

Contract Review Sheet

Public Improvement Agreements

PW-7112-26

Title: Construction and Other Site Improvements at Up to Six (6) Non-Tower Radio Communications Sites

Contractor's Name: Summit Solutions Group LLC

Department: Public Works Department

Contact: Alicia Jones

Analyst: Kathleen George

Phone #: -4388

Term - Date From: Execution

Expires: July 31, 2026

Original Contract Amount: \$ 242,470.00

Previous Amendments Amount: \$ -

Current Amendment: \$ -

New Contract Total: \$ 242,470.00 Amd% 0%

Outgoing Funds Federal Funds Reinstatement Retroactive Amendment greater than 25%

Source Selection Method: 40-0200 Invitation to Bid - Public Improvement

ITB# PW1791-26

Description of Services or Grant Award

Construction of Architectural, Structural, Mechanical, Electrical and Other Site Improvements at up to Six (6) Non-Tower Radio Communications Sites for the Marion County Radio Project.

Desired BOC Session Date: 5/20/2026

Contract should be in DocuSign by: 4/29/2026

Agenda Planning Date: 5/7/2026

Printed packets due in Finance: 5/5/2026

Management Update: 5/5/2026

BOC upload / Board Session email: 5/6/2026

BOC Session Presenter(s) Brian Nicholas

Code: Y

REQUIRED APPROVALS

 04/30/2026

Finance - Contracts

Date



Contract Specialist

Date

Scott A. Norris 05/04/2026

Scott A. Norris (May 4, 2026 16:34:56 PDT)

Legal Counsel

Date

Jan Fritz

Jan Fritz (May 4, 2026 17:25:32 PDT)

Chief Administrative Officer

05/04/2026

Date



MARION COUNTY BOARD OF COMMISSIONERS

Board Session Agenda Review Form

Meeting date: 5/20/26

Department: Public Works

Title: Construction and Other Site Improvements at Various Radio Communications Sites for the Marion County Radio Project

Management Update/Work Session Date: 4/30/2026 Audio/Visual aids []

Time Required: 5 minutes Contact: Brian Nicholas Phone: x7943

Requested Action: Approve Contract No. PW-7112-26 in the amount of \$242,470.00 with Summit Solutions Group, LLC, for the construction and other site improvements at up to six (6) radio communications sites.

Issue, Description & Background: Marion County is in the process of constructing the Marion County Radio Project, a new P25-compliant public safety radio communications system for use by first responder agencies and other public service agencies within Marion County. To support the new radio system, Marion County will improve up to six (6) existing radio sites. The sites to be improved under this contract are (1) Crosby, (2) Marion County Public Works, (3) Eastview Lane, (4) METCOM 911, (5) Eagle Crest (RESERVED), and (6) Santiam Communicationss Center (RESERVED).

Financial Impacts: This is a budgeted expense in the current fiscal year under CIP 22-308.

Impacts to Department & External Agencies: The Marion County Sheriff's Office and first responder agencies throughout Marion County will benefit from a stable, unified radio system meeting current public safety radio standards.

List of attachments: Contract No. PW-7112-26

Presenter: Brian Nicholas

Department Head Signature: Brian Nicholas Digitally signed by Brian Nicholas Date: 2026.04.23 15:42:14 -07'00'

CONSTRUCTION CONTRACT PW-7112-26

This Contract made and entered into by and between Marion County, A Political Subdivision of the State of Oregon, acting by and through its duly elected, qualified, and acting Board of Commissioners, hereinafter called the "County" and, Summit Solutions Group LLC, hereinafter called the "Contractor" for the Project entitled: Construction and Other Site Improvements at Up to Six (6) Radio Communications.

WITNESSETH

Contractor, in consideration of the sum of \$ 242,470.00 (the "Contract Price"), to be paid to the Contractor by County in the manner and at the time hereinafter provided, and subject to the terms and conditions provided in the Invitation To Bid and other Contract Documents, all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents. Contractor shall provide for and furnish all necessary machinery, tools, apparatus, equipment, supplies, materials and labor, and do all things in accordance with the applicable Plans and Specifications, and in accordance with such alterations and modifications of the same as may be made by the County.

This Agreement shall be binding upon the heirs, executors, administrators, successors and assigns of Contractor.

1. Agency's payments to Contractor under this Contract will be paid in whole or in part using federal funds. By signing this Contract, Contractor certifies neither it nor its employees, contractors, subcontractors or subgrantees who will perform the Project activities are currently employed by an agency or department of the federal government. Contractor shall comply with Exhibit G: *Appendix II To Part 200—Contract Provisions For Non-Federal Entity Contracts Under Federal Awards*.

In accordance with 2 CFR 200.331, Contractor has been designated:

- Subrecipient
- Contractor/Vendor
- Not applicable – (there are no federal funds tied to the contract)

Assistance Listing Number (ALN) of federal funds to be paid through this Grant: 21.027.

2. Contract Exhibits. This Contract includes the following exhibits, each of which are incorporated into this Contract and by this reference are made a part hereof as though fully set forth herein:

- Exhibit A – BID SCHEDULE
- Exhibit B – BID CERTIFICATION
- Exhibit C – PERFORMANCE BOND
- Exhibit D – LABOR AND MATERIALS PAYMENT BOND
- Exhibit E – DRUG & ALCOHOL TESTING POLICY CERTIFICATION
- Exhibit F – FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
- Exhibit G – PROJECT WAGE RATES
- Exhibit H – APPENDIX II TO PART 200 – CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS
- Exhibit I – SPECIAL PROVISIONS
- Exhibit J – PROJECT SUMMARY LIST (PSL)
- Exhibit K – PLANS AND DRAWINGS AND SUPPORTING DOCUMENTS
- Exhibit L – [GENERAL CONDITIONS FOR CONSTRUCTION FOR MARION COUNTY \(v2024\)](#)
- Exhibit M – INVITATION TO BID AND INVITATION TO BID ADDENDUM #1 THROUGH #1

In the event of a conflict between two or more provisions within any of the documents comprising this Contract, the language in the provision with the highest precedence will control. The precedence of

each of the documents comprising this Contract is as follows, listed from highest precedence to lowest precedence: (1) this Contract without exhibits, (2) Exhibit I, (3) Exhibit L, (4) Exhibit H, (5) Exhibit G, (6) Exhibit M, (7) Exhibit J, (8) Exhibit K, (9) Exhibit A, (10) Exhibit B, (11) Exhibit C, (12) Exhibit D, (13) Exhibit E, and (14) Exhibit F.

3. Contractor shall pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the Contract.
4. Contractor shall not permit any lien or claim to be filed or prosecuted against Agency, the state, or any subdivision thereof on account of any labor or material furnished.
5. Contractor agrees to pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
6. Contractor shall indemnify, defend, save and hold harmless the Agency and its officers, employees, agents and volunteers, the State of Oregon, Oregon Transportation Commission and its members, Department of Transportation and its officers, employees and agents from and against any and all claims, actions, liabilities, damages, losses, or expenses, including attorneys' fees, arising from a tort, as now or hereafter defined in ORS 30.260, caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of Contractor or any of the officers, agents, employees or subcontractors of the Contractor ("Claims"). It is the specific intention of the Parties that State shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of State, be indemnified by the Contractor and subcontractor from and against any and all Claims.

Any such indemnification shall also provide that neither Contractor and subcontractor nor any attorney engaged by Contractor and subcontractor shall defend any claim in the name of Marion County or the State of Oregon or any agency of the State of Oregon, nor purport to act as legal representative of the State of Oregon or any of its agencies, without the prior written consent of the Oregon Attorney General. The State of Oregon may, at anytime at its election assume its own defense and settlement in the event that it determines that Contractor is prohibited from defending the State of Oregon, or the Contractor is not adequately defending the State of Oregon's interests, or that an important governmental principle is at issue or that it is in the best interests of the State of Oregon to do so. The State of Oregon reserves all rights to pursue claims it may have against Contractor if the State of Oregon elects to assume its own defense.

7. Money due to Contractor under and by virtue of this Contract may be returned for the use of the Agency; or, in case no money is due, Contractor's surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the County; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that Contractor is adequately protected by public liability and property damage insurance.
8. That in consideration of the faithful performances of all of the obligations, both general and special, herein set out and in consideration of the faithful performance of the Work as set forth in this Contract, the applicable Invitation to Bid, Plans, Specifications, Bid, and all general and detailed specifications and plans which are a part hereof, and in accordance with the directions of the Agency and to its satisfaction, the Agency agrees to pay to the said Contractor the amount earned, as determined from the actual quantities of work performed and the prices and other basis of payment specified, and taking into consideration any amounts that may be deductible under the terms of the Contract, and to make such payments in the manner and at the time provided in the Contract.
9. In the event the Board of Commissioners of the Agency reduces, changes, eliminates, or otherwise modifies the funding for any of the services identified, the Contractor agrees to abide by any such decision, including termination of service.

10. The Agency delegates to the Marion County Engineer the authority and responsibility for issuing approvals, providing notices, receiving notices, issuing directives, authorizing change orders, and avoiding and resolving disputes.
11. This contract may be increased by twenty-five (25) percent over the original contract amount to include additional work for the projects specified in the contract, upon mutual agreement of both parties.
12. Contractor, its assignees and successors in interest agree to comply with the requirements of the Marion County Public Works Department Federally Funded Transportation Program Title VI Plan, herein incorporated by this reference, as follows:

- a. Compliance with Regulations.

The Contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter DOT), Title 49, Code of Federal Regulations, part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

- b. Nondiscrimination.

The Contractor, with regard to the Work performed during the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

- c. Solicitations for Subcontracts, including Procurement of Materials and Equipment.

In all solicitations either by competitive bidding or negotiations made by the Contractor for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the ground of race, color, sex, or national origin.

- d. Information and Reports.

The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by Agency or the Oregon Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to Agency or the Oregon Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

- e. Sanctions for Noncompliance.

In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, Agency and the Oregon Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate including, but not limited to:

- i. Withholding of payments to the contractor under the Contract until the Contractor complies, and/or;

- ii. Cancellation, termination, or suspension of the Contract, in whole or in part.

13. Incorporation of Provisions.

The Contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurement of materials and leases of equipment, unless exempt by state or federal Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontractor or procurement as Marion County may direct as a means of enforcing such provisions including sanctions for noncompliance.

14. Independent Contractor.

The Contractor is a separate and independently established business, retains sole and absolute discretion over the manner and means of carrying out the Contractor's activities and responsibilities for the purpose of implementing the provisions of this Contract, and maintains the appropriate license/certifications, if required under Oregon Law. Notwithstanding the preceding sentence, County reserves the right to determine schedule for the work to be performed and to evaluate the quality of the completed performance. This Contract shall not be construed as creating an County, partnership, joint venture, employment relationship or any other relationship between the Parties other than that of independent parties. The Contractor is acting as an "independent contractor" and is not an employee of County, and accepts full responsibility for taxes or other obligations associated with payment for services under this Contract. As an "independent contractor", Contractor will not receive any benefits normally accruing to County employees unless required by applicable law. Furthermore, Contractor is free to contract with other parties for the duration of the Contract.

15. Governing Law and Venue.

Any dispute between the County and the Contractor that arises from or relates to this Contract and that is not resolved under the provisions of Section 00199 of the General Conditions shall be brought and conducted solely and exclusively within the Circuit Court of Marion County; provided, however, if a dispute must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this be construed as a waiver by County on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. **CONTRACTOR BY EXECUTION OF THE CONTRACT HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION.**

IN WITNESS WHEREOF, the parties hereto have subscribed their names and affixed their respective official seals below.

**MARION COUNTY SIGNATURE
BOARD OF COMMISSIONERS:**

Chair Date

Commissioner Date

Commissioner Date

Authorized Signature: *Brian Nicholas* 05/04/2026
Brian Nicholas (May 4, 2026 10:16:58 PDT)
Department Director or designee Date

Authorized Signature: *Jan Fritz* 05/04/2026
Jan Fritz (May 4, 2026 17:25:32 PDT)
Chief Administrative Officer Date

Reviewed by Signature: *Scott A. Norris* 05/04/2026
Scott A. Norris (May 4, 2026 16:34:56 PDT)
Marion County Legal Counsel Date

Reviewed by Signature: *[Signature]* 04/30/2026
Marion County Contracts & Procurement Date

SUMMIT SOLUTIONS GROUP LLC SIGNATURE

Authorized Signature: _____ Date

Title: _____

MARION COUNTY PUBLIC WORKS
INVITATION TO BID
FOR
THE CONSTRUCTION OF
ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND
OTHER SITE IMPROVEMENTS AT UP TO SIX (6) RADIO COMMUNICATIONS
SITES FOR THE MARION COUNTY RADIO PROJECT

MARION COUNTY, OREGON

Bid Publication Date: March 11, 2026

Bid Opening: April 2, 2026

MARION COUNTY BID #: PW1791-26

OREGONBUYS BID SOLICITATION #: S-C25102-00016204

ONEOFFICE NO. 2026-402
ACCOUNTING PROJECT NO. 105876

MARION COUNTY BOARD OF COMMISSIONERS

Colm Willis	Commissioner
Kevin Cameron	Commissioner
Danielle Bethell	Commissioner

Brian Nicholas, Director of Public Works



Electronic copies of this Invitation To Bid and attachments, if any, can be obtained from the Marion County Procurement Portal at the URL:

<https://contracts.co.marion.or.us/gateway/>

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MARION COUNTY PUBLIC WORKS

T-1	COVER SHEET
EX-1	EXISTING CONDITIONS
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METCOM 911

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SH-3 ELECTRICAL ONE-LINE DRAWING
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SANTIAM COMMUNICATIONS CENTER (Reserved)

SUPPORTING DOCUMENTS

EASTVIEW LANE

1. AS-CONSTRUCTED DRAWING

CUMMINS

1. SPECIFICATIONS – C36N6 36kW 60Hz OUTDOOR PROPANE GENSET
2. SPECIFICATIONS – C36N6 36kW 60Hz OUTDOOR DIESEL GENSET
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150A/225A/260A

INTRODUCTION

1.1 Description of Work

Construction includes grading, excavation and backfilling; aggregate surfacing; fencing; structural concrete, structural and architectural improvements, roofing; doors and interior finishes; climate control systems; site electrical, propane generators and fuel storage, diesel generators, and grounding systems; interior electrical, and miscellaneous related Work. The estimated project cost range is \$200,000 to \$300,000

1.2 Pre-Bid Meetings

An optional pre-bid site visit will be held on Tuesday, March 17, 2026. To participate in this site visit, interested participants shall meet at Marion County Public Works, 5155 Silverton Road NE, Building 1, Salem, Oregon, 97305 at 7:45 am on the day of the pre-bid site visit. Site visits shall commence at 8:00 am. Site visits will include the Crosby, Marion County Public Works, Eastview Lane and METCOM 911 radio sites. Participants are responsible for providing their own transportation to and between sites.

Prospective bidders are **not required** to attend the pre-bid site visits to be eligible to submit a bid. Pre-bid site visits are provided for the convenience and awareness of prospective bidders. Any statement made at the pre-bid site visit will not change the Plans, Specifications, other Contract Documents or any other contract requirement unless a pre-bid addendum is issued by Marion County.

1.3 Requests for Clarification or Changes

As stated in section 00120.15 of the General Conditions for Marion County, any clarification of Plans and Specifications needed by the Bidder shall be submitted to Marion County at least seven (7) calendar days prior to the date of Bid Closing. Failure to request clarification or changes in a timely manner shall be deemed acceptance of all terms and conditions of the advertised Procurement.

1.4 Time, Place and Methods of Receiving Bids

Submit electronic bids as specified in Special Provisions 00120.45 by 2:00 p.m. on April 2, 2026. Bids will be considered time-stamped and received by the Agency at the time they are uploaded to the Procurement Collaboration Portal at:

<https://contracts-marioncountygcc.msapproxy.net/gateway/>.

It is the Bidder's responsibility to ensure that bids are received by the Agency prior to the stated submission deadline at the specified portal, email or physical address. Bids, withdrawals or modifications submitted after the time set for receiving bids will not be opened or considered.

PUBLIC BID OPENING

Electronic Bids will be publicly opened and read by the Single Point of Contact or designee immediately following the Closing date/time specified in section 1.4 of the ITB, at Marion County Public Works, Building 1, 5155 Silverton Rd NE, Salem, Oregon. Interested parties may attend the bid opening in person or virtually via Microsoft Teams. To attend virtually, join the following Teams meeting at the Closing date/time specified in Section 1.4 of the ITB: [Construction and Other Site Improvements at Up to Six \(6\) Radio Communications Sites](#).

Bid results will be posted by 10:00 a.m. the next business day on the OregonBuys website at <https://oregonbuys.gov/bsol> under the solicitation number listed above.

1.5 Revision or Withdrawal of Bids

Refer to section 00120.60 of the General Conditions for Construction for Marion County.

1.6 Time for Completion of Work

Complete all Work to be done no later than July 31, 2026. (Also see Special Provisions 180.50(h)).

Recording of the elapse of Calendar Days, if specified, will begin on the day the Contractor begins On-Site Work as defined in 00110.20.

1.7 Funding

This project is federally funded. The awarded proposer must comply with the federal provisions as stated within Appendix II to Part 200 – Contract Provisions for Non-Federal Entity Contracts under Federal Awards, enclosed.

1.8 Project Information

Information pertaining to this Project may be obtained from the following Single Point of Contact at Marion County Public Works, 5155 Silverton Road NE, Salem, Oregon 97305-3802:

Alicia Jones

503-373-4320

PWcontracts@co.marion.or.us

1.9 Bid Guarantee

No bid shall be considered unless it is accompanied by a surety bond, cashier's check, certified check, or irrevocable letter of credit by an insured institution, as defined in ORS 706.008, of the bidder in the amount of ten percent (10%) of the bid per 00120.40(e).

The county shall return the bid security to all bidders upon the execution of the contract. The county shall retain bid security if a bidder who is awarded a contract fails to promptly and properly execute the contract.

1.10 Applicable Specifications

The General Conditions applicable to the Work on this Project are the General Conditions for Construction for Marion County (v2024), Part 00100, available for download on the Marion County website at: <https://www.co.marion.or.us/PW/Engineering/Pages/default.aspx>.

The Special Provisions applicable to the Work on this Project are enclosed in this Invitation To Bid (ITB). The Special Provisions shall be understood to supersede the General Conditions by modification and/or supplement. All number references in the Special Provisions shall be understood to refer to the section or subsection of the General Conditions bearing like numbers.

1.11 Prevailing Wage Rate Requirements

This Project is subject to Oregon prevailing wage rate law (BOLI), federal Davis-Bacon prevailing wage rates and any amendments in effect at the time of solicitation. The existing state and federal prevailing wage rates last published at least 10 Calendar Days prior to the Bid Closing apply to this Project, unless modified by Addendum.

1.12 Mandatory Submission Forms

The following forms must be completed, signed and returned with the Bidder's submission package as **one pdf file**:

- Bid Schedule – Attachment A
- Bid Certification – Attachment B
- Bid Bond (or other Bid Guarantee as allowed in 00120.40(e)) – Attachment C
- Drug and Alcohol Testing Policy Certification – Attachment D

NOTE: All mandatory submission forms must be combined and submitted as one pdf file.

The following form must be completed, signed and returned within two (2) hours of the Bid Closing:

- First-Tier Subcontractor Disclosure Form – (Attachment E)

The Agency may consider any Bid that does not include the mandatory submission forms identified in this section, filled out completely and appropriately endorsed, to be non-responsive. The Agency reserves the right to waive minor informalities and irregularities in determining the responsiveness of individual Bids. Non-responsive Bids shall not be considered for award.

1.13 Bid Evaluation

The Agency will perform an analysis of the bids to determine if any significantly unbalanced items are to the detriment of the Agency per Section 00120.70 of the General Conditions. The Agency reserves the right to reject any such bid that is mathematically and materially unbalanced. A materially unbalanced bid is when the Agency determines that an award to the Bidder submitting a mathematically unbalanced bid likely will not result in the lowest ultimate cost to the Agency.

1.14 Time Limit of Unsettled Disputes

No action, suit or other legal proceedings shall be maintained by any party thereto against another party hereto upon any claim or cause of action arising out of the Contract or breach thereof or anything done in connection therewith unless commenced within one (1) year of the Final Acceptance of Work under this Contract. All claims or causes of action in any way resulting from this Contract shall be deemed barred unless action or suit thereon shall have been commenced within such time.

1.15 Contract Expiration Date

The Contract resulting from this solicitation will expire on July 31, 2026.



Marion County
OREGON

**ADDENDUM #1
TO THE
INVITATION TO BID
PW1791-26 - ITB - CONSTRUCTION AND OTHER SITE IMPROVEMENTS AT UP TO
SIX (6) NON-TOWER RADIO COMMUNICATIONS SITES
ISSUED ON 3/26/2026 2:00:00 PM**

The following information in this addendum, hereby become part of the Invitation To Bid. It is essential that all prospective Offerors note the content of this Addendum.

A. Question and Answers:

EASTVIEW

- 1. Where will power come from and will we use existing h-frame for service?**
 - a. The existing power service will be maintained. Power will be supplied from the existing power panel located inside the shelter.
- 2. Are both the ground ring with rods and the XIT rod needed ? and if so, are we to connect together? The cd's do not show.**
 - a. Refer to Sheet E-1. Yes, the electrolytic (XIT) ground rod and all other underground grounding conductors and components identified to be provided by the Contractor are to be bonded together and connected to a common grounding system, as required by Motorola R56. All grounding is to be common.
- 3. Can a steel plate be installed in the shelter in place of busting out the concrete and re-pouring it.**
 - a. The Contractor may submit an alternative engineered design to Marion County for review and acceptance.
- 4. Will all the purposed items be bid on? Some were not discussed on walk.**
 - a. Bidders shall include all items of work annotated with "(P)" on the Plans, indicating they are to be provided by the Contractor in their lump sum bid for the project.
- 5. Will battery racks be supplied or will we need to supply, if we supply please let us know what rack to purchase.**
 - a. The callout on Sheet C-4 that reads, "(P) BATTERY RACK TYP OF (3)" is incorrect. Battery racks will be supplied and installed by others and are excluded from the Contract.

Bidders may exclude the cost of battery racks from their bids. County does not intend to issue amended plans at this time but will correct this callout if it becomes necessary to issue amended plans before the bid due date.

METCOM 911

- 1. Want to confirm we can run conduit route out under the eave around building to new shelter location?**
 - a. Yes, the Contractor may route the electrical conduit run under the eave around the building to the new shelter location. The City of Woodburn prefers that the horizontal run on the west side of the building be located as close to the top of wall as possible.

CROSBY

- 1. Is the grounding around the tower getting installed ? was not discussed at walk?**
 - a. Refer to Sheet E-1. The internal and external radio shelter grounding rings and the tower grounding ring denoted by a grey dashed line on the SITE COMPOUND GROUNDING PLAN are existing features that will remain. The electrolytic ground electrode and bonded grounding ring connections denoted by a black dashed line are to be provided and installed by Contractor.

MCPW

- 1. Are we to demo the old mts and gen plug and install new Appleton gen plug on exterior near meter.**
 - a. Refer to Sheet C-4. Contractor will be required to install a new automatic transfer switch supplied by County and to supply and install a new Appleton generator plug. The existing MTS may be removed or left in place.
- 2. Do we use the old MTS as a splice box or demo?**
 - a. Contractor may repurpose the MTS enclosure as a splice box at the Contractor's convenience.
- 3. To confirm we are matching existing 6' fence height.**
 - a. Correct, match the existing 6' fence height.

The project description references the installation of antennas with associated cabling; however, upon review of the construction drawings and plan details, it appears that the antenna and transmission line work may be designated to others or excluded from this contract.

- 1. Is the contractor responsible for furnishing and installing antennas and all associated transmission line (coax/fiber) systems?**

- a. No, the supply and installation of antennas and associated wiring will be provided by others and is excluded from this Contract.
- 2. If not, please confirm that this scope will be provided and installed by others.**
- a. Confirmed, antennas and associated wiring will be supplied and installed by others and is excluded from this Contract.
- 3. Are there any coordination, mounting, or pathway provisions that remain within this contract related to future antenna or line installation?**
- a. Contractor will be required to accommodate existing antenna wiring and wave guide pathways. Otherwise, no direct coordination is required between Contractor and Marion County's radio system vendor.

METCOM 911

- 1. Can you confirm that the power in the electrical room is 3 phase and that the step down transformer shown on sheet U-1 is needed to get to single phase at the shelter?**
- a. You are correct. The power supply to the existing load center is 3-phase. The step down transformer and electrical circuit extension to be supplied and installed by Contractor is single-phase.

EXHIBIT A

BID SCHEDULE

Marion County Public Works

ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND
OTHER SITE IMPROVEMENTS AT UP TO SIX (6) RADIO COMMUNICATIONS
SITES FOR THE MARION COUNTY RADIO PROJECT

Marion County Bid Solicitation #: PW1791-26

OregonBuys Bid Solicitation #: S-C25102-00016204

ONEOFFICE #: 2026-402

ITEM #	DESCRIPTION	QTY	UNITS	AMOUNT
1	Project #1 - CROSBY	1.00	LS	\$ 51,651.00
2	Project #2 - MARION COUNTY PUBLIC WORKS	1.00	LS	\$ 48,647.00
3	Project #3 - EASTVIEW LANE	1.00	LS	\$ 112,557.00
4	Project #4 - METCOMM 911	1.00	LS	\$ 29,615.00
5	Project #5 - EAGLE CREST (RESERVED)	1.00	LS	\$ 0.00
6	Project #6 - SANTIAM COMMS CENTER (RESERVED)	1.00	LS	\$ 0.00
TOTAL BID				\$ 242,470.00

EXHIBIT B – BID CERTIFICATION

The Honorable Board of
County Commissioners
Marion County Courthouse
Salem, Oregon 97301

Commissioners:

The Undersigned, hereinafter called the Bidder, declares that the only person or parties interested in this Bid are those named herein; that this Bid Certification is in all respects fair and without fraud; that it is made without collusion with any official or employee of the County, and without any connection or collusion with any person making another certification on this Contract.

The Bidder also certifies to the following:

A. Noncollusion:

- The price(s) and amount of this Bid have been arrived at independently and without consultation, communication, or agreement with any other contractor, bidder, or potential bidder except as disclosed on a separately attached statement.
- Neither the price(s) nor the amount of this Bid, and neither the approximate price(s) nor approximate amount of this Bid has been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before the opening of bids.
- No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, to submit a bid higher than this Bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.
- This Bid is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.
- The Bidder, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act, prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract except as described on a separately attached statement.
- The Bidder understands and acknowledges that the above representations are material and important and will be relied on by Marion County, in awarding the contract(s) for which this Bid is submitted. The Bidder understands that any misstatement in this Certification is and shall be treated as fraudulent concealment from Marion County, of the true facts relating to the submission of bids for this contract.

B. Noninvolvement in Any Debarment and Suspension:

The Bidder, its owners, directors, and officers:

- Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- Have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining,

attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

- Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in the preceding paragraph of this Certification; and
- Have not within a three-year period preceding this Bid had one or more public transactions (Federal, State, or local) terminated for cause or default.

Where the prospective primary participant is unable to certify to any of the statements in this Certification, the prospective primary participant shall attach an explanation to this Bid.

List exceptions in writing on one or more pages, as necessary, with the heading, "Certification Exceptions, Bid Insert," and attach all pages to this Bid Certification. For each exception noted, indicate to whom the exception applies, initiating agency, and date(s) of action.

C. Lobbying Activities:

To the best of my knowledge and belief, that:

- No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions to the ODOT Procurement Office - Construction Contracts Unit, MS# 2-2, 3930 Fairview Industrial Drive SE, Salem, Oregon 97302-1166. Copies of Standard Form-LLL are available at the above location.
- This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this Certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required Certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
- The prospective participant also agrees by submitting his or her Bid that he or she shall require that the language of this Certification be inserted in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

D. Compliance With Oregon Tax Laws:

- By signature on this Bid, the undersigned hereby certifies under penalty of perjury that the undersigned is authorized to act on behalf of Bidder, that the undersigned has authority and knowledge regarding Bidder's payment of taxes, and that Bidder is, to the best of the undersigned's knowledge, not in violation of any Oregon Tax Laws. For purposes of this certification, "Oregon Tax Laws" means a state tax imposed by ORS 320.005 to 320.150 (Amusement Device Taxes), ORS 403.200 to 403.250 (Tax For Emergency Communications), and ORS Chapters 118 (Inheritance Tax), 314 (Income Tax), 316 (Personal Income Tax), 317 (Corporation Excise Tax),

318 (Corporation Income Tax), 321 (Timber And Forestland Tax), 323 (Cigarettes And Tobacco Products Tax), and the elderly rental assistance program under ORS 310.630 to 310.706, and any local taxes administered by the Department of Revenue under ORS 305.620.

E. Employee Drug Testing Program:

- Pursuant to ORS 279C.505(2), that the bidder has an employee drug testing program in place, and will maintain such program for the entire period of this contract. Failure to maintain such program shall constitute a material breach of contract.

F. Nondiscrimination:

- Pursuant to ORS 279A.110, that the Bidder has not discriminated and will not discriminate against a disadvantaged business enterprise, a minority-owned business, a woman-owned business, a business that a service-disabled veteran owns, or an emerging small business in obtaining any required subcontracts. The Bidder understands that it may be disqualified from bidding on this public improvement project if the Agency finds that the Bidder has violated subsection (1) of ORS 279A.110.

G. Use of Registered Subcontractors:

- That all subcontractors performing work on this public improvement contract will be registered with the Construction Contractors Board or licensed by the State Landscape Contractors Board in accordance with ORS 701.035 to 701.055 before the subcontractors commence work under this contract.

H. Incorporation of All Addenda:

- The Bidder has incorporated into this Bid all Addenda issued for this Project.
- The Bidder understands and acknowledges that the Agency will provide all Addenda only by publishing them on the OregonBuys website. Addenda may be downloaded from the OregonBuys website.
- The Bidder shall be responsible for diligently checking the OregonBuys website for Addenda. Bidders should check the web site at least weekly until one (1) week prior to the designated time to receive bids and daily thereafter.
- By submitting this Bid, the Bidder assumes all risks associated with its failure to access all Addenda and waives all claims, suits, and actions against the State, Agency, the Agency's governing commission and its members, and their officers, agents, and employees that may arise out of the Bidder's failure to access all Addenda, in spite of any contingencies such as website failure, down-time, service interruptions, and corrupted, inaccurate, or incomplete Addenda or information.

The Bidder declares that the Bidder has carefully examined the Specifications and other proposed Contract Documents; that the Bidder personally has made an examination of the site of the proposed Work and has made the necessary investigations to determine the conditions to be encountered independently of the indications in the Specifications. The applicable Standard Specifications, General Conditions, Special Provisions, and other Contract Documents bound herewith are by reference a part of this Bid Certification.

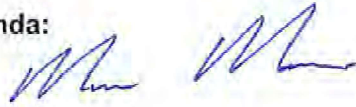
The Bidder agrees to accept as full payment for the Work herein proposed or the materials to be furnished the amount computed as determined by the provisions of this Invitation To Bid and based on the following Bid Certification, it being expressly understood that the unit prices listed are independent of the exact quantities involved, where unit prices apply.

The Bidder further declares the total amount of work, expressed in dollars, Bidder's company reasonably believes it is capable of bonding at any one time: \$ 10,000,000. The Bidder declares the portion of this amount which remains available at time of completion of this form is \$ 8,000,000.

The Bidder further agrees that the provisions required by ORS 279C.840 shall be included in the Contract.

Acknowledgement of receipt of addenda:

No. <u>1</u>	Date: <u>3/26/2026</u>
No. <u> </u>	Date: <u> </u>
No. <u> </u>	Date: <u> </u>
No. <u> </u>	Date: <u> </u>
No. <u> </u>	Date: <u> </u>



[The remainder of this page intentionally left blank.]

Experience / References

The information on this form may be utilized by Marion County to consider whether a Bidder has met the standards of responsibility set forth in ORS279C.375.

Current Contracts in Force/Previous Experience – minimum of three required of similar nature with public sector work.

Contract #1

Location (city/state)	
Owners Name	
Type of Work	SEE ATTACHED EXPERIENCE
% Completed	
Estimated Completion Date	

Contract #2

Location (city/state)	
Owners Name	
Type of Work	
% Completed	
Estimated Completion Date	

Contract #3

Location (city/state)	
Owners Name	
Type of Work	
% Completed	
Estimated Completion Date	

References – minimum of two project owner references and two subcontractor references.

#1 Project Owner Reference

Reference Name	
Business or Employer	
Telephone	
Project Name/\$ Amount	

#2 Project Owner Reference

Reference Name	
Business or Employer	
Telephone	
Project Name/\$ Amount	

#1 Subcontractor Reference

Reference Name	
Business or Employer	
Telephone	
Project Name/\$ Amount	

#2 Subcontractor Reference

Reference Name	
Business or Employer	
Telephone	
Project Name/\$ Amount	

Key Customer References



Nathan Dunn

Sr Project Manager, Development

T-Mobile

nathan.dunn9@t-mobile.com

360.702.9080

830 NE Holladay St Portland, OR 97232

Ron Polluconi

Washington County Consolidated Communications Agency

rpolluconi@wcca.com

(503) 629-0111

17911 NE Evergreen Pkwy, Beaverton, OR 97006

Adrian Englet

Puget Sound Emergency Radio Network

Adrian.Englet@kingcounty.gov

(206) 477-1041

Trent Huffines

Construction Manager – West

American Tower Corporation

trent.huffines@americantower.com

336-213-2754

John Hartsock

Clackamas 800 Radio Group

john.hartsock@c800.org

503-780-4806

11300 Se Fuller Rd Milwaukie, OR 97222

Bryce Foster

Testing and Engineering

testingandengineering@gmail.com

503-358-2125

Marty Graham

Verizon

Principal – Implementation

Pacific Northwest Engineering

martin.graham@verizonwireless.com

425-457-3433

Gabriel Rendon

Oregon Department of Transportation

Wireless Communications Section

gabriel.rendon@odot.oregon.gov

971-283-5725

Similar Past Projects



US Cellular CRAN Builds

Project Location: Approximately 150 Sites through out (Yakima, Pasco, Union Gap, Sunnyside) WA and (Grants Pass, Medford, Hermiston, Redmond and Roseburg) OR

Project Description: The installation of approximately 150 30'-45' steel poles both direct buried and on foundations. Scope of work also included the installation of underground bores for a new electrical service, traffic control and installation of pole mounted equipment. All work was self performed with the exception of underground boring and hydro-excavation

Project Completion: 2023-2025



Similar Past Projects



Washington County Consolidated Communications Agency 7 Sites Upgraded 2019-2023

Project Name: Washington County Consolidated Communications Agency (WCCCA) site upgrades at Buxton, Top Hill, Round Top, Pumpkin Ridge, Bald Peak, South Saddle Mtn and Newberg sites

Project Location: Multiple projects throughout Washington County

Project Description: Upgrade constructions services consisting of site preparation, access road improvements, grading or regrading the property, security gates, replacement and provisioning of HVAC equipment, primary power upgrades, fencing, shelter upgrades, shelter replacements, shelter foundations, placement/installation/provisioning of new towers, generator and fuel tank replacement with associated concrete slabs, installation of automatic transfer switches, service cut-overs.

Project Completion Date: Varies by site, between 2019 and 2023

Firm Name For Contact Person: Washington County Consolidated Communications Agency (WCCCA)

Contact Person: Ron Polluconi

Contact Phone Number: 503-502-8506

Contact E-mail Address: rpolluconi@wccca.com

Contract Value: Varied by site from \$352,725 to \$566,488



Puget Sound Emergency Radio Network Site Modifications and New Builds 2018-2022

Project Location: Numerous sites in King County, including Capitol Hill, Clearview, Indian Hill, King Lake, East Tiger Mtn., Olallie, Rattlesnake, Tinkham, West Tiger Mtn., Bellevue Station, Cambridge, Cougar Mtn., McDonald, Skyway, West Seattle, Bandera, Grass Mtn., Snoqualmie Pass, Wellington

Project Description: The projects involved preparing sites for emergency communications. Some projects were complete construction of roads, towers, shelters. Others were simple site modifications.

Project Completion Date:

Firm Name For Contact Person: PSERN - King County Washington

Contact Person: Adrian Englet

Contact Phone Number: (206) 477-1041

Contact E-mail Address: Adrian.Englet@kingcounty.gov

Contract Value: Varied from to \$2,947 to \$2,804,267



Oregon Department of Transportation Wolf Mountain New Site Build 2024-2025

Project Name: Wolf Mountain

Project Location: Wolf Mountain OR (Approximately 1 hour from Oakridge OR)

Project Description: Installation of a new site for the ODOT wireless division including a precast generator and equipment shelter, 120' self support tower including the lines and antennas.

Project Completion Date: 2025

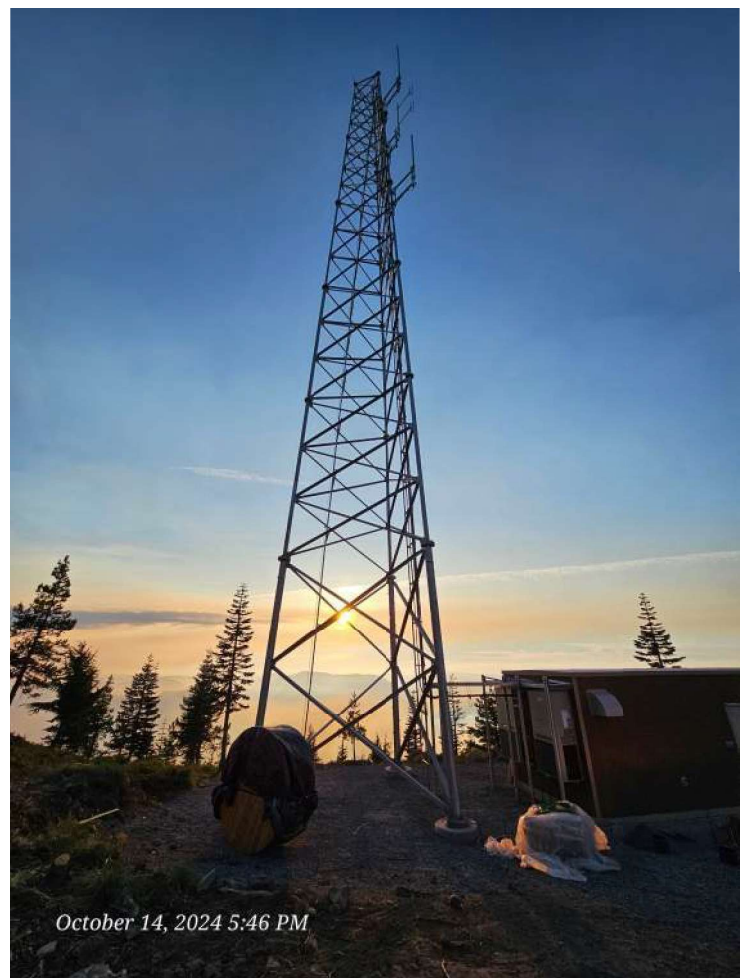
Firm Name For Contact Person: ODOT Wireless

Contact Person: Gabriel Rendon

Contact Phone Number: 971-283-5725

Contact Email: gabriel.rendon@odot.oregon.gov

Contract Value: \$889,010.00



City of Richland 9-1-1 Red Mountain Radio Site

Project Location: Benton City, Washington

Project Description: Installation of a new raw-land site, prefabricated equipment shelter, 180' self support tower w/ associated mounts, and 30kW generator. The project also included detailed design, permitting, procurement, and installation for a new supporting DC power system at the Red Mountain site, and for a new microwave (MW) radio path.

Project Completion Date: 2024

Firm Name For Contact Person: Benton County Emergency Services

Contact Person: Jay Atwood

Contact Phone Number: 509-537-7755

Contact Email: j.atwood@bces.wa.gov

Contract Value: \$938,545.50



Kellogg T-Mobile New Site Intall on PGE Wood Pole

Project Location: Portland, Oregon

Project Description: Installation of a new T-Mobile site on an existing PGE owned wood pole.

