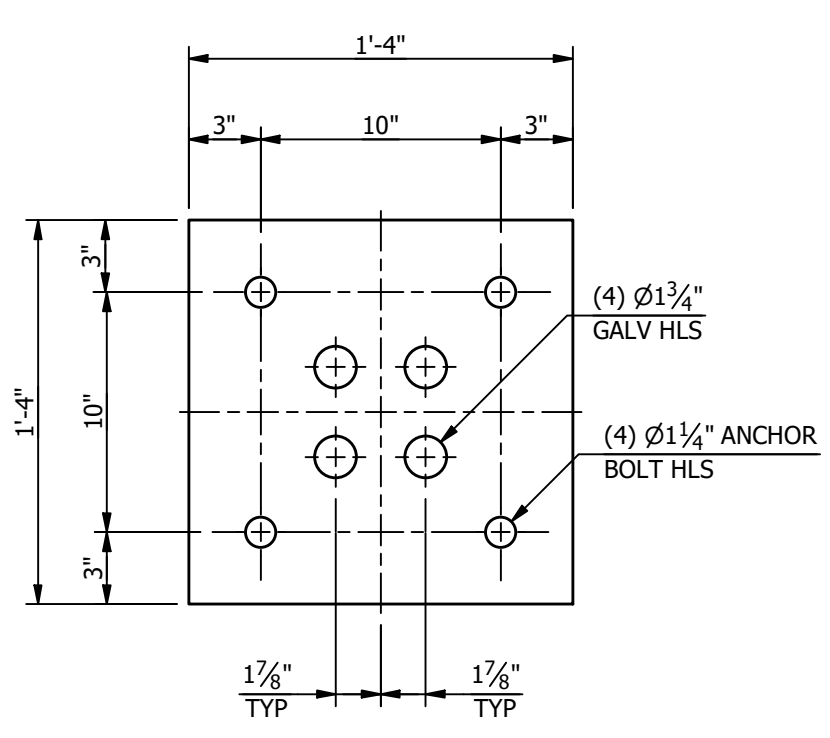
ENGINEERING SEAL



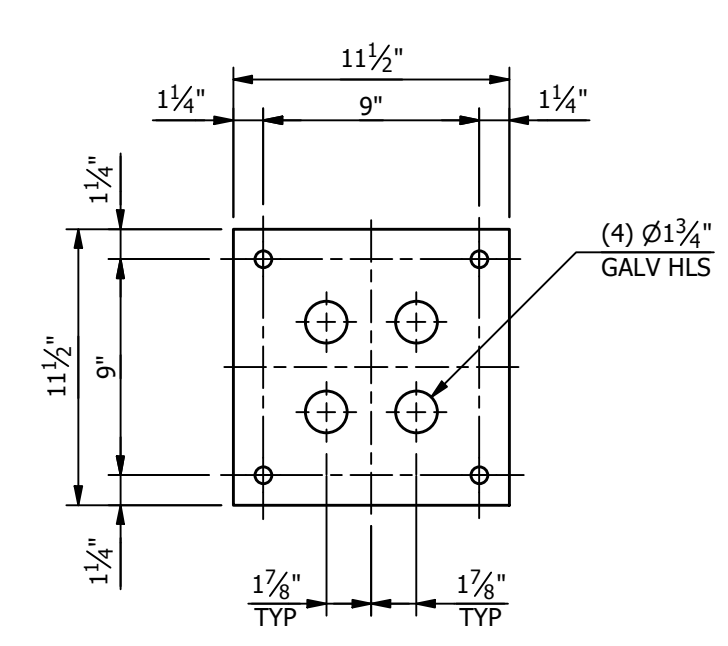
**BEAM "B1" ASSEMBLY**



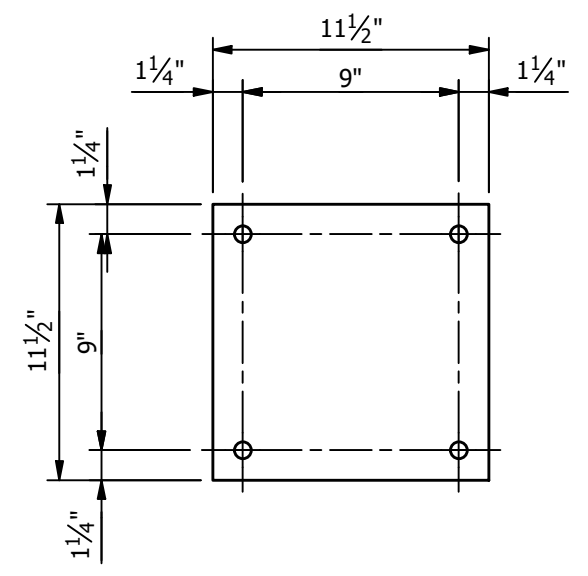
**COLUMN "C1" ASSEMBLY**



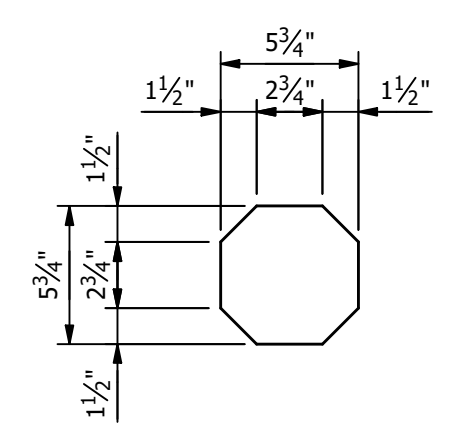
**PLATE "P1"**  
(PL1 X 16)



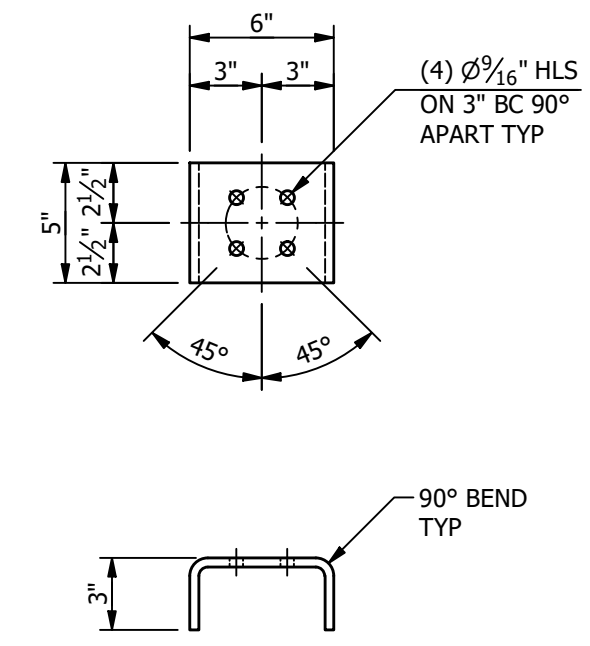
**PLATE "P2"**  
(PL3/4 X 11 1/2)



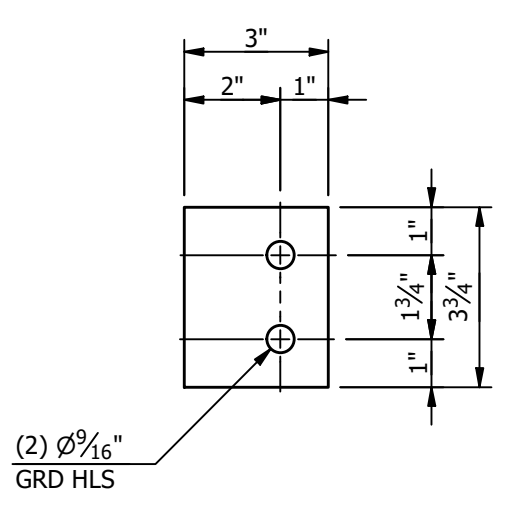
**PLATE "P3"**  
(PL3/4 X 11 1/2)



**PLATE "P4"**  
(PL1/8 X 5 3/4)



**PLATE "P5"**  
(PL3/8 X 5 BENT)



**PLATE "P6"**  
(PL1/4 X 3)

**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
B1	1	HSS6 X 6 X 3/16	5'-10"	84.73
C1	1	HSS6 X 6 X 1/4	11'-7/8"	210.59
P1	1	PL1 X 16	1'-4"	72.59
P2	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P3	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P4	2	PL1/8 X 5 3/4	0'-5 3/4"	2.34
P5	2	PL3/8 X 5 BENT	0'-10 11/16"	11.36
P6	4	PL1/4 X 3	0'-3 3/4"	3.19

TOTAL BLK WGT = 441.07 LBS.  
TOTAL GALV WGT = 456.51 LBS.

**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
5	5/8"	2 3/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN

**SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXF**

- NOTES:**
- ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
  - ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
  - ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
  - ALL HOLES Ø11/16" FOR Ø5/8" BOLTS UNLESS NOTED.
  - MINIMUM EDGE DISTANCE 7/8" UNLESS NOTED.
  - PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
  - ALL WELDING ELECTRODES SHALL BE E70XX.
  - ⊗ MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE THIS SHEET "1" - TIME**

**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SF100	STRUCTURE "F" COVER SHEET
SF200	STRUCTURE "F" ELEVATIONS
SF300	STRUCTURE "F" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

CITY OF DOVER DOVER, DE					
SUBSTATION 69-12.47 KV SUBSTATION					
TITLE STR. F - ASSEMBLIES & DETAILS					
PROJECT NUMBER 47019	DRAWN JLF				
CHECKED CVC	APPROVED MAR				
SCALE NTS	DRAWING NUMBER SF300				
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL
REV	DATE	DRN	CK	APP	DESCRIPTION

AUBREY SILVEY ENTERPRISES, INC.  
**EPC DIVISION**  
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www.silvey.com/epc 770-637-1144

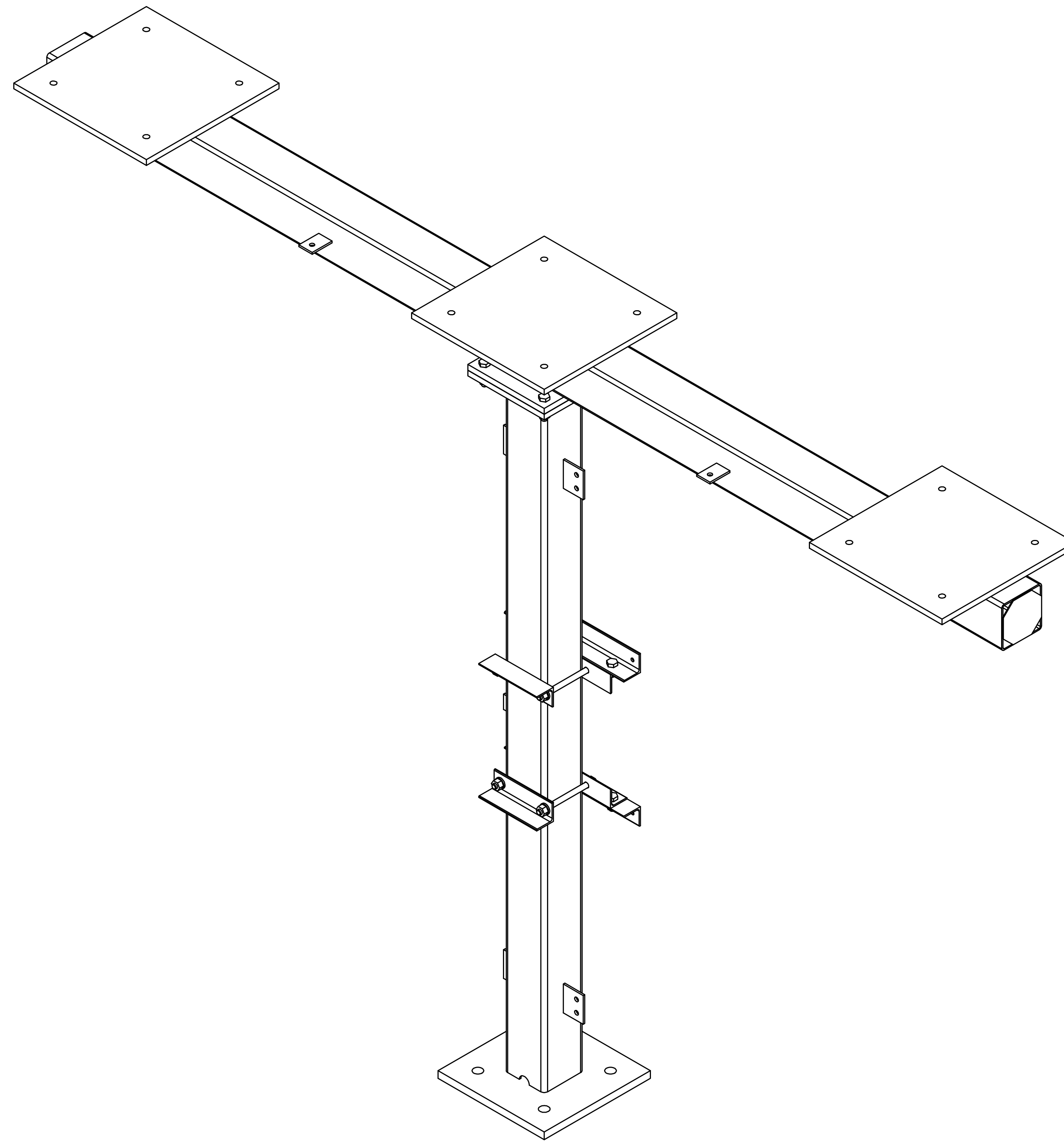
ASSOCIATED SUBSTATION ENGINEERING, INC.  
www.aseng.com 770-637-0033

# STRUCTURE "G"

## "69KV 1-COLUMN METERING STAND"

TOTAL STRUCTURE WEIGHT = 756.72 LBS.

ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)



**MAKE STRUCTURE "G"**  
**"1" - TIME**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SG100	STRUCTURE "G" COVER SHEET
SG200	STRUCTURE "G" ELEVATIONS
SG300	STRUCTURE "G" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

	<b>CITY OF DOVER</b> DOVER, DE	
	SUBSTATION <b>69-12.47KV SUBSTATION</b>	
	TITLE <b>STR. G - COVER SHEET</b>	
PROJECT NUMBER 47019	DRAWN JLF	CHECKED CVC
SCALE NTS	APPROVED MAR	DRAWING NUMBER SG100

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ASSOCIATED SUBSTATION ENGINEERING, INC.