Project Completion Date: 2024

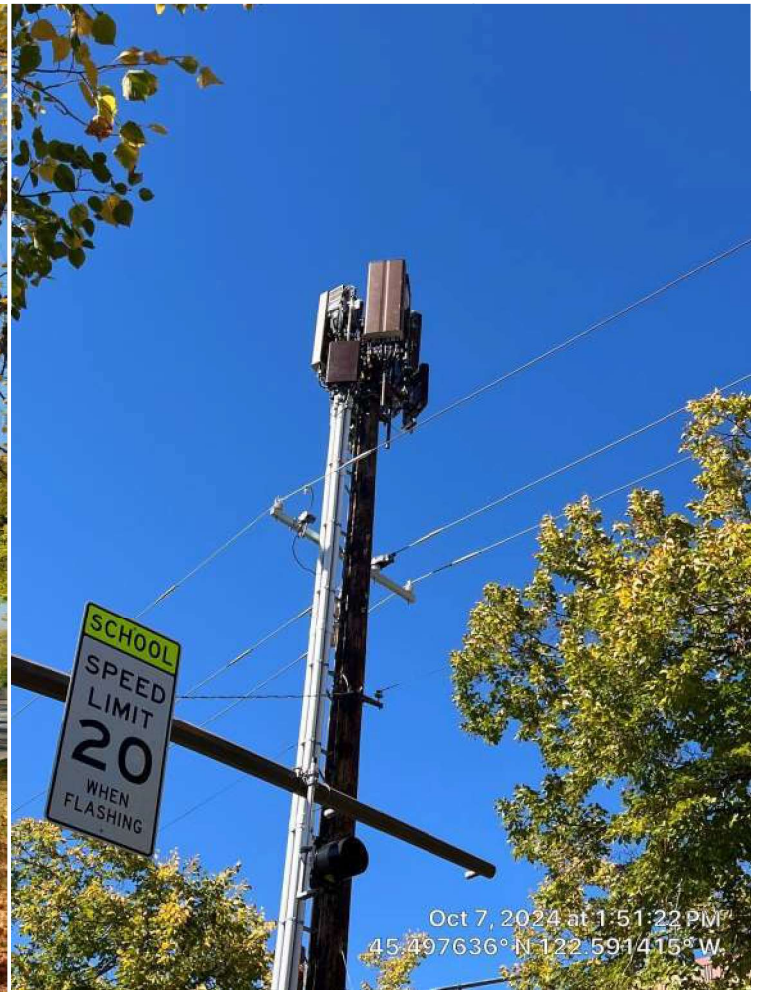
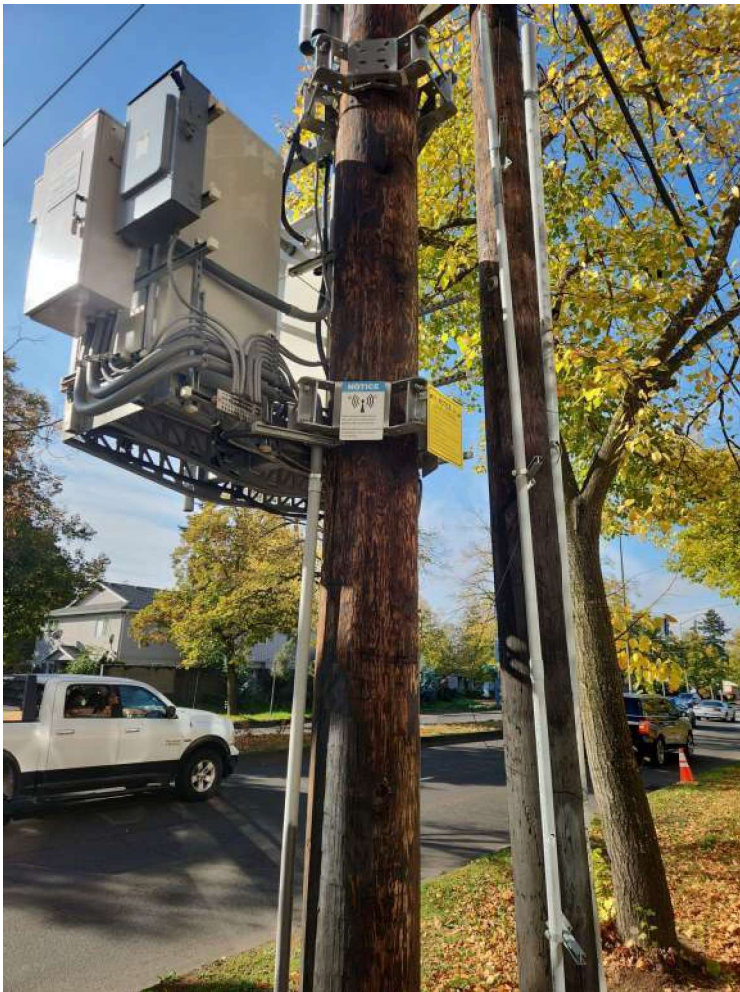
Firm Name For Contact Person: T-Mobile

Contact Person: Nathan Dunn

Contact Phone Number: 360-702-9080

Contact Email: nathan.dunn9@t-mobile.com

Contract Value: \$177,777.00



Bald Mountain to Black Pines PEPRO Shelter Relocation

Project Location: Boise ID and Burley ID

Project Description: Relocation of an 8'x8' PEPRO Shelter from a site called Bald Mountain to a site called Black Pines. Both sites were accessible by helicopter only.

Project Completion Date: 2025

Firm Name For Contact Person: PEPRO (Pioneer Energy Products)

Contact Person: Kevin Garmong

Contact Phone Number: 814-671-6287

Contact Email: kgarmong@peprollc.com

Contract Value: \$98,125.00







































Active Equipment List










New Number	Photo	Equipment Description
1-06-001		2015 Toyota Tacoma
1-06-002		2022 Toyota Tacoma TRD Off Road
1-07-001		2022 Ford Ranger
1-07-002		2021 Ford Ranger
1-08-002		2021 Ford F150
1-08-003		2022 Ford F150
1-08-004		2024 Ford F150 Lariat
1-08-005		2025 Ford F-150 Lariat/Hybrid
1-08-006		2025 Ford F-150 Lariat
1-10-001		2022 F-350 Service Body

New Number	Photo	Equipment Description
1-12-002		2016 Ford F350
1-12-004		2019 Ford F350
1-13-001		2022 Ford F-350
1-13-002		2023 Ford F-350
1-13-003		2024 Ford F-350
1-14-001		2023 F350 DRW 4x4 Crew Cab XL
1-14-002		2025 F350 DRW 4x4 Crew Cab XL
1-16-002		2013 Ford F450 Flatbed
1-16-004		2021 Ford SD F450
1-16-005		2021 Ford SD F450

New Number	Photo	Equipment Description	New Number	Photo	Equipment Description
1-16-007		2022 F450 Flatbed	1-33-002		2015 Freightliner M2 Alltec 4x2 AA755-MH 60' Bucket Truck
1-17-001		2026 Ford SD F-450 Crew Cab 4x4	2-06-001		Kiefer Built Reel Trailer
1-18-001		2019 Ford F550	2-07-002		2019 MultiQuip Water Trailer
1-18-002		2024 Ford Super Duty F-550 DRW	2-07-003		Fire Wagon/ Trailer
1-20-001		2016 Ford 550	2-07-004		2022 Cargo King Defender 7x14'
1-20-004		2019 Ford F550	2-07-005		2022 Cargo King Defender 7x14'
1-20-005		2022 F-550	2-07-006		2022 Patriot 7'x14' Cargo Trailer
1-20-006		2023 F-550	2-07-007		MultiQuip Water Trailer
1-20-007		2025 F-550 4x4	2-10-001		2012 Big Tex Flatbed
1-20-008		2025 F-550 4x4	2-10-003		2023 Great Northern Flatbed
1-33-001		2012 Freightliner M2 4x2 Alltec AA55E-MH 60' Bucket Truck			

New Number	Photo	Equipment Description	New Number	Photo	Equipment Description
2-10-004		2025 Cargo Trailer	2-21-001		2011 Towmaster Trailer T-160T
2-10-005		2013 Maxey Trailer	2-23-002		2021 MAXXD 22.5 GN Gooseneck
2-14-002		2020 PJ 14' Dump Trailer	3-08-001		2014 Bobcat E32l
2-14-003		2020 Iron Bull Dump Trailer	3-11-003		2015 John Deer 50G Excavator
2-14-004		2020 Summit Trailer	3-11-004		JCB 48Z Mini Excavator
2-14-005		(ALAN'S) 2022 MAX-XD Car Trailer (ALAN'S)	4-05-001		Toyota Forklift
2-15-001		2008 TowMaster	4-08-001		Hyster H90XMS
2-19-001		2017 Felling FT16 Trailer (John Deer Excavator)	4-12-001		Altec DM47B-TR 23,790 lb Digger Derrick
2-20-001		2023 Behnke Equipment Trailer	4-28-001		2006 Peterbull (crane)
2-20-002					

New Number	Photo	Equipment Description
7-01-001		2017 38KW Generator
7-01-002		Multi-Equip Welder Trailer
7-01-003		Mikasa Diesel Plate Compactor
7-01-004		Can Am Side-By-Side
7-01-005		2024 Can-Am 1000 Four Wheeler
7-01-006		Can-Am 900 Ace Expedition Utility Snowmobile
7-01-007		2026 Danuser Megamixer Concrete Mixer Attachment

The name of the Bidder who is submitting this Bid Certification is:

Company: Summit Solutions Group, LLC
(Print or Type)

Address: 6000 NE 88th St. Suite C101
(Print or Type)

City, State Zip Vancouver, WA 98665
(Print or Type)

which address is the address to which all communications considered with this Bid Certification and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Bid and Bid Certification or of the partners, if the Bid Certification is submitted by a partnership, or of all persons interested in this Bid Certification as principals, are as follows:

MIKE MOORE, PRESIDENT

Dated this 2 day of APRIL, 2020

Construction Contractor's
Board Registration Number
160656

Summit Solutions Group, LLC

Firm Name

Signature of Bidder

Mike Moore
Name Print or Type

President
Title Print or Type

Telephone No. 360-360-1120

Email Address: mikem@summitsgllc.com

Tax ID # 93-1314004

Business Organization: (Check one)

- Corporation
- Limited Liability Company
- Joint Venture
- Partnership
- Sole Proprietorship
- Other _____

BID BOND

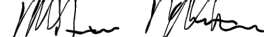
KNOW ALL PERSONS BY THESE PRESENTS, that Summit Solutions Group, LLC
 _____, hereinafter called the Principal, and Travelers Casualty and Surety Company of America
 _____, a Corporation organized
 and existing under and by virtue of the laws of the state Seattle, WA duly authorized to do surety
 business in the State of Oregon as Surety, are held and firmly bound unto Marion County hereinafter called
 the County, in the sum of Ten Percent of Amount of Bid Dollars (\$ 10%
 _____), for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors,
 administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the Principal herein is herewith submitting
 his or its Bid Proposal for Marion County Radio Project #PW1791-26 said Bid Proposal, by reference
 thereto, being hereby made a part hereof.

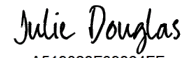
NOW THEREFORE, if the said Bid Proposal submitted by the said Principal be accepted, and the Contract
 be awarded to said Principal, and if the said Principal shall execute the proposed Contract as required by the
 bidding and the Contract Documents within the time set by said Documents, then this obligation shall be
 void. If the Principal shall fail to execute the proposed Contract, the Surety hereby agrees to pay to the
 County the sum as liquidated damages.

Signed and sealed this 31st day of March, 2026.

Summit Solutions Group, LLC
 Principal

By: Mike Moore, President DocuSigned by:

 C114A78286024ED...

Travelers Casualty and Surety Company of America
 Surety

By: Julie Douglas DocuSigned by:

 A519028F09864EE...
 Attorney-in-Fact

A certified copy of the Agent's
 Power-of-Attorney must be
 Attached hereto.





**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Julie Douglas** of **LAKE OSWEGO, Oregon**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021**.



State of Connecticut

City of Hartford ss.

By: 
Robert L. Raney, Senior Vice President

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**




Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **31st** day of **March**, **2026**.




Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.**

EXHIBIT C

Bond No. 108339620

PERFORMANCE BOND

(NOTE: CONTRACTORS MUST USE THIS FORM, NOT A SURETY COMPANY FORM)

KNOW BY ALL PERSONS BY THESE PRESENTS:

We the undersigned Summit Solutions Group, LLC as PRINCIPAL (hereinafter called CONTRACTOR), and ^{Travelers Casualty and Surety Company}of America a corporation organized and existing under and by virtue of the laws of the state of CT duly authorized to do surety business in the state of Oregon and named on the current list of approved surety companies acceptable on federal bonds and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and the U.S. Treasury Department and is of the appropriate class for the bond amount as determined by Best's Rating System, as SURETY, hereby hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, to pay to MARION COUNTY as OBLIGEE (hereinafter called MARION COUNTY), the amount of Two hundred forty two thousand and four hundred seventy dollars & no cents Dollars (\$242,470.00) in lawful money of the United States of America.

WHEREAS, the CONTRACTOR entered into a contract with MARION COUNTY dated April 20, 2026, which Contract is hereunto annexed and made a part hereof, for accomplishment of the project described as follows: ITB-Construction and Other Site Improvements at Up to Six (6) Non-Tower Radio Communications Sites

NOW, THEREFORE, the condition of this obligation is such that if the CONTRACTOR shall promptly, truly and faithfully perform all the undertakings, covenants, terms, conditions, and agreements of the aforesaid contract and having performed its obligations thereunder, then this obligation shall be null and void; otherwise it shall remain in full force and effect until the expiration of any statutes of limitation or ultimate repose applicable to claims against Principal arising out of said Contract or for as long as CONTRACTOR is liable under the Contract, whichever is later.

Whenever CONTRACTOR shall be declared by MARION COUNTY to be in default under the Contract Documents for the project described herein, the SURETY may promptly remedy the default, or shall promptly complete the project in accordance with the Contract Documents and the project Specifications with a contractor approved by MARION COUNTY. SURETY, for value received, further stipulates and agrees that all changes, extensions of time, alterations, or additions to the terms of the Contract or Specifications for ITB-Construction and Other Site Improvements at Up to Six (6) Non-Tower Radio Communications Sites are within the scope of the SURETY's undertaking on this bond, and SURETY hereby waives notice of any such change, extension of time, alteration or addition to the terms of the ITB-Construction and Other Site Improvements at Up to Six (6) Non-Tower Radio Communications Sites or to the Work or to the Specifications. Any such change, extension of time, alteration or addition to the terms of the ITB-Construction and Other Site Improvements at Up to Six (6) Non-Tower Radio Communications Sites shall automatically increase the obligation of the Surety hereunder in a like amount, provided that such increase shall not exceed twenty-five percent (25%) of the original amount of the obligation without the consent of the Surety.

This obligation shall continue to bind the PRINCIPAL and SURETY, notwithstanding successive payments made hereunder, until the full amount of the obligation is exhausted.

No right of action shall accrue on this bond to or for the use of any person or corporation other than MARION COUNTY, its respective heirs, executors, administrators, successors or assigns.

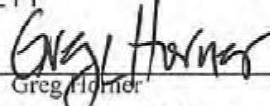
If more than one SURETY is on this bond, each SURETY hereby agrees that it is jointly and severally liable for obligations on this bond.

EXHIBIT C

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 20th day of April, 2026.

Travelers Casualty and Surety Company of America

SURETY

By: 
Greg Horner

Title: Attorney-In-Fact

One Tower Square
Street Address


Hartford, CT 06183
City State ZIP

(800) 873-1477
Phone Number



Summit Solutions Group, LLC

CONTRACTOR

By: 
Mike Moore

Title: President

6000 NE 88th St. Bldg C, Ste 101
Street Address

Vancouver, WA 98665
City State ZIP

(360) 360-0330
Phone Number

EXHIBIT C



Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **GREG L HORNER** of LAKE OSWEGO Oregon their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this 21st day of April, 2021.



State of Connecticut

City of Hartford ss.

By: 
Robert L. Raney, Senior Vice President

On this the 21st day of April, 2021, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the 30th day of June, 2026




Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

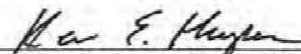
FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 20th day of April, 2026




Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

EXHIBIT D

Bond No. 108339620

LABOR AND MATERIALS PAYMENT BOND

(NOTE: CONTRACTOR MUST USE THIS FORM, NOT A SURETY COMPANY FORM)

KNOW ALL PERSONS BY THESE PRESENTS:

We the Undersigned Summit Solutions Group, LLC as PRINCIPAL and Travelers Casualty and Surety Company of America a corporation organized and existing under and by virtue of the laws of the state of CT and duly authorized to do surety business in the state of Oregon and named on the current list of approved surety companies acceptable on federal bonds and conforming with the underwriting limitations as published in the Federal Register by the audit staff of the Bureau of Accounts and the U.S. Treasury Department and which carries an "A" rating and is of the appropriate class for the bond amount as determined by Best's Rating System, as SURETY, hereby hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, unto MARION COUNTY and ODOT, as dual OBLIGEE, in the sum of Two hundred forty two thousand and four hundred seventy dollars & no cents Dollars (\$ 242,470.00) in lawful money of the United States of America, for the payment of that sum for the use and benefit of claimants as defined below.

The condition of this obligation is such that whereas the PRINCIPAL entered into a contract with MARION COUNTY dated April 20th, 2026, which contract is hereunto annexed and made a part hereof, for accomplishment of the project described as follows: ITB-Construction and Other Site Improvements at up to Six (6) Non-Tower Radio Communications Sites.

NOW THEREFORE, if the PRINCIPAL shall promptly make payments to all persons, firms, subcontractors, corporations and/or others furnishing materials for or performing labor in the prosecution of the Work provided for in the aforesaid ITB-Construction and Other Site Improvements at Up to Six (6) Non-Tower Radio Communications Sites, and any authorized extension or modification thereof, including all amounts due for materials, equipment, mechanical repairs, transportation, tools and services consumed or used in connection with the performance of such Work, and for all labor performed in connection with such Work whether by subcontractor or otherwise, and all other requirements imposed by law, then this obligation shall become null and void; otherwise this obligation shall remain in full force and effect, until the expiration of any statutes of limitation or ultimate repose applicable to claims against Principal arising out of said Contract or for as long as CONTRACTOR is liable under the Contract, whichever is later, subject, however, to the following conditions:

1. A claimant is as specified in ORS 279C.600 to 279C.620.
2. The above-named PRINCIPAL and SURETY hereby jointly and severally agree with the OBLIGEE and its assigns that every claimant as above-specified, who has not been paid in full, may sue on this bond for the use of such claimant, prosecute the suit to final judgment in accordance with ORS 279C.610 for such sum or sums as may be justly due claimant, and have execution thereon. The OBLIGEE shall not be liable for the payment of any judgment, costs, expenses or attorneys' fees of any such suit.

PROVIDED, FURTHER, that SURETY for the value received, hereby stipulates and agrees that all changes, extensions of time, alterations to the terms of the ITB-Construction and Other Site Improvements at up to Six (6) Non-Tower Radio Communications Sites OF to Work to be performed thereunder or the Specifications accompanying ITB-Construction and Other Site Improvements at up to Six (6) Non-Tower Radio Communications Sites shall be within the scope of the SURETY's undertaking on this bond, and SURETY does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the ITB-Construction and Other Site Improvements at up to Six (6) Non-Tower Radio Communications Sites or to the Work or to the Specifications. Any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Specifications shall automatically increase the obligation of the SURETY hereunder in a like amount, provided that the total of such increases shall not exceed twenty-five percent (25%) of the original amount of the obligation without the consent of the SURETY.

This obligation shall continue to bind the PRINCIPAL and SURETY, notwithstanding successive payments made hereunder, until the full amount of the obligation is exhausted, or if the full amount of the

EXHIBIT D

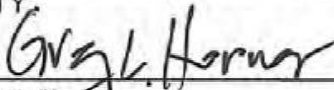
obligation is not exhausted and no claim is pending resolution, until such time as no further claims can be made pursuant to law with regard to the above-described project, by any claimant specified in ORS 279C.600.

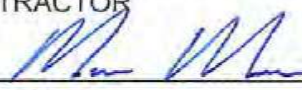
If more than one SURETY is on this bond, each SURETY hereby agrees that it is jointly and severally liable for all obligations of this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 20th day of April, 2026.

Travelers Casualty and Surety Company of America
SURETY

Summit Solutions Group, LLC
CONTRACTOR

By: 
Greg Horner

By: 
Mike Moore

Title: Attorney-In-Fact

Title: President

One Tower Square
Street Address

6000 NE 88th St, Bldg C, Ste 101
Street Address

Hartford, CT 06183
City, State Zip

Vancouver, WA 98665

(800) 873-1477
Phone Number

(360) 360-0330
Phone Number



EXHIBIT D



Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint GREG L HORNER of LAKE OSWEGO, Oregon, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this 21st day of April, 2021.



State of Connecticut

City of Hartford ss.

By: [Signature]
Robert L. Raney, Senior Vice President

On this the 21st day of April, 2021, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the 30th day of June, 2026



[Signature]
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 20th day of April, 2026



[Signature]
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

EXHIBIT E – DRUG & ALCOHOL TESTING POLICY CERTIFICATION

Has your firm established and implemented a drug and alcohol policy and testing program that complies with ORS 279C.505 for public improvement contracts?

 X Yes No

I hereby certify that the information provided on this form is true and accurate to the best of my knowledge.

Please print or type:

Company Name Summit Solutions Group, LLC

Name/Title Mike Moore, President

Address 6000 NE 88th St. Suite C101 Vancouver, WA 98665

Signature 

Date 4/1/2026

EXHIBIT F

ATTACHMENT F – FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM INSTRUCTIONS

Instructions for Submitting Form

Submittal of the First-Tier Subcontractor Disclosure Form is mandatory for all public improvement project bids estimated to exceed \$100,000. Submit the First-Tier Subcontractor Disclosure Form in one of the following manners:

- By filling out the Subcontractor Disclosure Form included in the Invitation To Bid and submitting it, in PDF format, together with the Bid documents to the Agency's Procurement Collaboration Portal at the time designated for receipt of Bids; or
- By removing it from the Invitation To Bid, filling it out, signing and dating in ink, and submitting it separately, in PDF format, to the "My Company Info" page within the Agency's Procurement Collaboration Portal; or
- By removing it from the Invitation To Bid, filling it out, signing and dating in ink and submitting it separately in a sealed envelope to the receptionist at Marion County Public Works, Building 1, 5155 Silverton Road NE, Salem Oregon 97305. The envelope shall be plainly labeled "First-Tier Subcontractors for Bid on Construction and Other Site Improvements at Up to Six (6) Radio Communications Sites".

Instructions for First-Tier Subcontractor Disclosure

Use the First-Tier Subcontractor Disclosure Form to disclose all subcontracts included in the Bid that are equal to or greater than the following:

1. Five percent (5%) of the total project Bid or \$15,000, whichever is greater, or
2. \$350,000 regardless of the percentage of the total project Bid

Disclose the following information for each subcontractor:

- The name of the subcontractor
- The category of work that the subcontractor will be performing
- The dollar amount of the subcontract

If your Bid includes no subcontractors or if your Bid includes no contracts that are equal to or greater than the disclosure criteria, above, you are still required to submit the form, with the appropriate box checked or enter "NONE" on the first line.

THE AGENCY MUST REJECT BIDS if the Bidder fails to submit the disclosure form with this information by the stated deadline.

EXHIBIT F

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

Project Name PW1791-26

ONEOFFICE Contract # _____

Bid Opening Date 4/2/2026

Name of Bidding Contractor Summit Solutions Group LLC

CHECK THIS BOX IF YOU WILL NOT BE USING ANY FIRST-TIER SUBCONTRACTORS OR IF YOU ARE NOT SUBJECT TO THE DISCLOSURE REQUIREMENTS (SEE INSTRUCTIONS).

FIRST-TIER SUBCONTRACTORS

Firm Name Northwest Heating & Cooling	Dollar Amount \$17,620.00
Category of Work HVAC Installation	

Firm Name Lakewood Contractors	Dollar Amount \$3,500
Category of Work Gas Line Installation	

Firm Name	Dollar Amount
Category of Work	

Firm Name	Dollar Amount
Category of Work	

Firm Name	Dollar Amount
Category of Work	

Firm Name	Dollar Amount
Category of Work	

Firm Name	Dollar Amount
Category of Work	

(Attach additional sheets as necessary)

EXHIBIT G - PROJECT WAGE RATES

Minimum Wage Requirements - This Project is subject to State prevailing wage rate requirements. Not less than the existing State prevailing wage rates shall be paid to workers according to 00170.65(b) and 00170.65(e).

Applicable Wages - Prevailing wage rates published in the wage determinations and any applicable modifications or amendments apply to this Project and are incorporated by reference:

(1) Oregon Bureau of Labor and Industries (BOLI), "Prevailing Wage Rates For Public Works Contracts in Oregon".

The applicable State prevailing wage rates last published prior to the time of Bid Opening, which is stated on the Invitation to Bid, apply to this Project.

Wage Rates are Internet-Accessible - The BOLI wage rates can be found on the Oregon Bureau of Labor and Industries website at: <https://www.oregon.gov/boli/WHD/PWR/Pages/index.aspx>.

Wage Rates are Subject to Change - Modifications or amendments to BOLI wage rates applicable to this Project may occur at any time before Bid Opening. Bidders are responsible to monitor the respective web page for modifications and amendments up until Bid Opening.

**EXHIBIT H - APPENDIX II TO PART 200 – CONTRACT
PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER
FEDERAL AWARDS**

Section 1: Appendix II to Part 200 - Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

(B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be affected and the basis for settlement.

(C) Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is

compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended. Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

(H) Debarment and Suspension (Executive Orders 12549 and 12689). A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See § 200.323. Procurement of recovered materials.

(K) See § 200.216. Prohibition on certain telecommunications and video surveillance services or equipment.

(L) See § 200.322. Domestic preference for procurements.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014; 85 FR 49577, Aug. 13, 2020]

Section 2: Additional Requirements for Non-Federal Entity Contracts

1. Audit Requirements

- Subrecipients must comply with the federal regulations set forth in 2 CFR §200.5XX Subpart F.
- Subrecipient must comply, and require any subcontractor to comply, with applicable audit requirements and responsibilities set forth in this Agreement and applicable state or federal law as set forth in 2 CFR §200.501(h).
- If Subrecipient expends federal awards in excess of \$1,000,000 in a fiscal year, Subrecipient is subject to audit conducted in accordance with the provisions of 2 CFR §200.5XX Subpart F. Copies of all audits must be submitted to the County within 30 days of completion.
- Subrecipient must save, protect and hold harmless the County from the cost of any audits or special investigations performed by the Secretary of State with respect to the funds expended under this Agreement. Subrecipient acknowledges and agrees that any audit costs incurred by Subrecipient as a result of allegations of fraud, waste or abuse are ineligible for reimbursement under this or any other agreement between Subrecipient and the County.

2. System for Award Management - 2 CFR Part 25 - Subrecipient must comply with applicable requirements regarding the System for Award Management (SAM), currently accessible at <https://www.sam.gov>. This includes applicable requirements regarding registration with SAM, as well as maintaining current information in SAM. Subrecipient must also comply with applicable restrictions on subawards ("subgrants") to first tier subcontractors (first-tier "Subcontractors"), including restrictions on subawards to entities that do not acquire and provide (to the County) the unique entity identifier required for SAM registration.

3. Whistleblower Protection Act - 2 CFR § 200.217 - Subrecipient must comply and ensure the compliance by subcontractors, with 41 U.S.C. 4712, Program for Enhancement of Employee Whistleblower Protection. Subrecipient must inform subcontractors, contractors and employees, in writing, in the predominant language of the workforce, of the employee whistleblower rights and protections under 41 USC 4712.

4. Recordkeeping Requirements - Subrecipient must maintain records and financial documents for five years after all funds have been expended or returned to the County. The County may request transfer of records of long-term value at the end of such period. Wherever practicable, such records should be collected, transmitted, and stored in open and machine-readable formats.

Subrecipient must agree to provide or make available such records to the County upon request, and to the Government Accountability Office ("GAO"), U.S. Treasury's Office of Inspector General ("OIG"), and their authorized representative in order to conduct audits or other investigations.

6. Civil Rights Compliance - Recipients of Federal financial assistance from the U.S. Treasury are required to meet legal requirements relating to nondiscrimination and nondiscriminatory use of Federal funds. Those requirements include ensuring that entities receiving Federal financial assistance from the U.S. Treasury do not deny benefits or services, or otherwise discriminate on the basis of race, color, national origin (including limited English proficiency), disability, age, or sex (including sexual orientation and gender identity), in accordance with the following authorities: Title VI of the Civil Rights Act of 1964 (Title VI) Public Law 88-352, 42 U.S.C. 2000d-1 et seq., and the Subrecipient's implementing regulations, 31 CFR part 22;

Section 504 of the Rehabilitation Act of 1973 (Section 504), Public Law 93-112, as amended by Public Law 93-516, 29 U.S.C. 794; Title IX of the Education Amendments of 1972 (Title IX), 20 U.S.C. 1681 et seq., and the Subrecipient's implementing regulations, 31 CFR part 28; Age Discrimination Act of 1975, Public Law 94-135, 42 U.S.C. 6101 et seq., and the Subrecipient implementing regulations at 31 CFR part 23.

In order to carry out its enforcement responsibilities under Title VI of the Civil Rights Act, U.S. Treasury will collect and review information from non-Tribal recipients to ascertain their compliance with the applicable requirements before and after providing financial assistance. U.S. Treasury's implementing regulations, 31 CFR part 22, and the Department of Justice (DOJ) regulations, Coordination of Non-discrimination in Federally Assisted Programs, 28 CFR part 42, provide for the collection of data and information from recipients (see 28 CFR 42.406). U.S. Treasury may request that recipients submit data for post-award compliance reviews, including information such as a narrative describing their Title VI compliance status. This collection does not apply to Tribal governments.

7. Real Property, Equipment and Other Capital Expenditures - County shall, and shall cause its Subrecipients to, maintain policies and procedures for the management of property and equipment that comply with all requirements of the applicable Uniform Guidance at 2 CFR Part 200, Subpart D, 2 CFR Part 200.310 – 200.316 and 200.439, and specific requirements of the source of funds. These regulations shall apply to all real property, equipment, and other capital expenditures purchased with the federal funding.

EXHIBIT I - SPECIAL PROVISIONS

PART 00100 - GENERAL CONDITIONS

SECTION 00110 - ORGANIZATION, CONVENTIONS, ABBREVIATIONS, AND DEFINITIONS

Comply with Section 00110 of the General Conditions modified as follows:

00110.00 Organization of Specifications – Replace this subsection in its entirety with the following:

The Specifications are comprised of the following:

- The "General Conditions for Construction for Marion County, v2024" published by the Agency and available for download from the Marion County Public Works Engineering Division website at <http://www.co.marion.or.us/PW/Engineering>, which contain Part 00100 "General Conditions" and deals with the solicitation process and contractual relationships;
- The "2024 Oregon Standard Specifications for Construction" Parts 00200 through 03000, published by the Oregon Department of Transportation, which contain the detailed "Technical Specifications" involved in prosecution of the Work, organized by subject matter;
- The Special Provisions, and
- The Project Summary List (PSL)

In addition, throughout the Specifications:

- Each Part is divided into Sections and Subsections.
- Reference to a Section includes all applicable requirements of the Section.
- When referring to a Subsection, only the number of the Subsection is used; the word "Subsection" is implied.
- Where Section and Subsection numbers are not consecutive, the interval has been reserved for use in the Special Provisions or future expansion of the Standard Specifications.

SECTION 00120 – BIDDING REQUIREMENTS AND PROCEDURES

Comply with Section 00120 of the General Conditions modified as follows:

00120.00 Prequalification of Bidders – Delete this subsection in its entirety.

00120.01 General Bidding Requirements – Delete the sentence that reads, "For Federal-aid Projects, the identification of the Bidding firm, partnership or joint venture must match the Bidder identification listed in ODOT's current list of prequalified Bidders."

SECTION 00130 – AWARD AND EXECUTION OF CONTRACT

Comply with Section 00130 of the General Conditions.

SECTION 00140 - SCOPE OF WORK

Comply with Section 00140 of the General Conditions.

SECTION 00150 - CONTROL OF WORK

Comply with Section 00150 of the General Conditions modified as follows:

00150.50(c) Contractor Responsibilities – Replace the bullet that begins "Determine the exact location before excavating within ..." with the following bullet:

- Determine the exact location before excavating within the tolerance zone according to OAR 952-001-0090(3)(c).

Add the following to the end of the bullet list:

- When power lines overhang the work area, maintain the minimum vertical clearance between power lines and equipment according to the Occupational Safety and Health Administration's "Table A – Minimum Clearance Distances".

Add the following subsection:

00150.50(f) Utility Information - Contractor is responsible to follow rules adopted by the Oregon Utility Notification Center, as set forth in OAR 952-001-0010 through OAR 952-001-0090.

00150.90 Final Inspection – Replace this subsection with the following:

(a) General – Each Project Site shall be considered accepted only when the requirements of this subsection are satisfied and documented by the Contractor. The Contractor shall coordinate final inspections and testing with the Engineer. Costs for any required final testing and inspection services shall be borne by the Contractor and included in the bid price unless otherwise specified.

(b) Compliance Reporting ("Handover Package") – Before scheduling final acceptance testing and inspections with the Engineer, the Contractor shall compile and submit a Handover Package for each Project Site consisting of the following documents:

(1) Electrical

- Visual inspection report demonstrating (1) continuity and soundness of all grounding system components, including ground rings and all splices, bonds and connections, and (2) conformance with Motorola R56 Standards and Guidelines for Communication Sites performed prior to backfilling. Include a photograph of each underground connection along with an annotated diagram documenting the location of each photograph.
- Visual inspection report demonstrating continuity of above ground grounding systems, including but not limited to tower, shelter ground bar, generator, propane tanks, fence, ice shields, trays and ladders.
- Certified ground resistance test report.
- Insulation resistance test report of electrical feeders and branch circuits.

(2) Generator and Fuel Systems

- Generator and ATS Start-up and Commissioning Report prepared by County's manufacturer-authorized generator vendor.

- Visual inspection and pressurized leak test report of propane fuel system prior to fueling and start-up.

(3) Other

- Building permit approved final inspection reports.
- As-built drawings
- O&M manuals and warranties
- Signed "Ready for Equipment Installation" certificate provided by County.

(c) On-site Construction Work - The Engineer will inspect the Project at a time close to the completion of On-Site Work.

When all On-Site Work on the Project is completed, including, but not limited to, Change Order Work and Extra Work, the Engineer will issue Second Notification as specified in 00180.50(g).

Within 15 Calendar Days after the Engineer receives the Contractor's written notification that all punch list items, final trimming and cleanup according to 00140.90 have been completed, the Engineer will review the Project and notify the Contractor that all Work is complete, or will give the Contractor written instruction regarding incomplete or unsatisfactory Work.

(d) All Contract Work - The Engineer will issue the Third Notification when the Contractor has satisfactorily accomplished all of the following: • The Contractor has completed all On-Site Work required under the Contract, including the punch list items from (a) above; • The Contractor has removed all Equipment, other than that incorporated into the Work; and • The Contractor has submitted all required certifications, bills, forms, warranties and other documents.

SECTION 00160 - SOURCE OF MATERIALS

Comply with Section 00160 of the General Conditions.

SECTION 00165 - QUALITY OF MATERIALS

Comply with Section 00165 of the General Conditions.

SECTION 00170 - LEGAL RELATIONS AND RESPONSIBILITIES

Comply with Section 00170 of the General Conditions modified as follows:

00170.70(a) Insurance Coverages – Add the following after the first paragraph:

Insurance Coverages per Occurrence	Combined Single Limit	Annual Aggregate Limit
• Commercial General Liability	\$1,000,000	\$2,000,000
• Commercial Auto Liability	\$1,000,000	(Aggregate limit not required)

SECTION 00180 - PROSECUTION AND PROGRESS

Comply with Section 00180 of the General Conditions modified as follows:

Add the following subsection:

00180.40(c) Specific Limitations - Limitations of operations specified in these Special Provisions include, but are not limited to, the following:

Limitations	Subsection
Cooperation with Utilities	00150.50
Contract Time	00180.50(h)
Right-of-Way and Access Delays	00180.65
Closed Lanes	00220.40(e)(1)
Special Events	00220.40(e)(2)(b)
Opening Sections to Traffic	00744.51

The Contractor shall be aware of and subject to schedule limitations in the Standard Specifications that are not listed in this subsection.

00180.41 Project Work Schedules - Add the following paragraph:

The Contractor shall submit a Type **B** schedule.

Add the following subsections:

00180.50(h) Contract Time - The Contractor shall complete all Work to be done under the Contract not later than July 31, 2026.

00180.80(d) Basis for Adjustment of Contract Time – Replace the second to the last bullet in this subsection with the following bullet:

- Reasonably predictable weather conditions; or

00180.85(b) Liquidated Damages - Replace the first paragraph with the following:

Marion County will sustain damage if the Work required under the Contract is not completed within the specified Contract Time. The actual damage the County will sustain will be impossible to accurately determine. Therefore, the Contractor agrees to pay to the County, not as a penalty but as liquidated damages, any or all of the following:

- (1) The amount of \$120 per project site for each Calendar Day used in excess of the Contract Time or adjusted Contract Time for all Work under the Contract.

Calendar Day amounts are applicable when the Contract Time is expressed on the Calendar Day or fixed date basis.

SECTION 00190 – MEASUREMENT OF PAY QUANTITIES

Replace Section 00190 of the General Conditions in its entirety with the following:

00190.00 Scope – No separate measurement of quantities shall be made to determine Payment for Work.

SECTION 00195 - PAYMENT

Comply with Section 00195 of the General Conditions modified as follows:

00195.00(a) General – Replace this subsection with the following:

The Agency will pay only for materials and efforts incorporated into the Work or performed according to the terms of the Contract. No later than five (5) days prior to the Preconstruction Conference, the Contractor shall submit for approval by the Engineer a Schedule of Values for use in calculating progress payments under Section 00195.50.

SECTION 00196 - PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the General Conditions.

SECTION 00197 - PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications.

SECTION 00199 - DISAGREEMENTS, PROTESTS AND CLAIMS

Comply with Section 00199 of the General Conditions.

SECTION 00199 - DISAGREEMENTS, PROTESTS AND CLAIMS

Comply with Section 00199 of the General Conditions.

PART 00200 THRU 03000 – STANDARD SPECIFICATIONS

SECTION 00280 – EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications.

SECTION 00290 – ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications.

SECTION 00310 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications.

SECTION 00540 – STRUCTURAL CONCRETE

Comply with Section 00540 of the Standard Specifications.

EXHIBIT J – PROJECT SUMMARY LIST

MARION COUNTY RADIO PROJECT

PSL1. Government Furnished Materials & Equipment

County has purchased the materials and equipment described herein for incorporation into the Work by Contractor. County shall supply these materials and equipment to Contractor as Government Furnished Materials at no cost to Contractor. County shall make Government Furnished Materials available to Contractor at the specified staging areas with the suppliers as-delivered packaging, wrapping, pallets, crates and dunnage.

Contractor shall incorporate all Government Furnished Materials into the Work in accordance with the Project plans and specifications and the manufacturer's published instructions. Contractor is solely responsible for the loading, transport, and unloading of Government Furnished Materials from specified staging areas to each Project location.

PSL2. Electrical Generators (Government Furnished Equipment)

Make: Cummins
Models: C36N6 36KW 60 Hz Outdoor Propane Genset (Qty = 1)
C36N6 36KW 60 Hz Outdoor Diesel Genset (Qty = 1)
OTECB Transfer Switch-Electronic Control (Qty = 2)

Supplier Point of Contact: Sam Norman, Project Manager
Cummins Sales & Service North America
(c) 425.902.9513
samantha.norman@cummins.com

Staging Area Locations: Marion County Public Works Department
5155 Silverton Road NE, Building 2
Salem, Oregon 97305

County Point of Contact: Michael Pierce, Fleet Supervisor
503.365.3196
mpierce@co.marion.or.us

Refer to Supporting Documents for manufacturer's product specifications. County has purchased factory startup services from the generator supplier. Contractor shall notify County when generators are fully installed and ready for factory startup and shall coordinate and accommodate factory startup services by the generator supplier. Refer to **PSL3** for additional information.

PSL3. Project Sites

Project #2 - MARION COUNTY PUBLIC WORKS

5155 Silverton Road NE, Salem, OR 97305
LAT: N 44° 58' 30.7" (44.9752)
LONG: W 122° 57' 18.8" (-122.9552)

<u>Source</u>	<u>Government Furnished Material / Equipment</u>
Cummins	C36N6 36KW 60 Hz Outdoor Diesel Genset
Cummins	OTECB Transfer Switch-Electronic Control

Project #3 - EASTVIEW LANE

4830 Eastview Lane NE, Silverton, OR 97381

LAT: N 44° 59' 40.8" (44.9947)

LONG: W 122° 45' 57.8" (-122.7661)

<u>Source</u>	<u>Government Furnished Material / Equipment</u>
Cummins	C36N6 36KW 60 Hz Outdoor Propane Genset
Cummins	OTECB Transfer Switch-Electronic Control

EXHIBIT K - PLANS AND DRAWINGS AND SUPPORTING DOCUMENTS



SITE NAME:
CROSBY

17451 RALPH LN NE, WOODBURN, OR 97071



PROJECT INFORMATION:
**MARION COUNTY
CROSBY**

17451 RALPH LN NE
WOODBURN, OR 97071

DATE	RELEASE
01-19-24	SITE SKETCH
02-12-25	PRELIMINARY ZONING DRAWINGS
10-24-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



Cushing
Civil Engineers
12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



SHEET TITLE:

**COVER
SHEET**

SHEET NUMBER:

T-1

SHEET INDEX	PROJECT INFORMATION	PROJECT INFORMATION CONTINUED	DRIVING DIRECTIONS	PROJECT DESCRIPTION
<p>CONSTRUCTION SUBMITTAL:</p> <p>T-1 COVER SHEET</p> <p>EX-1 EXISTING CONDITIONS</p> <p>G-1 GENERAL NOTES</p> <p>C-1 OVERALL SITE PLAN</p> <p>C-2 ENLARGED SITE PLAN</p> <p>C-3 ELEVATIONS</p> <p>C-4 INTERIOR SHELTER PLANS</p> <p>C-5 SHELTER SECTIONS</p> <p>E-1 SITE GROUNDING PLAN & DETAILS</p> <p>E-2 GROUNDING DETAILS I</p> <p>E-3 GROUNDING DETAILS II</p> <p>RF-1.0 RF TOWER APPURTENANCES I</p> <p>RF-1.1 RF TOWER APPURTENANCES II</p> <p>RF-1.2 RF TOWER APPURTENANCES III</p> <p>RF-1.3 RF TOWER APPURTENANCES IV</p>	<p>PROPERTY OWNER: MARION COUNTY-FINANCE PO BOX 14500 SALEM, OR 97309</p> <p>TOWER OWNER: MARION COUNTY PUBLIC WORKS 5155 SILVERTON RD NE SALEM, OR 97305 CONTACT: BRIAN NICHOLAS (503) 588-7943 bnicholas@comarion.or.us</p> <p>COUNTY: MARION</p> <p>JURISDICTION: MARION COUNTY</p> <p>ZONING: P (PUBLIC)</p> <p>PARCEL NUMBER(S) & AREA: ACCOUNT #: 514437 TAXLOT #: 052W010000200 520,106.4 SQ FEET ± 11.94 ACRES ±</p> <p>PROJECT AREA: TOTAL COMPOUND AREA - 55,258 SQ FEET ± (EXISTING) ACCESS DRIVE AND PARKING - EXISTING TOTAL - 95,258 SQ FEET ±</p> <p>PROJECT LOCATION: *LAT: N 45° 10'17.3" (45,171470) *LONG: W 122° 52'12.0" (-122,870000) *GROUND ELEVATION (ASML) = 184 ±</p> <p>*INFORMATION OBTAINED FROM GOOGLE EARTH</p> <p>UTILITY PROVIDERS: TELCO PROVIDER: N/A POWER PROVIDER: PORTLAND GENERAL ELECTRIC</p> <p>GENERAL INFORMATION: 1. TRAFFIC IS UNAFFECTED 2. SIGNAGE AT SITE IS PROPOSED 3. SITE IS UNMANNED AND HANDICAP ACCESS IS NOT REQUIRED</p> <p>CODE INFORMATION: 1. IBC-2018 INTERNATIONAL BUILDING CODE 2. NEC-2017 NATIONAL ELECTRIC CODE 3. 2019 OREGON STRUCTURAL SPECIALTY CODE 4. 2017 NFPA 58 CODE 5. OCCUPANCY GROUP: U 6. CONSTRUCTION TYPE: II-B</p>	<p>APPLICANT: MARION COUNTY PUBLIC WORKS 5155 SILVERTON RD NE SALEM, OR 97305 CONTACT: BRIAN NICHOLAS (503) 588-7943 bnicholas@comarion.or.us</p> <p>PROJECT MANAGER: PATRICK HOOVER (971) 295-0152 phoover@tspnw.com</p> <p>ZONING CONTACT: CUSHING CIVIL ENGINEERS 12725 SW MILLIKAN WAY, STE 300 BEAVERTON, OR 97005 CONTACT: ROB HOWE (503) 387-5331 rob@cushingcivilengineers.com</p> <p>CONSTRUCTION MANAGER: PATRICK HOOVER (971) 295-0152 phoover@tspnw.com</p> <p>ENGINEER OF RECORD: CUSHING CIVIL ENGINEERS 12725 SW MILLIKAN WAY, STE 300 BEAVERTON, OR 97005 CONTACT: KENNY MCMANAWAY (503) 387-5331 kenny@cushingcivilengineers.com</p>	<p>FROM MARION COUNTY PUBLIC WORKS BUILDING:</p> <ol style="list-style-type: none"> GET ON I-5 N IN SALEM FROM CORDON RD NE AND HAZEL GREEN RD NE 9 MN (4.9 MI) TURN RIGHT ONTO THE RAMP TO PORTLAND 0.4 MI FOLLOW I-5 N TO OR-214 N/OR-219 NHILLSBORO-SILVERTON HWY NE IN WOODBURN, TAKE EXIT 271 FROM I-5 N, 10 MN (11.3 MI) USE THE MIDDLE LANE TO TURN LEFT ONTO OR-214 N/OR-219 NHILLSBORO-SILVERTON HWY NE, CONTINUE TO FOLLOW OR-219 NHILLSBORO-SILVERTON HWY NE, 0.2 MI TURN RIGHT ONTO N ARNEY RD 0.1 MI TURN RIGHT TO STAY ON N ARVEY RD, PASS BY PANERA BREAD, 1.5 MI TURN LEFT ONTO CROSBY RD NE 0.1 MI TURN RIGHT ONTO RALPH LN NE, DESTINATION WILL BE ON THE LEFT, 0.3 MI <p>EST. TIME: 25 MINS. EST. MILEAGE: 18.5 MI</p>	<ol style="list-style-type: none"> PROPOSED MODIFICATION OF AN EXISTING PUBLIC SAFETY COMMUNICATIONS FACILITY FOR MARION COUNTY, OREGON. PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT ON AN EXISTING 180' SELF-SUPPORT TOWER: <ul style="list-style-type: none"> ANTENNA W/ ASSOCIATED ANCILLARY EQUIPMENT PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT WITHIN EXISTING GROUND SPACE: <ul style="list-style-type: none"> EXISTING EQUIPMENT SHELTER IMPROVEMENT <p>THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN ELECTRICAL AND MECHANICAL (GENERATOR AND TANK INSTALL, HVAC AND PROPANE GAS PIPING) BUILDING PERMITS AND TO PAY ELECTRICAL AND MECHANICAL BUILDING PERMIT FEES.</p>
		<p>VICINITY MAP</p> <p>SCALE: NTS</p>	<p>LOCATOR MAP</p> <p>SCALE: NTS</p>	

NOTE:
THIS IS NOT A SURVEY. ALL EXISTING
INFORMATION IS PROVIDED BY MARION
COUNTY GIS & SIDE WALK NOTES.

2
EX-1



SITE PHOTO SCALE: NTS 2



PROJECT INFORMATION:
**MARION COUNTY
CROSBY**

17451 RALPH LN NE
WOODBURN, OR 97071

DATE	RELEASE
05-19-24	SITE SKETCH
05-19-25	PRELIMINARY ZONING DRAWINGS
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PLANS PREPARED BY:

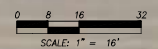
**Cushing
Civil Engineers**
12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
**EXISTING
CONDITIONS**

SHEET NUMBER:
EX-1



EXISTING CONDITIONS

11X17 SCALE: 1" = 32' 22X34 SCALE: 1" = 16' 1

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GENERAL NOTES:

- DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY. UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE INSTALLATION AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS AND STANDARDIZED DETAILS THAT REQUIRE MODIFICATIONS DUE TO ACTUAL FIELD CONDITIONS AND REQUIREMENTS MUST BE SUBMITTED TO AND APPROVED BY OWNERS REPRESENTATIVE PRIOR TO START OF WORK.
- PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
- THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, SAFETY, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED IN RED INK "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S/ENGINEER'S SIGNED WET STAMP.
- THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC., ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THE CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING CONSTRUCTION AND REPAIR ALL DAMAGES TO EQUAL OR BETTER NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER OF ANY DAMAGE TO THE BUILDING SITE OR ANY ADJACENT STRUCTURES AROUND THE PROJECT. THE OWNERS REPRESENTATIVE SHALL BE SOLE AND FINAL JUDGE AS TO THE QUALITY OF THE REPAIRED CONSTRUCTION. ANY ADDITIONAL MODIFICATIONS WHICH MUST BE MADE SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- WHERE NEW PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- THE CONTRACTOR SHALL MODIFY THE EXISTING FLOORS, WALL, CEILING, OR OTHER CONSTRUCTION AS REQUIRED TO GAIN ACCESS TO AREAS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, OR STRUCTURAL MODIFICATIONS. WHERE THE EXISTING CONSTRUCTION DOORS, PARTITIONS, CEILING, ETC., ARE TO BE REMOVED, MODIFIED, OR REARRANGED OR WHERE THE EXPOSED OR HIDDEN MECHANICAL, ELECTRICAL, SYSTEMS ARE ADDED OR MODIFIED, THE GENERAL CONTRACTOR SHALL REPAIR, PATCH AND MATCH ALL EXISTING CONSTRUCTION AND FINISHES OF ALL FLOORS WALLS AND CEILINGS, WHERE CONCRETE MASONRY CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL TOOTH IN ALL NEW CONSTRUCTION TO MATCH THE EXISTING BOND. WHERE CONCRETE CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL VERIFY THE EXACT DETAILS TO BE USED FOR CONSTRUCTION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.
- IF CONTRACTOR OR SUBCONTRACTOR FIND IT NECESSARY TO DEVIATE FROM ORIGINAL APPROVED PLANS, THEN IT IS THE CONTRACTOR'S AND THE SUBCONTRACTOR'S RESPONSIBILITY TO PROVIDE THE PROJECT MANAGER WITH 4 COPIES OF THE PROPOSED CHANGES FOR HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. IN ADDITION THE CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.
- CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITH IN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
- THIS IS AN ESSENTIAL FACILITY THEREFORE SHALL STRICTLY MEET ALL APPLICABLE CODE AND JURISDICTIONAL REQUIREMENTS.

GENERAL NOTES CONTINUED:

- THE CONTRACTOR SHALL PERFORM WORK DURING SITE/PROPERTY OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
 - SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHAL APPROVED MATERIALS AS APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY LOCATES, SCHEDULING, COORDINATING SPECIAL AND BUILDING DEPARTMENT INSPECTIONS.
 - ROUTING OF ALL CONDUITS, CABLES, CABLE TRAYS ETC ARE INDICATED AS PROPOSED LOCATION ONLY. CONFIRM THE EXACT LOCATION AND ROUTING WITH THE ON SITE PROJECT MANAGER PRIOR TO STARTING WORK.
- CONCRETE NOTES:**
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
 - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (UNO).
 - REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD (UNO).
 - THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST EARTH - 3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #4 AND LARGER 2 IN. #5 AND SMALLER & W/F 1-1/2 IN.
 - A 1/2" TROWELED RADIUS SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE (UNO). HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MFR RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS, AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN THE ELEVATED SLAB.
 - INSTALLATION OF CONCRETE EXPANSION AND WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.
 - FLOAT SURFACE SHALL BE A SMOOTH FINISH. SURFACE SHALL BE FREE OF ALL OBVIOUS DEPRESSIONS. SURFACE SHALL BE SLOPED AT 2% TO PROMOTE DRAINAGE AWAY FROM EQUIPMENT.

SITE WORK NOTES:

- RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY UNLESS OTHERWISE REQUIRED TO BE LEFT AS DEFINED BY LAND/PROPERTY OWNER.
 - THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT, EQUIPMENT SHELTER, GENERATOR, FUEL TANK, TOWER AREAS, AND ADJACENT BUILDINGS, ETC.
 - NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND, FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
 - THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO THE CRUSHED STONE APPLICATION. FABRIC USE AS REQUIRED.
 - ALL APPLICABLE LOCATES SHALL BE PERFORMED PRIOR TO ANY EXCAVATION OR SITE GRADING. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
 - ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND SHALL BE CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
 - THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING, DRIVEWAY OR CRUSHED STONE, SHALL BE GRADED TO A UNIFORM SLOPE. FERTILIZED, SEED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION LANDSCAPE WORK.
 - BEDDING MATERIAL FOR UTILITY LINES, CULVERTS AND PIPING: CLEAN SAND, MEDIUM TO COARSE, SUB ROUNDED NATURAL RIVER OR BANK SAND, WASHED, FREE OF SILT OR CLAY, LOAM, FRIBLE OR SOLUBLE MATERIALS, AND ORGANIC MATTER. GRADED IN ACCORDANCE WITH THE FOLLOWING GRAIN SIZE DISTRIBUTION:
- | SEIVE SIZE | PERCENT PASSING |
|--------------|-----------------|
| NO. 4 MESH | 100 |
| NO. 6 MESH | 60-80 |
| NO. 8 MESH | 0-45 |
| NO. 16 MESH | 0-25 |
| NO. 100 MESH | 0-2 |
| NO. 200 MESH | 0-2 |
- BMP'S FOR TEMPORARY EROSION/SEDIMENTATION CONTROL SHALL BE IMPLEMENTED PER LOCAL, CITY OR COUNTY GUIDELINES AND PER PLAN IF APPLICABLE.

SITE WORK NOTES CONTINUED:

- ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH INDUSTRY STANDARDS AND BE ALIGNED WITH BMP GUIDELINES AS TECHNICALLY APPLICABLE. EACH SITE MUST BE PM APPROVED BEFORE IT SHALL BE CONSIDERED COMPLETE AND ACCEPTED.
 - IF INADVERTENT DISCOVERIES OF NATIVE AMERICAN CULTURAL MATERIALS OR HUMAN REMAINS ARE MADE DURING CONSTRUCTION, ALL WORK SHOULD CEASE AND POTENTIALLY AFFECTED TRIBES, AS WELL AS THE STATE HISTORIC PRESERVATION OFFICE, SHOULD BE NOTIFIED IMMEDIATELY.
- TOWER/POLE NOTES:**
- ALL ANTENNAS, LINES AND RELATED INSTALLATION HARDWARE TO BE PROVIDED BY THE LAND MOBILE COMMUNICATIONS PROVIDER.
 - ALL HARDWARE (NUTS AND BOLTS) BE TIGHTENED AND TORQUED IN ACCORDANCE WITH THE TOWER MANUFACTURER'S AND STRUCTURAL ENGINEER'S SPECIFICATIONS.
 - VERIFICATION THAT THE TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.
 - PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ATTENTION (OREGON SITES ONLY):

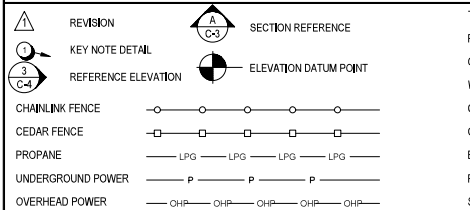
CALL 1-800-332-2344 48 HOURS BEFORE YOU DIG. OREGON LAW REQUIRES YOU TO FOLLOW OAR 852-001-0010 THRU 952-001-0090. COPIES ARE AVAILABLE AT THE OREGON UTILITY NOTIFICATION CENTER 503-232-1987

DESIGN LOADS:

ROOF SNOW LOAD DATA -	GROUND SNOW LOAD:	65 PSF
	FLAT-ROOF SNOW LOAD:	N/A
	SNOW EXPOSURE FACTOR:	N/A
	SNOW LOAD IMPORTANCE FACTOR:	N/A
	THERMAL FACTOR:	N/A
WIND DESIGN DATA -	ULTIMATE DESIGN WIND SPEED:	107 MPH
	RISK CATEGORY:	IV
	WIND EXPOSURE:	C
	INTERNAL PRESSURE COEFFICIENT:	N/A
	DESIGN WIND PRESSURES:	
	WIND LOAD HORIZONTAL (IMFRRS):	N/A
	WIND LOAD (UP/LIFT) (IMFRS):	N/A
EARTHQUAKE DESIGN DATA -	RISK CATEGORY:	IV
	SEISMIC IMPORTANCE FACTOR:	N/A
	MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:	
	S ₁ :	0.93
	S ₂ :	0.37
	SITE CLASS:	D
	DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:	
	S ₁ :	0.78
	S ₂ :	0.53
	D:	
SYSTEM:	SEISMIC DESIGN CATEGORY:	N/A
	BASIC SEISMIC FORCE-RESISTING:	N/A
	DESIGN BASE SHEAR:	N/A
	SEISMIC RESPONSE COEFFICIENT:	N/A
	RESPONSE MODIFICATION COEFFICIENT:	N/A
	ANALYSIS PROCEDURE USED:	N/A
	ALLOWABLE BEARING CAPACITY:	N/A
GEOTECHNICAL INFORMATION -		

INFORMATION OBTAINED FROM ASCE 7 HAZARD TOOL

SYMBOLS LEGEND



ABBREVIATIONS LEGEND

AC	AIR CONDITIONING	MET, MTL	METAL
ADJ	ADJUSTABLE	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MGR	MANAGER
AGL	ABOVE GRADE LEVEL	MNV	MINIMUM
APPROX	APPROXIMATELY	MSC	MISCELLANEOUS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	N	NORTH
AWG	AMERICAN WIRE GAUGE	NA	NOT APPLICABLE
BRS	BUILDING BLOCK	NC	NOT IN CONTRACT
BLK	BLOCK	NCS	NOT TO SCALE
BMR	BASE MOBILE RADIO	OC, o/c	ON CENTER
B/S	BUILDING STANDARD	OD	OUTSIDE DIAMETER
CLG	CEILING	OPG	OPENING
CLR	CLEAR	OPP	OPPOSITE
CONC	CONCRETE	CHP	OVERHEAD POWER
CONST	CONSTRUCTION	UGP	UNDERGRND POWER
CONT	CONTINUOUS	OHT	OVERHEAD TELCO
DBL	DOUBLE	UGT	UNDERGRND TELCO
DA, Ø	DIAMETER	PR	PAIR
DIAG	DIAGONAL	PROJ	PROJECT
DM	DIMENSION	PROP	PROPERTY
DN	DOWN	P	PROPOSED
DTL, DETL	DETAIL	PT	PRESSURE TREATED
DWG	DRAWING	REQD	REQUIRED
E	EAST	ROD	ROD
EACH	EACH	R.O.	ROUGH OPENING
EA, EL, ELEV	ELEVATION	S	SOUTH
ELECT	ELECTRICAL	SHT	SHEET
EQ	EQUAL	SIM	SIMILAR
EQUIP	EQUIPMENT	SPEC	SPECIFICATION
E.W.	EACH WAY EXISTING	SQ	SQUARE
EX	EXISTING	SS	STAINLESS STEEL
EXT	EXTERIOR	STL	STEEL
FIN	FINISH	STRUCT	STRUCTURAL
FLOOR	FLOURESCENT	SUSP	SUSPENDED
FLR	FLOOR	S.V.	SHEET VINYL
FT	FOOT	THRU	THROUGH
GAUGE	GALVANIZED	TINNED	TINNED
GALV	GALVANIZE(D)	T.O.C.	TOP OF CONCRETE
GC	GENERAL CONTRACTOR	T.O.M.	TOP OF MASONRY
GRND	GROUND	TYP	TYPICAL
GWB	GYPSPUM WALL BOARD	UNO,	UNLESS NOTED OTHERWISE
GYP BD	GYPSPUM BOARD	VERT	VERTICAL
HARDWD	HARDWOOD	VIF	VERIFY IN FIELD
HORIZ	HORIZONTAL	VT	VINYL TILE
HR	HOUR	W	WEST
HT	HEIGHT	W	WITH
HVAC	HEATING, VENTING AND AIR CONDITIONING	WIN	WINDOW
I.D.	INSIDE DIA.	W/O	WITHOUT
IN	INCH	WP	WATERPROOF
INFO	INFORMATION	Z	Z
INSUL	INSULATION	Ø	AND
INT	INTERIOR	Q	CENTER LINE
LS(S)	LOSS(S)	RL	PROPERTY LINE
LNA	ANTENNA AMPLIFIER	AT	AT
MAX	MAXIMUM	#	NUMBER
MECH	MECHANICAL		



MARION COUNTY CROSBY

17451 RALPH LN NE
WOODBURN, OR 97071

DATE	RELEASE
05-19-24	ITE SKETCH
08-12-25	PRELIMINARY ZONING DRAWINGS
10-24-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:

Cushing Civil Engineers
12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
G-1

NOTE:
THIS IS NOT A SURVEY. ALL EXISTING
INFORMATION IS PROVIDED BY MARION
COUNTY GIS.

TAXLOT # 052W010000100
ZONING: EFU

TAXLOT # 052W010000500
ZONING: EFU

TAXLOT # 052W010000200
ZONING: P (PUBLIC)

TAXLOT # 052W010000100
ZONING: EFU

TAXLOT # 052W010000302
ZONING: EFU

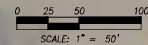
TAXLOT # 052W010000300
ZONING: EFU

PROPOSED PROJECT AREA
SEE SHEET C-2 FOR DETAILS

RALPH LN NE

(EX) ACCESS GATE

(EX) ACCESS ROAD



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PROJECT INFORMATION:

MARION COUNTY CROSBY

17451 RALPH LN NE
WOODBURN, OR 97071

DATE	RELEASE
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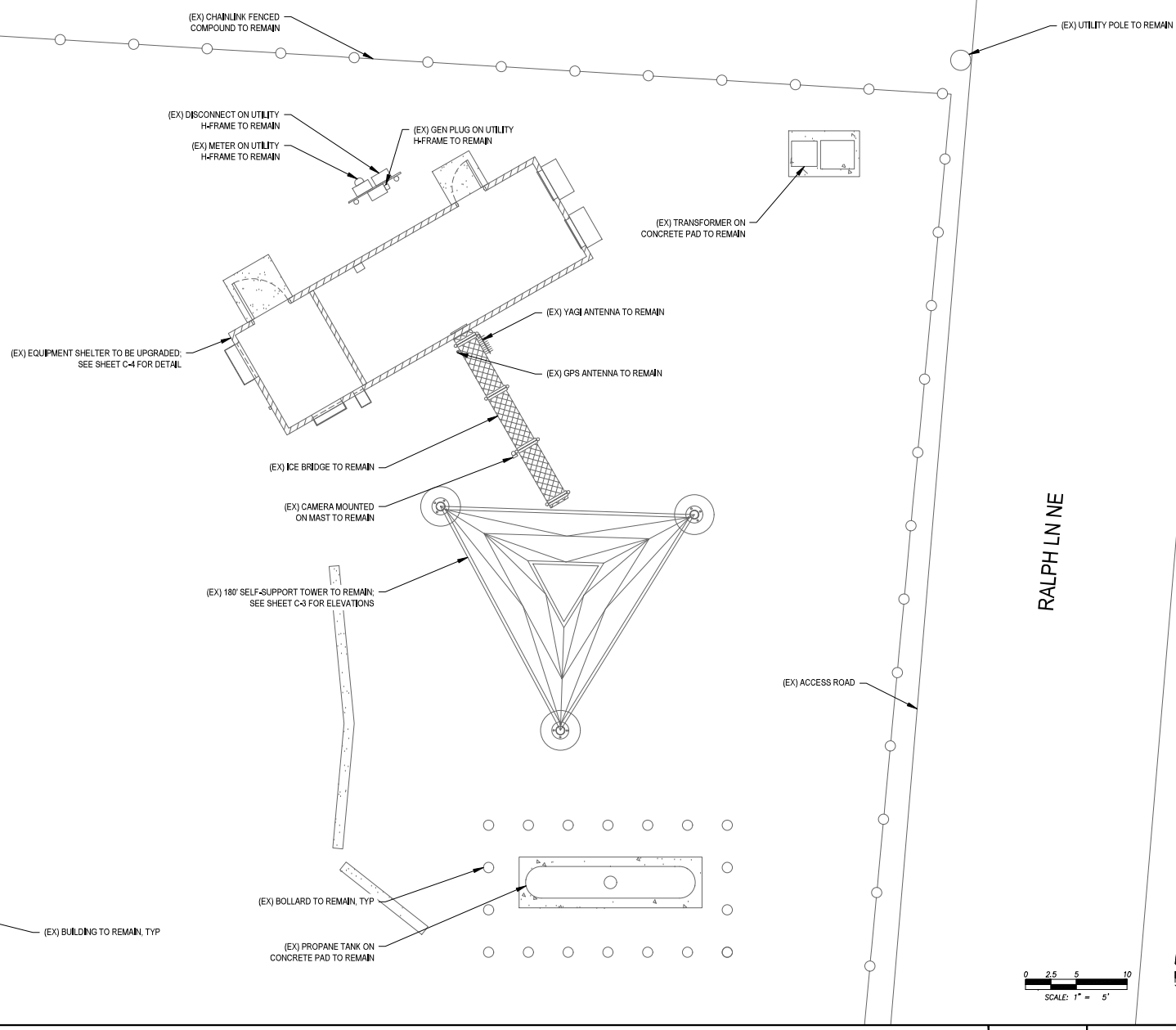
SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

C-1

NOTES:
 1. TOWER INFO SHOWN FOR CONCEPTUAL USE ONLY. SEE TOWER STRUCTURAL DESIGN BY OTHERS.
 2. THIS IS NOT A SURVEY ALL EXISTING INFORMATION IS PROVIDED BY GIS & SITE WALK NOTES.
 3. PROPOSED AND EXISTING ANTENNAS NOT SHOWN FOR CLARITY.



PROJECT INFORMATION:
MARION COUNTY
CROSBY

17451 RALPH LN NE
 WOODBURN, OR 97071

DATE	RELEASE
01-19-24	SITE SKETCH
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PLANS PREPARED BY:

Cushing
Civil Engineers
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SUITE 300
BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

LICENSURE:

REGISTERED PROFESSIONAL ENGINEER
 83233
 OREGON
 JUNE 7, 2012
 KENNY MCMANIS
 RENEWAL DATE 12/31/26

SHEET TITLE:
ENLARGED SITE PLAN

SHEET NUMBER:
C-2



**MARION COUNTY
CROSBY**

17451 RALPH LN NE
WOODBURN, OR 97071

DATE	RELEASE
07-19-24	ITE SKETCH
02-12-25	PRELIMINARY ZONING DRAWINGS
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PLANS PREPARED BY:
cushing
Civil Engineers

Cushing
Civil Engineers
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BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

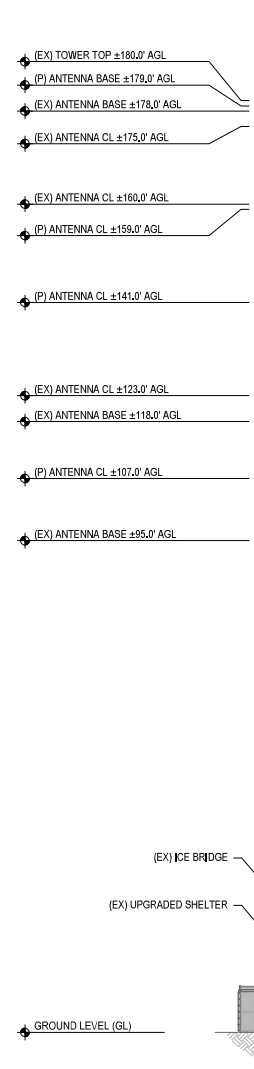
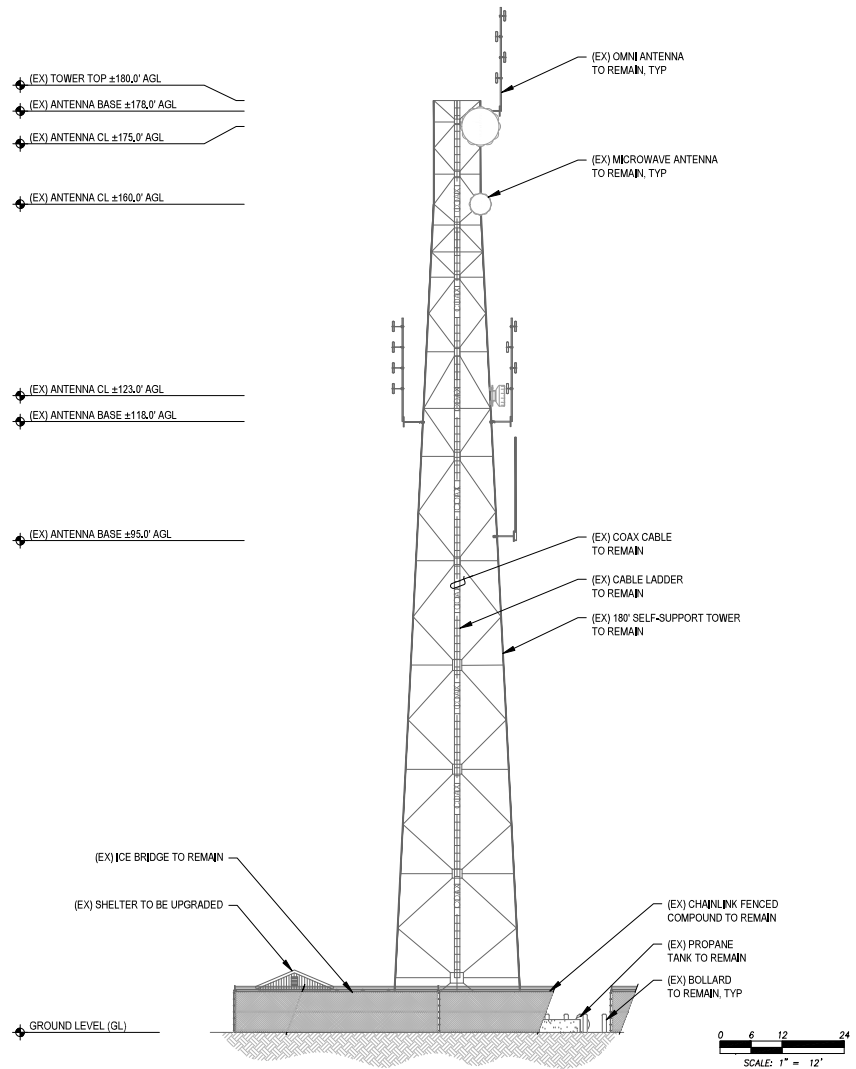
LICENSURE:

REGISTERED PROFESSIONAL ENGINEER
83233
OREGON
JUNE 7, 2012
KENNY MCMANIS
RENEWAL DATE 12/31/26

SHEET TITLE:
ELEVATIONS

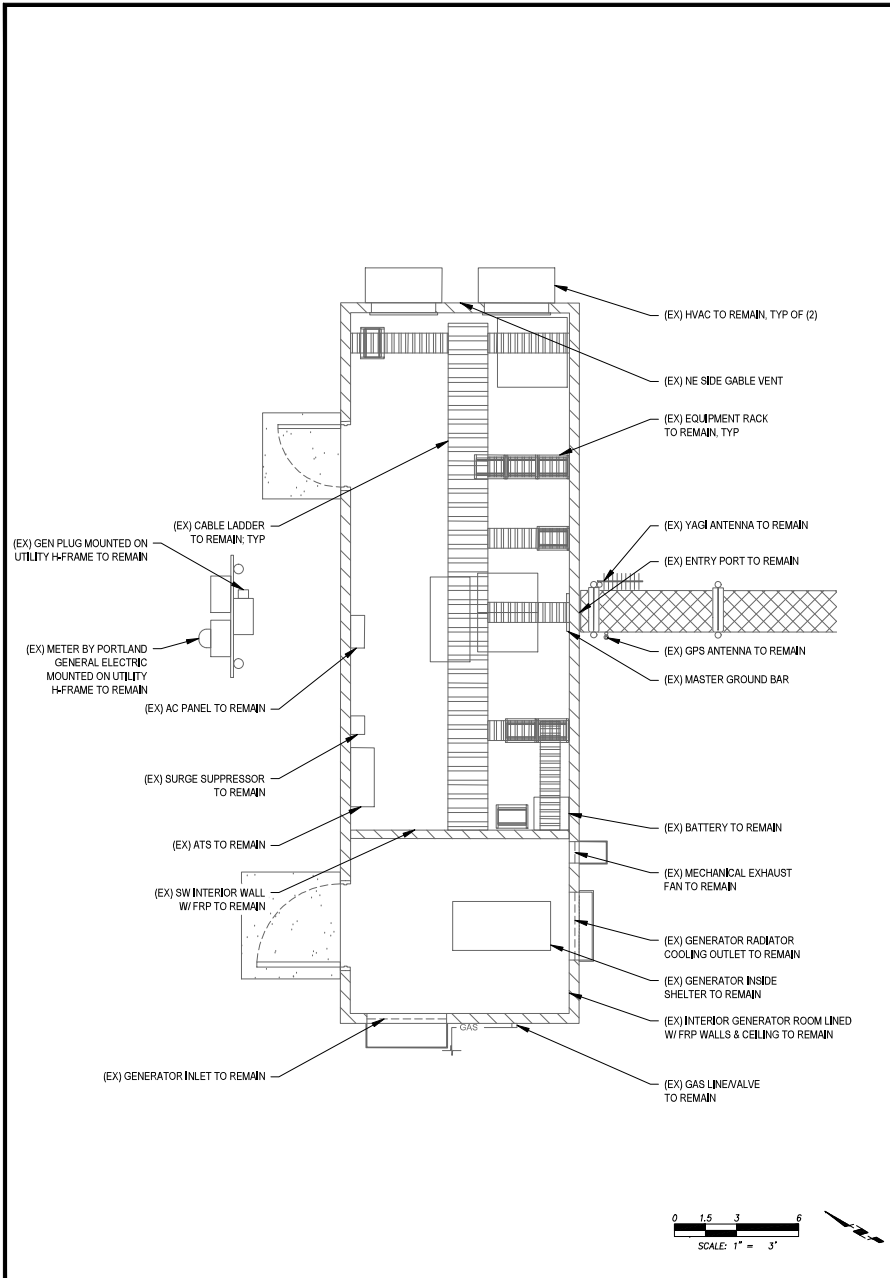
SHEET NUMBER:
C-3

NOTES:
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2. LOADING INFORMATION PROVIDED BY TAJT COMMUNICATIONS.

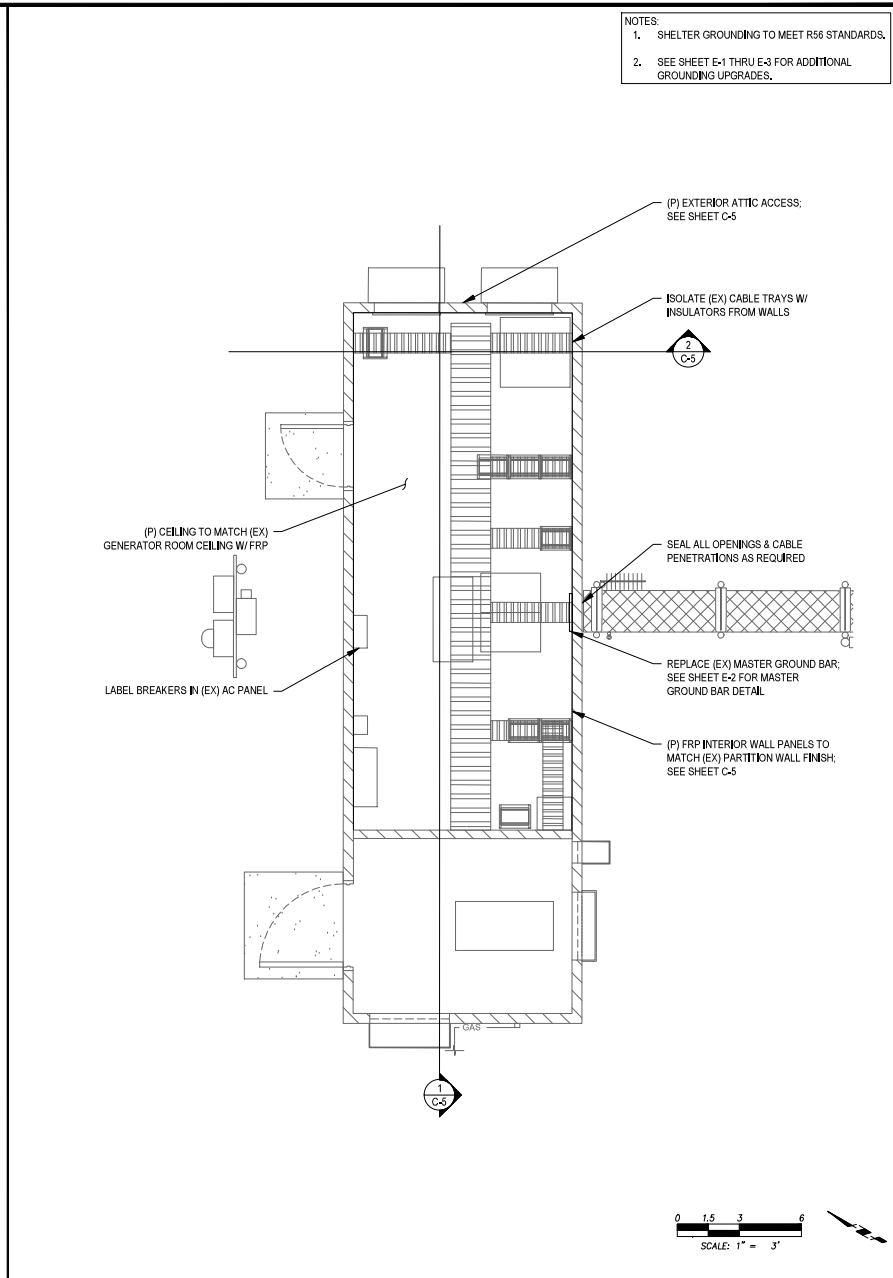


EXISTING SOUTHWEST ELEVATION 11X17 SCALE: 1" = 24' 22X34 SCALE: 1" = 12' 1

PROPOSED SOUTHWEST ELEVATION 11X17 SCALE: 1" = 24' 22X34 SCALE: 1" = 12' 2



EXISTING FLOOR PLAN 11X17 SCALE: 1" = 6' 22X34 SCALE: 1" = 3' **1**



PROPOSED FLOOR PLAN 11X17 SCALE: 1" = 6' 22X34 SCALE: 1" = 3' **2**

- NOTES:**
1. SHELTER GROUNDING TO MEET R56 STANDARDS.
 2. SEE SHEET E-1 THRU E-3 FOR ADDITIONAL GROUNDING UPGRADES.