ENGINEERING SEAL

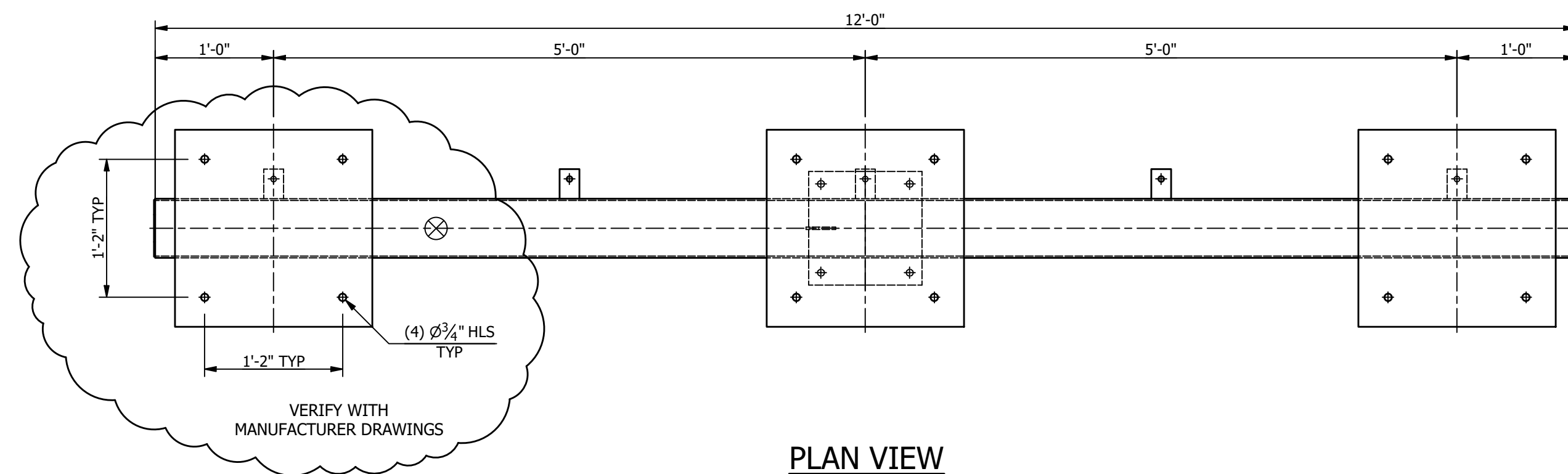
REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

ASSEMBLIES		
MARK	QTY	DESCRIPTION
B1	1	BEAM "B1"
C1	1	COLUMN "C1"

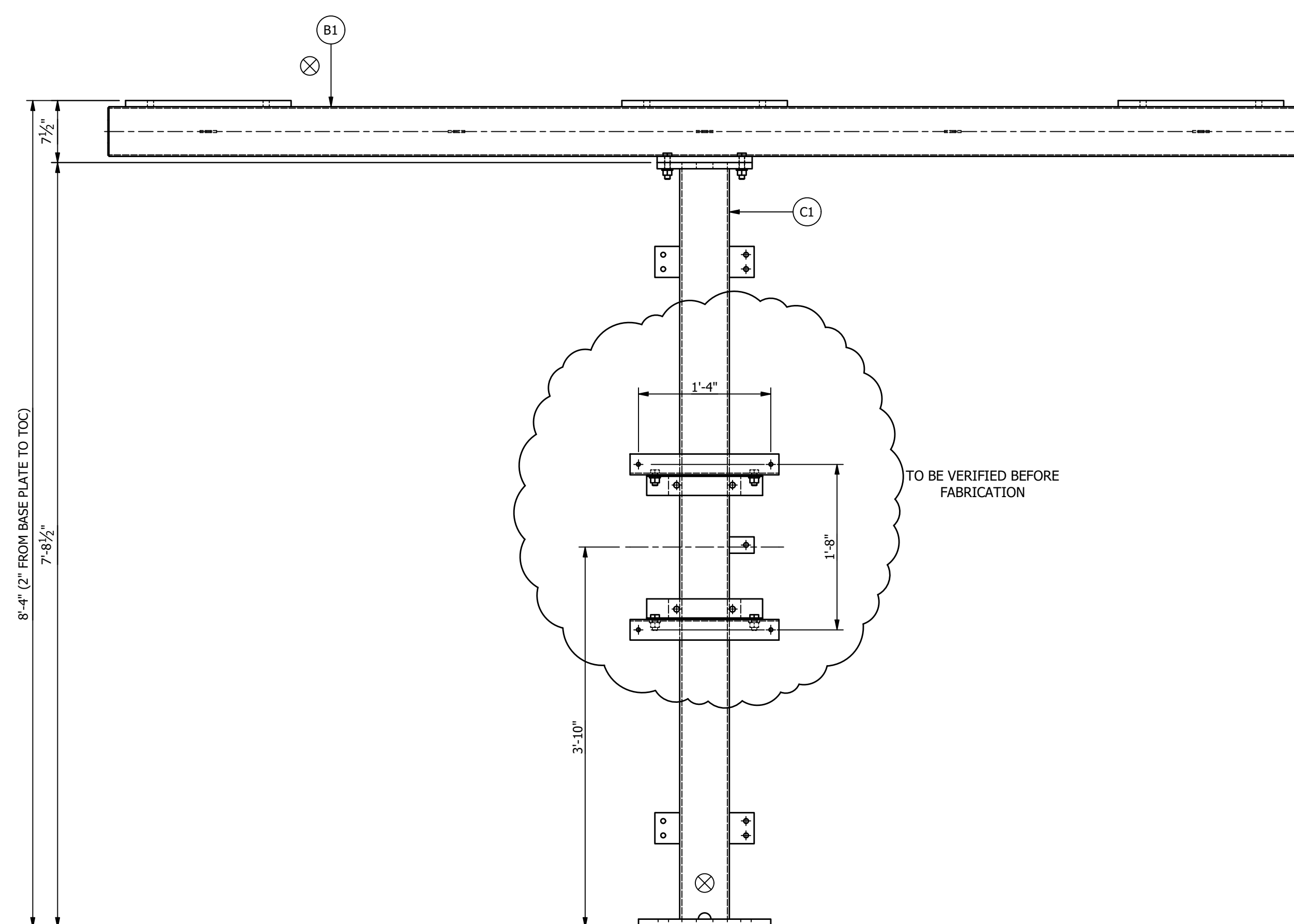
MISCELLANEOUS		
MARK	QTY	DESCRIPTION
A1	2	L2 1/2 X 2 1/2 X 3/16
A2	2	L2 1/2 X 2 1/2 X 3/16
A3	2	L2 1/2 X 2 1/2 X 3/16

**NOTES:**

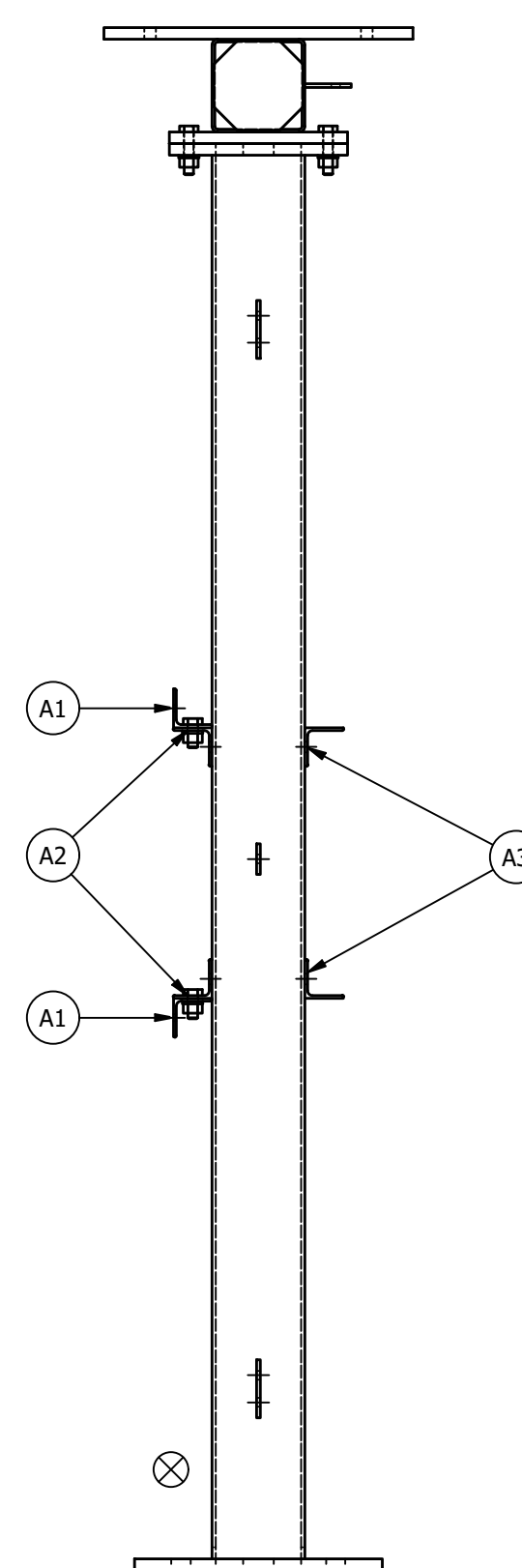
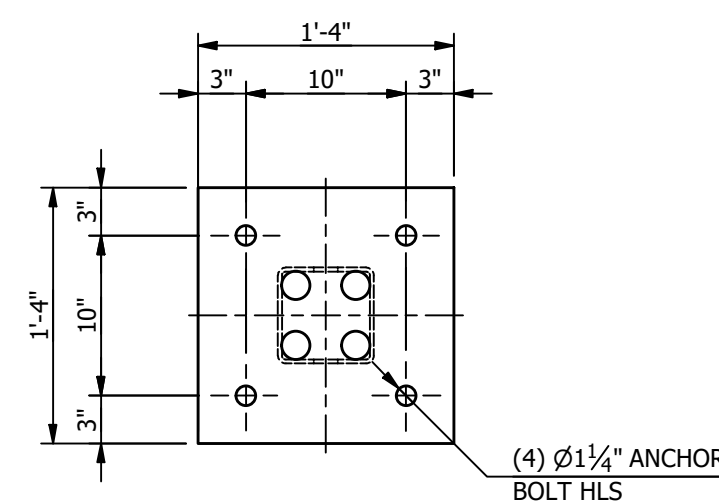
1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



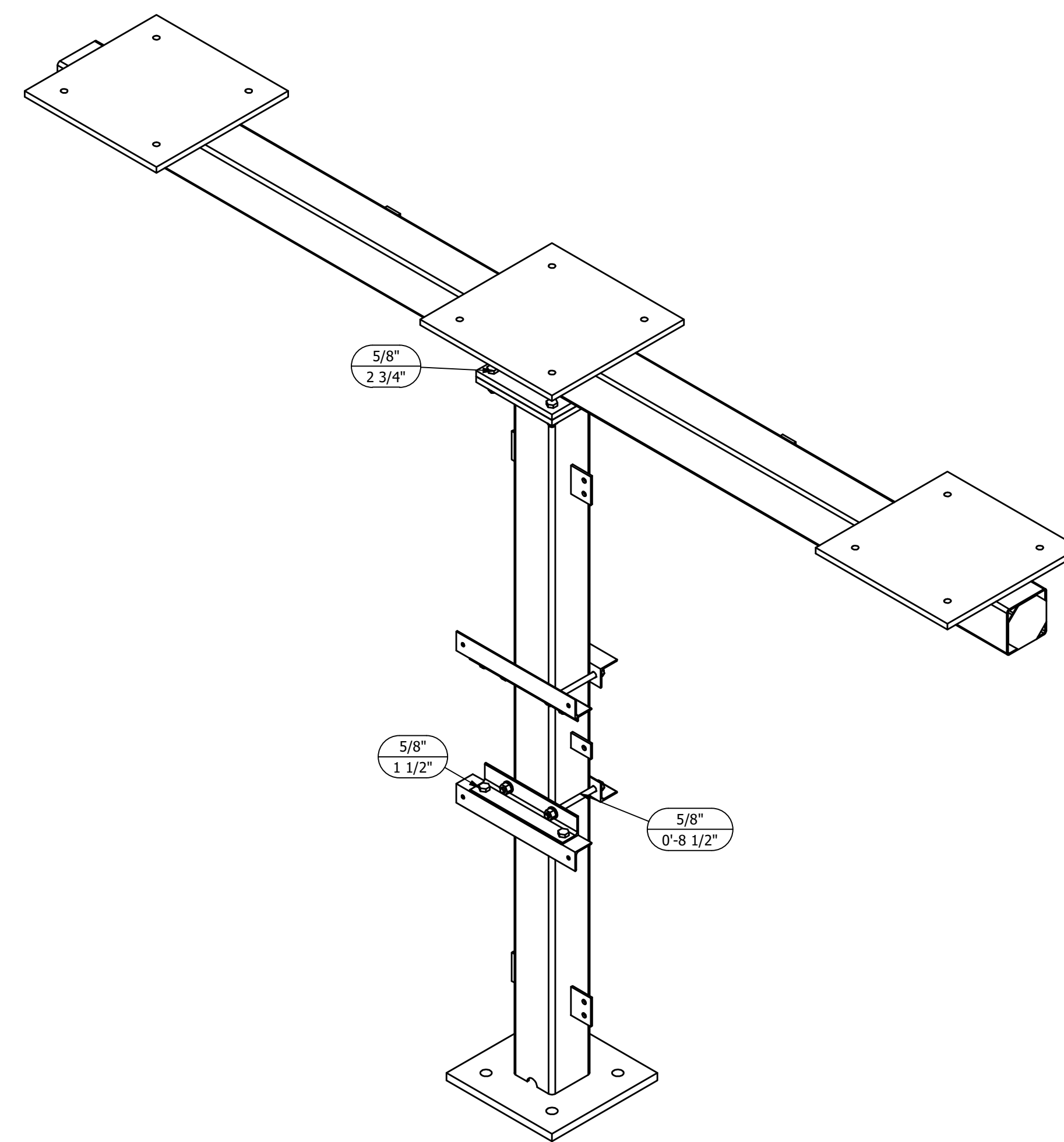
PLAN VIEW



FRONT ELEVATION



RIGHT ELEVATION



ISOMETRIC VIEW

**MAKE STRUCTURE "G"  
"1" - TIME**

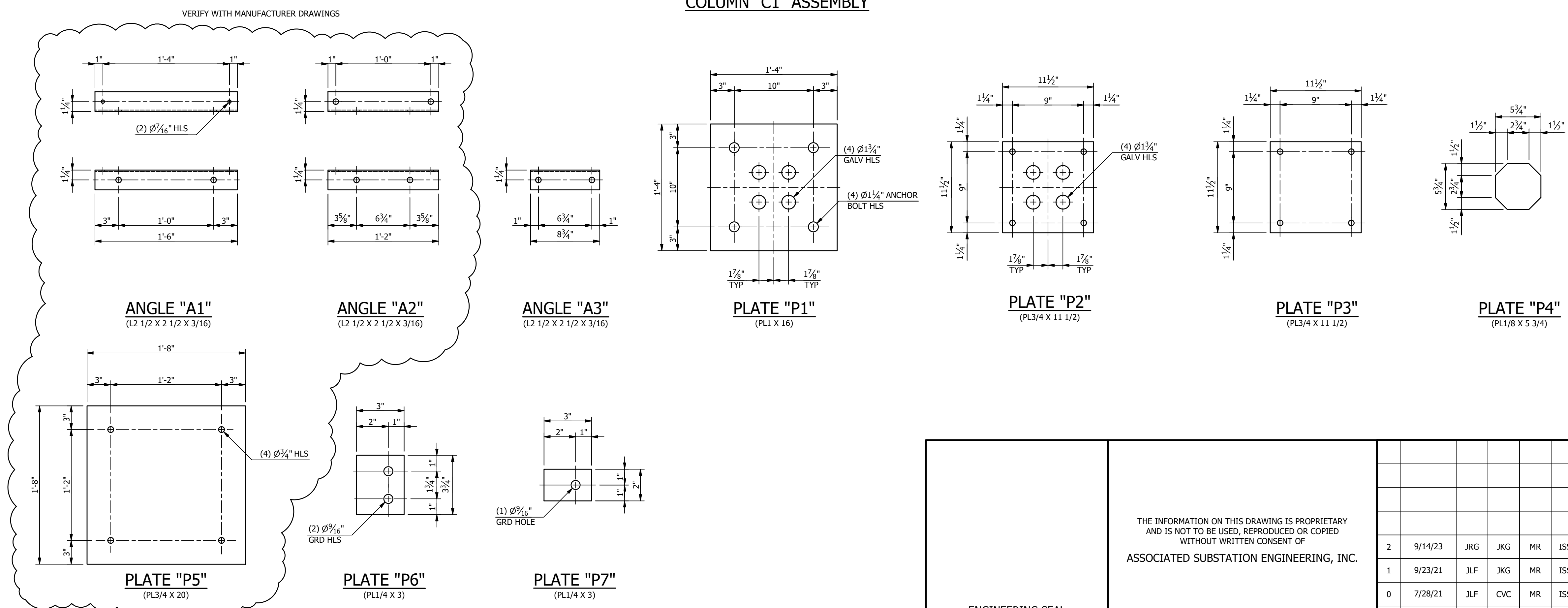
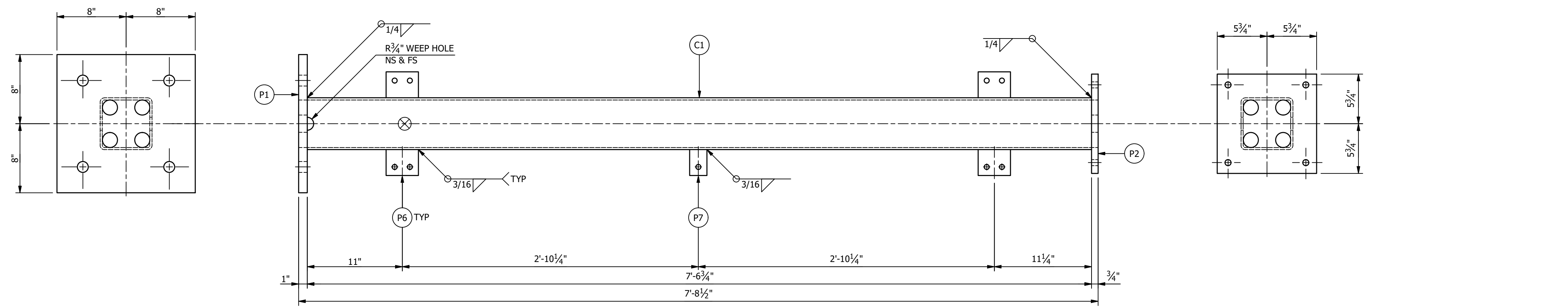
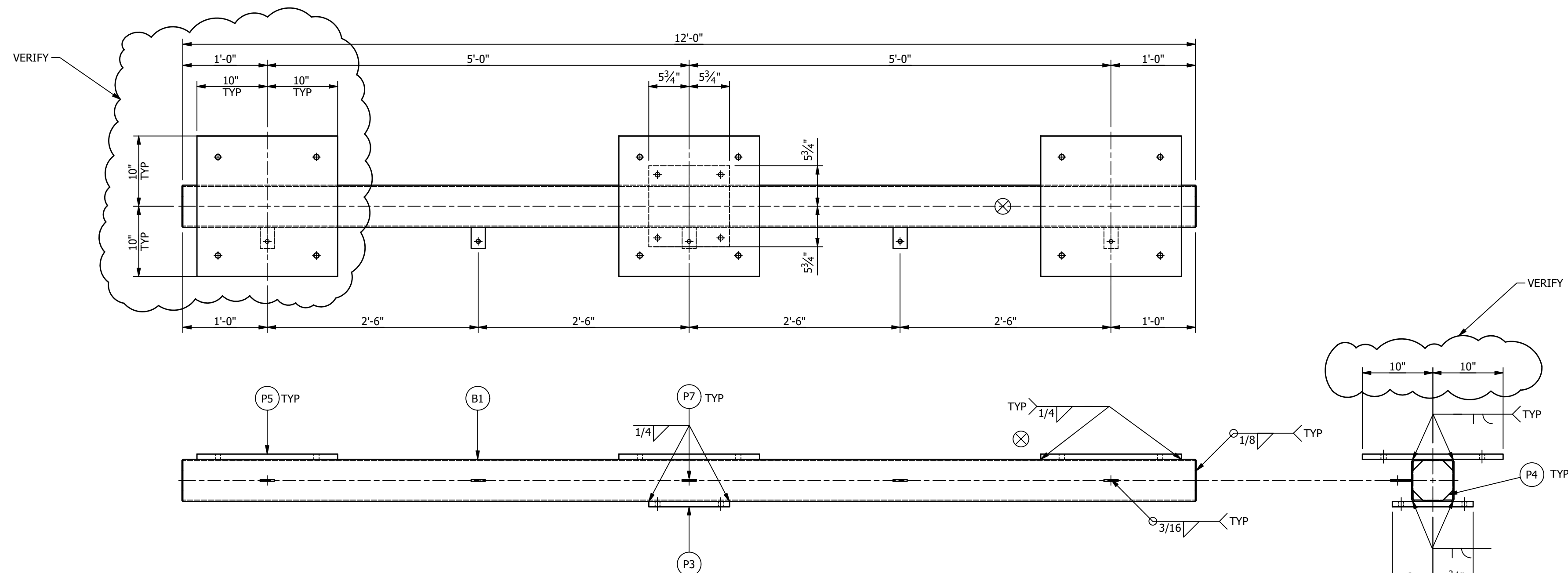
REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SG100	STRUCTURE "G" COVER SHEET
SG200	STRUCTURE "G" ELEVATIONS
SG300	STRUCTURE "G" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

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ENGINEERING SEAL	CITY OF DOVER DOVER, DE				
	SUBSTATION 69-12.47KV SUBSTATION				
	TITLE STR. G - ELEVATIONS				
	PROJECT NUMBER 47019	DRAWN JLF			
SCALE NTS	CHECKED CVC	APPROVED MAR			
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL
REV	DATE	DRN	CK	APP	DESCRIPTION

AUBREY SILVEY ENTERPRISES, INC. **ASSOCIATED SUBSTATION ENGINEERING, INC.**  
**EPC DIVISION**  
 Engineer • Procure • Construct  
 www.silvey.com/epc 770-637-1144 www.aseng.com 770-637-0033





**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
VERIFY → A1	2	L2 1/2 X 2 1/2 X 3/16	1'-6"	9.21
VERIFY → A2	2	L2 1/2 X 2 1/2 X 3/16	1'-2"	7.16
VERIFY → A3	2	L2 1/2 X 2 1/2 X 3/16	0'-8 3/4"	4.48
B1	1	HSS6 X 6 X 3/16	12'-0"	174.31
C1	1	HSS6 X 6 X 1/4	7'-6 3/4"	143.83
P1	1	PL1 X 16	1'-4"	72.59
P2	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P3	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P4	2	PL1/8 X 5 3/4	0'-5 3/4"	2.34
VERIFY → P5	3	PL3/4 X 20	1'-8"	255.21
P6	4	PL1/4 X 3	0'-3 3/4"	3.19
P7	6	PL1/4 X 3	0'-2"	2.55

TOTAL BLK WGT = 731.13 LBS.  
 TOTAL GALV WGT = 756.72 LBS.

**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
5	5/8"	0'-8 1/2"	5/8 GALV THREADED ROD W/ 2HHN, 2FW
5	5/8"	2 3/4"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN
5	5/8"	1 1/2"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN

SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXG

- NOTES:**
- ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
  - ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
  - ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
  - ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
  - MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
  - PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
  - ALL WELDING ELECTRODES SHALL BE E70XX.
  - ⊗ MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

MAKE THIS SHEET "1" - TIME

**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SG100	STRUCTURE "G" COVER SHEET
SG200	STRUCTURE "G" ELEVATIONS
SG300	STRUCTURE "G" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

ENGINEERING SEAL

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REV	DATE	DRN	CK	APP	DESCRIPTION
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1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
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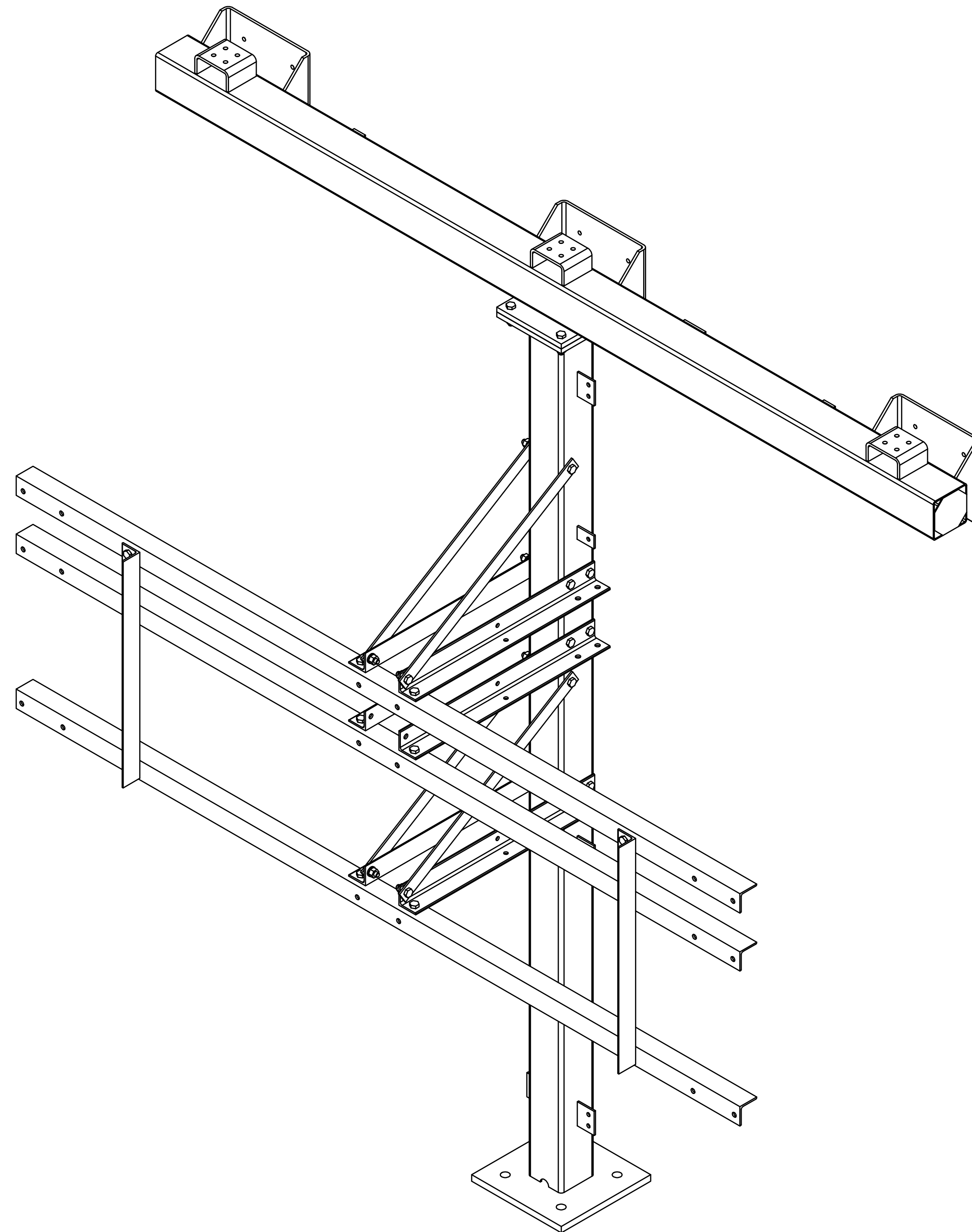
CITY OF DOVER  
 DOVER, DE  
 SUBSTATION 69-12.47KV SUBSTATION  
 TITLE STR. G - ASSEMBLIES & DETAILS  
 PROJECT NUMBER 47019  
 SCALE NTS  
 DRAWN JLF CHECKED CVC APPROVED MAR SG300  
 AUBREY SILVEY ENTERPRISES, INC. ASSOCIATED SUBSTATION ENGINEERING, INC.  
 EPC DIVISION Engineer • Procure • Construct  
 www.silvey.com/epc 770-637-1144 www.aseng.com 770-637-0033

# STRUCTURE "H"

## "69kV 1-COLUMN 3-PHASE TERMINATOR STAND"

TOTAL STRUCTURE WEIGHT = 947.50 LBS.

ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)



**MAKE STRUCTURE "H"**  
**"1" - TIME**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SH100	STRUCTURE "H" COVER SHEET
SH200	STRUCTURE "H" ELEVATIONS
SH300	STRUCTURE "H" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

CUSTOMER				CITY OF DOVER DOVER, DE			
SUBSTATION				69-12.47 KV SUBSTATION			
TITLE				STR. H - COVER SHEET			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER			
47019	JLF	CVC	MAR	SH100			
SCALE							
NTS							
AUBREY SILVEY ENTERPRISES, INC.				ASSOCIATED SUBSTATION ENGINEERING, INC.			
www.silvey.com/epc				www.aseng.com			

THE INFORMATION ON THIS DRAWING IS PROPRIETARY  
AND IS NOT TO BE USED, REPRODUCED OR COPIED  
WITHOUT WRITTEN CONSENT OF  
ASSOCIATED SUBSTATION ENGINEERING, INC.

REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

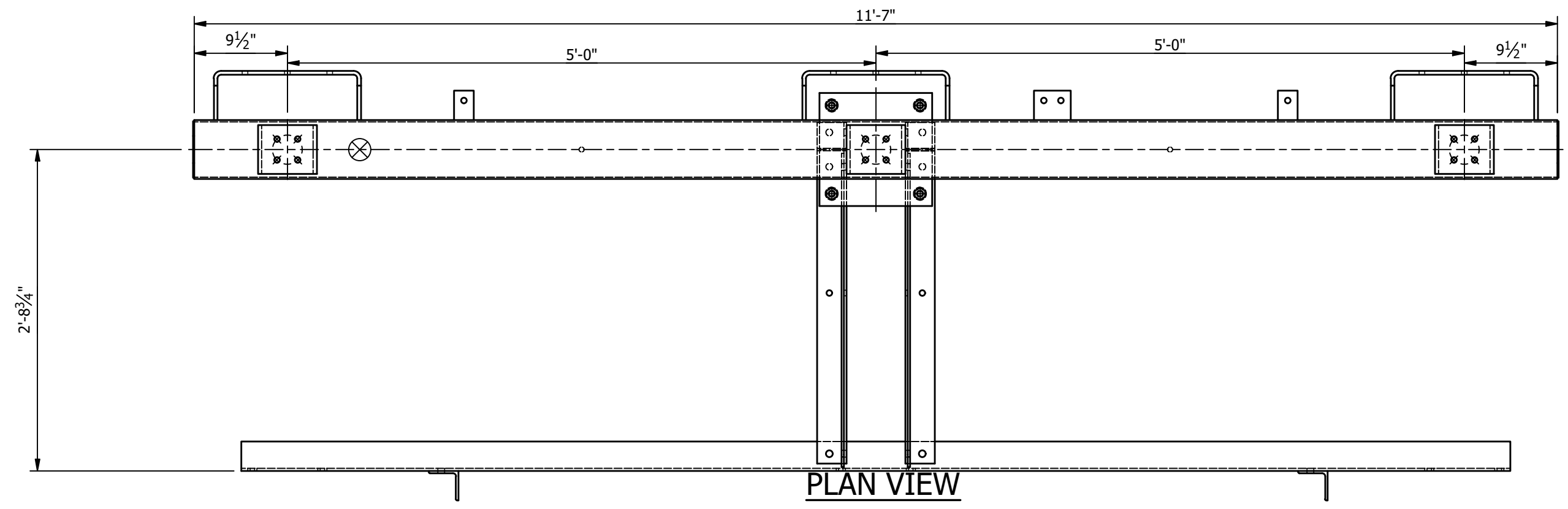
ENGINEERING SEAL

ASSEMBLIES LIST

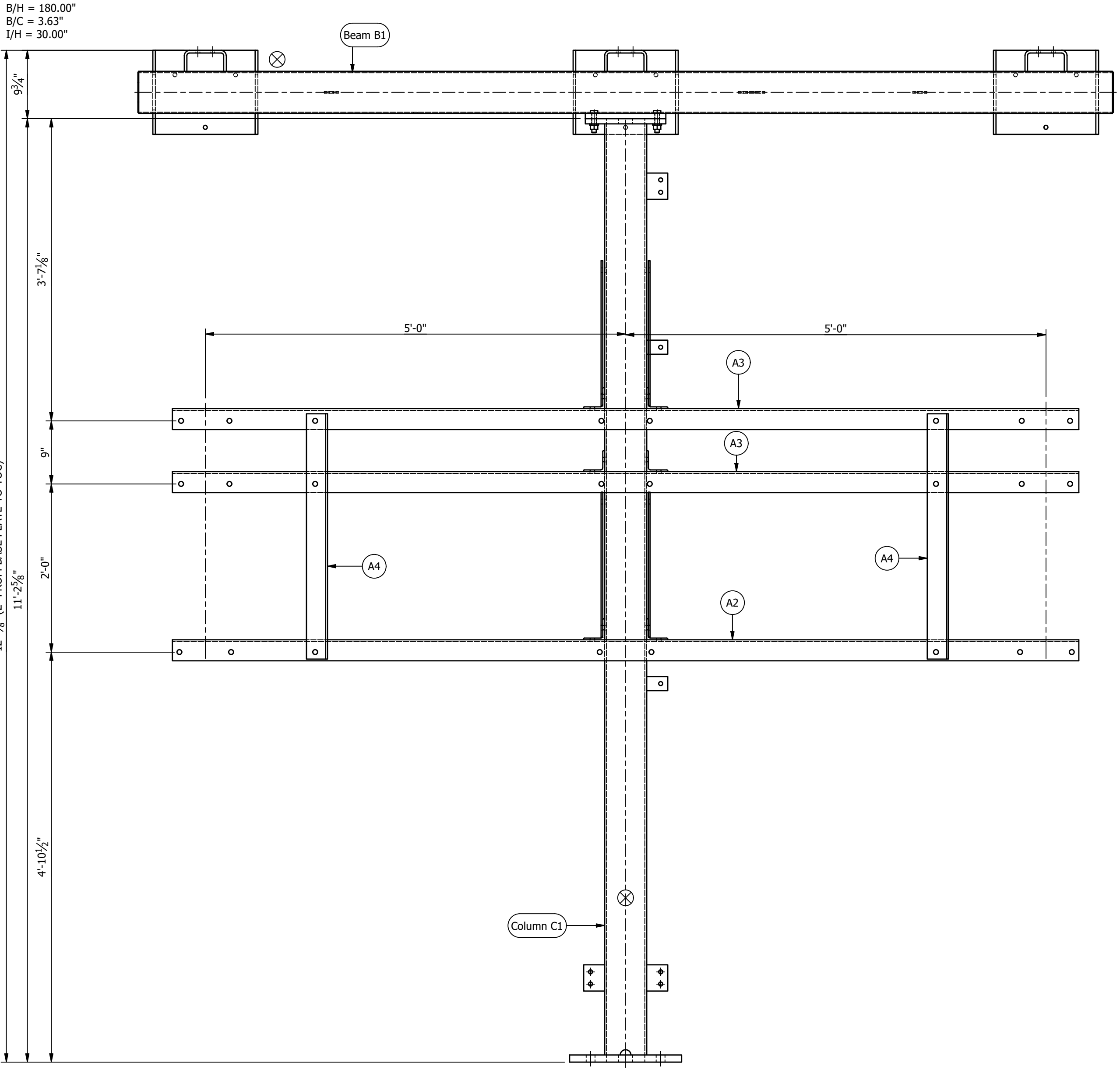
MARK	QTY
Beam B1	1
Column C1	1

MISC. STEEL

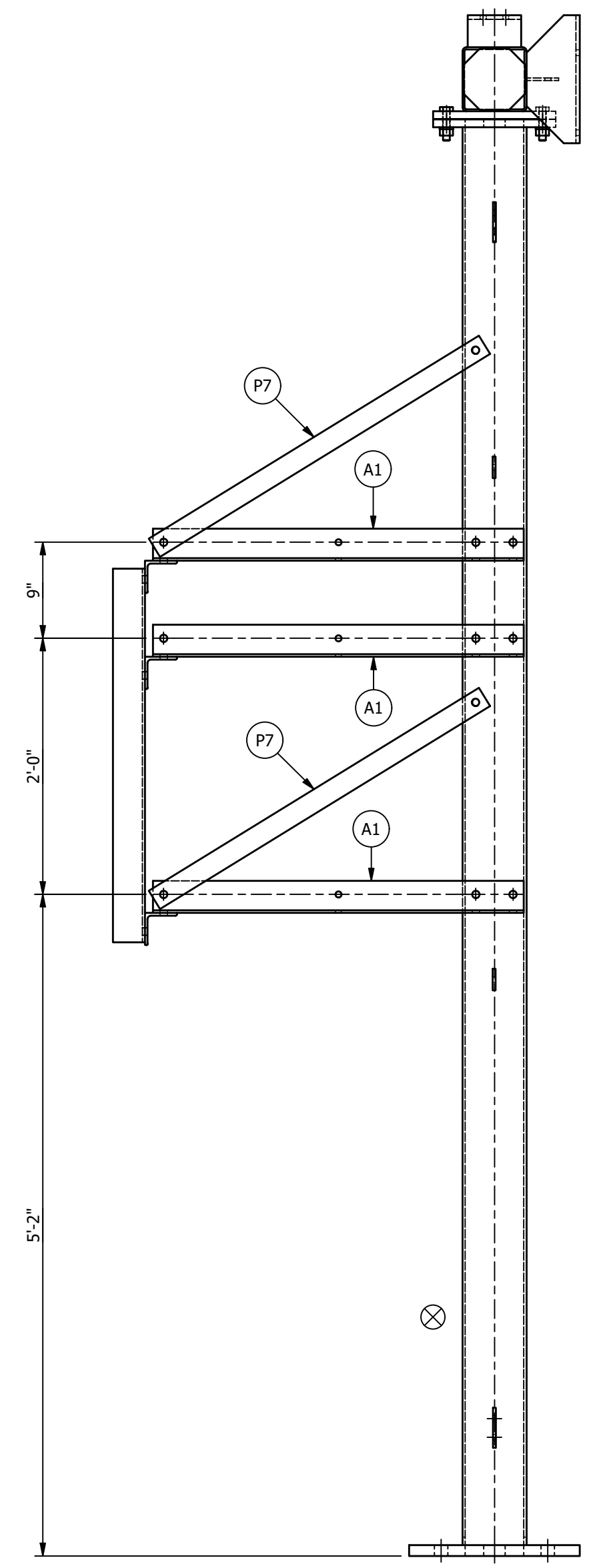
MARK	QTY
A1	6
A2	1
A3	2
A4	2
P7	4



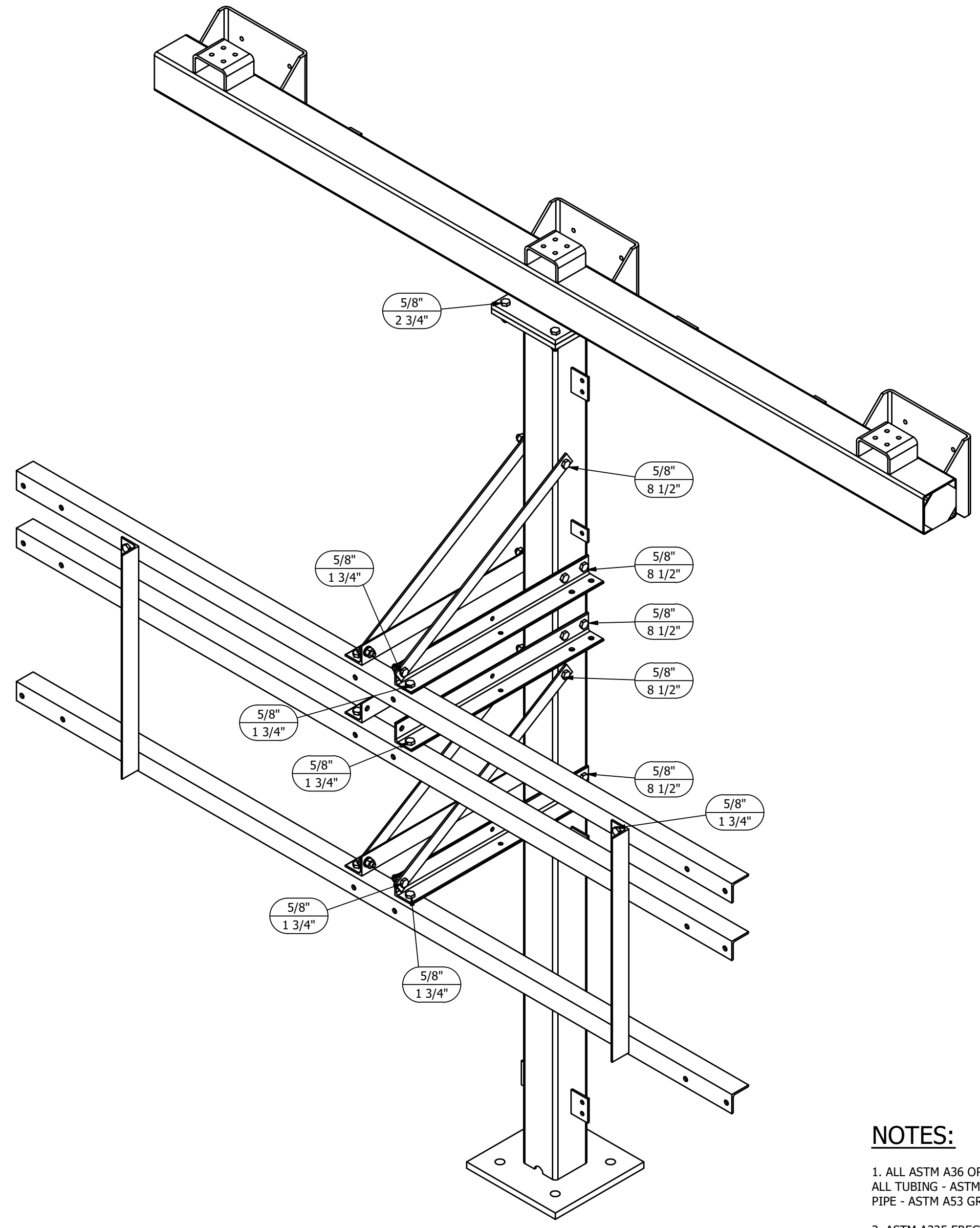
PLAN VIEW



FRONT ELEVATION



RIGHT ELEVATION

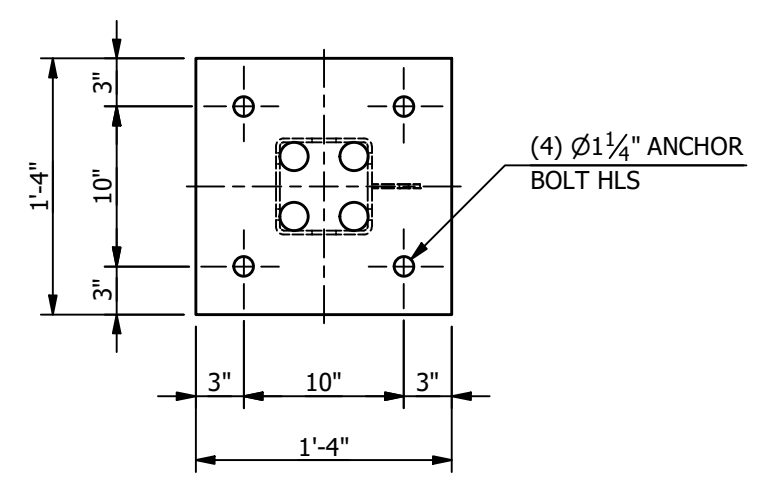


ISOMETRIC VIEW

NOTES:

1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 11/16$ " FOR  $\phi 5/8$ " BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8$ " UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN  $3/8$ " HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

**MAKE STRUCTURE "H"  
"1" - TIME**



REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SH100	STRUCTURE "H" COVER SHEET
SH200	STRUCTURE "H" ELEVATIONS
SH300	STRUCTURE "H" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

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REV	DATE	DRN	CK	APP	DESCRIPTION
2	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
1	9/23/21	JLF	JKG	MR	ISSUE FOR BID
0	7/28/21	JLF	CVC	MR	ISSUED FOR APPROVAL

CITY OF DOVER  
DOVER, DE

SUBSTATION  
**69-12.47 KV SUBSTATION**

TITLE  
**STR. H - ELEVATIONS**

PROJECT NUMBER  
47019

SCALE  
NTS

DRAWN  
JLF

CHECKED  
CVC

APPROVED  
MAR

DRAWING NUMBER  
SH200

AUBREY SILVEY ENTERPRISES, INC.  
**EPC DIVISION**  
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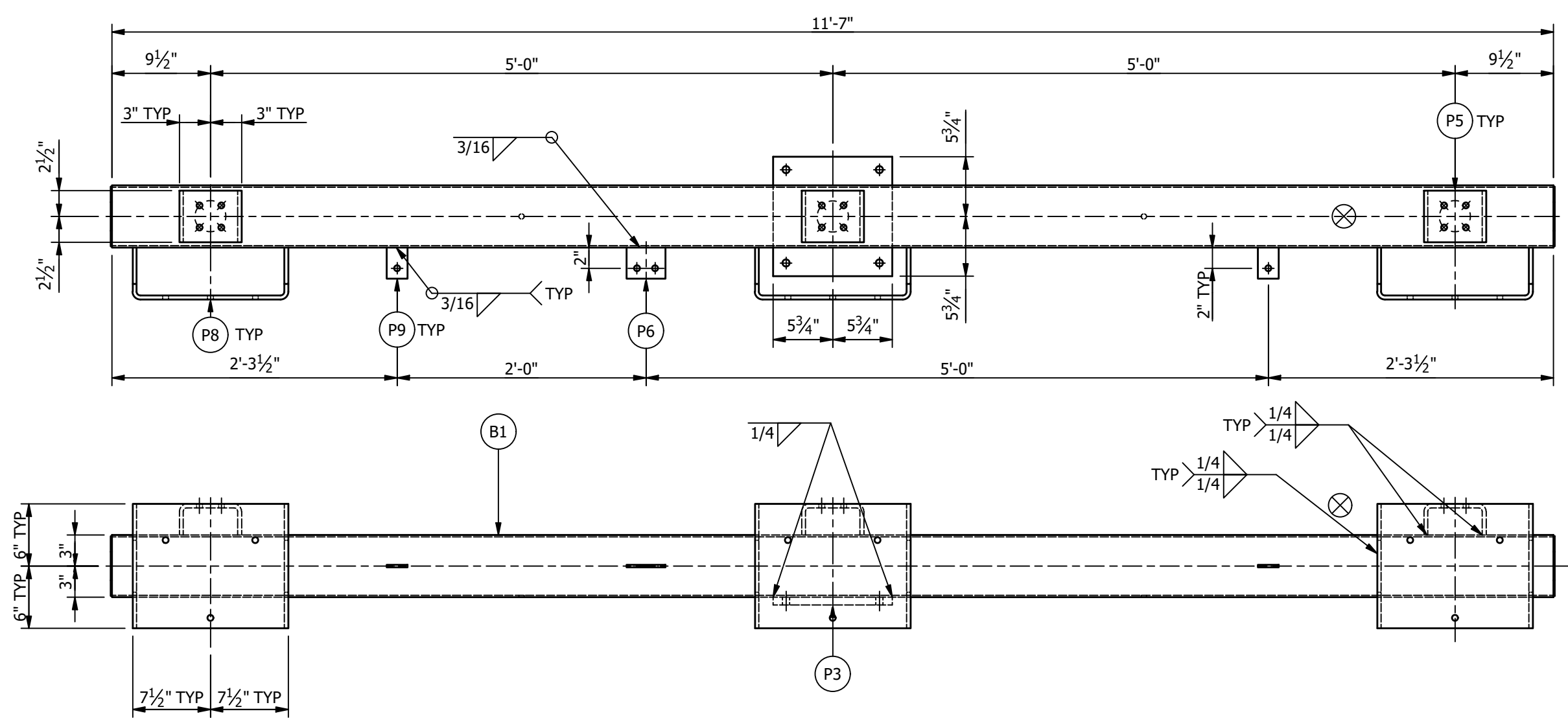
ASSOCIATED SUBSTATION ENGINEERING, INC.  
www.aseng.com 770-637-0033