PROJECT INFORMATION:
MARION COUNTY
CROSBY

17451 RALPH LN NE
 WOODBURN, OR 97071

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LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
INTERIOR
SHELTER PLANS

SHEET NUMBER:
C-4



**MARION COUNTY
CROSBY**

17451 RALPH LN NE
WOODBURN, OR 97071

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PLANS PREPARED BY:



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Civil Engineers**
12725 SW MILLIKAN WAY
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BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:

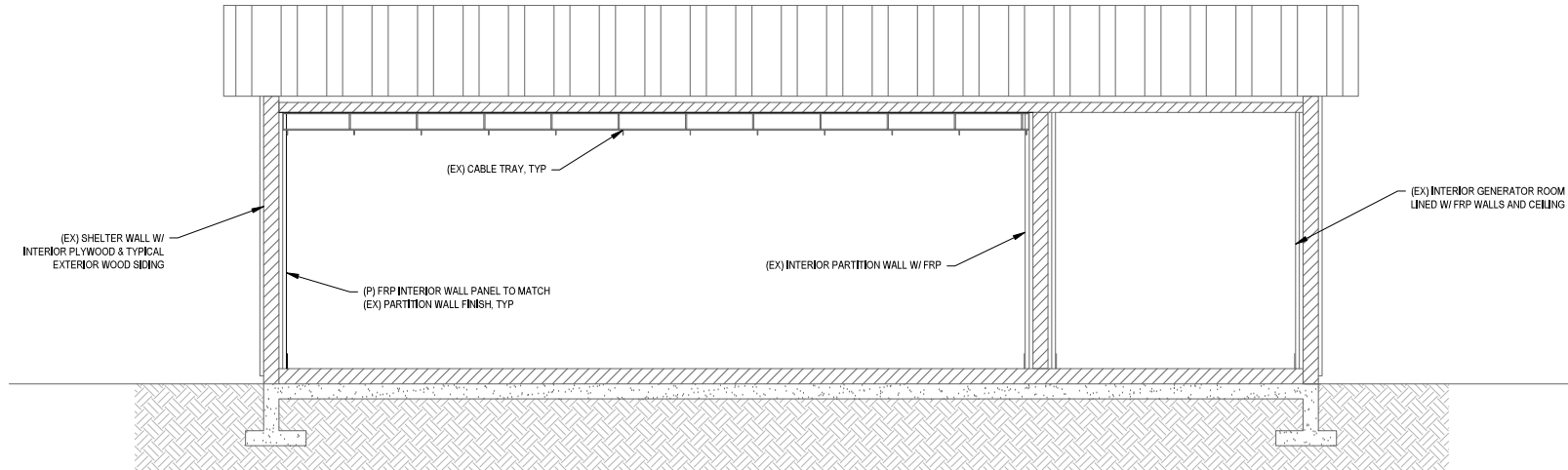


SHEET TITLE:

**SHELTER
SECTIONS**

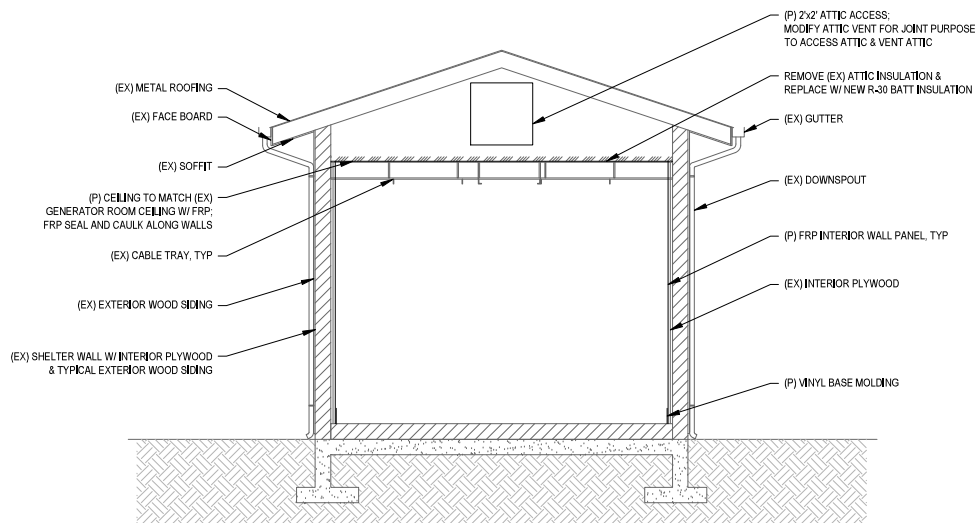
SHEET NUMBER:

C-5



WALL SECTION W/ INTERNAL VIEW LOOKING SOUTHEAST

SCALE: NTS **1**



NOTE:
SEE E-SHEETS FOR ADDITIONAL GROUNDING UPGRADES.

WALL SECTION W/ INTERNAL VIEW LOOKING NORTHEAST

SCALE: NTS **2**



**MARION COUNTY
CROSBY**

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DATE	RELEASE
05-16-24	SITE SKETCH
05-15-25	PRELIMINARY ZONING DRAWINGS
10-24-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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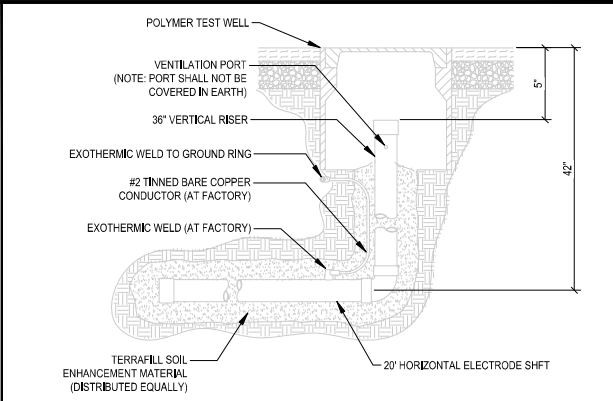
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(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:

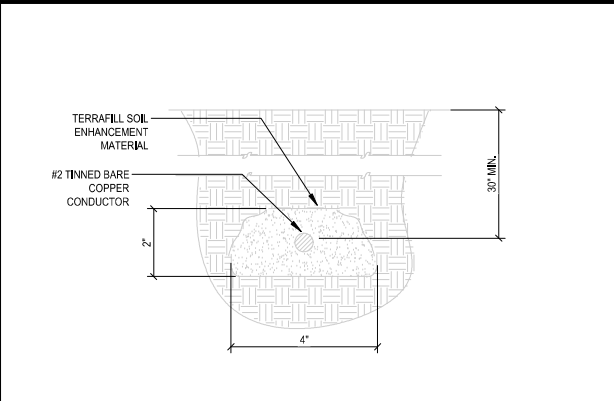
REGISTERED PROFESSIONAL ENGINEER
83233
OREGON
JUNE 7, 2012
RENEWAL DATE 12/31/26

SITE TITLE:
**SITE GROUNDING
PLAN & DETAILS**

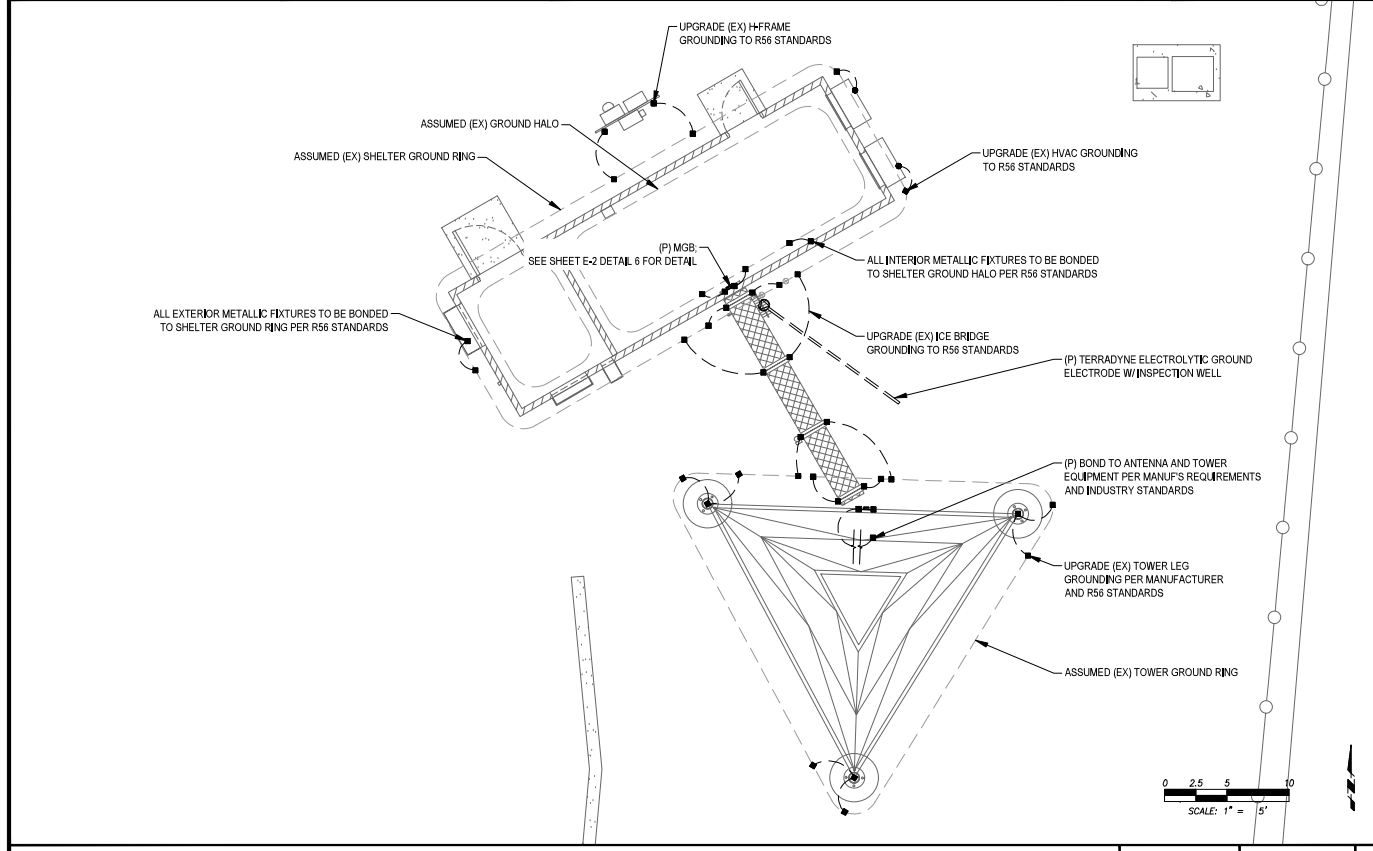
SHEET NUMBER:
E-1



TERRADYNE ELECTROLYTIC GROUND ELECTRODE SCALE: NTS 3



SOIL ENHANCEMENT DETAIL SCALE: NTS 2



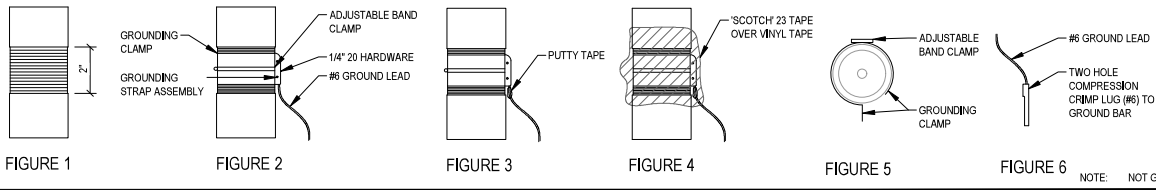
SITE COMPOUND GROUNDING PLAN 11X17 SCALE: 1" = 10' 22X34 SCALE: 1" = 5' 1

GENERAL NOTES:

- ALL INSTALLATIONS ARE TO BE FIELD VERIFIED.
- GROUND CONDUCTORS ARE TO BE BURIED AT A MINIMUM 30" BELOW GRADE OR 6" BELOW FREEZE LINE, WHICHEVER IS GREATER.
- ALL BELOW GRADE GROUNDING CONDUCTORS ARE TO BE ENCOMPASSED IN A 2" X 4" BED OF SOIL ENHANCEMENT MATERIAL.
- BONDS TO FENCE POSTS ARE TO BE MADE AT 12" ABOVE GRADE WHERE APPLICABLE.
- NO CONDUCTOR SHALL HAVE A BEND IN RADIUS OF LESS THAN 12" AND SHALL NOT EXCEED 90 DEGREES.
- TERRADYNE ELECTROLYTIC GROUND ELECTRODES ARE NOT TO SHARE THE SAME TRENCH AS GROUNDING CONDUCTOR, NOR RUN IN A PARALLEL PATH TO THE CONDUCTOR.
- ALL GROUND SYSTEMS ARE TO BE MADE COMMON.
- ALL BONDS ARE TO BE COATED WITH ANTI-OXIDATION COMPOUND.
- WHERE STANDARD GROUND ELECTRODES ARE UNABLE TO BE DRIVEN, 12" X 12" X 1/8" COPPER GROUND PLATES SHALL BE INSTALLED 30" BELOW FINISHED GRADE & ENCOMPASSED IN 50LBS OF TERRAFILL SOIL ENHANCEMENT MATERIAL.

LEGEND:

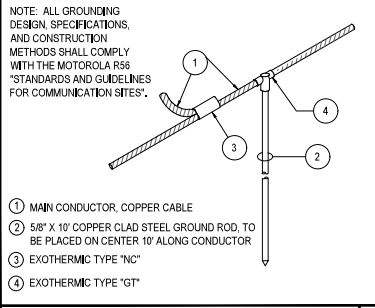
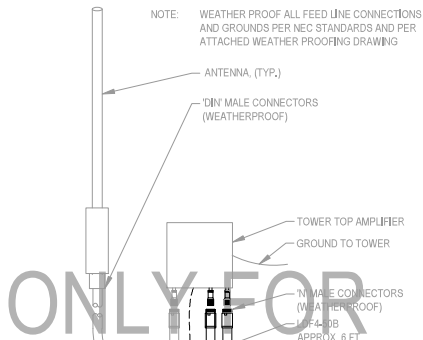
	TERRADYNE TG-20L-H36-2T-36-4F-P SERIES ELECTRODE W/ INSPECTION WELL
	EXOTHERMIC WELD
	MECHANICAL CONNECTION
	5/8" X 10" COPPER CLAD GROUND ELECTRODE
	5/8" X 10" COPPER CLAD GROUND ELECTRODE WITH INSPECTION SLEEVE
	#2 TINNED SOLID COPPER CONDUCTOR



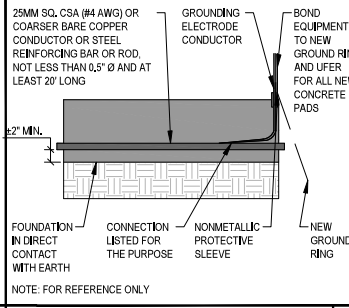
FEED LINE CABLE GROUNDING

NOTE: NOT GC

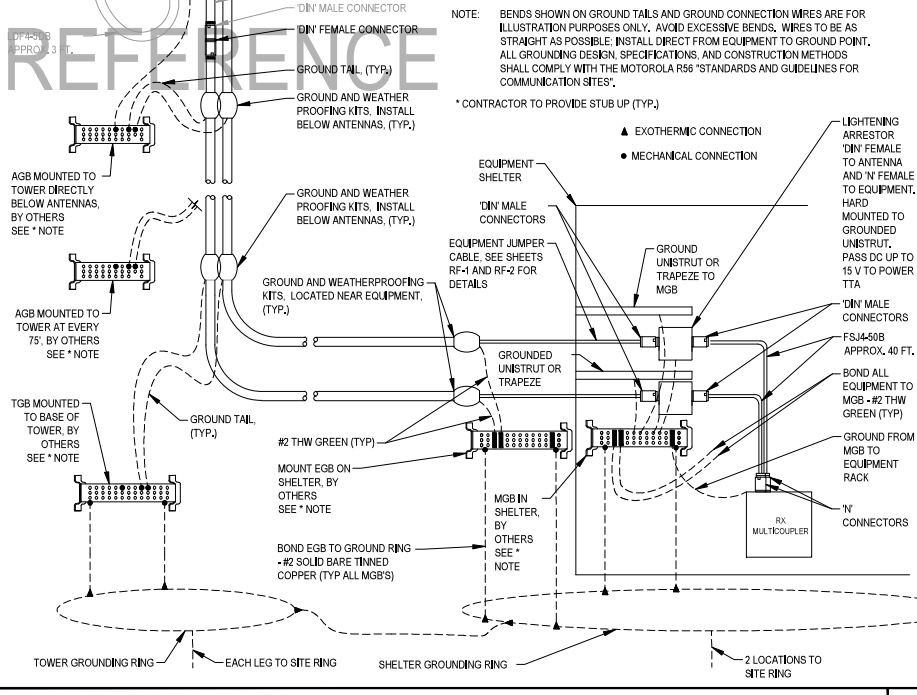
SCALE: NTS 2



GROUND ROD DETAIL

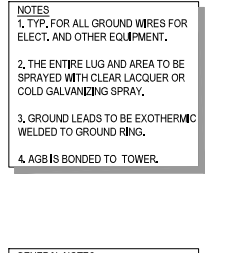


UFER DETAIL

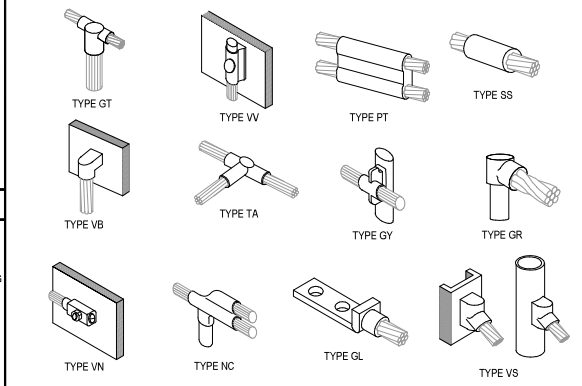


STANDARD RX GROUNDING SCHEMATICS

SCALE: NTS 1



GROUND BAR DETAILS



TYPICAL EXOTHERMIC CONNECTION DETAILS

SCALE: NTS 3



MARION COUNTY CROSBY

17451 RALPH LN NE
WOODBURN, OR 97071

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PLANS PREPARED BY:

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LICENSURE:

REGISTERED PROFESSIONAL ENGINEER
83233

OREGON
JUNE 7, 2012

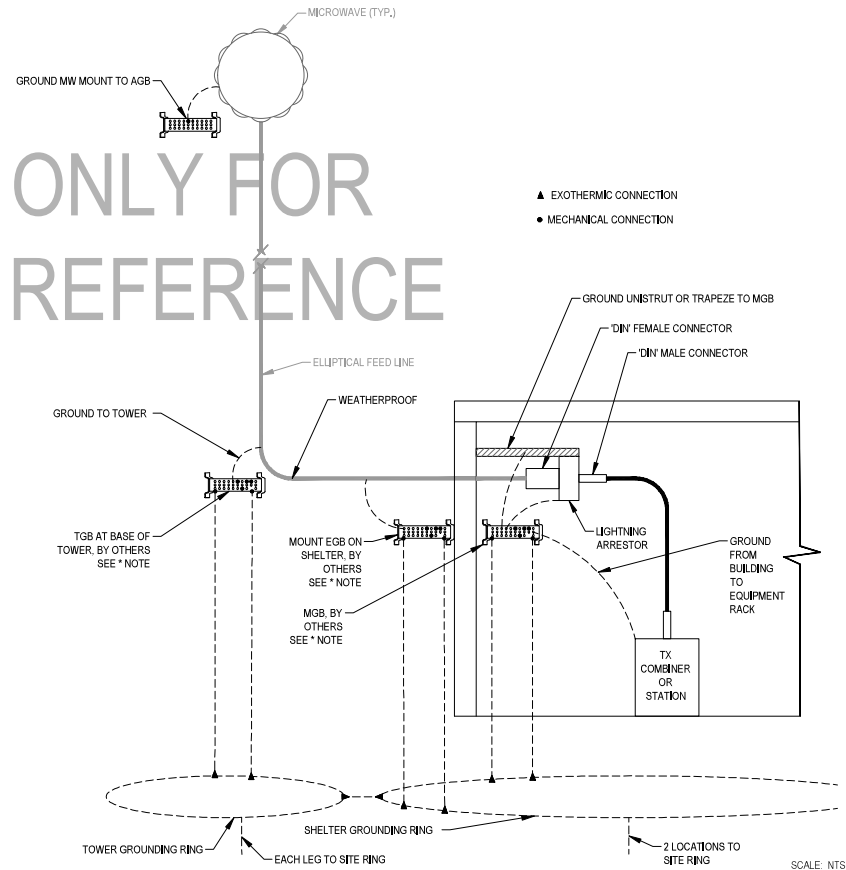
KENNY MCWANNAN

RENEWAL DATE 12/31/26

GROUNDING DETAILS I

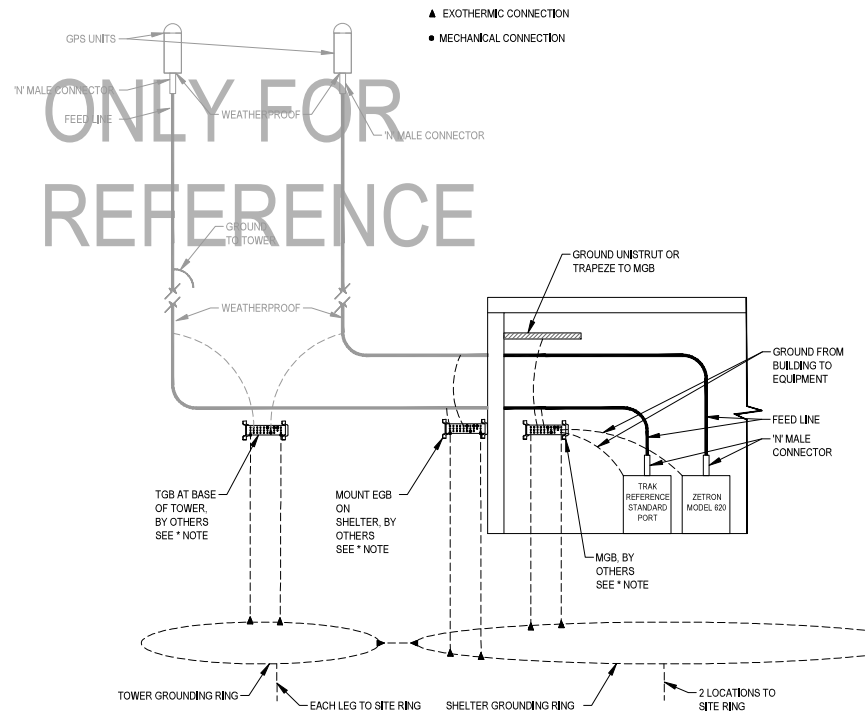
SHEET NUMBER:

E-2



TYPICAL MICROWAVE ANTENNA GROUNDING SCHEMATICS

1



TYPICAL GPS ANTENNA GROUNDING SCHEMATICS

2

NOTE:
 TOWER INFO SHOWN FOR CONCEPTUAL
 USE ONLY. SEE TOWER STRUCTURAL
 REPORT BY OTHERS.



PROJECT INFORMATION:
**MARION COUNTY
 CROSBY**

17451 RALPH LN NE
 WOODBURN, OR 97071

DATE	RELEASE
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LICENSURE:

REGISTERED PROFESSIONAL
 ENGINEER
 83233
 OREGON
 JUNE 7, 2012
 KENYAN MCMANIS
 RENEWAL DATE 12/31/26

SHEET TITLE:
**GROUNDING
 DETAILS II**

SHEET NUMBER:
E-3

SITE INFORMATION	
SITE NAME	CROSBY


LOCATION INFORMATION			
COUNTY	MARION COUNTY		
STREET ADDRESS	17451 RALPH LN NE		
CITY	WOODBURN	STATE	OR
ZIP CODE	97071		
LATITUDE (DEC.)/(DEG)	45.171470 / 45° 10'17.3" N		
LONGITUDE (DEC.)/(DEG)	-122.870000 / 122°52'12.0" W		

TOWER INFORMATION			
STRUCTURE	SELF-SUPPORTING TOWER	TOWER MANUFACTURER	VALMONT
TOWER OWNER	MARION COUNTY	SERIAL/MODEL #	-
GROUND ELEVATION	±184'	# OF APPURTENANCE	-
# OF LEGS	3	HIGHEST POINT W/ ANT	-
TOWER HEIGHT W/O ANT	180'		

#	Description	Part Number	Length (ft)	Leg/Face	Status	Base Height (ft)	Centerline Height (ft)	Top Height (ft)	Antenna Spacing	Mount Spacing	Mount	Attachment	Attachment Line
1	P25 TX Antenna	CC807-09	10.3	C	New	159	164	169	-	-	Site-Pro P5A-6 (6' stands/H)	Standard	7/8"
2	P25 RX Antenna	CC807-09	10.3	C	New	179	184	189	-	-	Standard	Standard	1/2" to TTA
3	TTA	NPD3633A-TTA	1.0	C	New	176	177	177	-	-	Standard	Standard	7/8"
4	Microwave - Eagle Crest	VHLPG-6W	6.0	B	New	138	141	144	225.89	225.89	Standard w/ teback	FW63	1/2" to TTA
5	Microwave - Parrett Mtn	VHLPK3-11W	3.0	C	New	106	107	109	353.13	353.13	Standard w/ teback	FW63	1/2" to TTA
6	Microwave-1		10	B	Existing	170	175	180	-	-	Standard	Standard	7/8"
7	Microwave-2		4	B	Existing	158	160	162	-	-	Standard	Standard	7/8"
8	Microwave-3		4	B	Existing	121	123	125	-	-	Standard	Standard	7/8"
9	Dipole-1	VHF Dipole	20	A	Existing	178	188	198	-	-	Standoff	Standoff	7/8"
10	Dipole-2	VHF Dipole	20	B	Existing	118	128	138	-	-	Standoff	Standoff	7/8"
11	Dipole-3	VHF Dipole	20	A	Existing	118	128	138	-	-	Standoff	Standoff	7/8"
12	Dipole-4	VHF Dipole	20	C	Existing	118	128	138	-	-	Standoff	Standoff	7/8"
13	Omni-1		20	A	Existing	95	105	115	-	-	Standoff	Standoff	7/8"

NOTE:
INFORMATION BASED ON TAIT COMMUNICATIONS' DOCUMENT DATED 08/11/2025 PROVIDED BY MARION COUNTY.

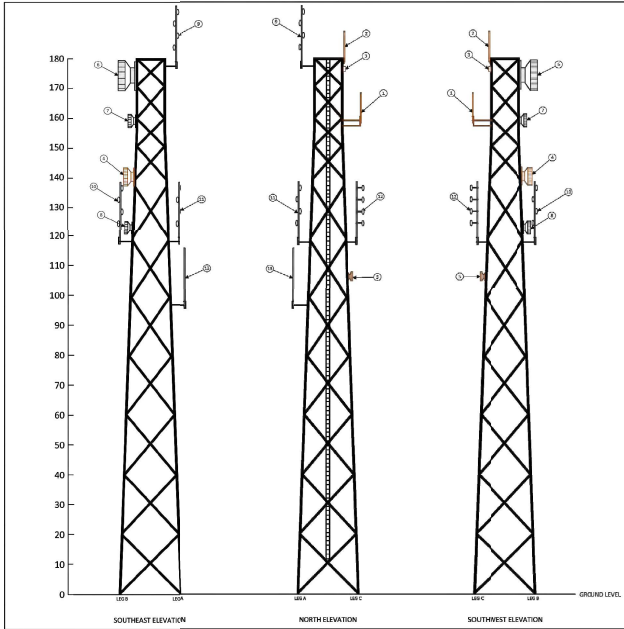
PROVISIONAL



Marion County, OR
700 MHz
P25 Phase II

Date: 8/11/2025
Drawn: RCA
Checked: -
FILE:marion county or_crosby.rvt

Crosby
Appurtenance Chart



PROVISIONAL



Marion County, OR
700 MHz
P25 Phase II

Date: 8/11/2025
Drawn: RCA
Checked: -
FILE:marion county or_crosby.rvt

Crosby
Tower Plan



PROJECT INFORMATION:
MARION COUNTY CROSBY

17451 RALPH LN NE
WOODBURN, OR 97071

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PLANS PREPARED BY:



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www.cushingcivilengineers.com

LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
RF TOWER APPURTENANCES I

SHEET NUMBER:
RF-1.0

VHLPX3-11W/A

Base Product



0.9m | 3 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 10.125–11.700 GHz

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Side Siruts, Included 0
Side Siruts, Optional 1 inboard

Dimensions

Diameter, nominal 0.9 m | 3 ft

Electrical Specifications

Operating Frequency Band 10.125 – 11.700 GHz
Gain, Low Band 37.8 dBi
Gain, Mid Band 38.4 dBi
Gain, Top Band 39 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 64 dB
Beamwidth, Horizontal 2°
Beamwidth, Vertical 2°
Return Loss 17.7 dB
VSWR 1.3
Radiation Pattern Envelope Reference (RPE) 7177A | 7178A
Electrical Compliance Brazil Anatel Class 2 | Canada SRSP 310.5 | ETSI 302 217 Class 3 | US FCC Part 101A @ 10.55–10.7 GHz | US FCC Part 101A @

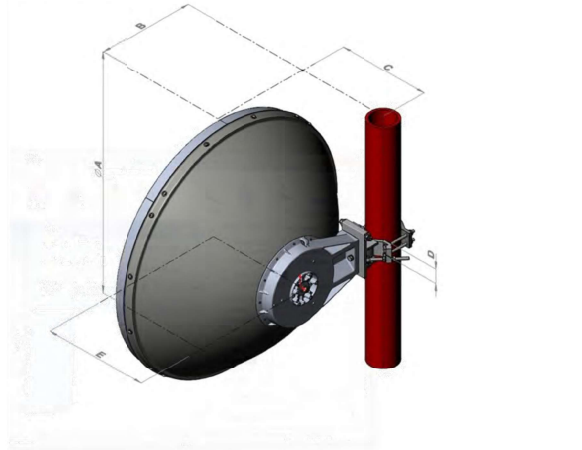
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VHLPX3-11W/A

Antenna Dimensions and Mounting Information



Dimension in Inches (mm)					
Antenna size, ft (m)	A	B	C	D	E
3 (1.0)	39.3 (999)	16 (407)	15.2 (387)	2.4 (60)	17.2 (437)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 2903 N | 652.321 lbf
Angle α for MT Max 0°
Side Force (FS) 1439 N | 323.5 lbf
Twisting Moment (MT) 1179 N-m | 10,435.029 in lb
Zcg without Ice 135 mm | 5.315 in
Zcg with 1/2 in (12 mm) Radial Ice 84 mm | 3.307 in
Weight with 1/2 in (12 mm) Radial Ice 46 kg | 101.413 lb

Page 3 of 5

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PROJECT INFORMATION:

**MARION COUNTY
CROSBY**

17451 RALPH LN NE
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LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**RF TOWER
APPURTENANCES II**

SHEET NUMBER:

RF-1.1

NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.

VHLPX6-6W/B

Base Product



18 m | 6 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 5.925–7.125 GHz

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Side Struts, Included 1
Side Struts, Optional 1 inboard

Dimensions

Diameter, nominal 1.8 m | 6 ft

Electrical Specifications

Operating Frequency Band 5.925 – 7.125 GHz
Gain, Low Band 38.5 dBi
Gain, Mid Band 39.3 dBi
Gain, Top Band 40.1 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 66 dB
Beamwidth, Horizontal 1.8 °
Beamwidth, Vertical 1.8 °
Return Loss 17.7 dB
VSWR 1.3
Radiation Pattern Envelope Reference (RPE) 7139B
Electrical Compliance Brazil Anatel Class 3 | Canada SRSP 305.9 Part A | Canada SRSP 306.4 Part A | ETSI 302 217 Class 3 | US FCC Part 101A

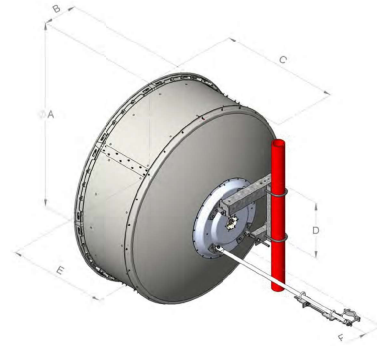
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VHLPX6-6W/B

Antenna Dimensions and Mounting Information



Antenna size, ft (m)	Dimensions in inches (mm)					
	A	B	C	D	E	F
6 (1.8)	74.8 (1899)	13.4 (340)	47.5 (1206)	22.4 (570)	39.4 (1001)	6.9 (174)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 10670 N | 2,398,712 lbf
Angle α for MT Max -120 °
Side Force (FS) 5280 N | 1,183.34 lbf
Twisting Moment (MT) 4752 N-m | 42,058,742 in lb
Zcg without Ice 363 mm | 14.291 in
Zcg with 1/2 in (12 mm) Radial Ice 543 mm | 21.378 in
Weight with 1/2 in (12 mm) Radial Ice 234 kg | 515.881 lb

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PROJECT INFORMATION:

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LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

RF TOWER APPURTENANCES III

SHEET NUMBER:

RF-1.2

800MHz Corporate Collinear Antennas
748-870MHz
CC807 Series



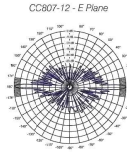
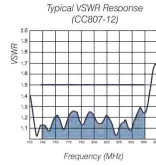
These industry leading, full featured corporate collinear arrays allow site operators to combine, with complete integrity, a large number of communications services into a single, low profile antenna solution.

The corporate feed design employed by RFI maintains superior pattern control, allowing gain to be maximised with zero tilt variation over a very broad bandwidth, comparable to that only previously available in exposed dipole array configurations. This is achieved in the preferred form factor of a fully enclosed fibreglass radome, providing a reduction in wind loading, ice loading and tower loading in comparison.

The CC807 series have been designed with an exceptional power rating of 50kW across the band as well as a Peak Instantaneous Power (PIP) rating of 25kW to cater for the peak voltage levels present in large multi-carrier combining environments. RFI's refined design processes and proven construction methods achieve a PIM rating of -150dBc , further ensuring performance is maintained for the service life of the antenna.

Features:

- 500W Continuous Power rating
- -150dBc Passive Intermodulation (PIM) rating, 100% PIM tested
- 25 kW Peak Instantaneous Power (PIP) rating
- DC grounding on all elements for the ultimate in lightning protection and dissipation of static noise.
- Light weight dipole construction using RFI's patented flexi-PCB architecture, maintains a low centre of gravity reducing tip deflection and sway
- Field invertible (excluding tilt models)
- Preset downtilt variations of 2 and 4 degrees available, see note (1)



Electrical Specifications

Model Number	CC807-09-P	CC807-12-P
Nominal Gain dBi @ dB	9.0 (11.1)	11.5 (13.6)
Frequency MHz	748-870	
Tuned Bandwidth MHz	Full	
VSWR (Return Loss)	1.5:1	
Nominal Impedance Ω	50	
Downtilt*	0 Std 2, 4 (1)	
Vertical Beamwidth*	6	4
Horizontal Beamwidth*	Omni +/- 0.5dB	
Input Power W	500	
Passive IM 3rd order (2x20W) dBc	-150	
Peak Instantaneous Power kW	25	

Mechanical

Model Number	CC807-09-P	CC807-12-P	
Construction	Sky Blue fibreglass radome		
Radome Diameter mm (inches)	76 (3.0)		
Length mm (inches)	3135 (123.4)	6235 (245.5)	
Weight kg (lbs)	14 (30.9)	25.5 (56.2)	
Termination	Integrated 4.3-10 Female		
Mounting Area mm (inches)	75x x 90.30 x 3.5 diameter Ecolim™ plated aluminium		
Suggested Clamps	3 x UC-114		
Shipping Dimensions mm (inches)	H	115 (4.5)	
	W	115 (4.5)	
	L	6435 (253.3)	
Shipping Weight kg (lbs)		36.5 (80.5)	
	No Ice	2597 (2.8)	5559 (6.0)
Projected area cm ² (ft ²)	With Ice	3192 (3.4)	7037 (7.6)
		308 (0.9)	659 (1.48)
Lateral Thrust @ 160km/h N (100 mph lbs)	>240 (150)		
Wind Gust Rating km/h (mph) No Ice			
Torque @ 160km/h Nm (100mph ft-lbs)	413 (305)	1823 (1345)	

(1) To order pre-set downtilt versions available, simply add a -T2 or -T4 towards the end of the part number to denote downtilt model required. For eg. CC807-12-T2-P to order CC807-12-P with 2deg of downtilt. Please note Models with downtilt are NOT field invertible. Eg. CC807-12-T2-P

P-43021-7

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rfi.com.au

NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.



PROJECT INFORMATION:

**MARION COUNTY
CROSBY**

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WOODBURN, OR 97071

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BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**RF TOWER
APPURTENANCES IV**

SHEET NUMBER:

RF-1.3



**SITE NAME:
MCPW**

5155 SILVERTON RD NE, SALEM, OR 97305



**PROJECT INFORMATION:
MARION COUNTY
MCPW**

5155 SILVERTON RD NE
SALEM, OR 97305

DATE	RELEASE
05-01-24	SITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
10-24-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-20-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



**Cushing
Civil Engineers**

12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



SHEET TITLE:

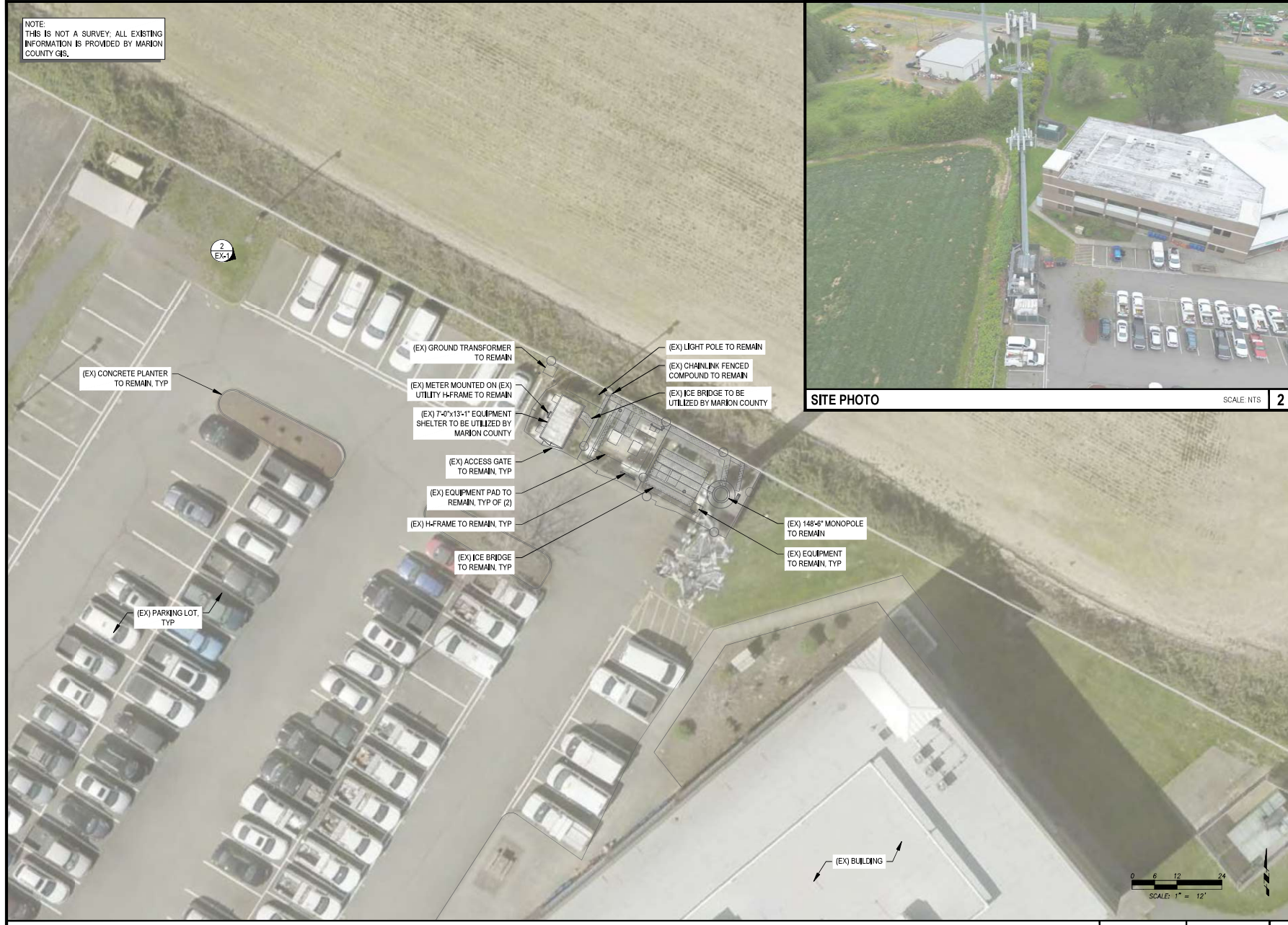
**COVER
SHEET**

SHEET NUMBER:

T-1

SHEET INDEX	PROJECT INFORMATION	PROJECT INFORMATION CONTINUED	DRIVING DIRECTIONS	PROJECT DESCRIPTION
<p>CONSTRUCTION SUBMITTAL:</p> <p>T-1 COVER SHEET</p> <p>EX-1 EXISTING CONDITIONS</p> <p>G-1 GENERAL NOTES</p> <p>C-1 OVERALL SITE PLAN</p> <p>C-2 ENLARGED SITE PLAN</p> <p>C-3 ELEVATIONS</p> <p>C-4 INTERIOR SHELTER PLANS</p> <p>C-5 COMPOUND DETAILS</p> <p>C-6 DIESEL GENERATOR DETAILS</p> <p>E-1 SITE GRONDING PLAN & DETAILS</p> <p>E-2 GRONDING DETAILS I</p> <p>E-3 GRONDING DETAILS II</p> <p>RF-1,0 RF TOWER APPURTENANCES I</p> <p>RF-1,1 RF TOWER APPURTENANCES II</p> <p>RF-1,2 RF TOWER APPURTENANCES III</p> <p>RF-1,3 RF TOWER APPURTENANCES IV</p>	<p>PROPERTY OWNER: MARION COUNTY-FINANCE MARION COUNTY PUBLIC WORKS PO BOX 14500 SALEM, OR 97309</p> <p>TOWER OWNER: CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317 CONTACT: (866) 482-8890 lots@crowncastle.com</p> <p>COUNTY: MARION JURISDICTION: MARION COUNTY</p> <p>ZONING: P (PUBLIC)</p> <p>PARCEL NUMBER(S) & AREA: ACCOUNT #: 522863 TAXLOT #: 072W08D000300 674,308.8 SQ FEET± 15.48 ACRES±</p> <p>PROJECT AREA: TOTAL COMPOUND AREA = 1,324 SQ FEET ± ACCESS DRIVE AND PARKING - EXISTING TOTAL = 1,324 SQ FEET ±</p> <p>PROJECT LOCATION: *LAT: N 44° 58'30.7" (44.975200) *LONG: W 122° 57' 18.8" (-122.955210) *GROUND ELEVATION (ASML) = 200±</p> <p>*INFORMATION OBTAINED FROM GOOGLE EARTH</p> <p>UTILITY PROVIDERS: TELCO PROVIDER: N/A POWER PROVIDER: PORTLAND GENERAL ELECTRIC</p> <p>GENERAL INFORMATION: 1. TRAFFIC IS UNAFFECTED 2. SIGNAGE AT SITE IS PROPOSED 3. SITE IS UNMANNED AND HANDICAP ACCESS IS NOT REQUIRED</p> <p>CODE INFORMATION: 1. IBC-2018 INTERNATIONAL BUILDING CODE 2. NEC-2017 NATIONAL ELECTRIC CODE 3. 2019 OREGON STRUCTURAL SPECIALTY CODE 4. 2017 NFPA 58 CODE 5. OCCUPANCY GROUP: U 6. CONSTRUCTION TYPE: II-B</p>	<p>APPLICANT: MARION COUNTY PUBLIC WORKS 5155 SILVERTON RD NE SALEM, OR 97305 CONTACT: BRIAN NICHOLAS (503) 588-7943 bnicholas@comarion.or.us</p> <p>PROJECT MANAGER: PATRICK HOOVER (971) 295-0152 phoover@tspnw.com</p> <p>CONSTRUCTION MANAGER: PATRICK HOOVER (971) 295-0152 phoover@tspnw.com</p> <p>ZONING CONTACT: CUSHING CIVIL ENGINEERS 12725 SW MILLIKAN WAY, STE 300 BEAVERTON, OR 97005 CONTACT: ROB HOWE (503) 387-5331 rob@cushingcivilengineers.com</p> <p>ENGINEER OF RECORD: CUSHING CIVIL ENGINEERS 12725 SW MILLIKAN WAY, STE 300 BEAVERTON, OR 97005 CONTACT: KENNY McMANAWAY (503) 387-5331 kenny@cushingcivilengineers.com</p>	<p>FROM MARION COUNTY PUBLIC WORKS BUILDING:</p> <p>1. SITE EXISTS AT STARTING LOCATION 0 MN (0 MI)</p> <p>EST. TIME: 0 MINS. EST. MILEAGE: 0 MI</p>	<p>1. PROPOSED MODIFICATION OF AN EXISTING PUBLIC SAFETY COMMUNICATIONS FACILITY FOR MARION COUNTY, OREGON.</p> <p>2. PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT ON EXISTING 148'-6" MONOPOLE TOWER:</p> <ul style="list-style-type: none"> ANTENNAS W/ ASSOCIATED ANCILLARY EQUIPMENT <p>3. PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT WITHIN EXISTING GROUND SPACE:</p> <ul style="list-style-type: none"> CHAINLINK FENCE EXTENSION GENERATOR W/ SUB-BASE DIESEL FUEL TANK <p>THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN ELECTRICAL AND MECHANICAL (GENERATOR AND TANK INSTALL, HVAC AND PROPANE GAS PIPING) BUILDING PERMITS AND TO PAY ELECTRICAL AND MECHANICAL BUILDING PERMIT FEES.</p>
		<p>VICINITY MAP</p> <p>SCALE: NTS</p>	<p>LOCATOR MAP</p> <p>SCALE: NTS</p>	

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INFORMATION IS PROVIDED BY MARION
COUNTY GIS.