ENGINEERING SEAL

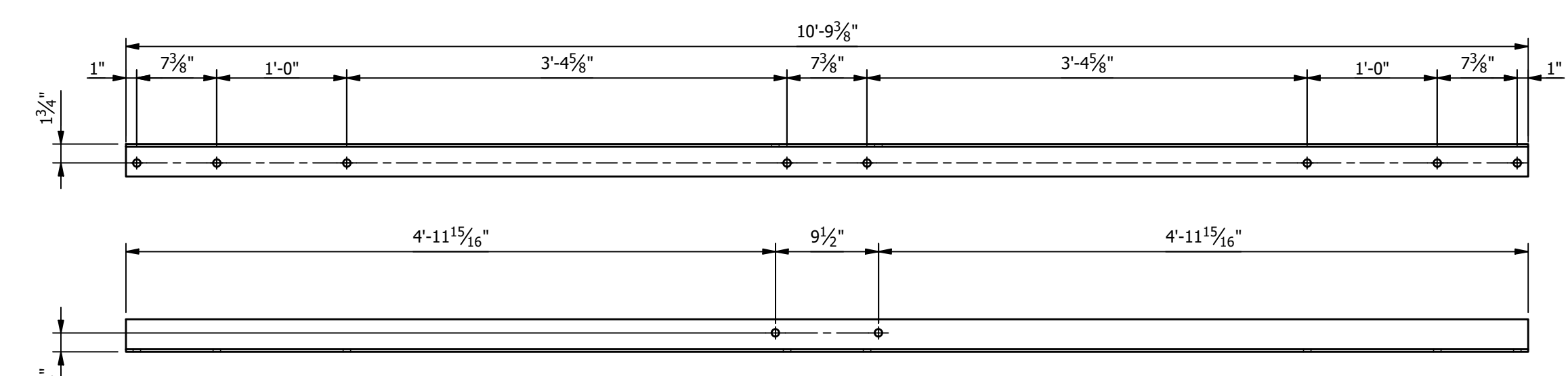
**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
A1	6	L3 X 3 X 1/4	2'-10 3/4"	85.14
A2	1	L3 X 3 X 1/4	10'-9 3/8"	52.83
A3	2	L3 X 3 X 1/4	10'-9 3/8"	105.66
A4	2	L3 X 3 X 1/4	2'-11"	28.58
B1	1	HSS6 X 6 X 3/16	11'-7"	168.26
C1	1	HSS6 X 6 X 1/4	11'-7/8"	210.59
P1	1	PL1 X 16	1'-4"	72.59
P2	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P3	1	PL3/4 X 11 1/2	0'-11 1/2"	28.13
P4	2	PL1/8 X 5 3/4	0'-5 3/4"	2.34
P5	3	PL3/8 X 5 BENT	0'-10 11/16"	17.05
P6	4	PL1/4 X 3	0'-3 3/4"	3.19
P7	4	PL1/4 X 2	3'-5/16"	20.59
P8	3	PL3/8 X 12 BENT	1'-11 11/16"	90.68
P9	4	PL1/4 X 3	0'-2"	1.70

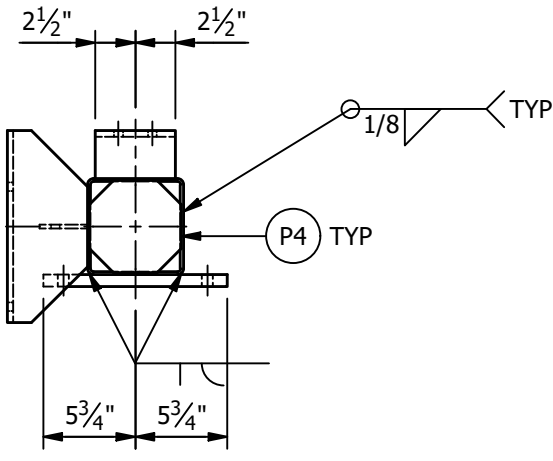
TOTAL BLK WGT = 915.46 LBS.  
TOTAL GALV WGT = 947.50 LBS.



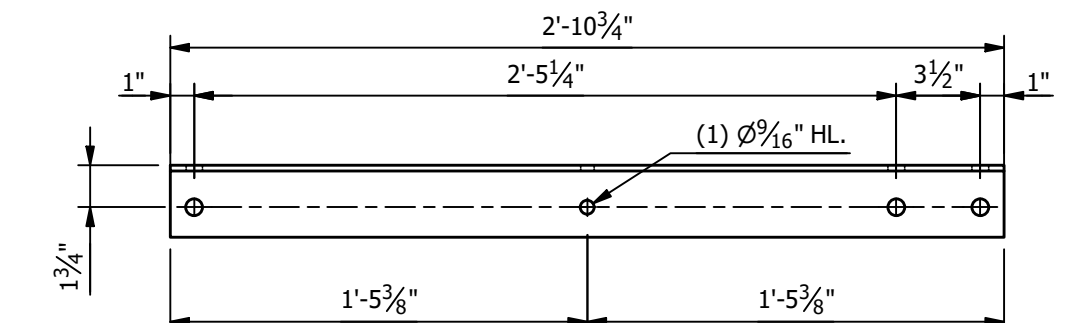
**BEAM "B1" ASSEMBLY**



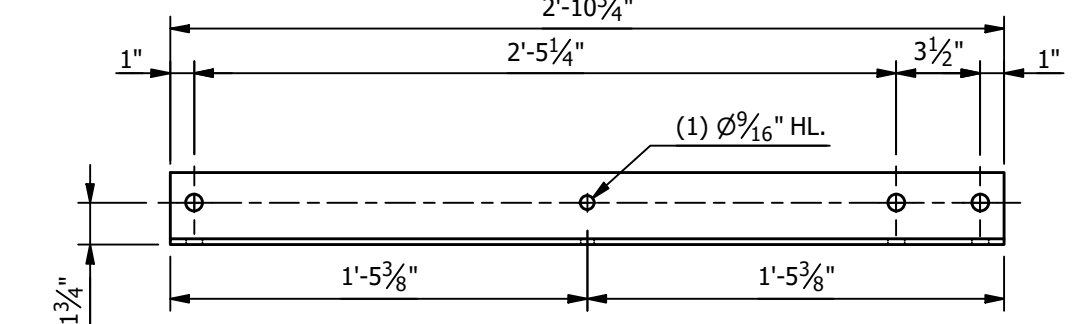
**ANGLE "A2"**  
(L3 X 3 X 1/4)



**ANGLE "A1"**  
(L3 X 3 X 1/4)



**ANGLE "A4"**  
(L3 X 3 X 1/4)



**ANGLE "A3"**  
(L3 X 3 X 1/4)

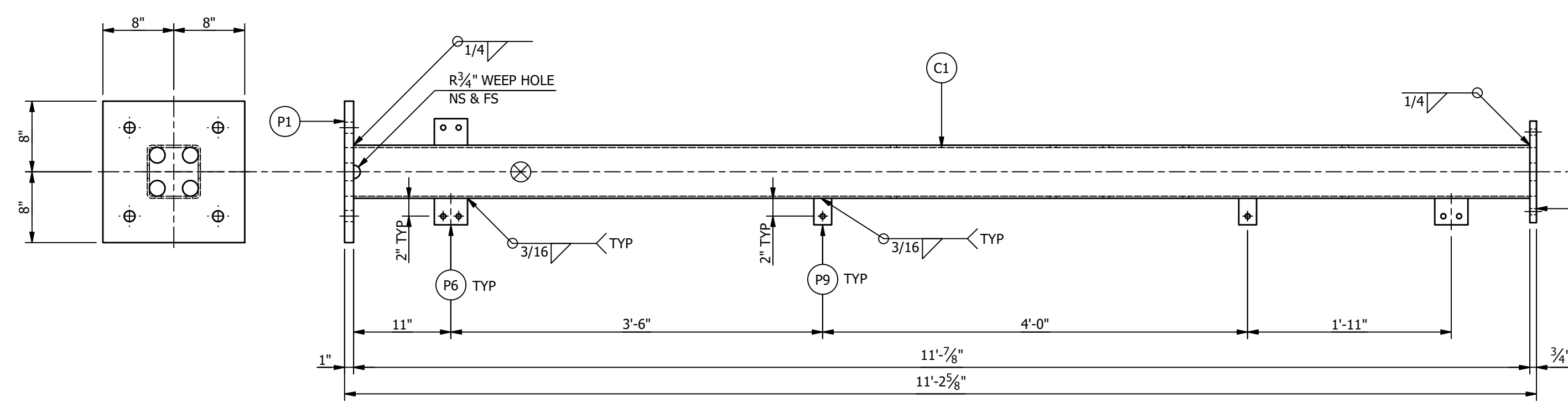
**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
9	5/8"	8 1/2"	A193 GR. B7 GALV. THREADED ROD WITH (2) GALV. F436 HARDENED FW AND GALV. A563-DH HHN
18	5/8"	1 3/4"	GALV A325 HNB W/ GALV F436 HARDENED FW & GALV A563-DH HHN
5	5/8"	2 3/4"	GALV A325 HNB W/ GALV F436 HARDENED FW & GALV A563-DH HHN

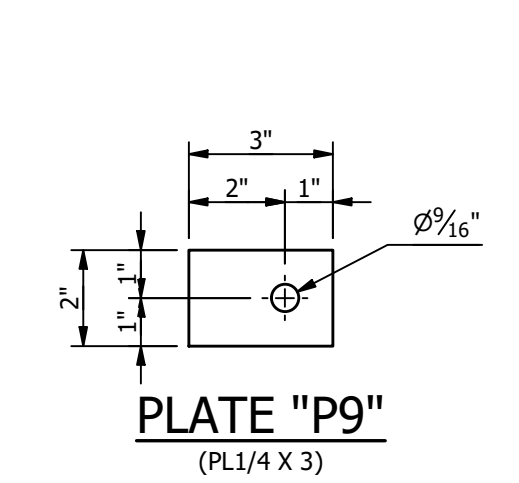
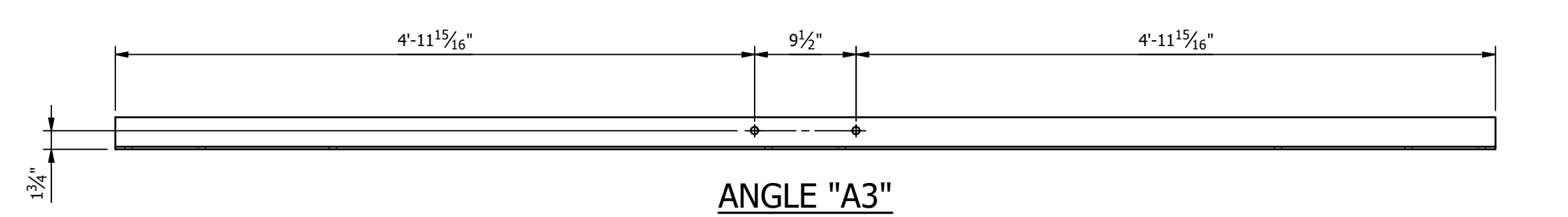
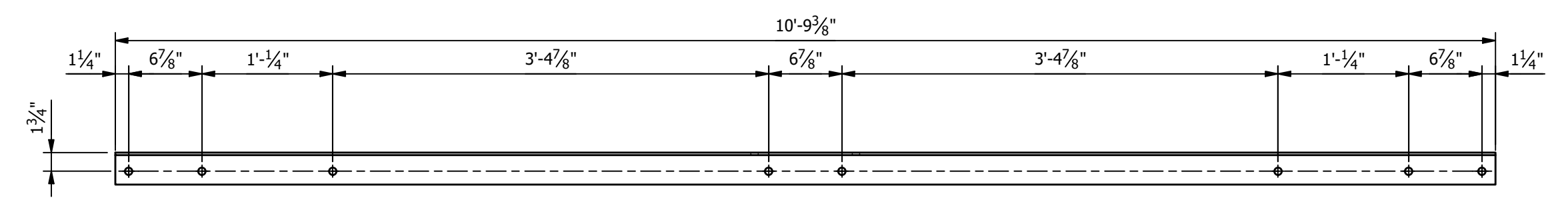
**SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXH**

**NOTES:**

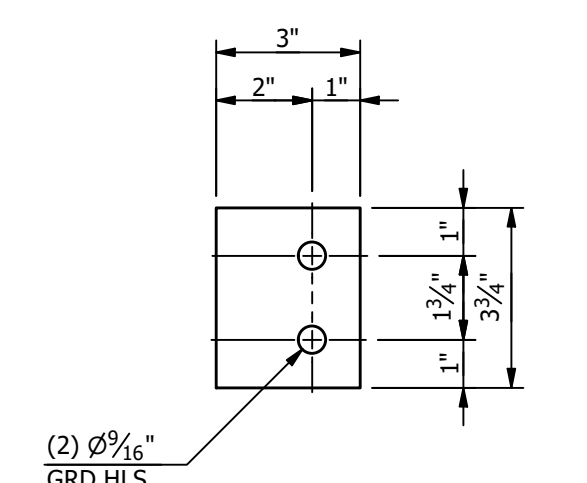
- ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
- ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
- ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
- ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
- MINIMUM EDGE DISTANCE  $2/8"$  UNLESS NOTED.
- PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
- ALL WELDING ELECTRODES SHALL BE E70XX.
- $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.



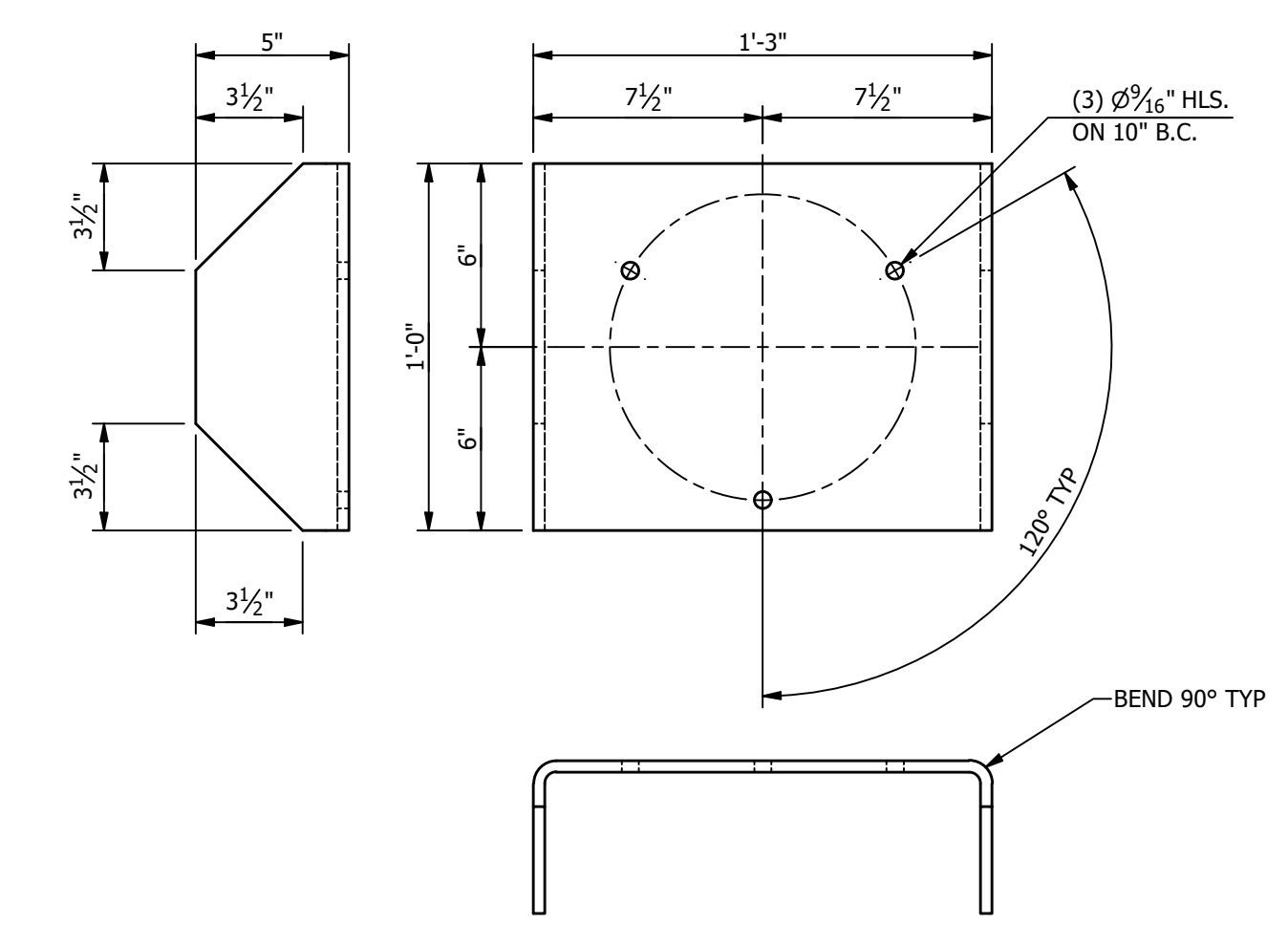
**COLUMN "C1" ASSEMBLY**



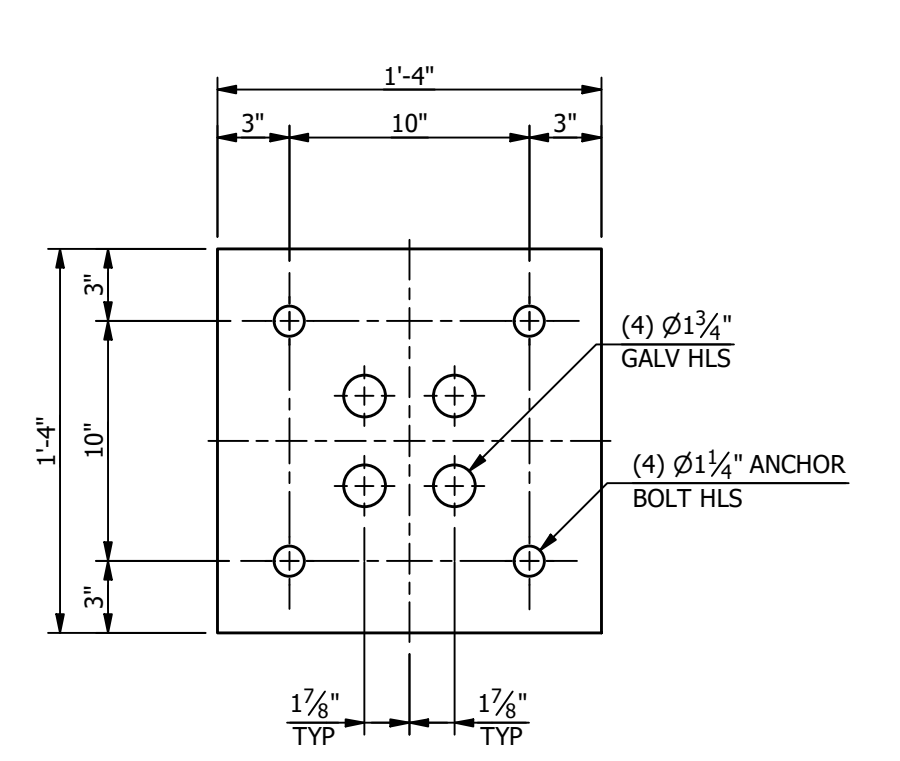
**PLATE "P9"**  
(PL1/4 X 3)



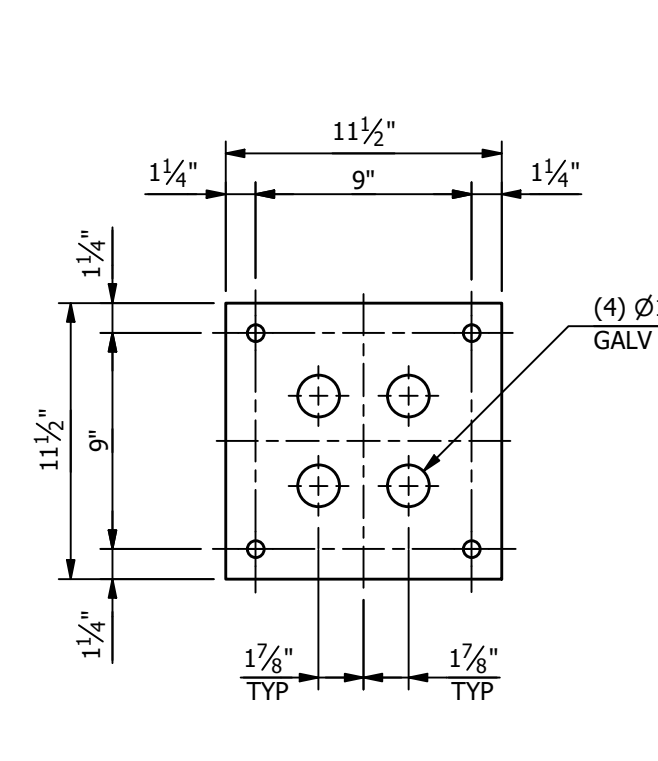
**PLATE "P6"**  
(PL1/4 X 3)



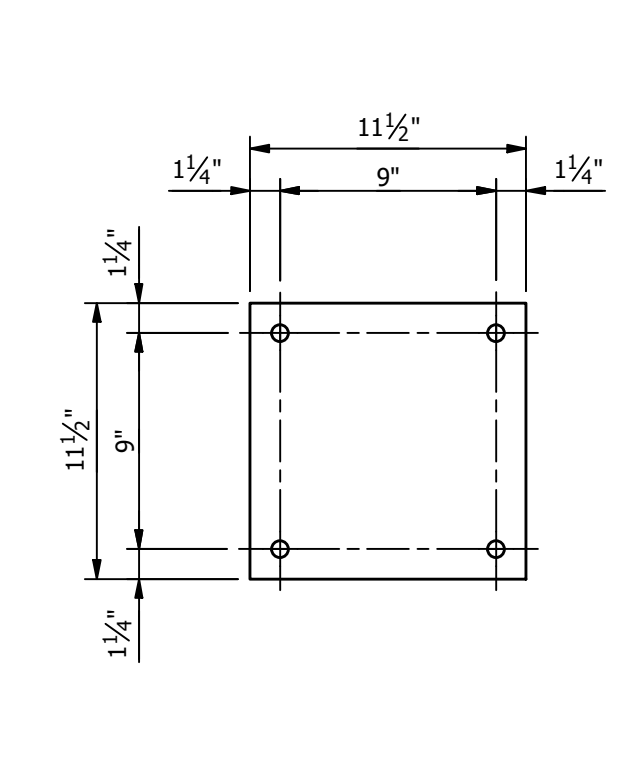
**PLATE "P8"**  
(PL3/8 X 12 BENT)



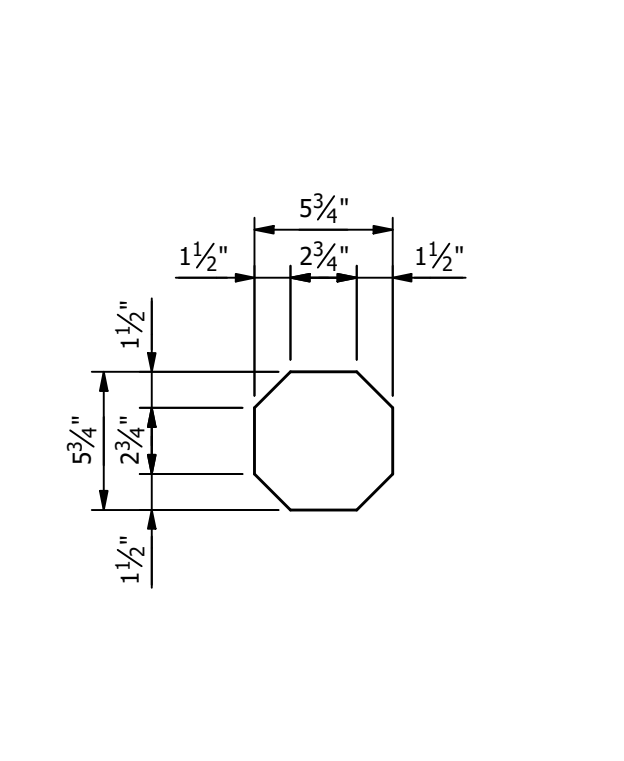
**PLATE "P1"**  
(PL1 X 16)



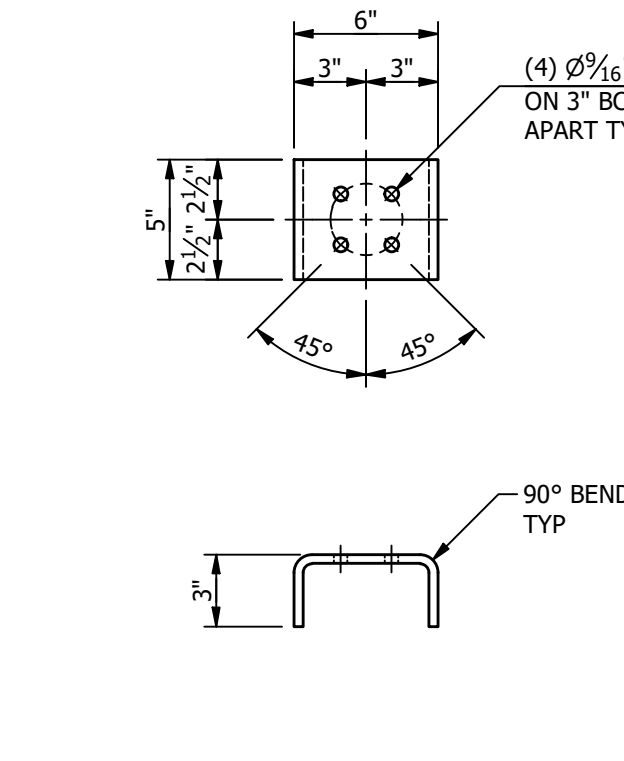
**PLATE "P2"**  
(PL3/4 X 11 1/2)



**PLATE "P3"**  
(PL3/4 X 11 1/2)



**PLATE "P4"**  
(PL1/8 X 5 3/4)



**PLATE "P5"**  
(PL3/8 X 5 BENT)

**MAKE STRUCTURE "H" "1" - TIME**

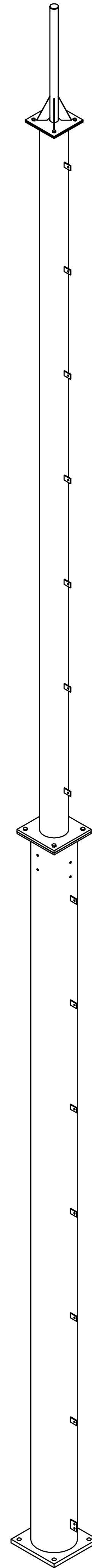
**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SH100	STRUCTURE "H" COVER SHEET
SH200	STRUCTURE "H" ELEVATIONS
SH300	STRUCTURE "H" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF <b>ASSOCIATED SUBSTATION ENGINEERING, INC.</b>	CUSTOMER: <b>CITY OF DOVER</b> DOVER, DE	
	SUBSTATION: <b>69-12.47 KV SUBSTATION</b>	
	TITLE: <b>STR. H - ASSEMBLIES &amp; DETAILS</b>	
	PROJECT NUMBER: 47019 SCALE: NTS	
2 9/14/23 JRG JKG MR ISSUED FOR CONSTRUCTION	1 9/23/21 JLF JKG MR ISSUE FOR BID	0 7/28/21 JLF CVC MR ISSUED FOR APPROVAL
REV DATE DRN CK APP DESCRIPTION	DRAWN: JLF CHECKED: CVC APPROVED: MAR DRAWING NUMBER: SH300	ASSOCIATED SUBSTATION ENGINEERING, INC. <b>EPC DIVISION</b> Engineer • Procure • Construct www.silvey.com/epc 770-637-1144

ENGINEERING SEAL

ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1 1/4"	3'-0"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)





**STRUCTURE "K"**  
**"LIGHTNING MAST"**  
TOTAL STRUCTURE WEIGHT = 2,736.71 LBS.

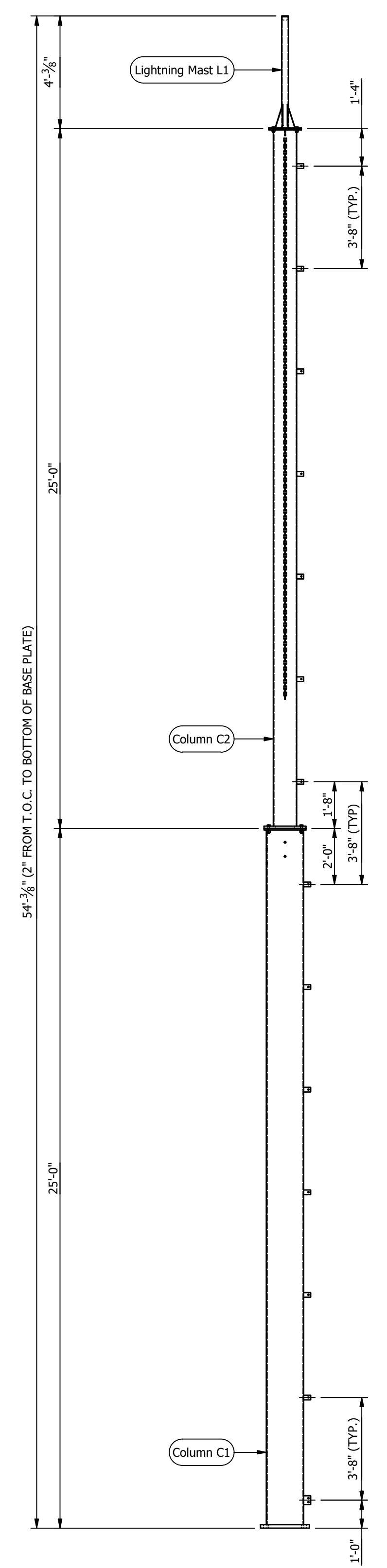
**MAKE STRUCTURE "K"**  
**"3" - TIMES**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SK100	STRUCTURE "K" COVER SHEET
SK200	STRUCTURE "K" ELEVATIONS
SK300	STRUCTURE "K" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

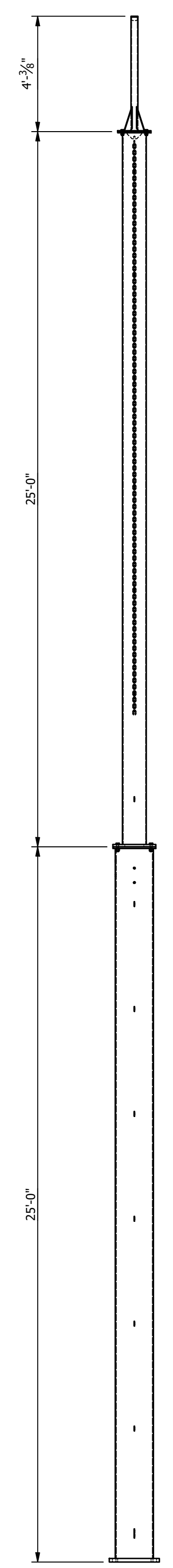
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ASSOCIATED SUBSTATION ENGINEERING, INC.