SITE PHOTO SCALE: NTS **2**



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LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
**EXISTING
CONDITIONS**

SHEET NUMBER:
EX-1

GENERAL NOTES:

- DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY. UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE INSTALLATION AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS AND STANDARDIZED DETAILS THAT REQUIRE MODIFICATIONS DUE TO ACTUAL FIELD CONDITIONS AND REQUIREMENTS MUST BE SUBMITTED TO AND APPROVED BY OWNERS REPRESENTATIVE PRIOR TO START OF WORK.
- PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
- THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, SAFETY, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED IN RED INK "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S/ENGINEER'S SIGNED WET STAMP.
- THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC., ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THE CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING CONSTRUCTION AND REPAIR ALL DAMAGES TO EQUAL OR BETTER NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER OF ANY DAMAGE TO THE BUILDING SITE OR ANY ADJACENT STRUCTURES AROUND THE PROJECT. THE OWNERS REPRESENTATIVE SHALL BE SOLE AND FINAL JUDGE AS TO THE QUALITY OF THE REPAIRED CONSTRUCTION. ANY ADDITIONAL MODIFICATIONS WHICH MUST BE MADE SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- WHERE NEW PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- THE CONTRACTOR SHALL MODIFY THE EXISTING FLOORS, WALL, CEILING, OR OTHER CONSTRUCTION AS REQUIRED TO GAIN ACCESS TO AREAS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, OR STRUCTURAL MODIFICATIONS. WHERE THE EXISTING CONSTRUCTION DOORS, PARTITIONS, CEILING, ETC., ARE TO BE REMOVED, MODIFIED, OR REARRANGED OR WHERE THE EXPOSED OR HIDDEN MECHANICAL, ELECTRICAL, SYSTEMS ARE ADDED OR MODIFIED, THE GENERAL CONTRACTOR SHALL REPAIR, PATCH AND MATCH ALL EXISTING CONSTRUCTION AND FINISHES OF ALL FLOORS WALLS AND CEILINGS, WHERE CONCRETE MASONRY CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL TOOTH IN ALL NEW CONSTRUCTION TO MATCH THE EXISTING BOND. WHERE CONCRETE CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL VERIFY THE EXACT DETAILS TO BE USED FOR CONSTRUCTION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.
- IF CONTRACTOR OR SUBCONTRACTOR FIND IT NECESSARY TO DEVIATE FROM ORIGINAL APPROVED PLANS, THEN IT IS THE CONTRACTOR'S AND THE SUBCONTRACTOR'S RESPONSIBILITY TO PROVIDE THE PROJECT MANAGER WITH 4 COPIES OF THE PROPOSED CHANGES FOR HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. IN ADDITION THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.
- CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITH IN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
- THIS IS AN ESSENTIAL FACILITY THEREFORE SHALL STRICTLY MEET ALL APPLICABLE CODE AND JURISDICTIONAL REQUIREMENTS.

GENERAL NOTES CONTINUED:

- THE CONTRACTOR SHALL PERFORM WORK DURING SITE/PROPERTY OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
 - SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHAL APPROVED MATERIALS AS APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY LOCATES, SCHEDULING, COORDINATING SPECIAL AND BUILDING DEPARTMENT INSPECTIONS.
 - ROUTING OF ALL CONDUITS, CABLES, CABLE TRAYS ETC ARE INDICATED AS PROPOSED LOCATION ONLY. CONFIRM THE EXACT LOCATION AND ROUTING WITH THE ON SITE PROJECT MANAGER PRIOR TO STARTING WORK.
- CONCRETE NOTES:**
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
 - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (UNO).
 - REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD (UNO).
 - THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST EARTH - 3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #4 AND LARGER 2 IN. #5 AND SMALLER & W/F 1 1/2 IN.
 - A 1/2" TROWELED RADIUS SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE (UNO). HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MFR RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS, AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN THE ELEVATED SLAB.
 - INSTALLATION OF CONCRETE EXPANSION AND WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.
 - FLOAT SURFACE SHALL BE A SMOOTH FINISH. SURFACE SHALL BE FREE OF ALL OBVIOUS DEPRESSIONS. SURFACE SHALL BE SLOPED AT 2% TO PROMOTE DRAINAGE AWAY FROM EQUIPMENT.

SITE WORK NOTES:

- RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY UNLESS OTHERWISE REQUIRED TO BE LEFT AS DEFINED BY LAND/PROPERTY OWNER.
 - THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT, EQUIPMENT SHELTER, GENERATOR, FUEL TANK, TOWER AREAS, AND ADJACENT BUILDINGS, ETC.
 - NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND, FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
 - THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO THE CRUSHED STONE APPLICATION. FABRIC USE AS REQUIRED.
 - ALL APPLICABLE LOCATES SHALL BE PERFORMED PRIOR TO ANY EXCAVATION OR SITE GRADING. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
 - ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND SHALL BE CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
 - THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING, DRIVEWAY OR CRUSHED STONE, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION LANDSCAPE WORK.
 - BMP'S FOR TEMPORARY EROSION/SEDIMENTATION CONTROL SHALL BE IMPLEMENTED PER LOCAL, CITY OR COUNTY GUIDELINES AND PER PLAN IF APPLICABLE.
- | SEIVE SIZE | PERCENT PASSING |
|--------------|-----------------|
| NO. 4 MESH | 100 |
| NO. 8 MESH | 60-60 |
| NO. 16 MESH | 0-45 |
| NO. 30 MESH | 0-25 |
| NO. 60 MESH | 0-2 |
| NO. 200 MESH | 0-2 |

SITE WORK NOTES CONTINUED:

- ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH INDUSTRY STANDARDS AND BE ALIGNED WITH BMP GUIDELINES AS TECHNICALLY APPLICABLE. EACH SITE MUST BE PM APPROVED BEFORE IT SHALL BE CONSIDERED COMPLETE AND ACCEPTED.
 - IF UNADVERTENT DISCOVERIES OF NATIVE AMERICAN CULTURAL MATERIALS OR HUMAN REMAINS ARE MADE DURING CONSTRUCTION, ALL WORK SHOULD CEASE AND POTENTIALLY AFFECTED TRIBES, AS WELL AS THE STATE HISTORIC PRESERVATION OFFICE, SHOULD BE NOTIFIED IMMEDIATELY.
- TOWER/POLE NOTES:**
- ALL ANTENNAS, LINES AND RELATED INSTALLATION HARDWARE TO BE PROVIDED BY THE LAND MOBILE COMMUNICATIONS PROVIDER.
 - ALL HARDWARE (NUTS AND BOLTS) BE TIGHTENED AND TORQUED IN ACCORDANCE WITH THE TOWER MANUFACTURER'S AND STRUCTURAL ENGINEER'S SPECIFICATIONS.
 - VERIFICATION THAT THE TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.
 - PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ATTENTION (OREGON SITES ONLY):

CALL 1-800-332-2344 48 HOURS BEFORE YOU DIG, OREGON LAW REQUIRES YOU TO FOLLOW OAR 852-001-0010 THRU 852-001-0090. COPIES ARE AVAILABLE AT THE OREGON UTILITY NOTIFICATION CENTER 503-232-1987

DESIGN LOADS:

ROOF SNOW LOAD DATA -	GROUND SNOW LOAD:	68 PSF
	FLAT-ROOF SNOW LOAD:	N/A
	SNOW EXPOSURE FACTOR:	N/A
	SNOW LOAD IMPORTANCE FACTOR:	N/A
	THERMAL FACTOR:	N/A
WIND DESIGN DATA -	ULTIMATE DESIGN WIND SPEED:	107 MPH
	RISK CATEGORY:	IV
	WIND EXPOSURE:	C
	INTERNAL PRESSURE COEFFICIENT:	N/A
	DESIGN WIND PRESSURES:	N/A
	WIND LOAD HORIZONTAL (MMFRS) D:	N/A
	WIND LOAD (UPLIFT) (MMFRS):	N/A
EARTHQUAKE DESIGN DATA -	RISK CATEGORY:	IV
	SEISMIC IMPORTANCE FACTOR:	N/A
	MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:	N/A
	S:	0.91
	D:	0.37
	SITE CLASS:	D
	DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:	N/A
	S:	0.78
	S:	0.53
	SEISMIC DESIGN CATEGORY:	D
	BASIC SEISMIC FORCE-RESISTING SYSTEM:	N/A
	DESIGN BASE SHEAR:	N/A
	SEISMIC RESPONSE COEFFICIENT:	N/A
	RESPONSE MODIFICATION COEFFICIENT:	N/A
	ANALYSIS PROCEDURE USED:	N/A
GEOTECHNICAL INFORMATION -	ALLOWABLE BEARING CAPACITY:	N/A

INFORMATION OBTAINED FROM ASCE 7 HAZARD TOOL

SYMBOLS LEGEND

	REVISION		SECTION REFERENCE
	KEY NOTE DETAIL		ELEVATION DATUM POINT
	REFERENCE ELEVATION		
	CHAINLINK FENCE		
	CEDAR FENCE		
	PROPANE		
	UNDERGROUND POWER		
	OVERHEAD POWER		

ABBREVIATIONS LEGEND

AC	AIR CONDITIONING	MET, MTL	METAL
ADJ	ADJUSTABLE	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MGR	MANAGER
AGL	ABOVE GRADE LEVEL	MN	MINIMUM
APPROX	APPROXIMATELY	MSC	MISCELLANEOUS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	N	NORTH
		NA	NOT APPLICABLE
AWG	AMERICAN WIRE GAUGE	NC	NOT IN CONTRACT
BRS	BUILDING BLOCK	NTS	NOT TO SCALE
BLK	BLOCK	OC, o/c	ON CENTER
BMR	BASE MOBILE RADIO	OD	OUTSIDE DIAMETER
B/S	BUILDING STANDARD	OPG	OPENING
CLG	CEILING	OPP	OPPOSITE
CLR	CLEAR	OPH	OVERHEAD POWER
CONC	CONCRETE	UGP	UNDERGRND POWER
CONST	CONSTRUCTION	UHT	OVERHEAD TELCO
CONT	CONTINUOUS	UGT	UNDERGRND TELCO
DBL	DOUBLE	PR	PAIR
DA, Ø	DIAMETER	PROJ	PROJECT
DIAG	DIAGONAL	PROP P	PROPERTY PROPOSED
DM	DIMENSION	P	PROPOSED
DN	DOWN	PT	PRESSURE TREATED
DTL, DETL	DETAIL	REQD	REQUIRED
DWG	DRAWING	RM	ROOM
E	EAST	R.O.	ROUGH OPENING
EA	EACH	S	SOUTH
EL, ELEV	ELEVATION	SHT	SHEET
ELECT	ELECTRICAL	SM	SIMILAR
EQ	EQUAL	SPEC	SPECIFICATION
EQUIP	EQUIPMENT	SQ	SQUARE
E.W.	EACH WAY EXISTING	SS	STAINLESS STEEL
EXT	EXTERIOR	ST	STEEL
FIN	FINISH	STRUCT	STRUCTURAL
FLOOR	FLOURESCENT	SUSP	SUSPENDED
FLR	FLOOR	S.V.	SHEET VINYL
FT	FOOT	THRU	THROUGH
GA	GALVE	TND	TINNED
GALV	GALVANIZE(D)	T.O.C.	TOP OF CONCRETE
GC	GENERAL CONTRACTOR	T.O.M.	TOP OF MASONRY
GRND	GROUND	TYP	TYPICAL
GWB	GYPSPUM WALL BOARD	UNO,	UNLESS NOTED OTHERWISE
GYP BD	GYPSPUM BOARD	VERT	VERTICAL
HARDWD	HARDWOOD	VIF	VERIFY IN FIELD
HORIZ	HORIZONTAL	VT	VINYL TILE
HR	HOUR	W	WEST
HT	HEIGHT	W	WITH
HVAC	HEATING, VENTING AND AIR CONDITIONING	WIN	WINDOW
I.D.	INSIDE DIA.	W/O	WITHOUT
IN	INCH	WP	WATERPROOF
IN	INCH	Z4	ANGLE
INFO	INFORMATION	Ø	AND
INSUL	INSULATION	Q	CENTER LINE
INT	INTERIOR	RL	PROPERTY LINE
LS(S)	LOSS	®	AT
LNA	ANTENNA AMPLIFIER	#	NUMBER
MAX	MAXIMUM		
MECH	MECHANICAL		



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LICENSURE:

REGISTERED PROFESSIONAL ENGINEER
 83293
 OREGON
 JUNE 7, 2012
 KEVIN MCMANAWAY
 RENEWAL DATE 12/31/26

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GENERAL NOTES
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OVERALL SITE PLAN



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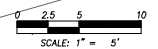
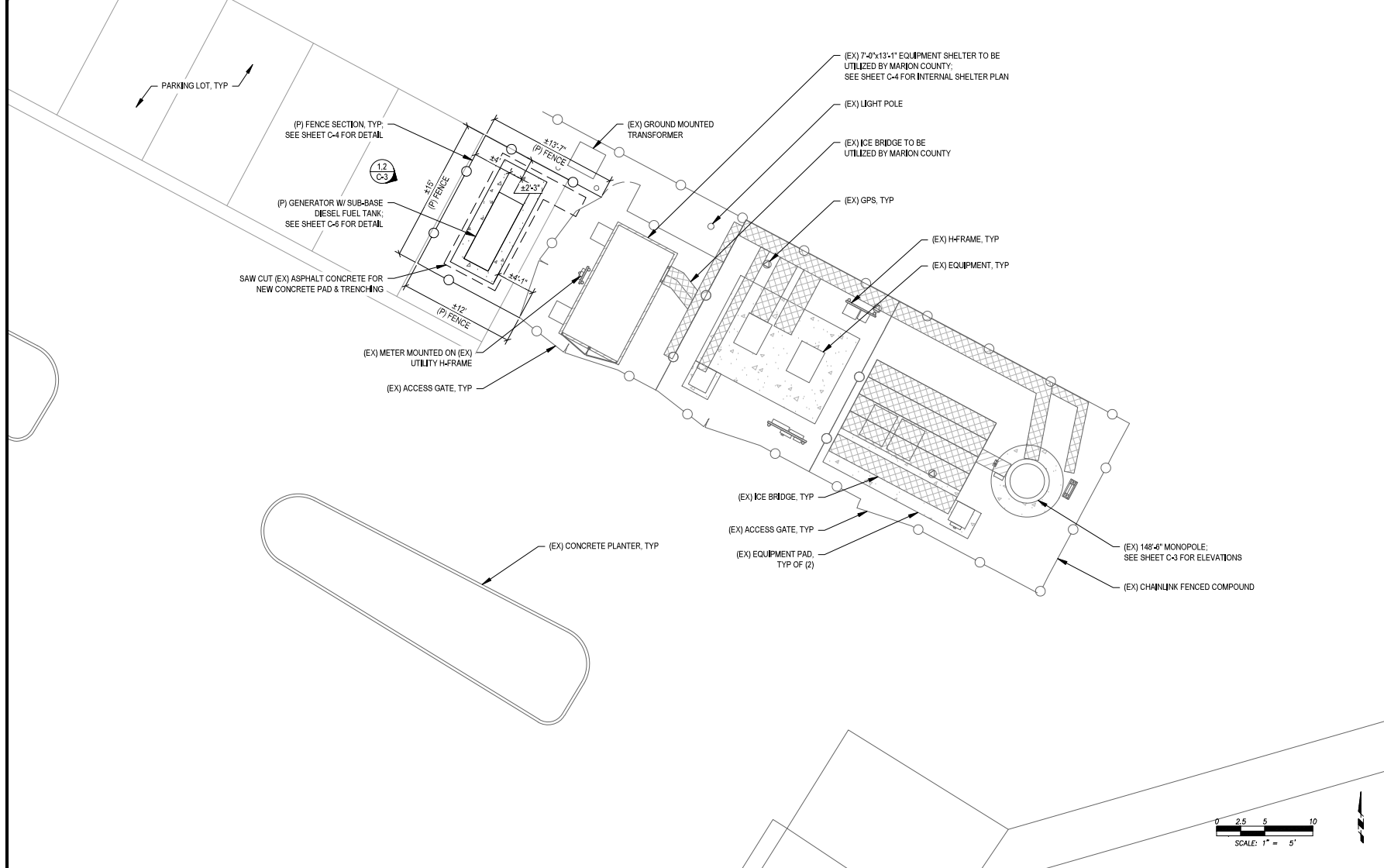
LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
**OVERALL
SITE PLAN**

SHEET NUMBER:
C-1

- NOTES:
1. TOWER INFO SHOWN FOR CONCEPTUAL USE ONLY. SEE TOWER STRUCTURAL DESIGN BY OTHERS.
 2. THIS IS NOT A SURVEY ALL EXISTING INFORMATION IS PROVIDED BY GIS & SITE WALK NOTES.
 3. PROPOSED AND EXISTING ANTENNAS NOT SHOWN FOR CLARITY.



PROJECT INFORMATION:
MARION COUNTY
MCPW

5155 SILVERTON RD NE
 SALEM, OR 97305

DATE	RELEASE
05-01-24	SITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
10-24-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-20-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:

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 Civil Engineers
 12725 SW MILLIKAN WAY
 SUITE 300
 BEAVERTON, OR 97005
 (503) 381-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

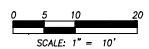
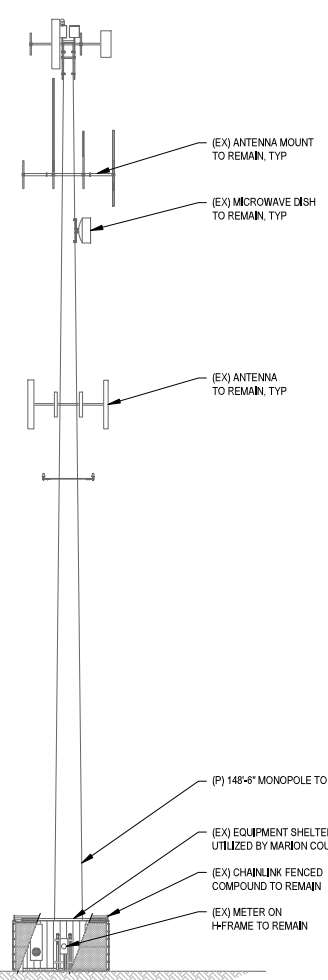
SHEET TITLE:

ENLARGED
SITE PLAN

SHEET NUMBER:

C-2

◄ (EX) TOP OF STROBE ±151.0' AGL
 ◄ (EX) TOWER TOP ±148.5' AGL



◄ TOP OF FOUNDATION ±0.0'

EXISTING NORTHWEST ELEVATION

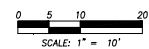
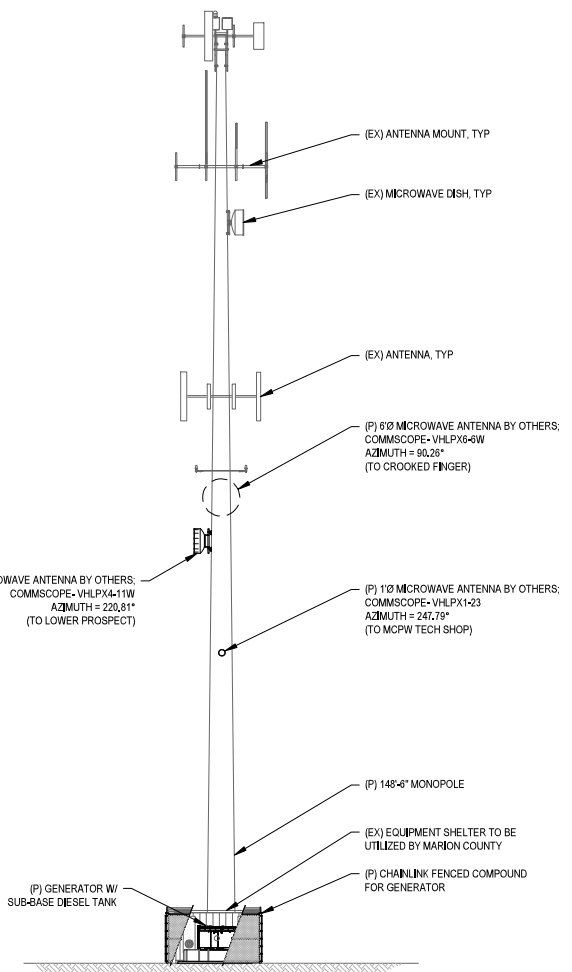
11X17 SCALE: 1" = 20'
 22X34 SCALE: 1" = 10' **1**

NOTES:
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 2. LOADING INFORMATION PROVIDED BY TAIT COMMUNICATIONS.

◄ (EX) TOP OF STROBE ±151.0' AGL
 ◄ (EX) TOWER TOP ±148.5' AGL

◄ (P) ANTENNA CL ±75.0' AGL
 ◄ (P) ANTENNA CL ±88.0' AGL
 ◄ (P) ANTENNA CL ±50.0' AGL

(P) 4'Ø MICROWAVE ANTENNA BY OTHERS;
 COMMSCOPE-VHLPK4-11W
 AZIMUTH = 220.81°
 (TO LOWER PROSPECT)



◄ TOP OF FOUNDATION ±0.0'

PROPOSED NORTHWEST ELEVATION

11X17 SCALE: 1" = 20'
 22X34 SCALE: 1" = 10' **2**



PROJECT INFORMATION:
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MCPW
 5155 SILVERTON RD NE
 SALEM, OR 97305

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LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
ELEVATIONS

SHEET NUMBER:
C-3



**MARION COUNTY
MCPW**

5155 SILVERTON RD NE
SALEM, OR 97305

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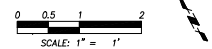
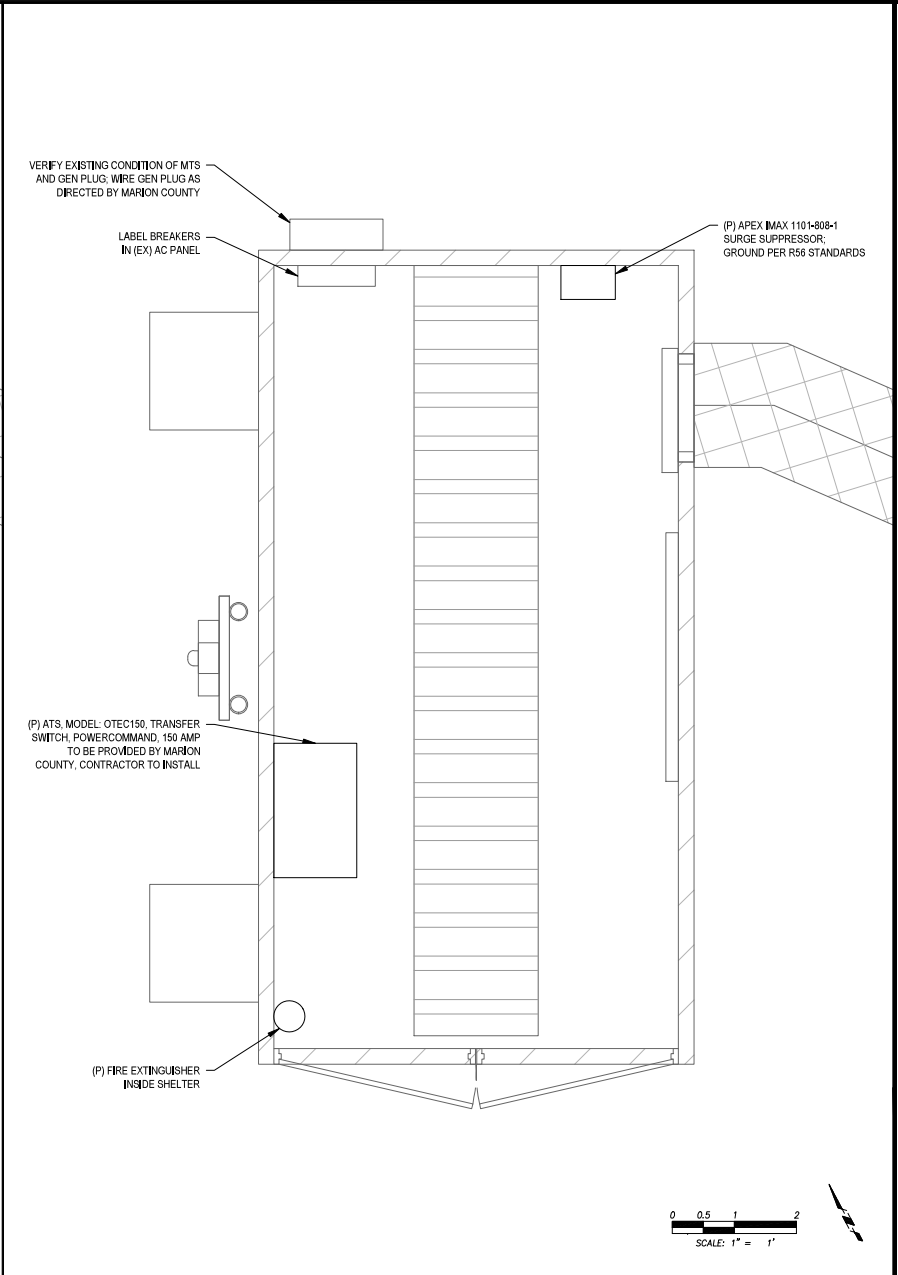
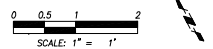
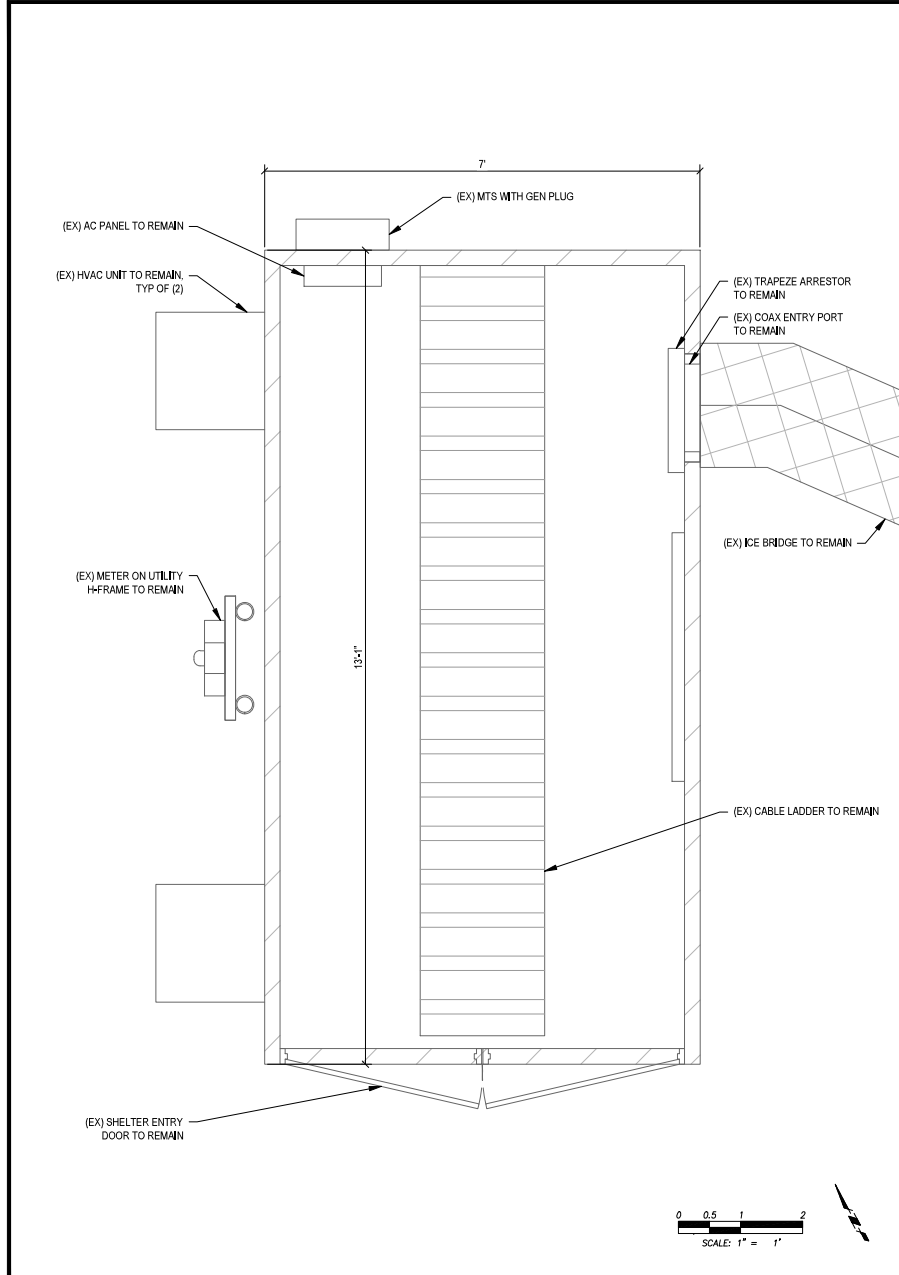
RENEWAL DATE 12/31/26

SHEET TITLE:

**INTERIOR
SHELTER LAYOUT**

SHEET NUMBER:

C-4



INTERIOR SHELTER PLAN - EXISTING 11X17 SCALE: 1" = 2' 22X34 SCALE: 1" = 1' **1**

INTERIOR SHELTER PLAN - PROPOSED 11X17 SCALE: 1" = 2' 22X34 SCALE: 1" = 1' **2**



**MARION COUNTY
MCPW**

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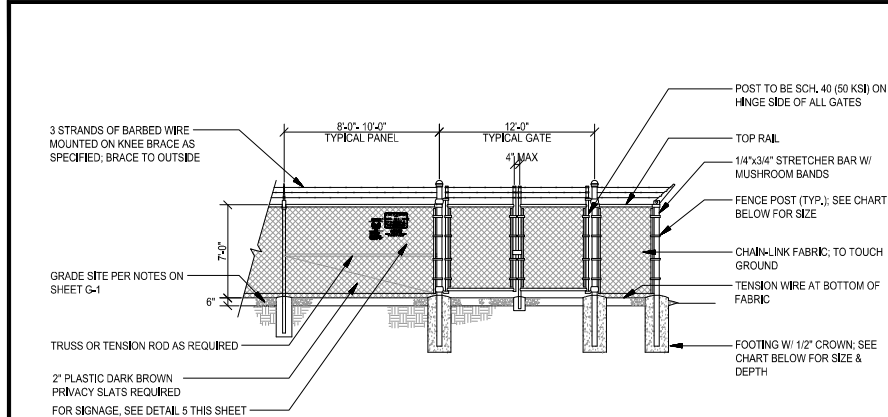


SHEET TITLE:

**COMPOUND
DETAILS**

SHEET NUMBER:

C-5



- FENCE & GATE NOTES:**
1. GATE FRAME-1-7/8" OD, TOP & BRACE RAIL-1-5/8" OD, SCH. 40 (50 KSI) ASTM-F1083.
 2. FABRIC: 9 GA, CORE WIRE SIZE 2" MESH FABRIC, FABRIC TO TOUCH GRAVEL BASE.
 3. TIE WIRE: MINIMUM 11 GA, GALVANIZED STEEL.
 4. BARBED WIRE: 12" (3) STRAND.
 5. GATE LATCH: SEE DETAIL 3 THIS SHEET, VERIFY WITH PROPERTY OWNER.

POST TYPE	POST DIAMETER	FOOTING SIZE	NOTES:
LINE POST	3.5"Ø	12"Øx33"	<ol style="list-style-type: none"> 1. ALL POSTS: SCH. 40 (50 KSI) ASTM-F1083 2. ALL FENCING TO BE ENGINEERED BY FENCING MANUFACTURER & APPROVED BY PROJ. MGR, FENCE MANUFACTURERS TO VERIFY ADEQUACY OF TABULATED POST & FOOTING SIZES
CORNER POST	4"Ø	16"Øx48"	
GATE POST	4"Ø	16"Øx48"	

- FENCING NOTES:**
1. GATE POST, CORNER, END, OR PULL POST 4" NOMINAL (4" O.D.) SCHEDULE 40 (50 KSI) PIPE. FOR GATE WIDTHS UP TO 6 FEET OR 12 FEET FOR DOUBLE SWING GATE PER ASTM-F1083.
 2. LINE POST: 2-3/8" O.D. 3.65 LBS/LIN FT. ASTM-F1083.
 3. TOP RAIL AND BRACE RAIL: 1-1/2" (1.9" O.D.) PIPE 2.72 LBS/LIN FT PER ASTM-F1083. INSTALL BRACE AT ALL CORNER LOCATIONS AND ADJACENT TO GATES.
 4. GATE FRAME: 1-1/2" (1.9 O.D.) 2.72 LBS/LIN FT. ASTM-F1083.
 5. FABRIC SHALL BE TWO-INCH CHAINLINK MESH NO. 9 GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO ASTM A-392 CLASS 1.
 6. TIE WIRE: MINIMUM 11 GA. GALVANIZED STEEL. PROVIDE A SINGLE WRAP OF FABRIC. TIE AT POSTS, RAILS, AND AT TENSION WIRE BY HOG RINGS. MAXIMUM SPACING 24" O.C.
 7. TENSION WIRE: MINIMUM 7 GA. GALVANIZED STEEL.
 8. U.N.O. BARBED WIRE: DOUBLE STRAND 12 GA. 1/2" O.D. TWISTED WIRE TO MATCH W/FABRIC. 14 GA. 4PT. BARBS SPACED ON APPROX. 5" CENTERS.
 9. U.N.O. BARBED WIRE GATE GUARDS SHALL BE FITTED WITH DOME CAPS.
 10. U.N.O. BARBED WIRE SUPPORT ARMS SHALL BE PRESSED STEEL COMPLETE WITH SET BOLT AND LOCK WIRE IN THE ARM.
 11. PROVIDE TWO 6 FOOT WIDE OUT SWINGING GATES, (UNLESS NOTED OTHERWISE). NO PERSONNEL GATES ARE REQUIRED (UNLESS AS DIRECTED BY THE PROPERTY OWNER). GATES SHALL BE ABLE TO LOCK.
 12. U.N.O. GATE POSTS SHALL BE EXTENDED 12 INCHES, INCLUDING DOME CAP. TO PROVIDE FOR ATTACHMENT OF BARBED WIRE.
 13. GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE, AND A FULL-WIDTH HORIZONTAL BRACE. SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
 14. GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTOR WITH MODEL 6409, 180-DEGREE ATTACHMENT OR APPROVED EQUAL.
 15. GATE LATCH: 1-3/8" O.D. PLUNGER ROD W/ MUSHROOM TYPE CATCH.
 16. A 6" X 1/2" DIAMETER EYEBOLT TO HOLD TENSION WIRE SHALL BE PLACED AT LINE POSTS.
 17. STRETCHER BARS SHALL BE 3/16" OR HAVE EQUIVALENT CROSS-SECTIONAL AREA. U.N.O. ALL POSTS EXCEPT GATE POSTS SHALL HAVE A COMBINATION CAP AND BARBED WIRE SUPPORTING ARM.
 18. ALL CAPS SHALL BE MALLEABLE IRON, DOME OR ACORN SHAPED AS REQUIRED BY PIPE SIZE.
 19. OTHER HARDWARE MAY INCLUDE BUT NOT BE LIMITED TO THE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
 20. U.N.O. WHERE THE USE OF CONCERTINA HAS BEEN SPECIFIED, 24" DIAMETER COIL, BARBED TAPE, STAINLESS STEEL, CYCLONE FENCE MODEL GSP TO TYPE II SHALL BE FURNISHED. IT SHALL BE SUPPORTED ABOVE THE TOP RAIL BY USE OF SIX (6) BARBED WIRE ARMS POSITIONED ATOP EACH LINE/CORNER POST.
 21. U.N.O. ALL CHAINLINK FENCING COMPONENTS MUST BE HOT DIPPED GALVANIZED. WHEN IN USE, PRIVACY SLATS TO BE A NEUTRAL COLOR.
 22. U.N.O. ALL CHAINLINK FENCING COMPONENTS MUST BE HOT DIPPED GALVANIZED. WHEN IN USE, PRIVACY SLATS TO BE A NEUTRAL COLOR.
 23. U.N.O. ALL CHAINLINK FENCING COMPONENTS MUST BE HOT DIPPED GALVANIZED. WHEN IN USE, PRIVACY SLATS TO BE A NEUTRAL COLOR.

GENERAL FENCE NOTES



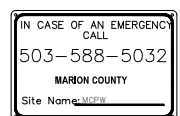
- SIGN NOTES:**
1. SIGN MATERIAL: 18GA ALUMINUM
 2. LETTERING COLOR = BLACK / WHITE
 3. BACKGROUND COLOR = WHITE / RED



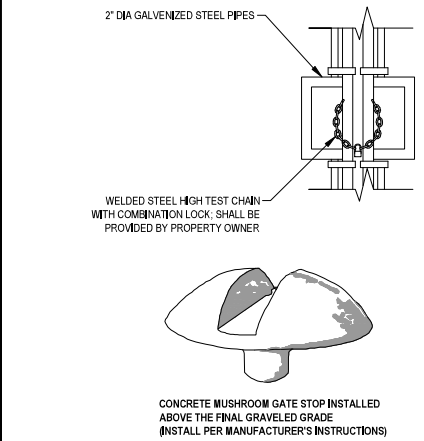
- SIGN NOTES:**
1. SIGN MATERIAL: 18GA ALUMINUM
 2. LETTERING COLOR = BLACK / WHITE
 3. BACKGROUND COLOR = WHITE / BLUE



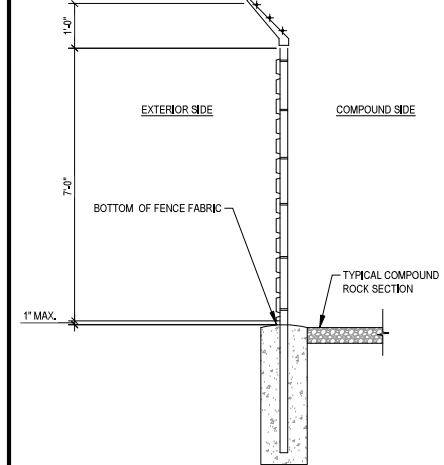
- SIGN NOTES:**
1. SIGN MATERIAL: 18GA ALUMINUM
 2. LETTERING COLOR = BLACK
 3. BACKGROUND COLOR = YELLOW



SIGN DETAILS



TYPICAL FENCE SECTION



TYPICAL FENCE SECTION

GATE LOCK & CENTER STOP

NOT USED

SCALE: NTS 4

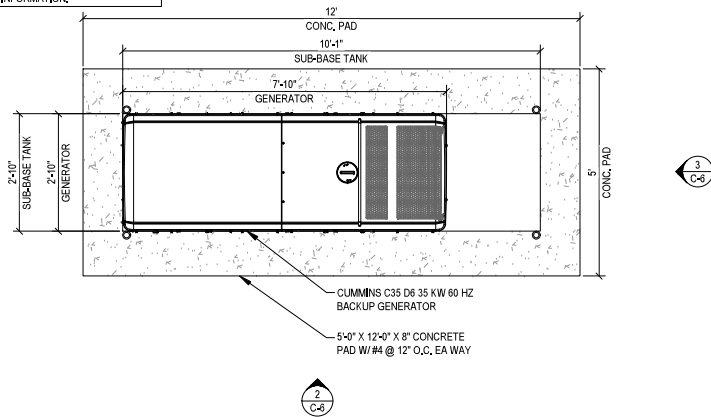
SCALE: NTS 5

SCALE: NTS 2

SCALE: NTS 3

SCALE: NTS 6

- NOTES:
 1. DIESEL GENERATOR MODEL C35 D6, 35 KW.
 2. SEE LATEST MANUFACTURERS SPECIFICATIONS FOR ADDITIONAL INFORMATION.

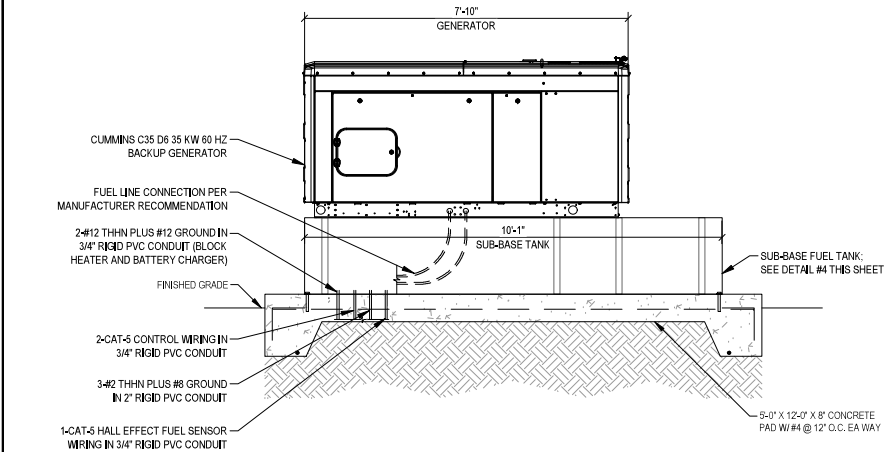


DIESEL GENERATOR FUEL SYSTEM				
SUB-BASE FUEL TANK				
CAPACITY	L X W X H	DRY WEIGHT	FUEL WEIGHT	TOTAL WEIGHT
195 GAL	121" X 34" X 22.1"	879 LBS	1,384.5 LBS	2,263.5 LBS

NOTE: FUEL TANK IS DOUBLE-WALL UL-142 LISTED

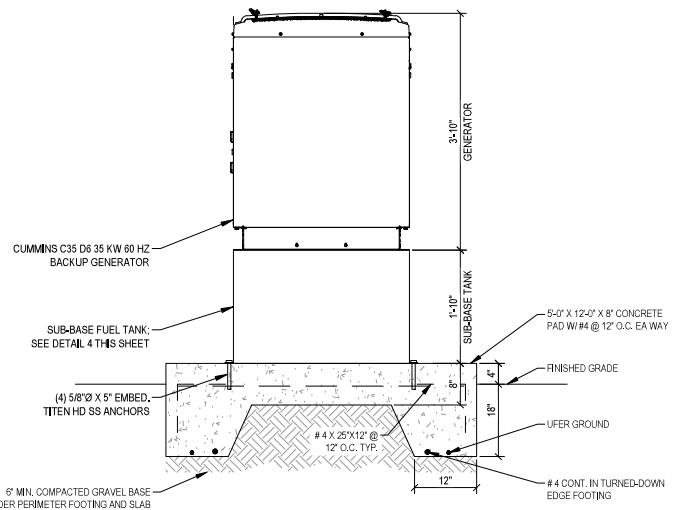
GENERATOR PLAN

SCALE: NTS 1



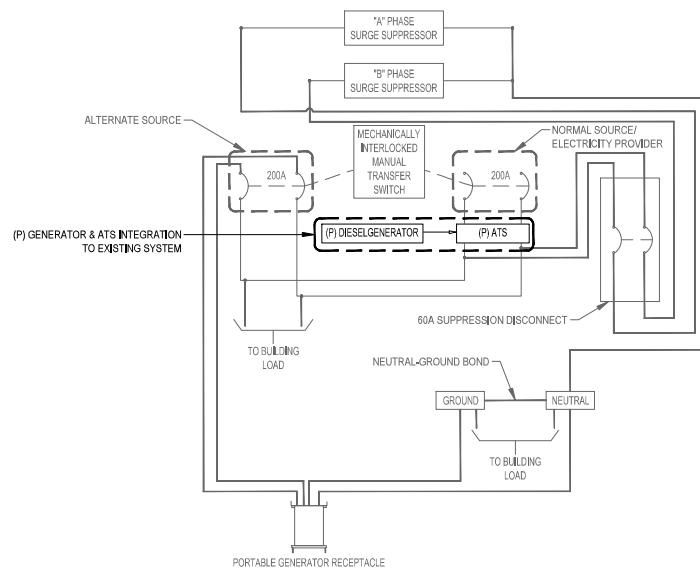
GENERATOR RIGHT SIDE ELEVATION

SCALE: NTS 2



GENERATOR EXHAUST SIDE ELEVATION

SCALE: NTS 3



MTS WIRING DIAGRAM

SCALE: NTS 4



PROJECT INFORMATION:
MARION COUNTY
 MCPW

5155 SILVERTON RD NE
 SALEM, OR 97305

DATE	RELEASE
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SHEET TITLE:

DIESEL
GENERATOR
DETAILS

SHEET NUMBER:

C-6



**MARION COUNTY
MCPW**

5155 SILVERTON RD NE
SALEM, OR 97305

DATE	RELEASE
05/21/24	ITE SKETCH
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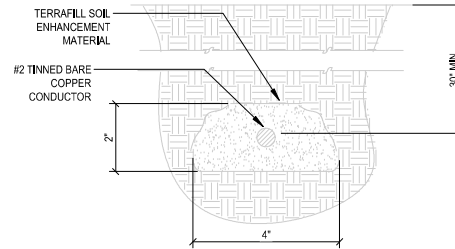
RENEWAL DATE 12/31/26

SHEET TITLE:

**SITE GROUNDING
PLAN & DETAILS**

SHEET NUMBER:

E-1



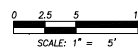
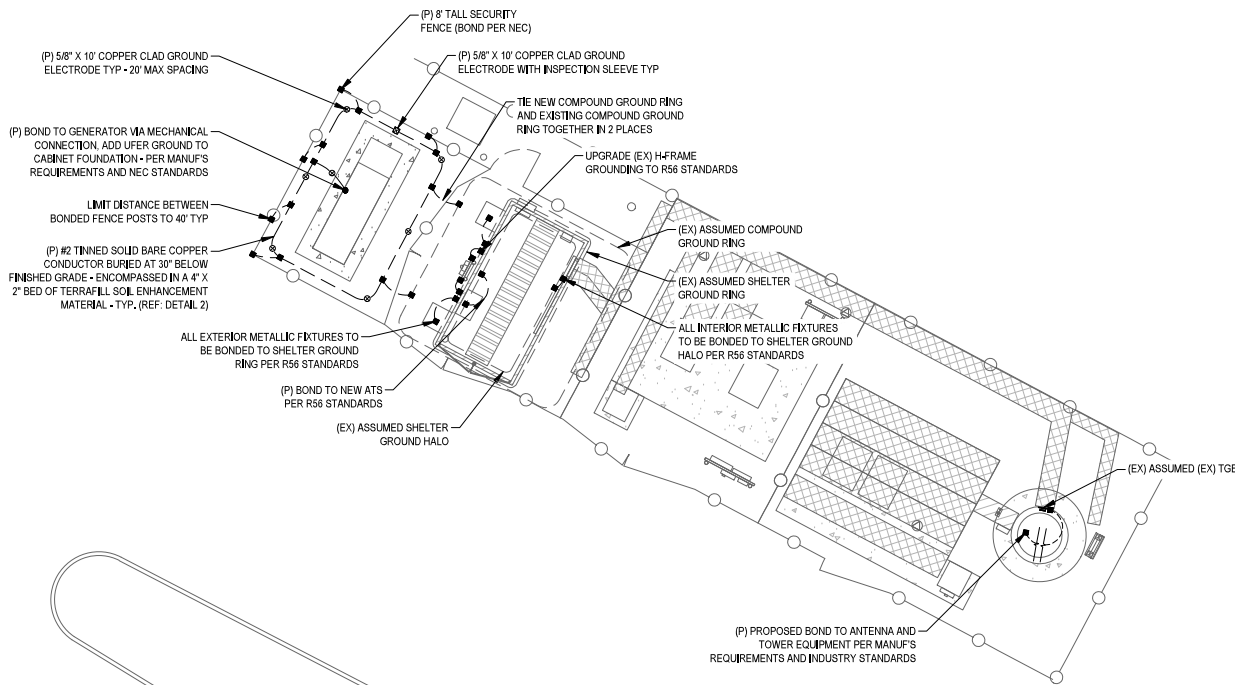
NOT USED

SCALE: NTS

SOIL ENHANCEMENT DETAIL

SCALE: NTS

2



GENERAL NOTES:

1. ALL INSTALLATIONS ARE TO BE FIELD VERIFIED.
2. GROUND CONDUCTORS ARE TO BE BURIED AT A MINIMUM 30" BELOW GRADE OR 6" BELOW FREEZE LINE, WHICHEVER IS GREATER.
3. ALL BELOW GRADE GROUNDING CONDUCTORS ARE TO BE ENCOMPASSED IN A 2" X 4" BED OF SOIL ENHANCEMENT MATERIAL.
4. BONDS TO FENCE POSTS ARE TO BE MADE AT 12" ABOVE GRADE WHERE APPLICABLE.
5. NO CONDUCTOR SHALL HAVE A BEND IN RADIUS OF LESS THAN 12" AND SHALL NOT EXCEED 90 DEGREES.
6. TERRADYNE ELECTROLYTIC GROUND ELECTRODES ARE NOT TO SHARE THE SAME TRENCH AS GROUNDING CONDUCTOR, NOR RUN IN A PARALLEL PATH TO THE CONDUCTOR.
7. ALL GROUND SYSTEMS ARE TO BE MADE COMMON.
8. ALL BONDS ARE TO BE COATED WITH ANTI-OXIDATION COMPOUND.
9. WHERE STANDARD GROUND ELECTRODES ARE UNABLE TO BE DRIVEN, 12" X 12" X 1/8" COPPER GROUND PLATES SHALL BE INSTALLED 30" BELOW FINISHED GRADE & ENCOMPASSED IN 50LBS OF TERRAFILL SOIL ENHANCEMENT MATERIAL.

LEGEND:

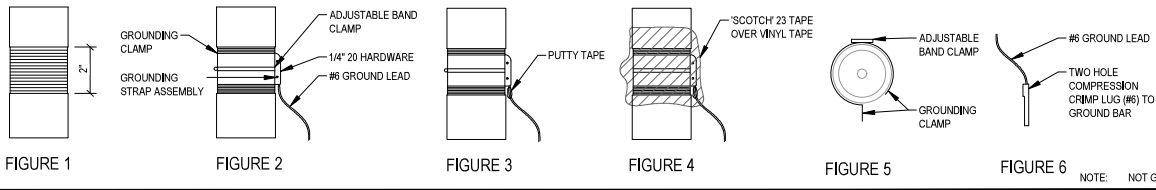
- ⊕ TERRADYNE TG-20L-H36-2T-36-4F-P SERIES ELECTRODE W/ INSPECTION WELL
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- 5/8" X 10" COPPER CLAD GROUND ELECTRODE
- ⊞ 5/8" X 10" COPPER CLAD GROUND ELECTRODE WITH INSPECTION SLEEVE
- #2 TINNED SOLID COPPER CONDUCTOR

SITE COMPOUND GROUNDING PLAN

11X17 SCALE: 1" = 10'

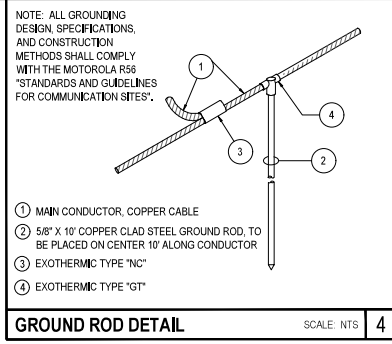
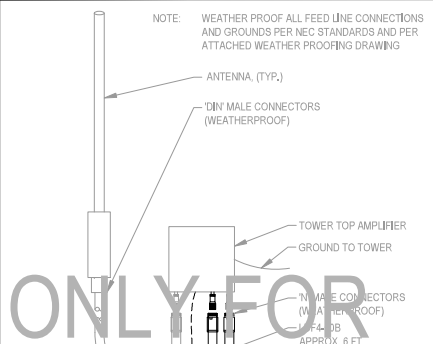
22X34 SCALE: 1" = 5'

1



FEED LINE CABLE GROUNDING

NOTE: NOT GC
SCALE: NTS 2



25MM SQ. CSA (#4 AWG) OR COARSER BARE COPPER CONDUCTOR OR STEEL REINFORCING BAR OR ROD, NOT LESS THAN 0.5" Ø AND AT LEAST 20' LONG

GROUNDING ELECTRODE CONDUCTOR

BOND EQUIPMENT TO NEW GROUND RING AND UFER FOR ALL NEW CONCRETE PADS

FOUNDATION IN DIRECT CONTACT WITH EARTH

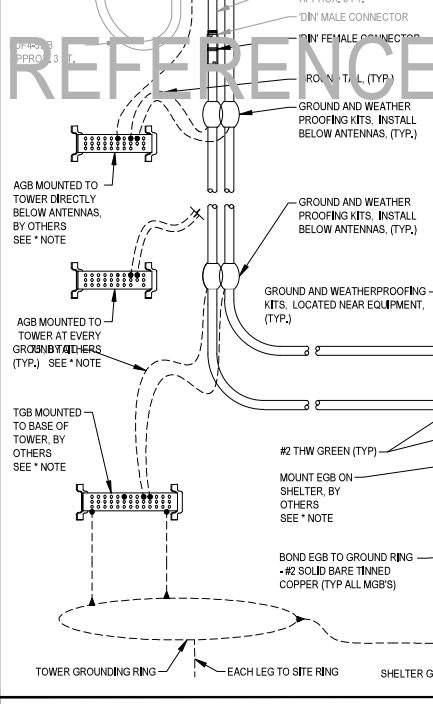
CONNECTION LISTED FOR THE PURPOSE

NONMETALLIC PROTECTIVE SLEEVE

NEW GROUND RING

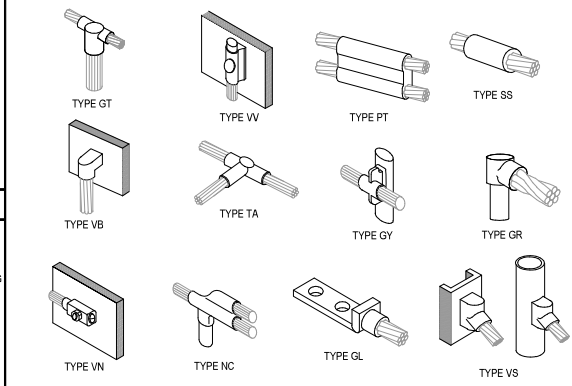
NOTE: FOR REFERENCE ONLY

SCALE: NTS 5

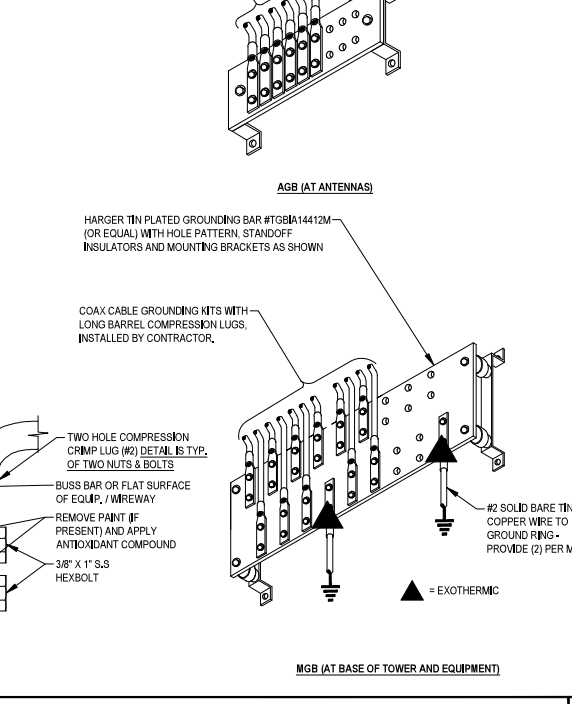
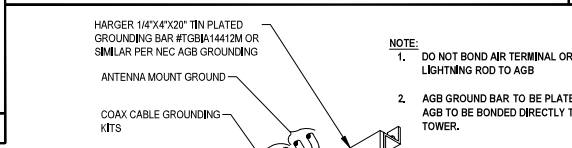


STANDARD RX GROUNDING SCHEMATICS

SCALE: NTS 1



TYPICAL EXOTHERMIC CONNECTION DETAILS



GROUND BAR DETAILS



PROJECT INFORMATION:

MARION COUNTY MCPW

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LICENSURE:

REGISTERED PROFESSIONAL
ENGINEER
83233

OREGON
JUNE 7, 2012
KENNY McMANAMAY

RENEWAL DATE 12/31/26

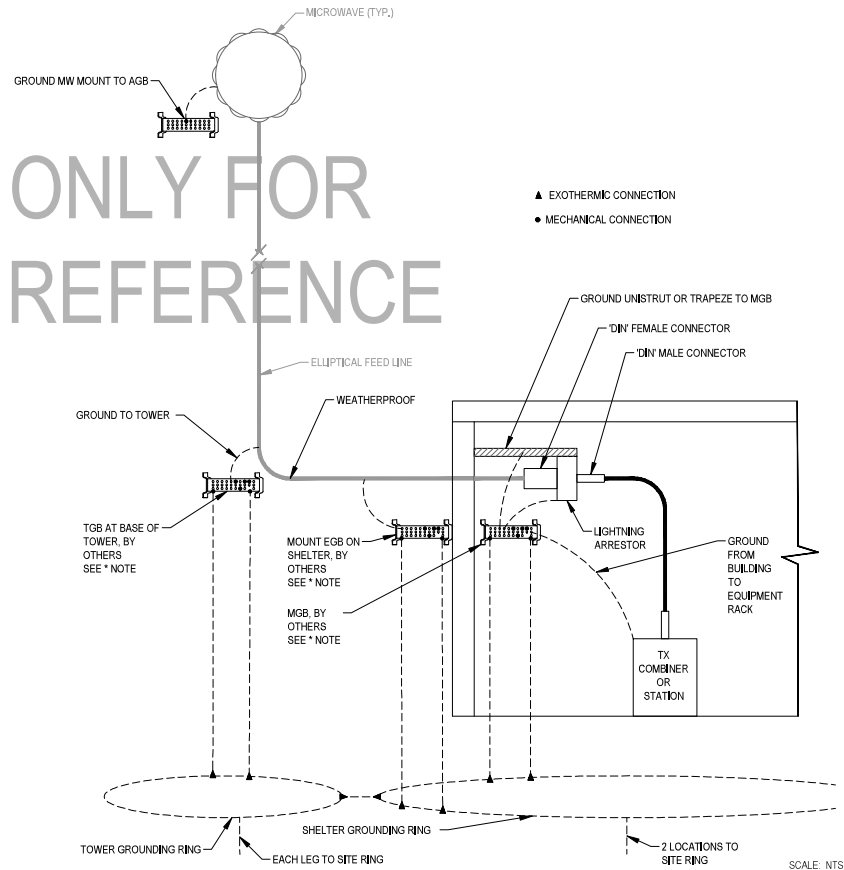
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GROUNDING DETAILS I

SHEET NUMBER:

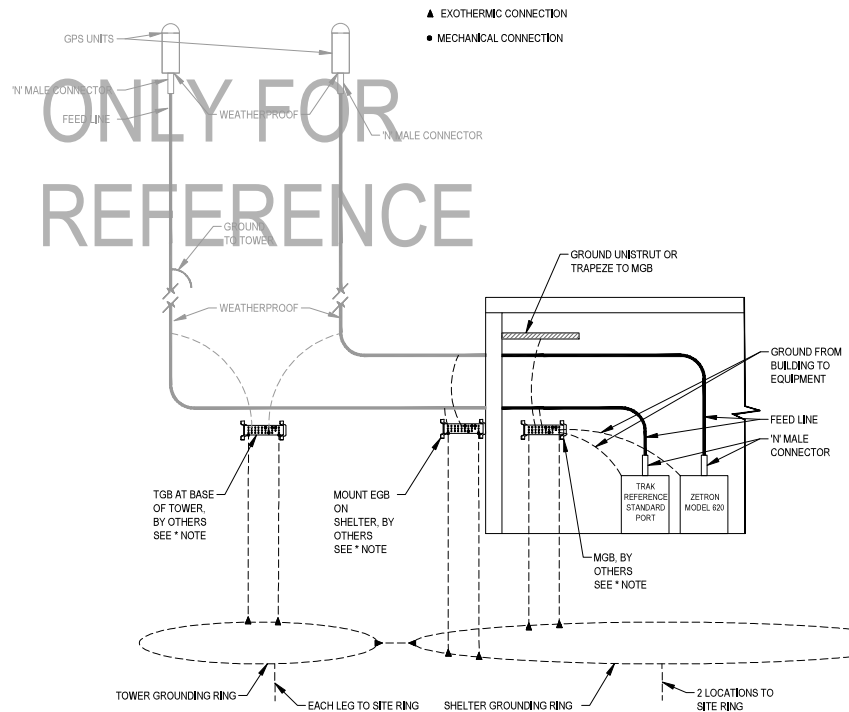
E-2

SCALE: NTS 6



TYPICAL MICROWAVE ANTENNA GROUNDING SCHEMATICS

1



TYPICAL GPS ANTENNA GROUNDING SCHEMATICS

2

NOTE:
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11/20/25	FINAL CONSTRUCTION DRAWINGS

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 BEAVERTON, OR 97005
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LICENSURE:



SHEET TITLE:

GROUNDING
DETAILS II

SHEET NUMBER:

E-3

SITE INFORMATION

SITE NAME **MCPW**

LOCATION INFORMATION

COUNTY	MARION COUNTY		
STREET ADDRESS	5155 SILVERTON RD NE		
CITY	SALEM	STATE	OR
ZIP CODE	97305		
LATITUDE (DEC.)/(DEG)	44.975200 / 44° 58'30.7" N		
LONGITUDE (DEC.)/(DEG)	-122.855210 / 122°57'18.8" W		

TOWER INFORMATION

STRUCTURE	MONOPOLE	TOWER MANUFACTURER	*
TOWER OWNER	MCPW	SERIAL/MODEL #	*
GROUND ELEVATION	±200'	# OF APPURTENANCE	*
# OF LEGS	*	HIGHEST POINT W/ ANT	*
TOWER HEIGHT W/O ANT	148.5'		

#	Description	Panel Location	Length (ft)	Height (ft)	Status	Base Mount #1	Base Mount #2	Top Mount (ft)	Offset (ft)	Offset (ft)	Mount	Proposed Top (ft)
1	Microwave - Crooked Finger	VHLP6-6W	6.0	E	New	72	75	78	50.26	50.26	Standard w/ back	EW3
2	Microwave - MCPW Tech Shop	VHLP6-23	5.0	SW	New	50	54	51	247.79	247.79	Standard w/ back	EW20
3	Microwave - Lower Prospect	VHLP6-11W	4.0	SW	New	66	64	70	220.81	220.81	Standard w/ back	EW6
4	Panel-1	4 panels	8.0	S	Existing	86	96	94			Standard to platform	
5	Panel-2	4 panels	8.0	NW	Existing	86	96	94			Standard to platform	
6	Panel-3	4 panels	8.0	NE	Existing	86	96	94			Standard to platform	
7	Omni-1	2.0	W	Existing	132	133	134			Standard to platform		
8	Omni-2	2.0	W	Existing	132	133	134			Standard to platform		
9	Omni-3	2.0	W	Existing	132	133	134			Standard to platform		
10	Microwave-1	2.0	W	Existing	131	132	133			Standard to platform		
11	Omni-4	2.0	NW	Existing	132	133	134			Standard to platform		
12	Panel-4	2.0	NW	Existing	132	133	133			Standard to platform		
13	Microwave-2	2.0	NW	Existing	131	132	131			Standard to platform		
14	Dipole-1	8 element	5.0	SW	Existing	135	137	140			Standard to platform	
15	Microwave-3	2.0	SW	Existing	130	131	132			Standard to platform		
16	Omni-5	2.0	SW	Existing	AVAILUE1	Crooked Finger	AVAILUE1			Standard to platform		
17	Dipole-2	5.0	SW	Existing	AVAILUE1	Crooked Finger	AVAILUE1			Standard to platform		
18	Microwave-4	4.0	NE	Existing	118	120	122			Standard to platform		
19	Panel-5	6.0	NE	Existing	149	152	157			Standard to platform		
20	Panel-6	8.0	SE	Existing	149	153	157			Standard to platform		
21	Panel-7	6.0	SW	Existing	149	153	157			Standard to platform		

* = estimated value based on survey documentation and photos

NOTE:
INFORMATION BASED ON TAIT COMMUNICATIONS' DOCUMENT DATED 08/13/2025 PROVIDED BY MARION COUNTY.

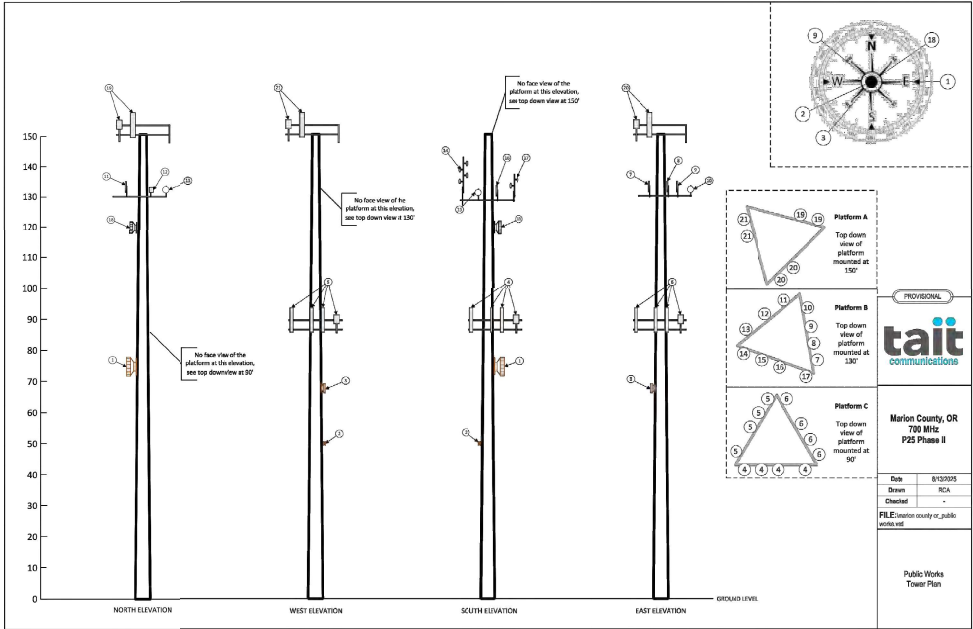
PROVISIONAL

ta
communications

Marion County, OR
700 MHz
P25 Phase II

Date: 01/13/2025
Drawn: RCA
Checked: *
FILE:marion county or_public works.vet

Public Works
Appurtenance Chart



PROJECT INFORMATION:
MARION COUNTY
MCPW
5155 SILVERTON RD NE
SALEM, OR 97305

DATE	RELEASE
05-24-24	SITE SKETCH
10-26-24	PRELIMINARY ZONING DRAWINGS
10-24-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-26-25	FINAL CONSTRUCTION DRAWINGS

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SHEET TITLE:
RF TOWER
APPURTENANCES I

SHEET NUMBER:
RF-1.0

VHLPX6-6W/B

Base Product



1.8 m | 6 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 5.925–7.125 GHz

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Side Struts, Included 1
Side Struts, Optional 1 inboard

Dimensions

Diameter, nominal 1.8 m | 6 ft

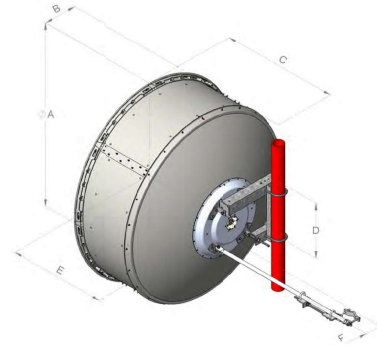
Electrical Specifications

Operating Frequency Band 5.925 – 7.125 GHz
Gain, Low Band 38.5 dBi
Gain, Mid Band 39.3 dBi
Gain, Top Band 40.1 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 66 dB
Beamwidth, Horizontal 1.8 °
Beamwidth, Vertical 1.8 °
Return Loss 17.7 dB
VSWR 1.3
Radiation Pattern Envelope Reference (RPE) 7139B
Electrical Compliance Brazil Anatel Class 3 | Canada SRSP 305.9 Part A | Canada SRSP 306.4 Part A | ETSI 302 217 Class 3 | US FCC Part 101A

Page 1 of 5

VHLPX6-6W/B

Antenna Dimensions and Mounting Information



Dimensions in inches (mm)						
Antenna size, ft (m)	A	B	C	D	E	F
6 (1.8)	74.8 (1899)	13.4 (340)	47.5 (1206)	22.4 (570)	39.4 (1001)	6.9 (174)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 10670 N | 2,398,712 lbf
Angle α for MT Max -120 °
Side Force (FS) 5280 N | 1,183.34 lbf
Twisting Moment (MT) 4752 N-m | 42,058,742 in lb
Zcg without Ice 363 mm | 14,291 in
Zcg with 1/2 in (12 mm) Radial Ice 543 mm | 21,378 in
Weight with 1/2 in (12 mm) Radial Ice 234 kg | 515,881 lb

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NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.



PROJECT INFORMATION:

MARION COUNTY
MCPW

5155 SILVERTON RD NE
 SALEM, OR 97305

DATE	RELEASE
05/21/24	ITE SKETCH
10/28/24	PRELIMINARY ZONING DRAWINGS
10/24/25	PRELIMINARY CONSTRUCTION DRAWINGS
11/20/25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



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LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

RF TOWER
APPURTENANCES II

SHEET NUMBER:

RF-1.1

VHLPX4-11W/A

Base Product



1.2 m | 4 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 10.125–11.700 GHz

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Side Struts, Included 1 inboard
Side Struts, Optional 1 inboard

Dimensions

Diameter, nominal 1.2 m | 4 ft

Electrical Specifications

Operating Frequency Band 10.125 – 11.700 GHz
Gain, Low Band 40.2 dBi
Gain, Mid Band 40.7 dBi
Gain, Top Band 41 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 66 dB
Beamwidth, Horizontal 1.6 °
Beamwidth, Vertical 1.6 °
Return Loss 17.7 dB
VSWR 1.3
Radiation Pattern Envelope Reference (RPE) 7185A
Electrical Compliance Brazil Anatel Class 2 | Canada SRSP 310.5 | Canada SRSP 310.7 Part A | Canada SRSP 310.7 Part B | ETSI 302 217 Class

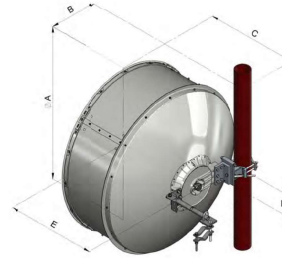
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VHLPX4-11W/A

Antenna Dimensions and Mounting Information



Antenna size, ft (m)	Dimensions in inches (mm)				
	A	B	C	D	E
4 (1.2)	50.6 (1291)	16 (407)	30.2 (767)	7.2 (183)	29.5 (748)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 5326 N | 1,197.333 lbf
Side Force (FS) 2638 N | 593.046 lbf
Twisting Moment (MT) 2102 N·m | 19,135.312 in·lb
Force on Inboard Strut Side 2862 N | 643.403 lbf
Zcg without Ice 43 mm | 1.693 in
Zcg with 1/2 in (12 mm) Radial Ice 284 mm | 11.181 in
Weight with 1/2 in (12 mm) Radial Ice 74 kg | 163.142 lb

Page 3 of 5

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PROJECT INFORMATION:

MARION COUNTY
MCPW

5155 SILVERTON RD NE
 SALEM, OR 97305

DATE	RELEASE
07/21/24	RTE SKETCH
10/26/24	PRELIMINARY ZONING DRAWINGS
10/24/25	PRELIMINARY CONSTRUCTION DRAWINGS
11/26/25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



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www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

RF TOWER
APPURTENANCES III

SHEET NUMBER:

RF-1.2

NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.

VHLPX1-23-2WH/C



0.3 m | 1 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 21.200 – 23.600 GHz, PBR220 flange, white antenna, gray radome without flash, standard pack—one-piece reflector

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Antenna Input PBR220
Antenna Color White
Reflector Construction One-piece reflector
Radome Color Gray
Radome Material Composite Broadband
Flash Included No
Side Struts, Included 0
Side Struts, Optional 0

Dimensions

Diameter, nominal 0.3 m | 1 ft

Electrical Specifications

Operating Frequency Band 21.200 – 23.600 GHz
Gain, Low Band 35 dBi
Gain, Mid Band 35.6 dBi
Gain, Top Band 36.2 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 62 dB
Beamwidth, Horizontal 3°

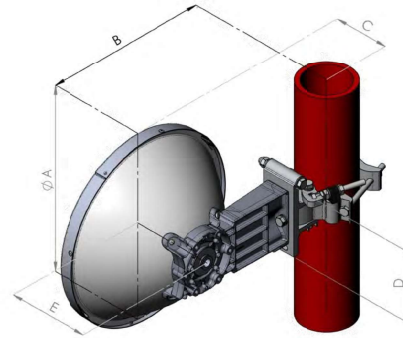
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VHLPX1-23-2WH/C

Antenna Dimensions and Mounting Information



Dimensions in inches (mm)					
Antenna sizes, ft (m)	A	B	C	D	E
1 (0.3)	15(382)	12.7(323)	6(151)	6.1(155)	7(177)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 446 N | 100.235 lbf
Side Force (FS) 198 N | 44.512 lbf
Twisting Moment (MT) 144 N·m | 1,274.507 in·lb
Zog without Ice 28 mm | 1.102 in
Zog with 1/2 in (12 mm) Radial Ice 54 mm | 2.125 in
Weight with 1/2 in (12 mm) Radial Ice 12 kg | 26.455 lb

Page 3 of 6

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PROJECT INFORMATION:

**MARION COUNTY
MCPW**

5155 SILVERTON RD NE
SALEM, OR 97305

DATE	RELEASE
05/24/24	BITE SKETCH
10/24/24	PRELIMINARY ZONING DRAWINGS
10/24/25	PRELIMINARY CONSTRUCTION DRAWINGS
11/20/25	FINAL CONSTRUCTION DRAWINGS

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LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**RF TOWER
APPURTENANCES IV**

SHEET NUMBER:

RF-1.3

NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.