CUSTOMER		CITY OF DOVER DOVER, DELEWARE			
TITLE		STR. K - COVER SHEET			
SUBSTATION		69-12.47 KV SUBSTATION			
PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER	
47019	BSA	JKG	MAR	SK100	
SCALE	AUBREY SILVEY ENTERPRISES, INC.				
NTS	 <b>EPC DIVISION</b> <small>Engineer • Procure • Construct</small> www.silvey.com/epc 770-637-1144				
 <b>ASSOCIATED SUBSTATION ENGINEERING, INC.</b> <small>www.aseng.com 770-637-0033</small>					
REV	DATE	DRN	CK	APP	DESCRIPTION
1	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION
0	9/23/21	KDC	JKG	MR	ISSUE FOR BID

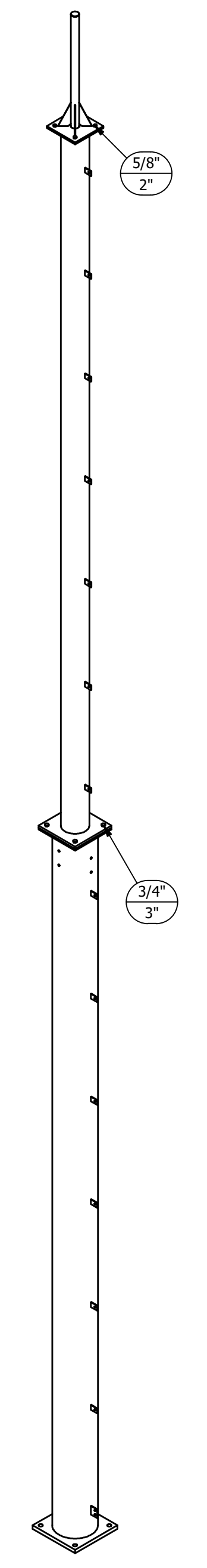
ASSEMBLIES	
MARK	QTY
Column C1	1
Column C2	1
Lightning Mast L1	1



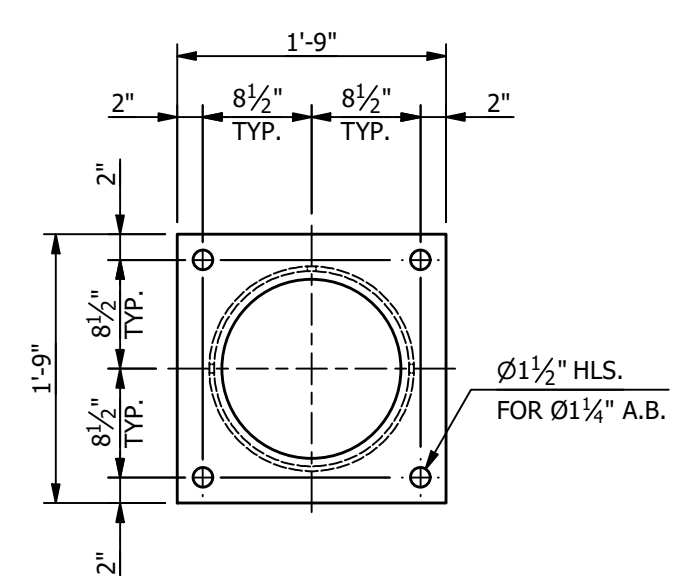
FRONT ELEVATION



RIGHT ELEVATION



ISOMETRIC VIEW



ANCHOR BOLT LAYOUT

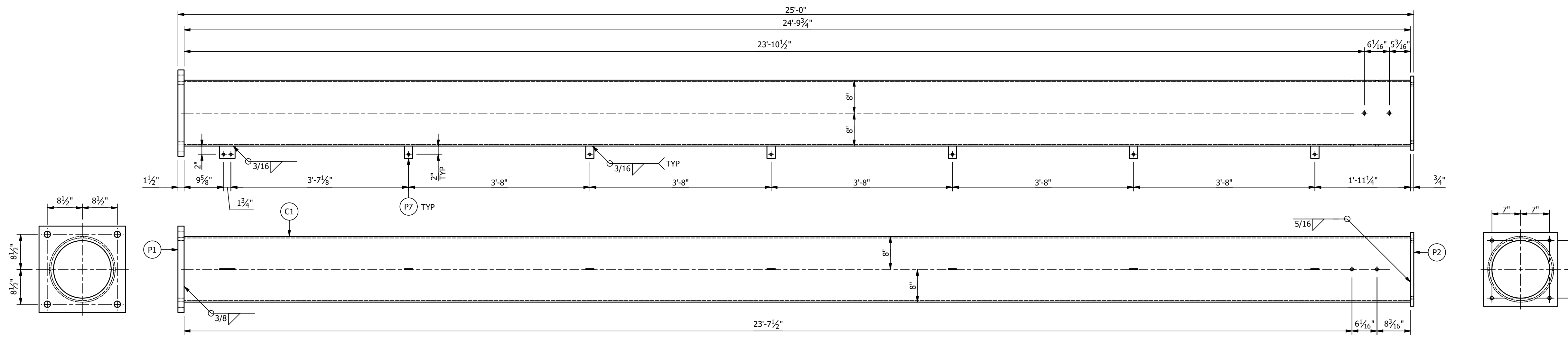
NOTES:

1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES  $\phi 11/16$ " FOR  $\phi 5/8$ " BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE  $7/8$ " UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8.  $\otimes$  MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

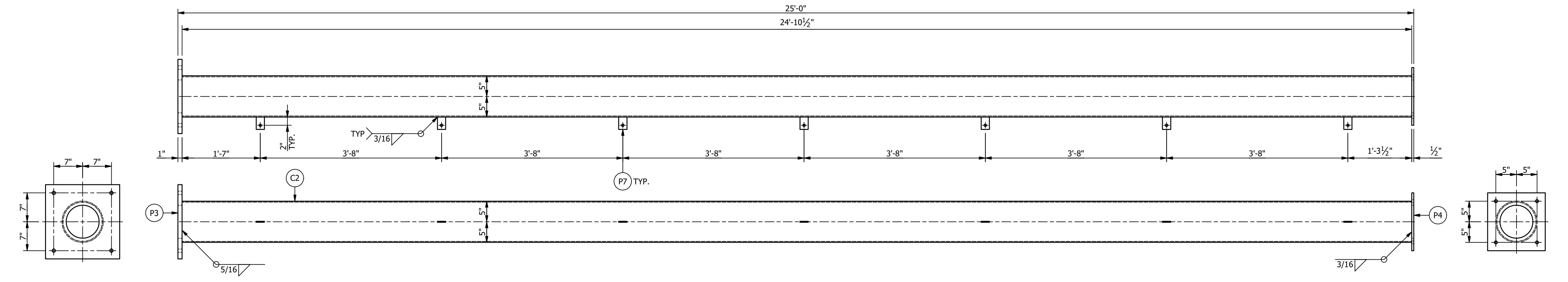
**MAKE STRUCTURE "K"  
"3" - TIMES**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SK100	STRUCTURE "K" COVER SHEET
SK200	STRUCTURE "K" ELEVATIONS
SK300	STRUCTURE "K" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

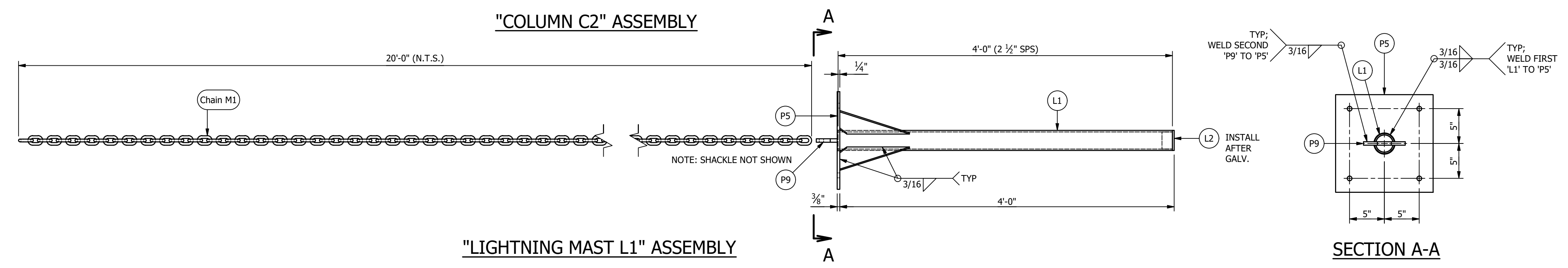
<p>THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.</p>		CUSTOMER				CITY OF DOVER DOVER, DELEWARE	
		TITLE				STR. K - ELEVATIONS	
<p>ASSOCIATED SUBSTATION ENGINEERING, INC. Engineer • Procure • Construct www.aseng.com 770-637-1144</p>		SUBSTATION				69-12.47 KV SUBSTATION	
		PROJECT NUMBER	DRAWN	CHECKED	APPROVED	DRAWING NUMBER	
1	9/14/23	JRG	JKG	MR	ISSUED FOR CONSTRUCTION	47019	SK200
0	9/23/21	KDC	JKG	MR	ISSUE FOR BID	NTS	SK200
REV	DATE	DRN	CK	APP	DESCRIPTION	<p>SCALE: BSA JKG MAR</p> <p>AUBREY SILVEY ENTERPRISES, INC. EPC DIVISION www.silvey.com/epc 770-637-1144</p> <p>ASSOCIATED SUBSTATION ENGINEERING, INC. www.aseng.com 770-637-0033</p>	



**"COLUMN C1" ASSEMBLY**

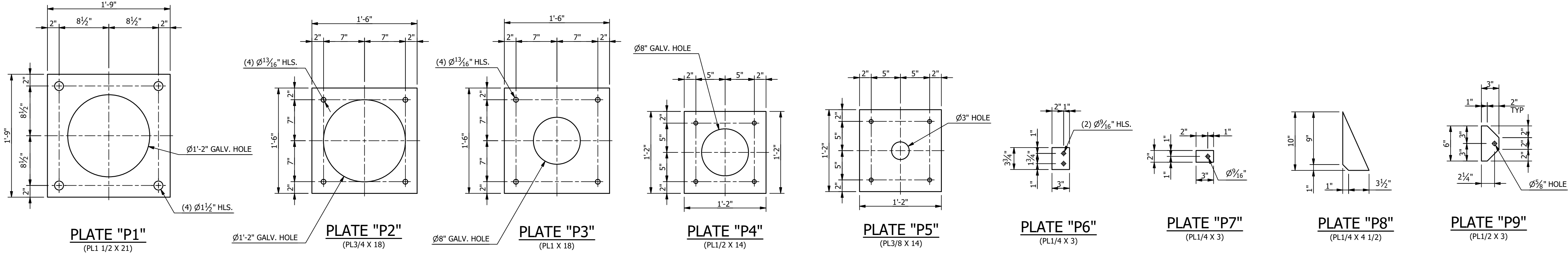


**"COLUMN C2" ASSEMBLY**



**"LIGHTNING MAST L1" ASSEMBLY**

**SECTION A-A**



MATERIAL LIST				
MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
C1	1	HSS16 X 3/8	24'-9 3/4"	1554.19
C2	1	HSS10 X 1/4	24'-10 1/2"	648.17
CHAIN M1	1	DAMPING CHAIN, MIN. 3/8" DIAM., VINYL COVERED OR INSTALLED INSIDE RUBBER TUBE, SHOP ATTACH DAMPING CHAIN AFTER GALVANIZING.	20'-0"	
L1	1	2 1/2" DIA SCH 40 PIPE STANDARD WEIGHT	4'-0"	23.16
L2	1	CAP, DRIVE TYPE, FOR 2.1/2" SPS SCH. 40, STEEL PIPE (INSTALL AFTER GALV.)	--	.00
P1	1	PL1 1/2 X 21	1'-9"	187.58
P2	1	PL3/4 X 18	1'-6"	68.91
P3	1	PL1 X 18	1'-6"	91.88
P4	1	PL1/2 X 14	1'-2"	27.79
P5	1	PL3/8 X 14	1'-2"	20.84
P6	1	PL1/4 X 3	0'-3 3/4"	.80
P7	13	PL1/4 X 3	0'-2"	5.53
P8	4	PL1/4 X 4 1/2	0'-10"	12.76
P9	1	PL1/2 X 3	0'-6"	2.55
SHACKLE	1	7/16" GALV. ANCHOR SHACKLE (NOT SHOWN) (INSTALL AFTER GALV.)	--	

TOTAL BLK WGT = 2,644.16 LBS.  
TOTAL GALV WGT = 2,736.71 LBS.

STRUCTURE BOLT ASSEMBLIES				
QTY	DIA	LENGTH	DESCRIPTION	
5	3/4"	3"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN	
5	5/8"	2"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN	

SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXX

**NOTES:**

1. ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE B. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
2. ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
3. ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
4. ALL HOLES Ø1 1/16" FOR Ø5/8" BOLTS UNLESS NOTED.
5. MINIMUM EDGE DISTANCE 7/8" UNLESS NOTED.
6. PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
7. ALL WELDING ELECTRODES SHALL BE E70XX.
8. ⊗ MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

MAKE THIS SHEET "3" - TIMES

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SK100	STRUCTURE "K" COVER SHEET
SK200	STRUCTURE "K" ELEVATIONS
SK300	STRUCTURE "K" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

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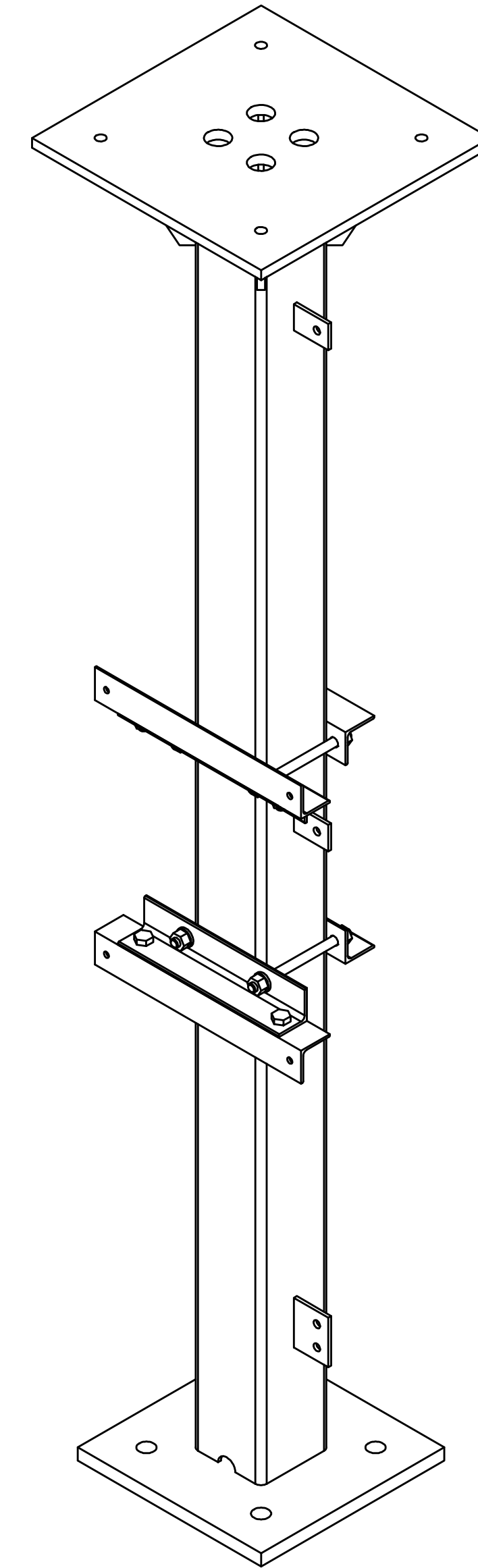
CUSTOMER		CITY OF DOVER DOVER, DELEWARE	
TITLE		STR. K - ASSEMBLIES & DETAILS	
SUBSTATION		69-12.47 KV SUBSTATION	
PROJECT NUMBER	DRAWN	CHECKED	APPROVED
47019	BSA	JKG	MAR
SCALE	DRAWING NUMBER		SK300
NTS			
1	9/14/23	JRG	JKG
0	9/23/21	BSA	JKG
REV	DATE	DRN	APP
			ISSUED FOR CONSTRUCTION
			ISSUE FOR BID
			DESCRIPTION

AUBREY SILVEY ENTERPRISES, INC. ASSOCIATED SUBSTATION ENGINEERING, INC.  
Engineer + Procure + Construct  
www.silvey.com/epc 770-837-4144 www.aseng.com 770-837-4033

# STRUCTURE "L"

## "69KV 1-COLUMN METERING STAND"

TOTAL STRUCTURE WEIGHT = 366.08 LBS.