SITE NAME:
EASTVIEW LANE

4830 EASTVIEW LN NE, SILVERTON , OR 97381



PROJECT INFORMATION:
**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON , OR 97381

DATE	RELEASE
07-19-24	SITE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-26-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**COVER
SHEET**

SHEET NUMBER:

T-1

SHEET INDEX	PROJECT INFORMATION	PROJECT INFORMATION CONTINUED	DRIVING DIRECTIONS	PROJECT DESCRIPTION
<p>CONSTRUCTION SUBMITTAL:</p> <p>T-1 COVER SHEET</p> <p>EX-1 EXISTING CONDITIONS</p> <p>G-1 GENERAL NOTES</p> <p>ER-1 GRADING & EROSION CONTROL PLAN</p> <p>ER-2 GRADING & EROSION CONTROL DETAILS</p> <p>C-1 OVERALL SITE PLAN</p> <p>C-2 ENLARGED SITE PLAN</p> <p>C-3 ELEVATIONS</p> <p>C-4 INTERIOR SHELTER PLANS</p> <p>C-5 SHELTER SECTIONS</p> <p>C-6 COMPOUND DETAILS</p> <p>C-7 GENERATOR & PROPANE TANK DETAILS</p> <p>C-8 HVAC DETAILS</p> <p>E-1 SITE GROUNDING PLAN & DETAILS</p> <p>E-2 GROUNDING DETAILS I</p> <p>E-3 GROUNDING DETAILS II</p> <p>RF-1,0 RF TOWER APPURTENANCES I</p> <p>RF-1,1 RF TOWER APPURTENANCES II</p> <p>RF-1,2 RF TOWER APPURTENANCES III</p> <p>RF-1,3 RF TOWER APPURTENANCES IV</p> <p>RF-1,4 RF TOWER APPURTENANCES V</p>	<p>PROPERTY OWNER: CITY OF SILVERTON 306 S WATER ST SILVERTON, OR 97381</p> <p>TOWER OWNER: SSA COMMUNICATIONS CORPORATION 8051 CONGRESS AVENUE BOCA RATON, FL 33487 CONTACT: JOE ROZANIC (702) 581-2663 jrozanic@ssasite.com</p> <p>COUNTY: MARION JURISDICTION: MARION COUNTY</p> <p>ZONING: P (PUBLIC)</p> <p>PARCEL NUMBER(S) & AREA: ACCOUNT #: 520803 TAXLOT #: 071W02A000600 95,832 SQ FEET ± 2.2 ACRES ±</p> <p>PROJECT AREA: TOTAL COMPOUND AREA - 1,192 SQ FEET ± ACCESS DRIVE AND PARKING - 1,925 SQ FEET ± TOTAL - 3,117 SQ FEET ±</p> <p>PROJECT LOCATION: *LAT: N 44° 59'40.8" (44.994660) *LONG: W 122° 45'57.8" (-122.766060) *GROUND ELEVATION (ASML) = 589' ±</p> <p>*INFORMATION OBTAINED FROM GOOGLE EARTH</p> <p>UTILITY PROVIDERS: TELCO PROVIDER: N/A POWER PROVIDER: PORTLAND GENERAL ELECTRIC</p> <p>GENERAL INFORMATION: 1. TRAFFIC IS UNAFFECTED 2. SIGNAGE AT SITE IS PROPOSED 3. SITE IS UNMANNED AND HANDICAP ACCESS IS NOT REQUIRED</p> <p>CODE INFORMATION: 1. IBC-2018 INTERNATIONAL BUILDING CODE 2. NEC-2017 NATIONAL ELECTRIC CODE 3. 2019 OREGON STRUCTURAL SPECIALTY CODE 4. 2017 NFPA 58 CODE 5. OCCUPANCY GROUP: U 6. CONSTRUCTION TYPE: II-B</p>	<p>APPLICANT: MARION COUNTY PUBLIC WORKS 5155 SILVERTON RD NE SALEM, OR 97305 CONTACT: BRIAN NICHOLAS (503) 588-7943 bnicholas@comarion.or.us</p> <p>PROJECT MANAGER: PATRICK HOOVER (971) 295-0152 phoover@rtspnw.com</p> <p>ZONING CONTACT: CUSHING CIVIL ENGINEERS 12725 SW MILLIKAN WAY, STE 300 BEAVERTON, OR 97005 CONTACT: ROB HOWE (503) 387-5331 rob@cushingcivilengineers.com</p> <p>CONSTRUCTION MANAGER: PATRICK HOOVER (971) 295-0152 phoover@rtspnw.com</p> <p>ENGINEER OF RECORD: CUSHING CIVIL ENGINEERS 12725 SW MILLIKAN WAY, STE 300 BEAVERTON, OR 97005 CONTACT: KENNY MCMAHAWAY (503) 387-5331 kenny@cushingcivilengineers.com</p>	<p>FROM MARION COUNTY PUBLIC WORKS BUILDING:</p> <ol style="list-style-type: none"> 1. HEAD NORTHWEST TOWARD OR-213 N 144 FT 2. TURN RIGHT 256 FT 3. TURN RIGHT TOWARD OR-213 N 446 FT 4. TURN LEFT ONTO OR-213 N 9.2 MI 5. CONTINUE ONTO E MAIN ST 0.6 MI 6. TURN RIGHT ONTO STEELHAMMER RD 0.2 MI 7. CONTINUE ONTO EASTVIEW LN NE 0.7 MI <p>EST. TIME: 21 MINS. EST. MILEAGE: 10.9 MI</p>	<ol style="list-style-type: none"> 1. PROPOSED MODIFICATION OF AN EXISTING PUBLIC SAFETY COMMUNICATIONS FACILITY FOR MARION COUNTY, OREGON. 2. PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT ON EXISTING 141' MONOPOLE TOWER: * ANTENNA W/ ASSOCIATED ANCILLARY EQUIPMENT 3. PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT WITHIN EXISTING SHELTER: * EXISTING EQUIPMENT SHELTER IMPROVEMENT 4. PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT WITHIN EXISTING GROUND SPACE: * GENERATOR (REPLACE EXISTING) <p>THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN ELECTRICAL AND MECHANICAL (GENERATOR AND TANK INSTALL, HVAC AND PROPANE GAS PIPING) BUILDING PERMITS AND TO PAY ELECTRICAL AND MECHANICAL BUILDING PERMIT FEES.</p>
		<p>VICINITY MAP</p> <p>SCALE: NTS</p>	<p>LOCATOR MAP</p> <p>SCALE: NTS</p>	

NOTE:
THIS IS NOT A SURVEY. ALL EXISTING
INFORMATION IS PROVIDED BY MARION
COUNTY GIS.



SITE PHOTO SCALE: NTS **2**



PROJECT INFORMATION:
**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON, OR 97381

DATE	RELEASE
07-19-24	SITE SKETCH
10-30-24	PRELIMINARY ZONING DRAWINGS
11-06-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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www.cushingcivilengineers.com

LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
**EXISTING
CONDITIONS**

SHEET NUMBER:
EX-1

GENERAL NOTES:

- DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE INSTALLATION AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS AND STANDARDIZED DETAILS THAT REQUIRE MODIFICATIONS DUE TO ACTUAL FIELD CONDITIONS AND REQUIREMENTS MUST BE SUBMITTED TO AND APPROVED BY OWNERS REPRESENTATIVE PRIOR TO START OF WORK.
- PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
- THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, SAFETY, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED IN RED INK "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S/ENGINEER'S SIGNED WET STAMP.
- THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC., ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THE CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING CONSTRUCTION AND REPAIR ALL DAMAGES TO EQUAL OR BETTER NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER OF ANY DAMAGE TO THE BUILDING SITE OR ANY ADJACENT STRUCTURES AROUND THE PROJECT. THE OWNERS REPRESENTATIVE SHALL BE SOLE AND FINAL JUDGE AS TO THE QUALITY OF THE REPAIRED CONSTRUCTION. ANY ADDITIONAL MODIFICATIONS WHICH MUST BE MADE SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- WHERE NEW PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- THE CONTRACTOR SHALL MODIFY THE EXISTING FLOORS, WALL, CEILING, OR OTHER CONSTRUCTION AS REQUIRED TO GAIN ACCESS TO AREAS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, OR STRUCTURAL MODIFICATIONS. WHERE THE EXISTING CONSTRUCTION DOORS, PARTITIONS, CEILING, ETC., ARE TO BE REMOVED, MODIFIED, OR REARRANGED OR WHERE THE EXPOSED OR HIDDEN MECHANICAL, ELECTRICAL, SYSTEMS ARE ADDED OR MODIFIED, THE GENERAL CONTRACTOR SHALL REPAIR, PATCH AND MATCH ALL EXISTING CONSTRUCTION AND FINISHES OF ALL FLOORS WALLS AND CEILINGS, WHERE CONCRETE MASONRY CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL TOOTH IN ALL NEW CONSTRUCTION TO MATCH THE EXISTING BOND. WHERE CONCRETE CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL VERIFY THE EXACT DETAILS TO BE USED FOR CONSTRUCTION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.
- IF CONTRACTOR OR SUBCONTRACTOR FIND IT NECESSARY TO DEVIATE FROM ORIGINAL APPROVED PLANS, THEN IT IS THE CONTRACTOR'S AND THE SUBCONTRACTOR'S RESPONSIBILITY TO PROVIDE THE PROJECT MANAGER WITH 4 COPIES OF THE PROPOSED CHANGES FOR HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. IN ADDITION THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.
- CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITH IN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
- THIS IS AN ESSENTIAL FACILITY THEREFORE SHALL STRICTLY MEET ALL APPLICABLE CODE AND JURISDICTIONAL REQUIREMENTS.

GENERAL NOTES CONTINUED:

- THE CONTRACTOR SHALL PERFORM WORK DURING SITE/PROPERTY OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
- SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHAL APPROVED MATERIALS AS APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY LOCATES, SCHEDULING, COORDINATING SPECIAL AND BUILDING DEPARTMENT INSPECTIONS.
- ROUTING OF ALL CONDUITS, CABLES, CABLE TRAYS ETC ARE INDICATED AS PROPOSED LOCATION ONLY. CONFIRM THE EXACT LOCATION AND ROUTING WITH THE ON SITE PROJECT MANAGER PRIOR TO STARTING WORK.

CONCRETE NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (UNO).
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD (UNO).
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST EARTH - 3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #4 AND LARGER 2 IN. #5 AND SMALLER & WWF 1-1/2 IN.
- A 1/2" TROWELED RADIUS SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE (UNO). HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MFR RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS, AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN THE ELEVATED SLAB.
- INSTALLATION OF CONCRETE EXPANSION AND WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.
- FLOAT SURFACE SHALL BE A SMOOTH FINISH. SURFACE SHALL BE FREE OF ALL OBVIOUS DEPRESSIONS. SURFACE SHALL BE SLOPED AT 2% TO PROMOTE DRAINAGE AWAY FROM EQUIPMENT.

SITE WORK NOTES:

- RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY UNLESS OTHERWISE REQUIRED TO BE LEFT AS DEFINED BY LAND/PROPERTY OWNER.
 - THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT, EQUIPMENT SHELTER, GENERATOR, FUEL TANK, TOWER AREAS, AND ADJACENT BUILDINGS, ETC.
 - NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND, FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
 - THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO THE CRUSHED STONE APPLICATION. FABRIC USE AS REQUIRED.
 - ALL APPLICABLE LOCATES SHALL BE PERFORMED PRIOR TO ANY EXCAVATION OR SITE GRADING, ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
 - ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND SHALL BE CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
 - THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING, DRIVEWAY OR CRUSHED STONE, SHALL BE GRADED TO A UNIFORM SLOPE. FERTILIZED, SEED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION LANDSCAPE WORK.
 - BEDDING MATERIAL FOR UTILITY LINES, CULVERTS AND PIPING: CLEAN SAND, MEDIUM TO COARSE, SUB ROUNDED NATURAL RIVER OR BANK SAND, WASHED, FREE OF SILT OR CLAY, LOAM, FRIBLOR OR SOLUBLE MATERIALS, AND ORGANIC MATTER. GRADED IN ACCORDANCE WITH THE FOLLOWING GRAIN SIZE DISTRIBUTION:
- | SEIVE SIZE | PERCENT PASSING |
|--------------|-----------------|
| NO. 4 MESH | 100 |
| NO. 8 MESH | 60-80 |
| NO. 16 MESH | 0-45 |
| NO. 30 MESH | 0-25 |
| NO. 60 MESH | 0-2 |
| NO. 100 MESH | 0-2 |
| NO. 200 MESH | 0-2 |
- BMP'S FOR TEMPORARY EROSION/SEDIMENTATION CONTROL SHALL BE IMPLEMENTED PER LOCAL, CITY OR COUNTY GUIDELINES AND PER PLAN IF APPLICABLE.

SITE WORK NOTES CONTINUED:

- ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH INDUSTRY STANDARDS AND BE ALIGNED WITH BMP GUIDELINES AS TECHNICALLY APPLICABLE. EACH SITE MUST BE PM APPROVED BEFORE IT SHALL BE CONSIDERED COMPLETE AND ACCEPTED.
- IF UNADVERTENT DISCOVERIES OF NATIVE AMERICAN CULTURAL MATERIALS OR HUMAN REMAINS ARE MADE DURING CONSTRUCTION, ALL WORK SHOULD CEASE AND POTENTIALLY AFFECTED TRIBES, AS WELL AS THE STATE HISTORIC PRESERVATION OFFICE, SHOULD BE NOTIFIED IMMEDIATELY.

TOWERPOLE NOTES:

- ALL ANTENNAS, LINES AND RELATED INSTALLATION HARDWARE TO BE PROVIDED BY THE LAND MOBILE COMMUNICATIONS PROVIDER.
- ALL HARDWARE (NUTS AND BOLTS) BE TIGHTENED AND TORQUED IN ACCORDANCE WITH THE TOWER MANUFACTURER'S AND STRUCTURAL ENGINEER'S SPECIFICATIONS.
- VERIFICATION THAT THE TOWERPOLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.
- PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ATTENTION (OREGON SITES ONLY):

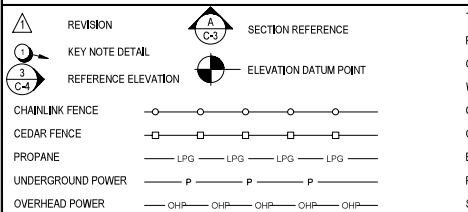
CALL 1-800-332-2344 48 HOURS BEFORE YOU DIG, OREGON LAW REQUIRES YOU TO FOLLOW OAR 852-001-0010 THRU 952-001-0090. COPIES ARE AVAILABLE AT THE OREGON UTILITY NOTIFICATION CENTER 535-232-1987

DESIGN LOADS:

ROOF SNOW LOAD DATA -	GROUND SNOW LOAD:	81 PSF
	FLAT-ROOF SNOW LOAD:	N/A
	SNOW EXPOSURE FACTOR:	N/A
	SNOW LOAD IMPORTANCE FACTOR:	N/A
	THERMAL FACTOR:	N/A
WIND DESIGN DATA -	ULTIMATE DESIGN WIND SPEED:	107 MPH
	RISK CATEGORY:	IV
	WIND EXPOSURE:	C
	INTERNAL PRESSURE COEFFICIENT:	N/A
	DESIGN WIND PRESSURES:	N/A
	WIND LOAD HORIZONTAL (IMFRRS):	N/A
	WIND LOAD (UP/LIFT) (MWFRS):	N/A
EARTHQUAKE DESIGN DATA -	RISK CATEGORY:	IV
	SEISMIC IMPORTANCE FACTOR:	N/A
	MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:	N/A
	S _s :	0.86
	S ₁ :	0.34
	S _{0.1} :	0.23
	SEISMIC DESIGN CATEGORY:	0.72
	BASIC SEISMIC FORCE-RESISTING BEARING WALL:	0.49
	DESIGN BASE SHEAR:	N/A
	SEISMIC RESPONSE COEFFICIENT:	N/A
	RESPONSE MODIFICATION COEFFICIENT:	N/A
	ANALYSIS PROCEDURE USED:	N/A

INFORMATION OBTAINED FROM ASCE 7 HAZARD TOOL

SYMBOLS LEGEND



INTERGOVERNMENTAL AGREEMENT:

- SITE IMPROVEMENTS:** COUNTY SHALL AT COUNTY'S SOLE EXPENSE, INSTALL "WEED BARRIER" FENCE AND APPROPRIATE SURFACING SURROUNDING CITY'S RADIO EQUIPMENT SHELTER, BACKUP GENERATOR AND PROPANE TANK TO PREVENT INTRUSION BY BLACKBERRIES AND OTHER INVASIVE WEEDS.
- PERMITS:** COUNTY SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH SUCH PERMITS AND LICENSES, AND SHALL OBTAIN AND DELIVER TO CITY A COMMERCIAL CERTIFICATE OF OCCUPANCY (COO) FOLLOWING THE SATISFACTORY COMPLETION OF CONSTRUCTION ACTIVITIES.
- CONSTRUCTION COORDINATION:** COUNTY SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH CITY AND EXISTING RADIO EQUIPMENT SHELTER USERS TO ALLOW UNINTERRUPTED USE OF THE SHELTER DURING CONSTRUCTION. COUNTY SHALL PROTECT EXISTING RADIO EQUIPMENT INSTALLATIONS FROM EXCESSIVE DUST, HEAT, MOISTURE AND IMPACT THROUGHOUT CONSTRUCTION AND SHALL PROTECT THE TIME AND SPACE FOR THE RELOCATION OF EXISTING RADIO EQUIPMENT BY OTHERS THAT MAY BE NECESSARY TO FACILITATE CONSTRUCTION. COUNTY SHALL COMPLY WITH CITY'S SITE SECURITY PRACTICES THROUGHOUT CONSTRUCTION.
- EXCEPTION ONE OR MORE POWER OUTAGES MAY BE NECESSARY DURING CONSTRUCTION IN WHICH CASE COUNTY SHALL SCHEDULE SUCH OUTAGES IN COORDINATION WITH CITY AND EXISTING RADIO EQUIPMENT SHELTER USERS FOR A TIME AND DURATION THAT MITIGATES OPERATIONAL IMPACTS TO SUCH USERS.**
- SECURITY:** COUNTY RECOGNIZES THAT CITY MAY ALLOW COOPERATIVE USE OF CITY'S RADIO EQUIPMENT SHELTER BY OTHER AGENCIES AND THEIR CONTRACTED SERVICE PROVIDERS. COUNTY IS SOLELY RESPONSIBLE FOR THE INSTALLATION OF EQUIPMENT SECURITY MEASURES, SUCH AS LOCKABLE EQUIPMENT GATES, THAT COUNTY DEEMS NECESSARY TO PREVENT TAMPERING OF COUNTY'S RADIO EQUIPMENT.

ABBREVIATIONS LEGEND

AC	AIR CONDITIONING	MET, MTL	METAL
ADJ	ADJUSTABLE	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MGR	MANAGER
AGL	ABOVE GRADE LEVEL	MIN	MINIMUM
APPROX	APPROXIMATELY	MISC	MISCELLANEOUS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	N	NORTH
AWG	AMERICAN WIRE GAUGE	NA	NOT APPLICABLE
B/S	BUILDING BLOCK	NC	NOT IN CONTRACT
BMR	BASE MOBILE RADIO	N/C	NOT TO SCALE
B/S	BUILDING STANDARD	OD	OPENING DIAMETER
CLG	CEILING	OPG	OPENING
CLR	CLEAR	OPP	OPPOSITE
CONC	CONCRETE	PHP	OVERHEAD POWER
CONST	CONSTRUCTION	UPG	UNDERGRND POWER
CONT	CONTINUOUS	OHT	OVERHEAD TELCO
DBL	DOUBLE	UGT	UNDERGRND TELCO
DA, Ø	DIAMETER	PAR	PARALLEL
DIA CON	DIAGONAL	PROJ	PROJECT
DM	DIMENSION	PROP	PROPERTY
DN	DOWN	P	PROPOSED
DTL, DETL	DETAIL	PT	PRESSURE TREATED
DWG	DRAWING	REQD	REQUIRED
E	EAST	ROUN	ROUND
EACH	EACH	R.O.	ROUGH OPENING
EA, EL, ELEV	ELEVATION	S	SOUTH
ELECT	ELECTRICAL	SHT	SHEET
EQ	EQUAL	SIM	SIMILAR
EQUIP.	EQUIPMENT	SPEC	SPECIFICATION
EW, EWY	EACH WAY EXISTING	SQ	SQUARE
EXT	EXTERIOR	SS	STAINLESS STEEL
FIN	FINISH	STL	STEEL
FLR	FLOOR	STRUCT	STRUCTURAL
FT	FOOT	SUSP	SUSPENDED
GA	GALVANIZED	S.V.	SHEET VINYL
GALV	GALVANIZE(D)	THRU	THROUGH
GC	GENERAL CONTRACTOR	TINNED	TINNED
GRND	GROUND	T.O.C.	TOP OF CONCRETE
GWB	GYPSPUM WALL BOARD	T.O.M.	TOP OF MASONRY
GYP BD	GYPSPUM BOARD	TYP	TYPICAL
HARDWOOD	HARDWOOD	UNO.	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	VERT	VERTICAL
HR	HOUR	VIF	VERIFY IN FIELD
HT	HEIGHT	VT	VINYL TILE
HVAC	HEATING, VENTING AND AIR CONDITIONING	W	WEST
I.D.	INSIDE DIA.	W	WITH
IN	INCH	WIN	WINDOW
INFO	INFORMATION	WO	WITHOUT
INSUL	INSULATION	WP	WATERPROOF
INT	INTERIOR	W	W/
LE(S)	LEADS	W	WEST
LNA	ANTENNA AMPLIFIER	W	WITH
MAX	MAXIMUM	W	WINDOW
MECH	MECHANICAL	W	WITHOUT
		W	WATERPROOF
		W	ANGLE
		W	AND
		W	CENTER LINE
		W	PROPERTY LINE
		W	AT
		W	NUMBER



PROJECT INFORMATION:
MARION COUNTY
EASTVIEW LANE
 4830 EASTVIEW LN NE
 SILVERTON, OR 97381

DATE	RELEASE
05-19-24	SITE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-26-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:

Cushing Civil Engineers
 SUITE 300
 12725 SW MILLKAN WAY
 BEAVERTON, OR 97005
 (503) 381-4331
www.cushingcivilengineers.com



SHEET TITLE:
GENERAL NOTES
SHEET NUMBER:
G-1

EROSION CONTROL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
2. THE IMPLEMENTATION OF THESE ESC PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL JURISDICTION, AND VEGETATION/LANDSCAPING IS ESTABLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AFTER THE PROJECT IS APPROVED UNTIL THE LOTS ARE SOLD.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE MARKINGS SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING CONSTRUCTION PERIODS, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
7. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE MORE THAN 1/3 THE BARRIER HEIGHT. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
8. STABILIZED GRAVEL ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS RE-ESTABLISHED.
10. PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
11. SEEDING SHALL BE PERFORMED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
12. IF THERE ARE EXPOSED SOILS OR SOILS NOT FULLY ESTABLISHED FROM OCTOBER 1ST THROUGH APRIL 30TH, THE WET WEATHER EROSION PREVENTION MEASURES WILL BE IN EFFECT. SEE THE CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL (CHAPTER 4) FOR REQUIREMENTS.
13. NO EXPOSED, BARE SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN TWO DAYS DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30 OR FOR MORE THAN SEVEN DAYS DURING THE PERIOD OF MAY 1 THROUGH SEPTEMBER 30. ALL DISTURBED SOIL SURFACES SHALL BE STABILIZED BY A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES".
14. WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPEN AT ONE TIME. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES PROVIDED IT DOES NOT CONFLICT WITH SAFETY REQUIREMENTS.
15. THE CONTRACTOR SHALL REMOVE ESC MEASURES WHEN VEGETATION IS FULLY ESTABLISHED.

LEGEND

- EXISTING GRADE
- - - PROPOSED GRADE
- - - - TEMPORARY SILT FENCE
- ▨ CONSTRUCTION ENTRANCE
- FLOW DIRECTION
- 250' - GROUND ELEVATION
- ~ GRADE TO DRAIN

GENERAL NOTES

SCALE: NTS 4

UNADJUSTED CUT/FILL QUANTITIES

STRIPPING ORGANICS FOR COMPOUND;
CUT = ±78 CU. YD.

STRIPPING FOR ACCESS ROAD AND PARKING;
CUT = EXISTING

PROPOSED COMPOUND AREA;
CUT = EXISTING
FILL = 0 CU. YD.

PROPOSED ACCESS ROAD AND PARKING;
CUT = EXISTING
FILL = 0 CU. YD.

PROPOSED TOWER FOUNDATION;
EXCAVATION = EXISTING

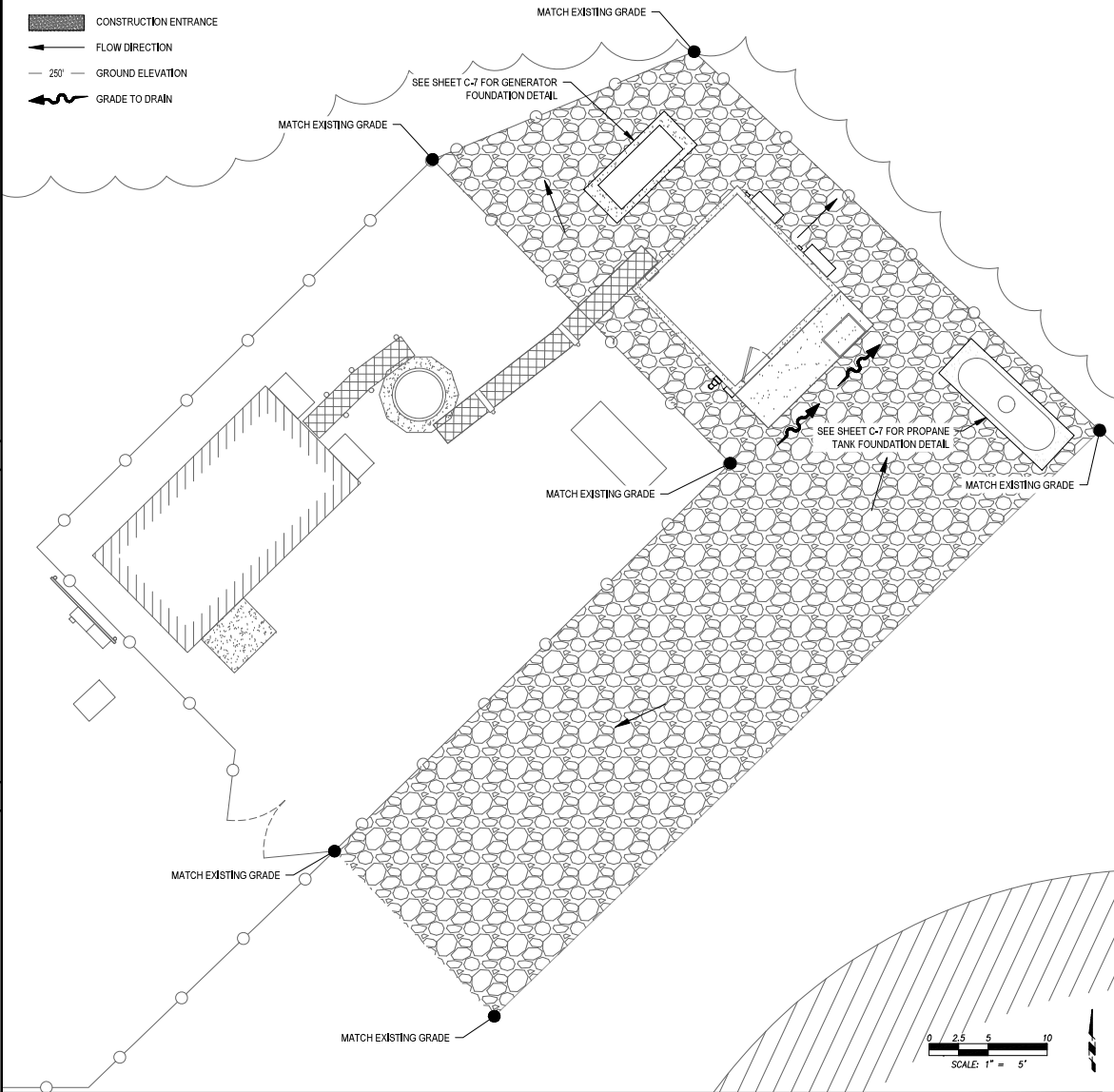
APPROX. TOTAL AREA OF DISTURBANCE OF PROPOSED GRADING = 0 SQ. FT.

CUT/FILL QUANTITIES

SCALE: NTS 3

NOT USED

SCALE: NTS 2



PROJECT INFORMATION:

**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON, OR 97381

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PLANS PREPARED BY:



Cushing
Civil Engineers

12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**GRADING & EROSION
CONTROL PLAN**

SHEET NUMBER:

ER-1

11X17 SCALE: 1" = 10' 22X34 SCALE: 1" = 5' 1

NOTE:
THIS IS NOT A SURVEY. ALL EXISTING
INFORMATION IS PROVIDED BY MARION
COUNTY GIS.

CONTRACTOR NOTES:

1. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH SUCH PERMITS AND LICENSES, AND SHALL OBTAIN AND DELIVER TO CITY A COMMERCIAL CERTIFICATE OF OCCUPANCY (CCO) FOLLOWING THE SATISFACTORY COMPLETION OF CONSTRUCTION ACTIVITIES.
2. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH CITY AND EXISTING RADIO EQUIPMENT SHELTER USERS TO ALLOW UNINTERRUPTED USE OF THE SHELTER DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT EXISTING RADIO EQUIPMENT INSTALLATIONS FROM EXCESSIVE DUST, HEAT, MOISTURE AND IMPACT THROUGHOUT CONSTRUCTION, AND SHALL PROVIDE TIME AND SPACE FOR THE RELOCATION OF EXISTING RADIO EQUIPMENT BY OTHERS THAT MAY BE NECESSARY TO FACILITATE CONSTRUCTION. CONTRACTOR SHALL COMPLY WITH CITY'S SITE SECURITY PRACTICES THROUGHOUT CONSTRUCTION.
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4. COUNTY RECOGNIZES THAT CITY MAY ALLOW COOPERATIVE USE OF CITY'S RADIO EQUIPMENT SHELTER BY OTHER AGENCIES AND THEIR CONTRACTED SERVICE PROVIDERS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE INSTALLATION OF EQUIPMENT SECURITY MEASURES, SUCH AS LOCKABLE EQUIPMENT CAGES, THAT CONTRACTOR DEEMS NECESSARY TO PREVENT TAMPERING OF COUNTY'S RADIO EQUIPMENT.

TAXLOT # 071W02A000700
ZONING: UT-5

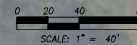
TAXLOT # 071W02A000400
ZONING: UT-5

TAXLOT # 071W02A000500
ZONING: UT-5

TAXLOT # 071W02A000600
ZONING: P (PUBLIC)

TAXLOT # 071W010000300
ZONING: UT-5

PROPOSED PROJECT AREA
SEE SHEET C-2 FOR DETAILS



PROJECT INFORMATION:

**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON, OR 97381

DATE	RELEASE
05-19-24	ITE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-06-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-18-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



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Civil Engineers

12725 SW MILLKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

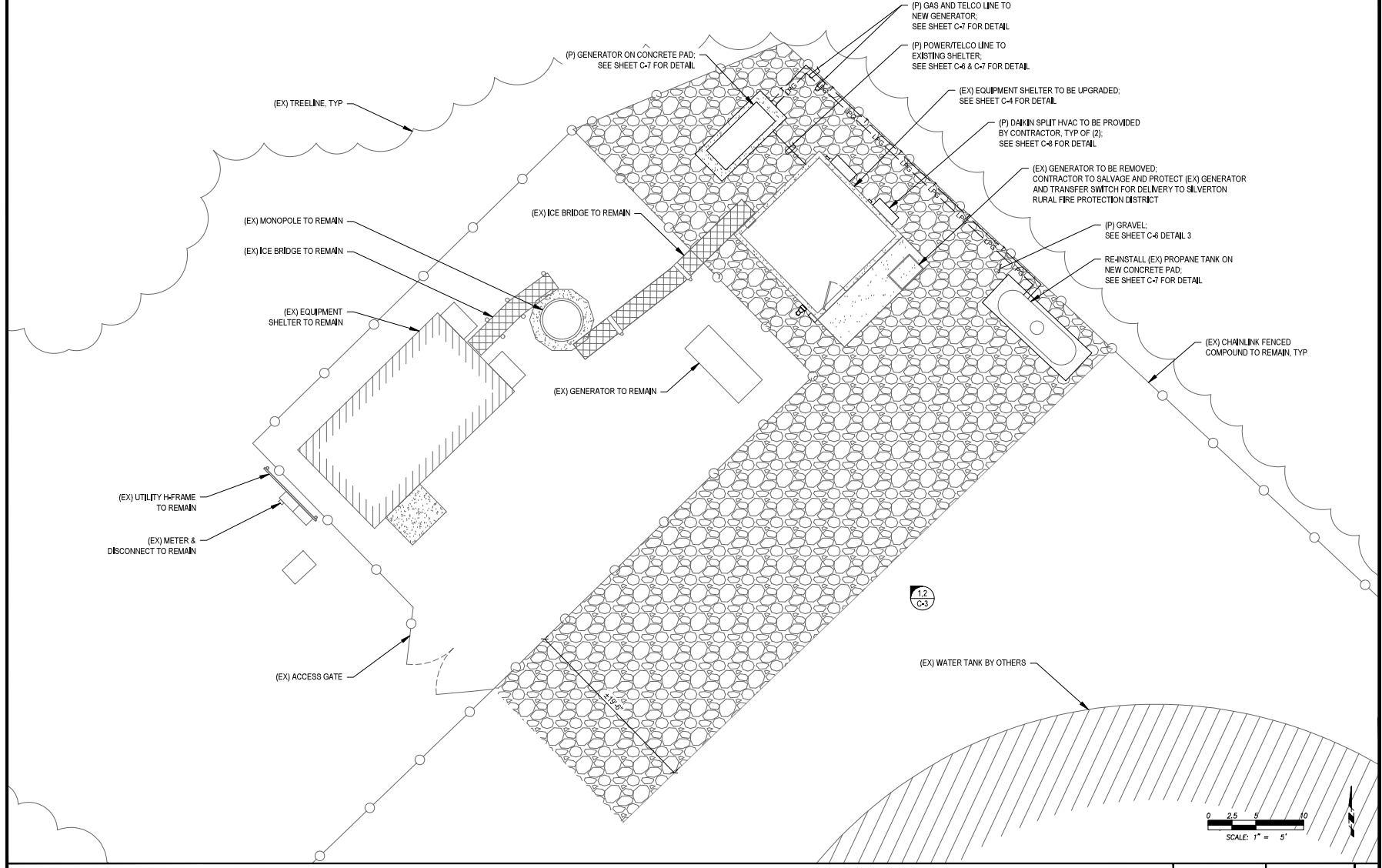
SHEET TITLE:

**OVERALL
SITE PLAN**

SHEET NUMBER:

C-1

- NOTES:
1. TOWER INFO SHOWN FOR CONCEPTUAL USE ONLY. SEE TOWER STRUCTURAL DESIGN BY OTHERS.
 2. THIS IS NOT A SURVEY ALL EXISTING INFORMATION IS PROVIDED BY GIS & SITE WALK NOTES.
 3. PROPOSED AND EXISTING ANTENNAS NOT SHOWN FOR CLARITY.



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RENEWAL DATE 12/31/26

SHEET TITLE:
ENLARGED
SITE PLAN

SHEET NUMBER:
C-2



**MARION COUNTY
EASTVIEW LANE**

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SILVERTON, OR 97381

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RENEWAL DATE 12/31/26

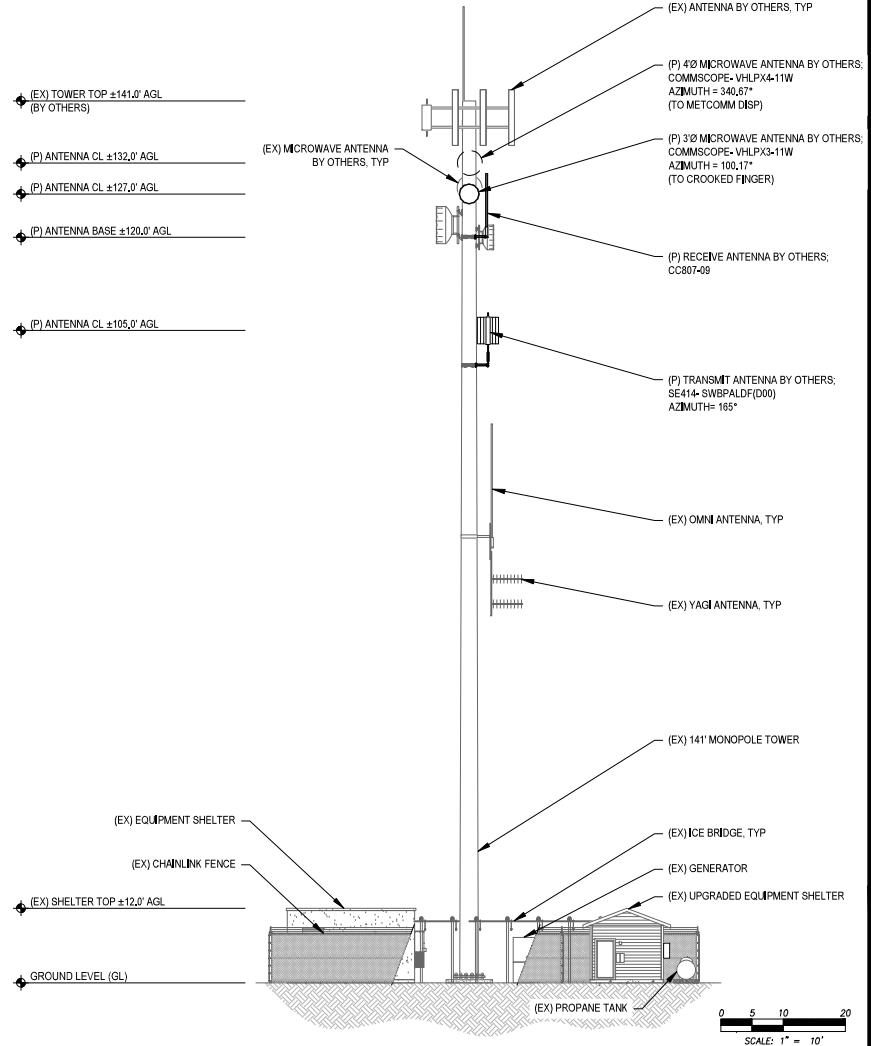
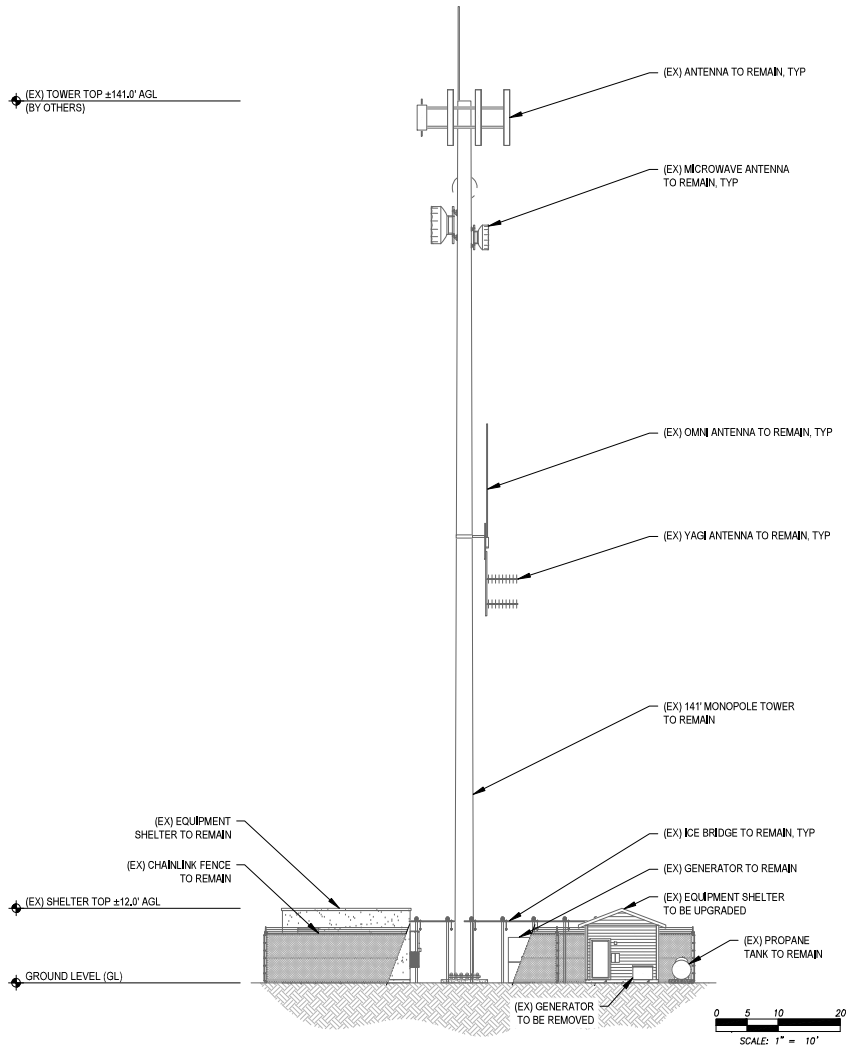
SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

C-3

NOTE:
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EXISTING SOUTHEAST ELEVATION

11X17 SCALE: 1" = 20'

22X34 SCALE: 1" = 10'

1

PROPOSED SOUTHEAST ELEVATION

11X17 SCALE: 1" = 20'

22X34 SCALE: 1" = 10'