ANCHOR BOLTS			
QTY	DIA	LENGTH	DESCRIPTION
4	1"	2'-6"	GALV ANCHOR BOLTS WITH 2 HHN AND 2 FW (F1554 GRADE 55)

**MAKE STRUCTURE "L"**  
**"1" - TIME**

REFERENCE DRAWINGS	
DRAWING NUMBER	DESCRIPTION
SL100	STRUCTURE "L" COVER SHEET
SL200	STRUCTURE "L" ELEVATIONS
SL300	STRUCTURE "L" ASSEMBLIES & DETAILS (BILL OF MATERIAL)

ENGINEERING SEAL	THE INFORMATION ON THIS DRAWING IS PROPRIETARY AND IS NOT TO BE USED, REPRODUCED OR COPIED WITHOUT WRITTEN CONSENT OF ASSOCIATED SUBSTATION ENGINEERING, INC.																		
		0	9/14/23	JRG	JKG	MR	ISSUE FOR CONSTRUCTION												
		REV	DATE	DRN	CK	APP	DESCRIPTION												

CUSTOMER												<b>CITY OF DOVER</b> DOVER, DE					
SUBSTATION												69-12.47KV SUBSTATION					
TITLE												STR. L - COVER SHEET					
PROJECT NUMBER		DRAWN		CHECKED		APPROVED		DRAWING NUMBER									
47019		JKG		WCB		JKG		SL100									
SCALE																	
NTS																	
AUBREY SILVEY ENTERPRISES, INC.												ASSOCIATED SUBSTATION ENGINEERING, INC.					
<b>EPC DIVISION</b> <small>Engineer • Procure • Construct</small> <small>www.silvey.com/epc 770-637-1144</small>												<b>ASSOCIATED SUBSTATION ENGINEERING, INC.</b> <small>www.aseng.com 770-637-0033</small>					



**\*\*\*BILL OF MATERIAL\*\*\***

MARK	QTY	DESCRIPTION	LENGTH	TOTAL WGT
VERIFY → A1	2	L2 1/2 X 2 1/2 X 3/16	1'-6"	9.21
VERIFY → A2	2	L2 1/2 X 2 1/2 X 3/16	1'-2"	7.16
VERIFY → A3	2	L2 1/2 X 2 1/2 X 3/16	0'-8 3/4"	4.48
C1	1	HSS6 X 6 X 1/4	8'-2 1/4"	155.71
P3	1	PL1/4 X 3	0'-3 3/4"	.80
VERIFY → P2	1	PL3/4 X 20	1'-8"	85.07
P1	1	PL1 X 16	1'-4"	72.59
P4	2	PL1/4 X 3	0'-2"	.85
P5	4	PL1/2 X 7 3/16	0'-4 3/8"	17.83

TOTAL BLK WGT = 353.70 LBS.  
TOTAL GALV WGT = 366.08 LBS.

**STRUCTURE BOLT ASSEMBLIES**

QTY	DIA	LENGTH	DESCRIPTION
5	5/8"	0'-8 1/2"	5/8 GALV THREADED ROD W/ 2HHN, 2FW
4	5/8"	1 1/2"	GALV A325 HHB W/ GALV F436 HARDENED FW & GALV A563-DH HHN

SUFFIX ALL PIECE MARKS WITH "STRUCTURE DESIGNATION" THUS PIECE MARK XX BECOMES XXL

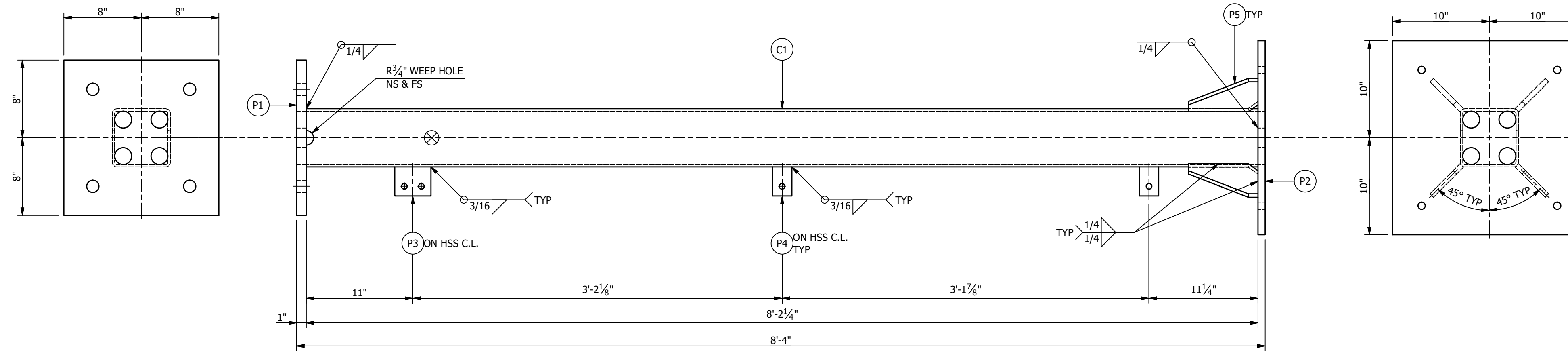
**NOTES:**

- ALL ASTM A36 OR A992/A572 GRADE-50 STEEL UNLESS NOTED. ALL TUBING - ASTM A500 GRADE C. ALL STRUCTURAL PIPE - ASTM A53 GRADE-B.
- ASTM A325 ERECTION BOLTS. USE THE SHORTEST BOLT THAT WILL ALLOW A F436 FLAT WASHER AND A A563 NUT.
- ALL HOT DIP GALVANIZED AFTER FABRICATION (ASTM A123).
- ALL HOLES  $\phi 11/16"$  FOR  $\phi 5/8"$  BOLTS UNLESS NOTED.
- MINIMUM EDGE DISTANCE  $7/8"$  UNLESS NOTED.
- PIECE MARK STAMPED INTO METAL WITH NOT LESS THAN 3/8" HIGH CHARACTERS BEFORE GALVANIZING.
- ALL WELDING ELECTRODES SHALL BE E70XX.
- ⊗ MARK INDICATES PROPER ORIENTATION OF STRUCTURAL PIECES.

MAKE THIS SHEET "1" - TIME

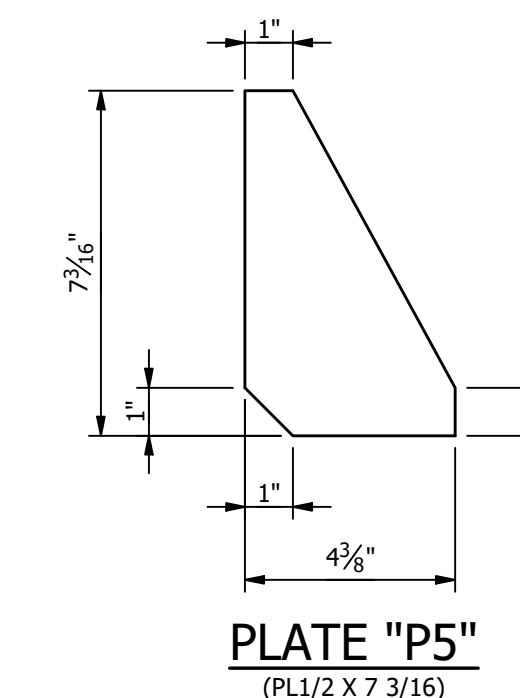
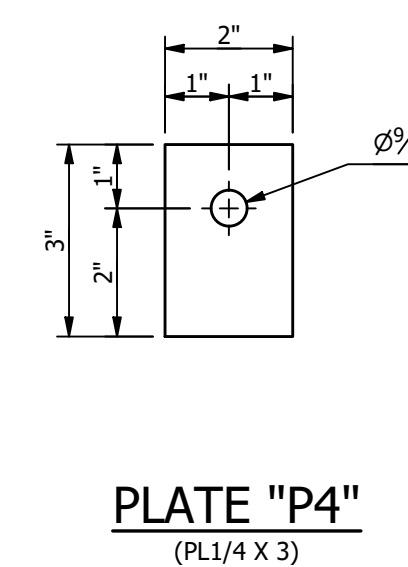
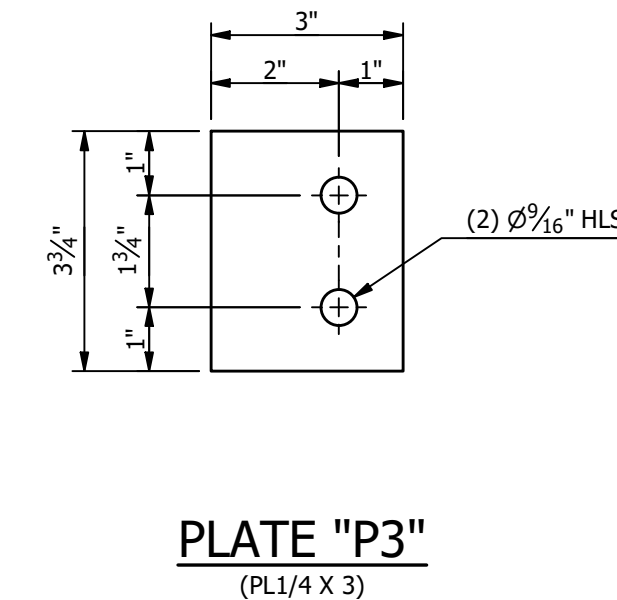
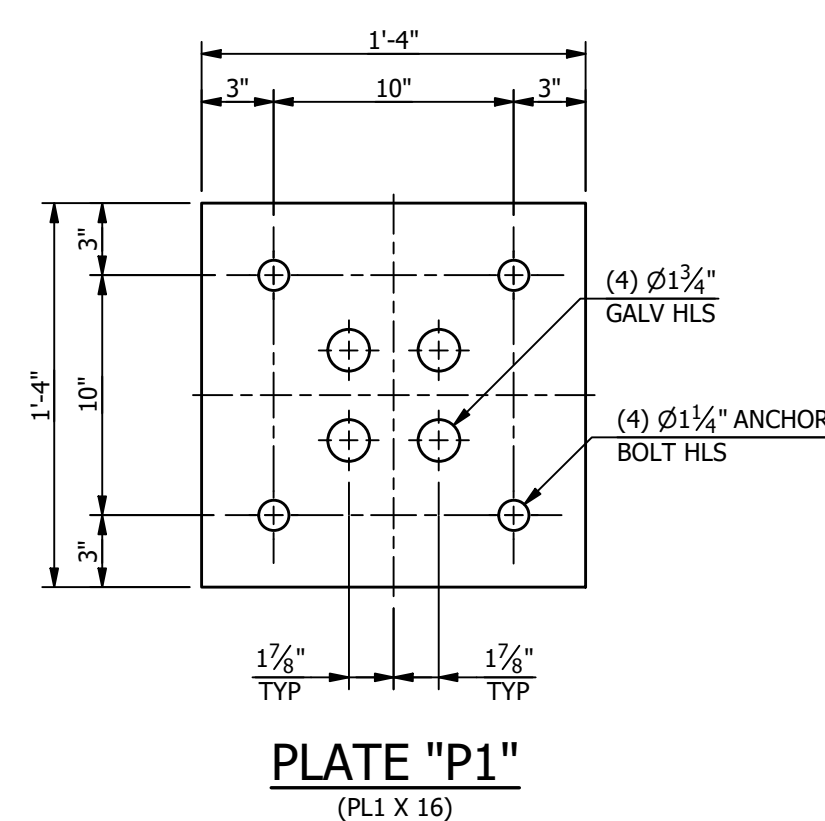
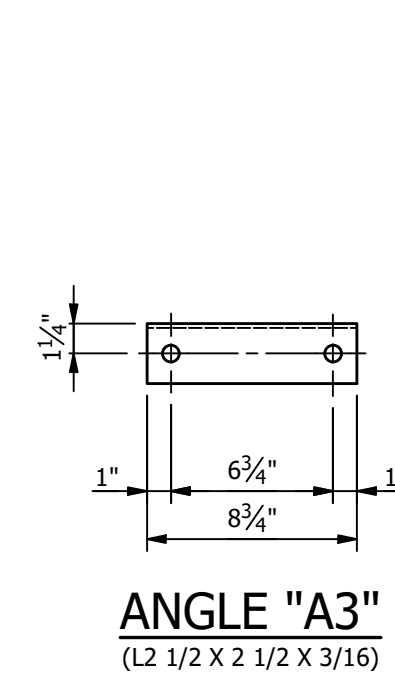
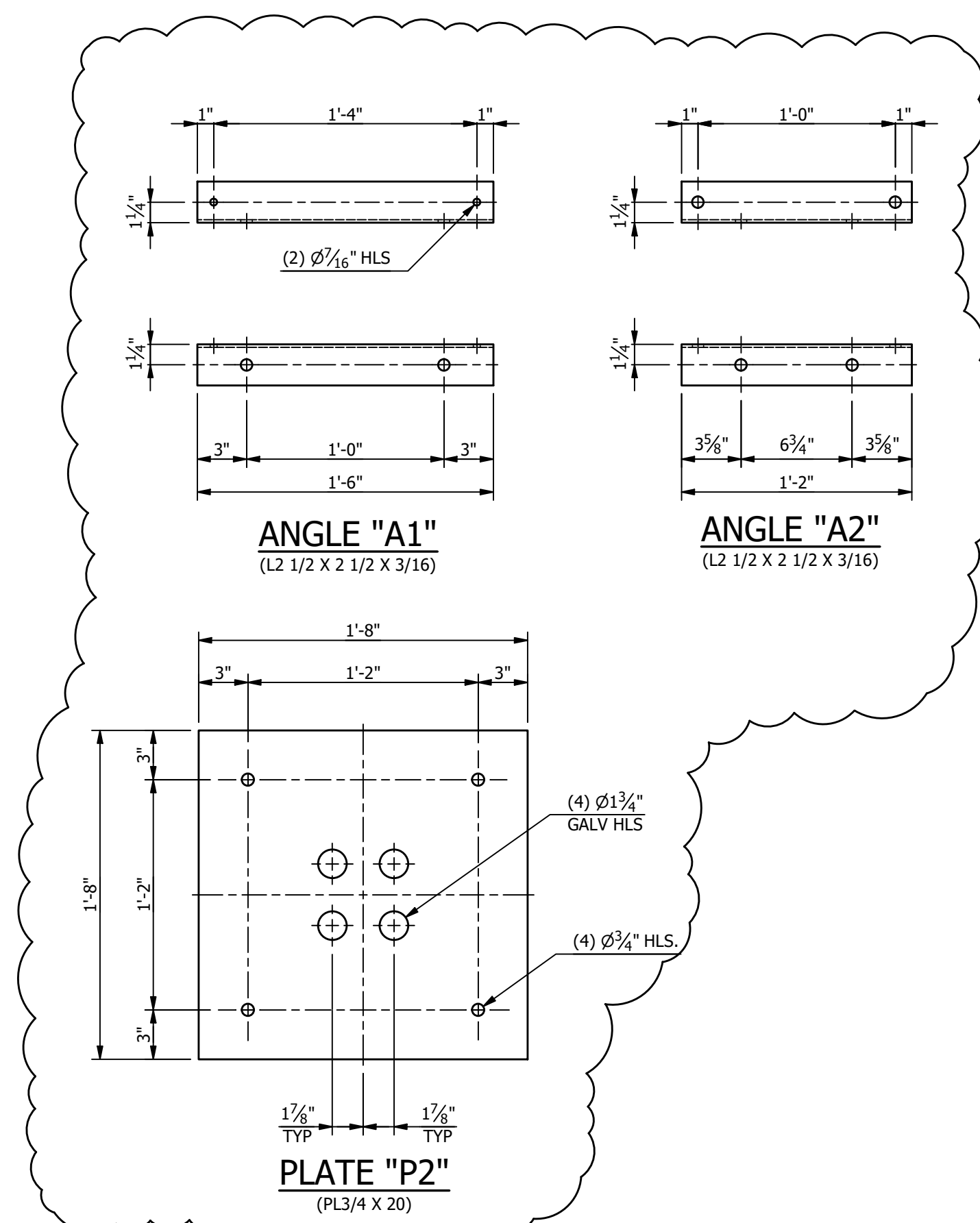
**REFERENCE DRAWINGS**

DRAWING NUMBER	DESCRIPTION
SL100	STRUCTURE "L" COVER SHEET
SL200	STRUCTURE "L" ELEVATIONS
SL300	STRUCTURE "L" ASSEMBLIES & DETAILS (BILL OF MATERIAL)



**COLUMN "C1" ASSEMBLY**

VERIFY WITH MANUFACTURER DRAWINGS



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ENGINEERING SEAL

CITY OF DOVER DOVER, DE		SUBSTATION 69-12.47KV SUBSTATION		TITLE STR. L - ASSEMBLIES & DETAILS	
PROJECT NUMBER 47019	DRAWN JKG	CHECKED WCB	APPROVED JKG	DRAWING NUMBER SL300	
SCALE NTS	AUBREY SILVEY ENTERPRISES, INC. EPC DIVISION www.silvey.com/epc		ASSOCIATED SUBSTATION ENGINEERING, INC. www.aseng.com		
REV 0	DATE 9/14/23	DRN JRG	CK JKG	APP MR	DESCRIPTION ISSUED FOR CONSTRUCTION