2



**MARION COUNTY
EASTVIEW LANE**

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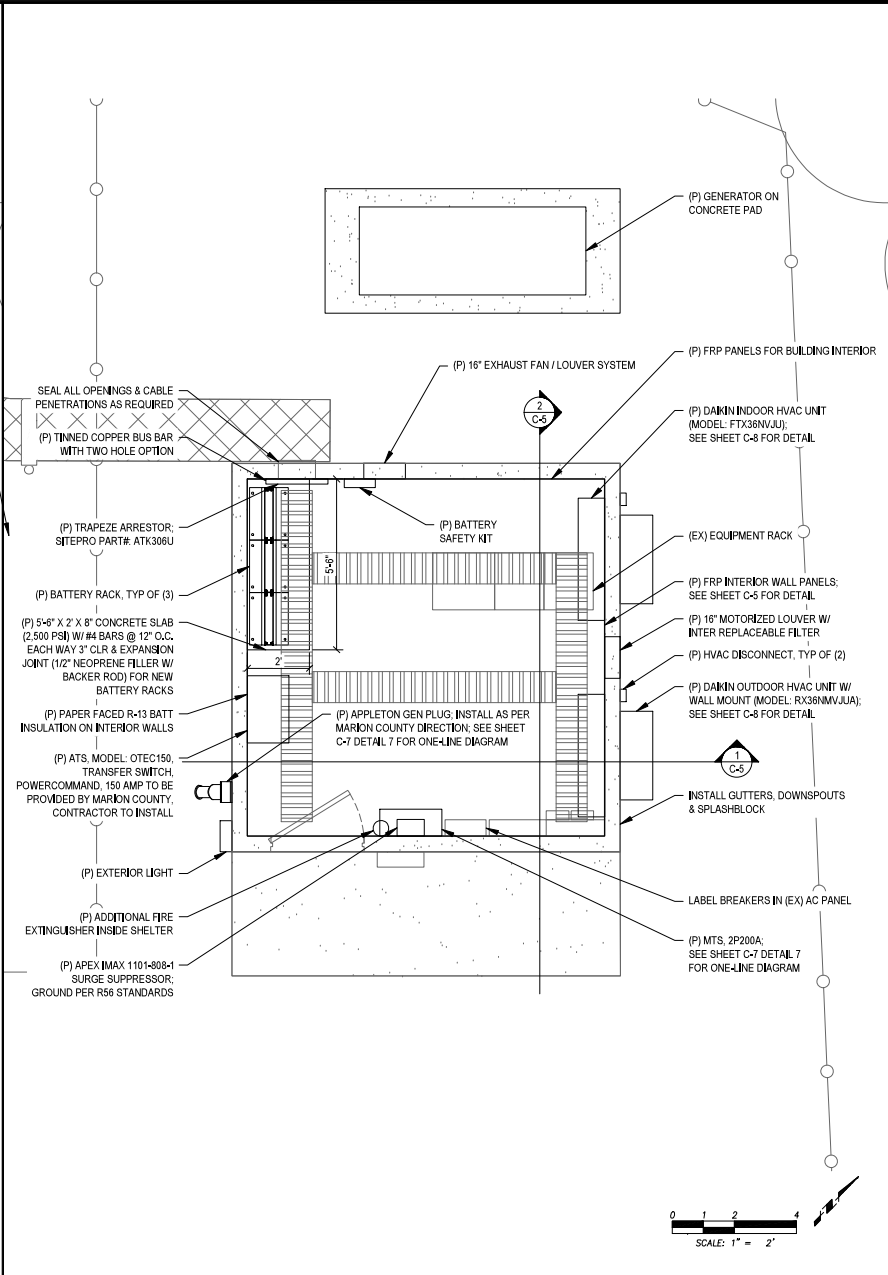
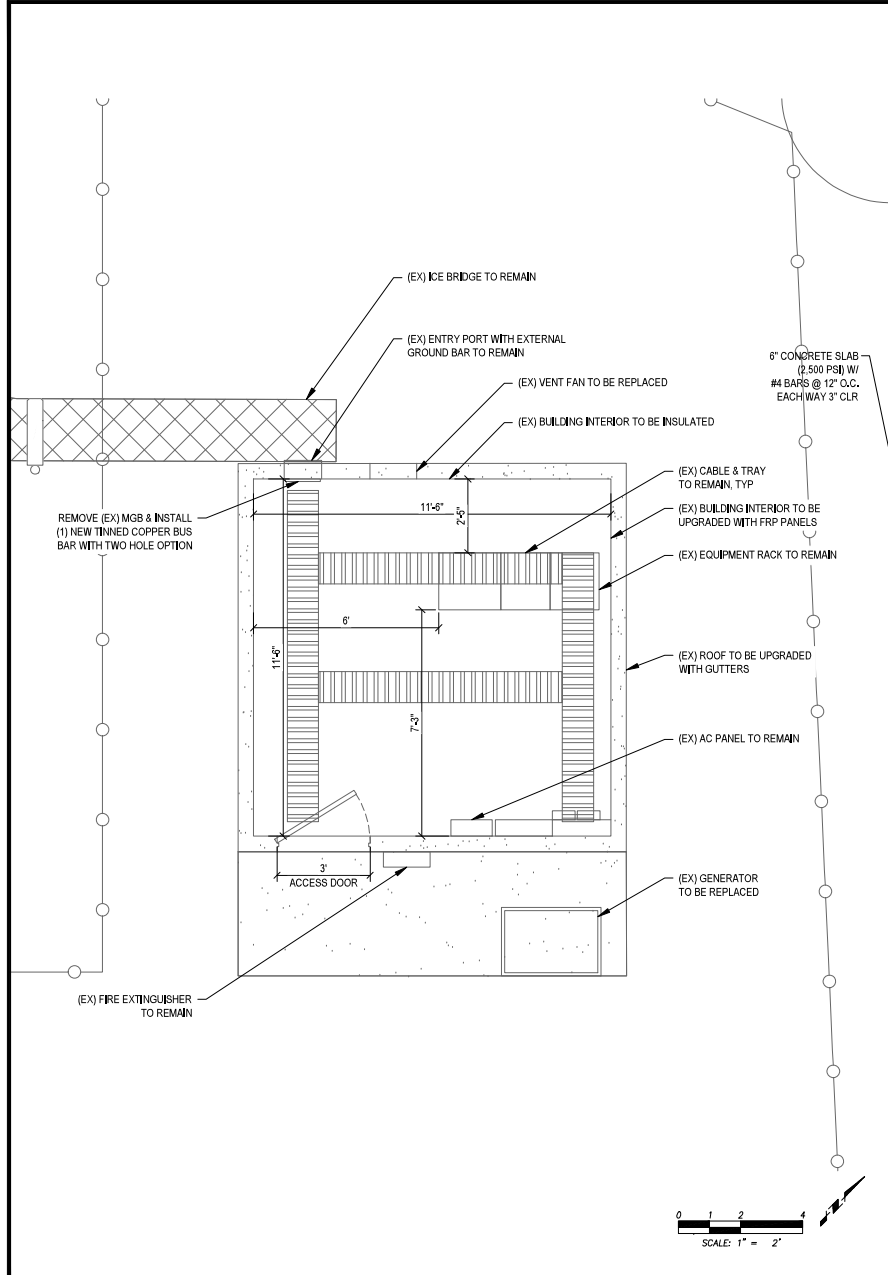
RENEWAL DATE 12/31/26

SHEET TITLE:

**INTERIOR
SHELTER PLANS**

SHEET NUMBER:

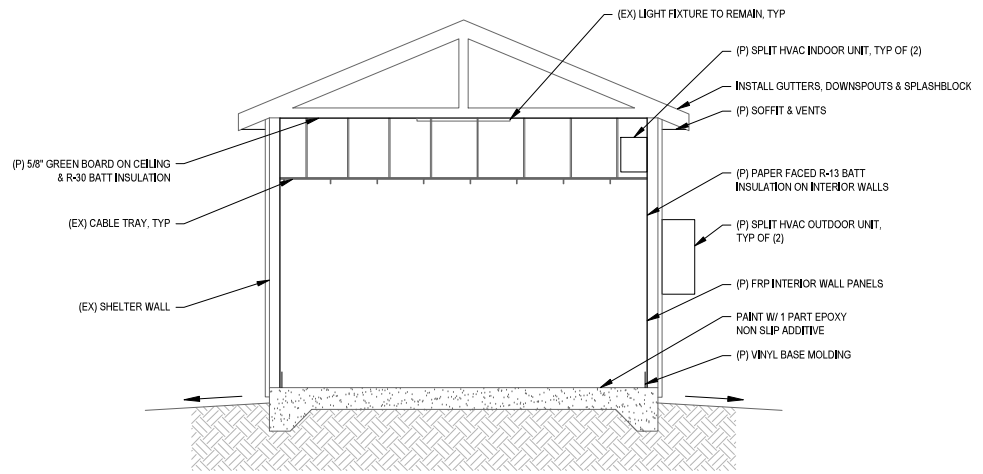
C-4



EXISTING FLOOR PLAN 11X17 SCALE: 1" = 4' 22X34 SCALE: 1" = 2' 1

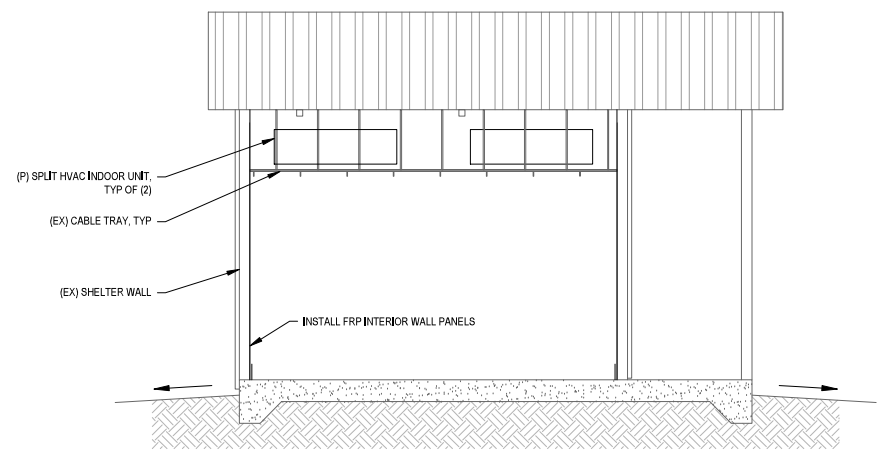
PROPOSED FLOOR PLAN 11X17 SCALE: 1" = 4' 22X34 SCALE: 1" = 2' 2

NOTE:
SEE E-SHEETS FOR GROUNDING UPDATES.



WALL SECTION W/ INTERNAL VIEW LOOKING NORTHWEST

SCALE: NTS 1



WALL SECTION W/ INTERNAL VIEW LOOKING NORTHEAST

SCALE: NTS 2



PROJECT INFORMATION:
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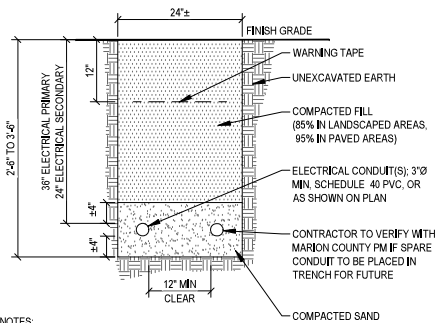
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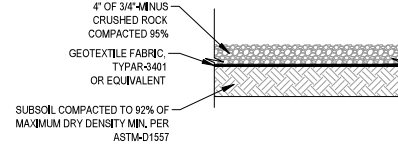
RENEWAL DATE 12/31/26

SHEET TITLE:
**SHELTER
SECTIONS**

SHEET NUMBER:
C-5



- NOTES:
1. EXCAVATE TO REQUIRED DEPTH.
 2. VERIFY ALL TRENCHING REQUIREMENTS PER LOCAL UTILITIES.
 3. CONTRACTOR TO PROVIDE (1) 300 POUND NYLON PULL CORD AND CONDUCTORS AS REQUIRED PER CONDUIT.



NOTE: STRIP ALL ORGANICS

POWER LINE TRENCH

SCALE: NTS

1

NOT USED

SCALE: NTS

2

COMPOUND ROCK SECTION DETAIL

SCALE: NTS

3

NOT USED

SCALE: NTS

4

NOT USED

SCALE: NTS

5

NOT USED

SCALE: NTS

6



PROJECT INFORMATION:

MARION COUNTY
EASTVIEW LANE

4830 EASTVIEW LN NE
SILVERTON, OR 97381

DATE RELEASE

DATE	RELEASE
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LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

COMPOUND
DETAILS

SHEET NUMBER:

C-6

Job Name: _____
 Tag# _____



Submittal Data Sheet **FTX36NVJU / RX36NMVJUA**
 3-Ton Wall Mounted Heat Pump System



Complete warranty details available from your local dealer or at www.daikincomfort.com. Warranty registration not required to receive the 10-Year parts limited warranty for residential or commercial installations.

Indoor Specifications				
Airflow Rate (cfm)	Cooling		Heating	
	H	M	H	M
	915	742	960	791
	L	SL	L	SL
	572	512	629	544
Sound (dBA) H / M / L / SL	54 / 47 / 40 / 37		53 / 46 / 38 / 35	
Dimensions (H x W x D) (in)	13-3/8 x 47-1/4 x 10-3/16			
Weight (Lbs)	38			

Outdoor Specifications				
Compressor	Hermetically Sealed Swing Type			
Refrigerant	R-410A			
Factory Charge (Lbs)	3.64			
Refrigerant Oil	PVE (FVC50K)			
Airflow Rate (cfm)	Cooling		Heating	
	H	2,811	H	2,352
Sound Pressure Level (dBA)	59			
Dimensions (H x W x D) (in)	28-15/16 x 34-1/4 x 12-5/8			
Weight (Lbs)	133			

Efficiency			
Cooling		Heating	
SEER	15.9	HSPF	9.2
EER	9.10	COP	2.78

Performance	
Cooling (Btu/hr)	
Rated (Min/Max)	34,400 (10,200 / 34,400)
Sensible @ AHRI	22,160
Standard Operating Range	50°F – 115°F
Extended Operating Range*	-4°F – 115°F

Rated Cooling Conditions: Indoor: 80°F DB/67°F WB
 Outdoor: 95°F DB/75°F WB

Heating (Btu/hr)	
1: @ 47° Rated (Min/Max)	36,000 (10,200 / 36,000)
2: @ 17° Rated	22,800
3: @ 5°	15,740
Operating Range	5 – 65°F

1: Rated Heating Conditions: Indoor: 70°F DB/60°F WB
 Outdoor: 47°F DB/43°F WB
 2: Rated Heating Conditions: Indoor: 70°F DB/60°F WB
 Outdoor: 17°F DB/15°F WB
 3: Heating Conditions: Indoor: 70°F DB/60°F WB
 Outdoor: 5°F DB/5°F WB

Electrical		
	208/60/1	230/60/1
System MCA	19.8	19.8
System MFA	20	20
Compressor RLA	18.25	18.25
Outdoor fan motor FLA	.83	.83
Outdoor fan moto: W	123	123
Indoor fan motor FLA	.37	.37
Indoor fan motor W	64	64

MFA: Max. fuse amps MCA: Min. circuit amps (A) FLA: Full load amps (A)
 RLA: Rated load amps (A) W: Fan motor rated output (W)

Piping	
Liquid (in)	1/4
Gas (in)	5/8
Drain (in)	5/8
Max. Interunit Piping Length (ft)	98.4
Max. Interunit Height Difference (ft)	65.625
Chargeless (ft)	32.8
Additional Charge of Refrigerant (oz/ft)	.32



**Optional Exterior Wall Mount For
 Air Conditioner Condensing Unit**
 Used to mount the outdoor air conditioning unit on an exterior wall to protect unit from snowdrift, flood, or for installation convenience.

Use Only All Stainless Steel



Above mounting hardware images for reference only. Products available through online sellers such as Lowe's, Home Depot, Amazon. Not provided by HotSpot Energy.

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LICENSURE:

RENEWAL DATE 12/31/26

**SHEET TITLE:
 HVAC DETAILS**

**SHEET NUMBER:
 C-8**



**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
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DATE	RELEASE
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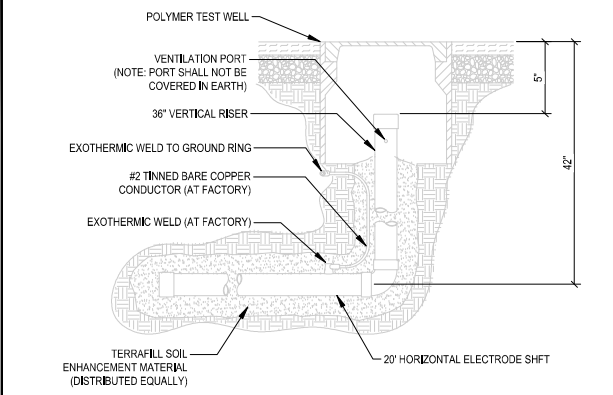
LICENSURE:



**SITE GROUNDING
PLAN & DETAILS**

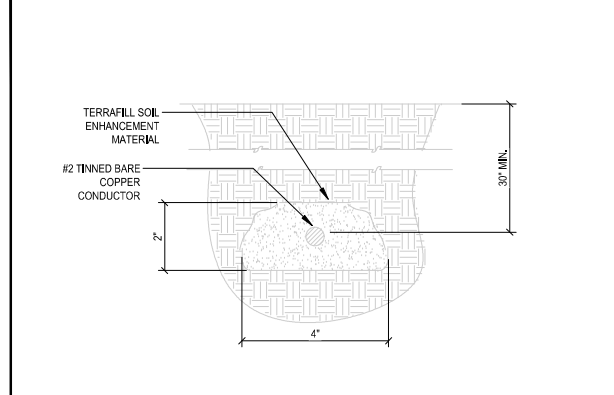
SHEET NUMBER:

E-1



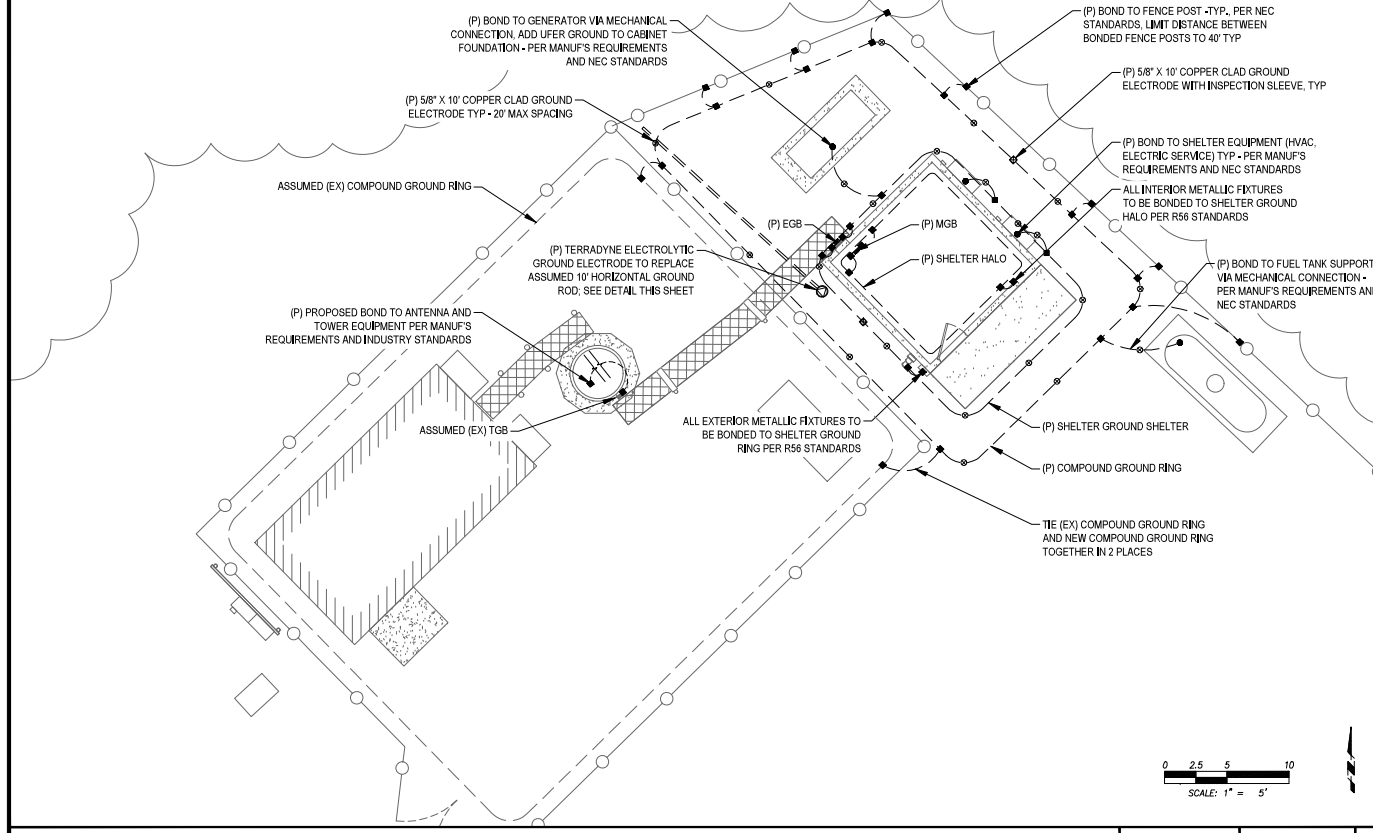
TERRADYNE ELECTROLYTIC GROUND ELECTRODE

SCALE: NTS 3



SOIL ENHANCEMENT DETAIL

SCALE: NTS 2

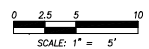


GENERAL NOTES:

1. ALL INSTALLATIONS ARE TO BE FIELD VERIFIED.
2. GROUND CONDUCTORS ARE TO BE BURIED AT A MINIMUM 30" BELOW GRADE OR 6" BELOW FREEZE LINE, WHICHEVER IS GREATER.
3. ALL BELOW GRADE GROUNDING CONDUCTORS ARE TO BE ENCOMPASSED IN A 2" X 4" BED OF SOIL ENHANCEMENT MATERIAL.
4. BONDS TO FENCE POSTS ARE TO BE MADE AT 12" ABOVE GRADE WHERE APPLICABLE.
5. NO CONDUCTOR SHALL HAVE A BEND IN RADIUS OF LESS THAN 12" AND SHALL NOT EXCEED 90 DEGREES.
6. TERRADYNE ELECTROLYTIC GROUND ELECTRODES ARE NOT TO SHARE THE SAME TRENCH AS GROUNDING CONDUCTOR, NOR RUN IN A PARALLEL PATH TO THE CONDUCTOR.
7. ALL GROUND SYSTEMS ARE TO BE MADE COMMON.
8. ALL BONDS ARE TO BE COATED WITH ANTI-OXIDATION COMPOUND.
9. WHERE STANDARD GROUND ELECTRODES ARE UNABLE TO BE DRIVEN, 12" X 12" X 1/8" COPPER GROUND PLATES SHALL BE INSTALLED 30" BELOW FINISHED GRADE & ENCOMPASSED IN 50LBS OF TERRAFILL SOIL ENHANCEMENT MATERIAL.

LEGEND:

- ⊕ TERRADYNE TG-20L-H36-2T-36-4F-P SERIES ELECTRODE W/ INSPECTION WELL
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- 5/8" X 10" COPPER CLAD GROUND ELECTRODE
- ⊞ 5/8" X 10" COPPER CLAD GROUND ELECTRODE WITH INSPECTION SLEEVE
- - - #2 TINNED SOLID COPPER CONDUCTOR

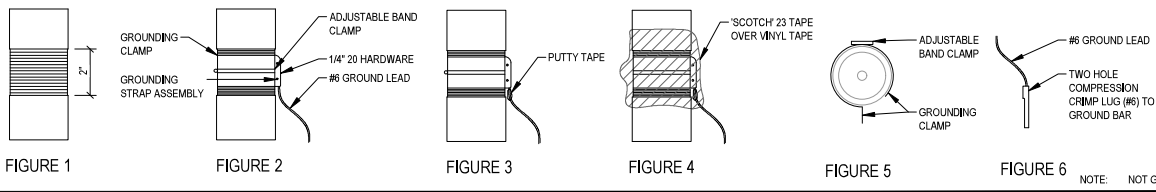


SITE COMPOUND GROUNDING PLAN

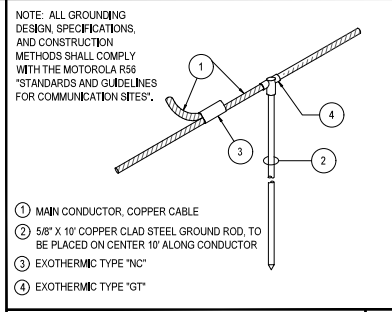
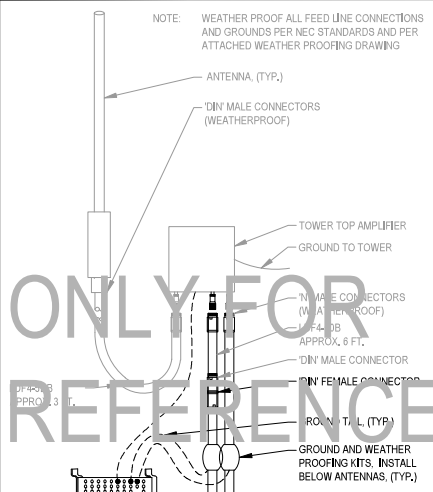
11X17 SCALE: 1" = 10'

22X34 SCALE: 1" = 5'

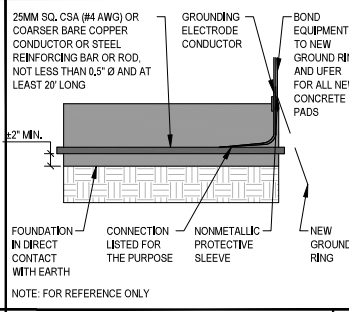
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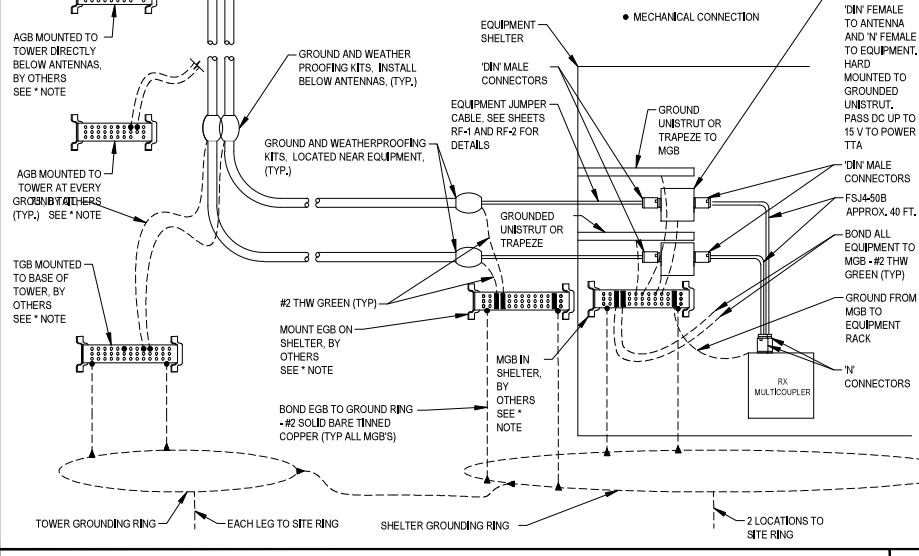
FEED LINE CABLE GROUNDING



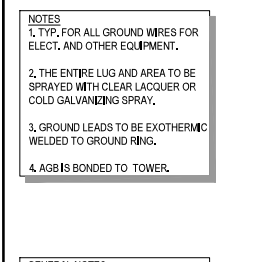
GROUND ROD DETAIL SCALE: NTS 4



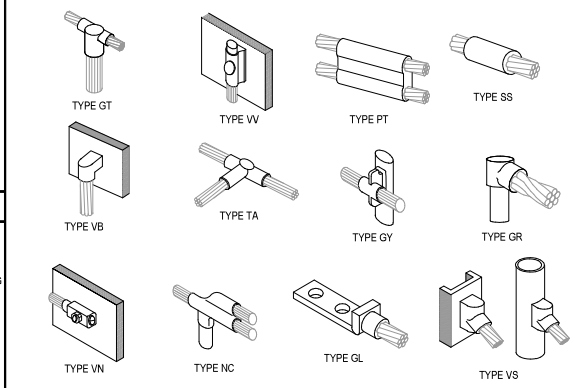
UFER DETAIL SCALE: NTS 5



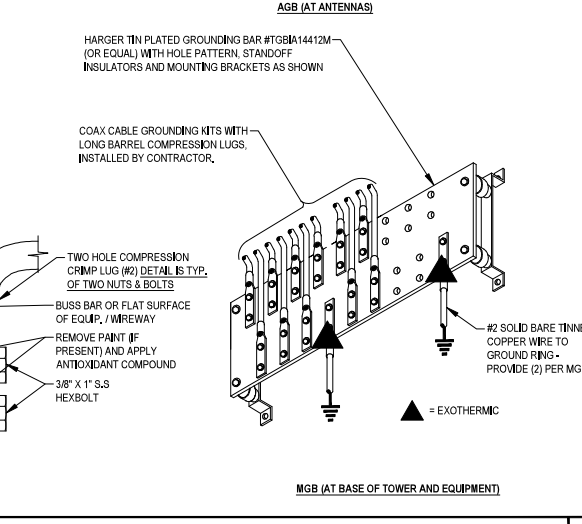
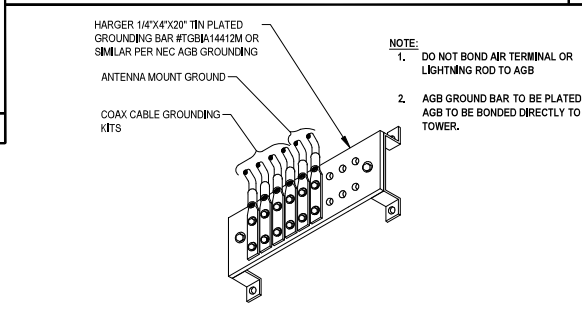
STANDARD RX GROUNDING SCHEMATICS SCALE: NTS 1



GROUND BAR DETAILS SCALE: NTS 6



TYPICAL EXOTHERMIC CONNECTION DETAILS



GROUND BAR DETAILS SCALE: NTS 6



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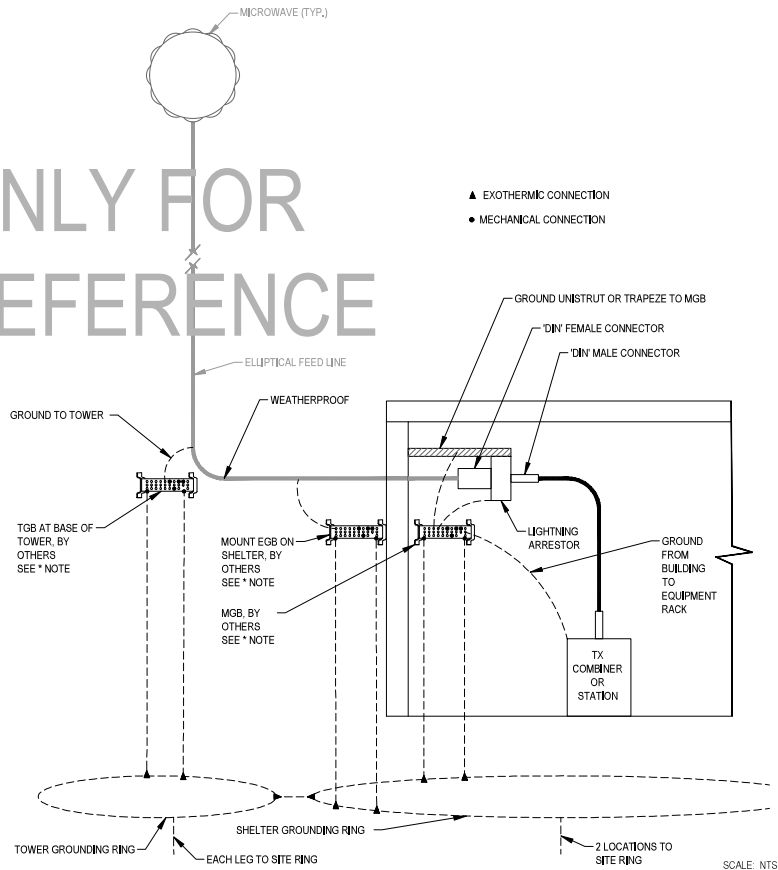
RENEWAL DATE 12/31/26

GROUNDING DETAILS I

SHEET NUMBER:

E-2

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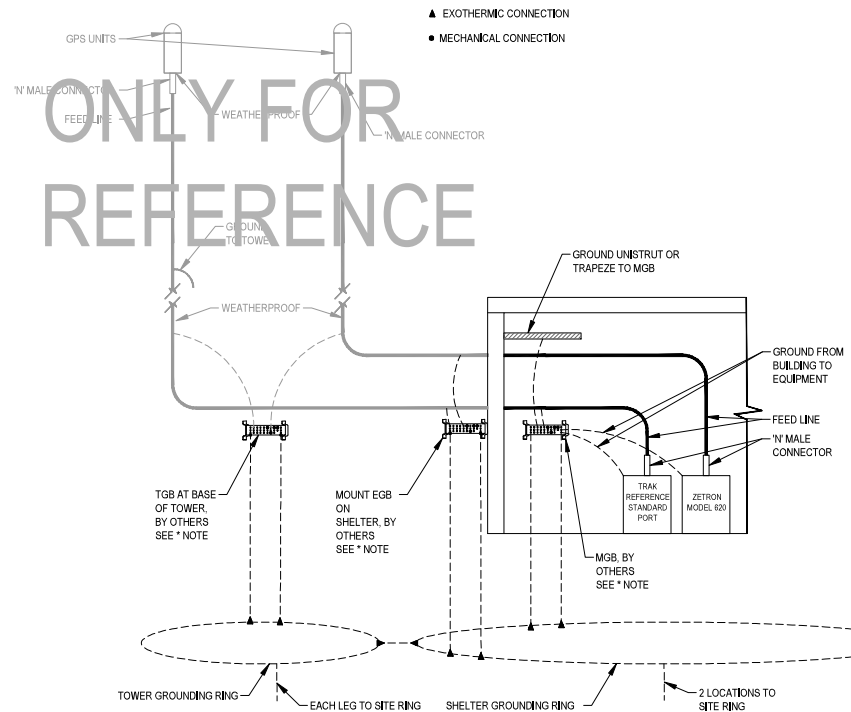


TYPICAL MICROWAVE ANTENNA GROUNDING SCHEMATICS

1

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ONLY FOR REFERENCE



TYPICAL GPS ANTENNA GROUNDING SCHEMATICS

2



PROJECT INFORMATION:
**MARION COUNTY
EASTVIEW LANE**

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RENEWAL DATE 12/31/26

SHEET TITLE:
**GROUNDING
DETAILS II**

SHEET NUMBER:
E-3

SITE INFORMATION

SITE NAME: EASTVIEW LANE

LOCATION INFORMATION

COUNTY: MARION COUNTY
 STREET ADDRESS: 4830 EASTVIEW LN NE
 CITY: SILVERTON STATE: OR
 ZIP CODE: 97381
 LATITUDE (DEC.)/(DEG): 44.994660 / 44° 59'40.8" N
 LONGITUDE (DEC.)/(DEG): -122.766060 / 122°45'57.8" W

TOWER INFORMATION

STRUCTURE: MONOPOLE TOWER MANUFACTURER: VALMONT
 TOWER OWNER: SBA SERIAL/MODEL #: -
 GROUND ELEVATION: ±589 # OF APPURTENANCE: -
 # OF LEGS: - HIGHEST POINT W/ ANT: -
 TOWER HEIGHT W/O ANT: 141'

#	Description	Part Number	Length (ft)	Direction	Status	Base Mount (ft)	Feet to Base (feet) (ft)	Height (ft)	Offset (ft)	Offset (ft)	Offset (ft)	Offset (ft)	Offset (ft)	Offset (ft)	Offset (ft)	Offset (ft)
1	P25 TX Antenna	SEA-J-5WHPALOF(000)	4.4	SE	New	105	105	107	165	165	Site-Pro P25-A-6 (6' standoff)	7/8"				
2	P25 RX Antenna	CC807-09	10.3	SE	New	120	125	130	-	165	Standard	1/2" to TTA				
3	TTA	NPD3633A/TTA	1.0	SE	New	117	118	118	-	165	Standard	7/8"				
4	Microwave - METCOMM DISP	VHLP4-11W	4.0	NW	New	130	132	134	340.67	340.67	Standard w/ tieback	EW90				
5	Microwave - Crooked Finger	VHLP3-11W	3.0	SE	New	126	127	129	100.17	100.17	Standard	EW90				
6	Microwave-1			SW	Existing		122		SW	SW	Standard					
7	Microwave-2			NE	Existing		120		NE	NE	Standard					
8	Microwave-3			NW	Existing		128		NW	NW	Standard					
9	Microwave-4			NW	Existing		140		NW	NW	Standard/platform					
10	Omni-1			SE	Existing		80		SE	S	Standoff					
11	Omni-2			SE	Existing		140		SE	SE	Standard					
12	Yag-1			SE	Existing		65		NW	SE	Standoff					
13	Yag-2			SE	Existing		61		NW	SE	Standoff					
14	Panel-1	Cell panels (x4)		NW	Existing		138		NW	NW	Platform					
15	Panel-2	Cell panels (x4)		SE	Existing		138		SE	SE	Platform					
16	Panel-3	Cell panels (x4)		NE	Existing		138		NE	NE	Platform					

* estimated value based on survey documentation and photos

NOTE:
 INFORMATION BASED ON TAIT COMMUNICATIONS' DOCUMENT DATED 08/11/2025 PROVIDED BY MARION COUNTY.

PROVISIONAL

Marion County, OR
 700 MHz
 P25 Phase II

Date: 8/11/2025
 Drawn: RCA
 Checked: -
 FILE:marion county or_eastview.vet

EastView
 Appurtenance Chart



**MARION COUNTY
 EASTVIEW LANE**

4830 EASTVIEW LN NE
 SILVERTON, OR 97381

DATE	RELEASE
05-16-24	SITE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-06-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-19-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:

Cushing
 Civil Engineers

Cushing
 Civil Engineers

12725 SW MILLKAN WAY
 SUITE 300
 BEAVERTON, OR 97005
 (503) 381-4331
 www.cushingcivilengineers.com

LICENSURE:

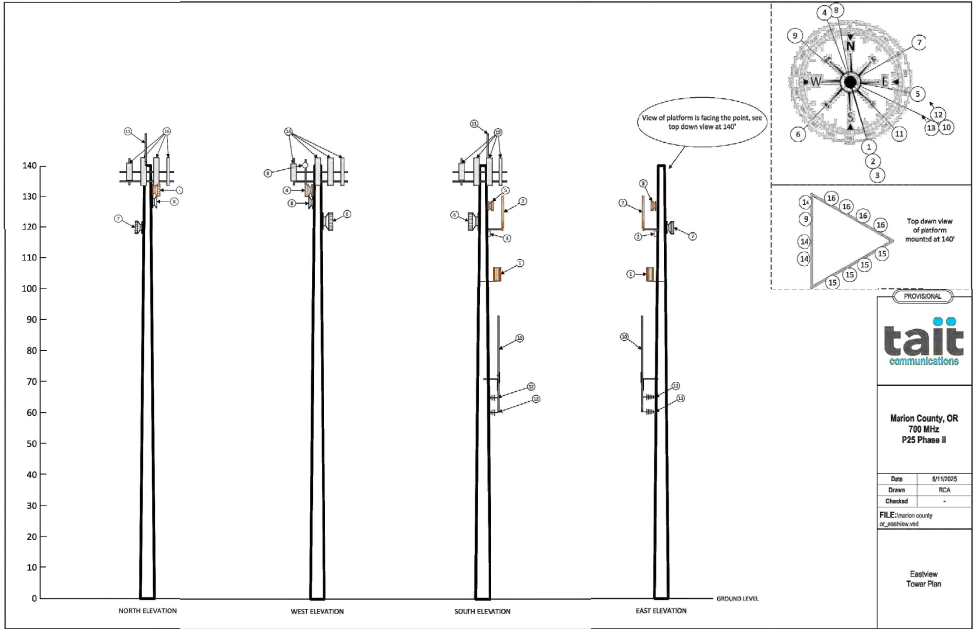
REGISTERED PROFESSIONAL
 ENGINEER
 83233

OREGON
 JUNE 7, 2011
 KEVIN MCMANAMY

RENEWAL DATE 12/31/26

SHEET TITLE:
**RF TOWER
 APPURTENANCES I**

SHEET NUMBER:
RF-1.0



VHLPX3-11W/A

Base Product



0.9m | 3 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 10.125–11.700 GHz

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Side Siruts, Included 0
Side Siruts, Optional 1 inboard

Dimensions

Diameter, nominal 0.9 m | 3 ft

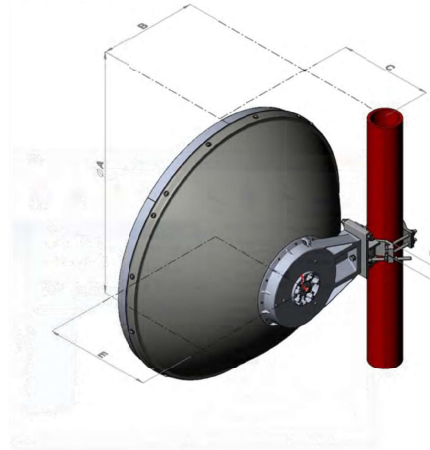
Electrical Specifications

Operating Frequency Band 10.125 – 11.700 GHz
Gain, Low Band 37.8 dBi
Gain, Mid Band 38.4 dBi
Gain, Top Band 39 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 64 dB
Beamwidth, Horizontal 2°
Beamwidth, Vertical 2°
Return Loss 17.7 dB
VSWR 1.3
Radiation Pattern Envelope Reference (RPE) 7177A | 7178A
Electrical Compliance Brazil Anatel Class 2 | Canada SRSP 310.5 | ETSI 302 217 Class 3 | US FCC Part 101A @ 10.55–10.7 GHz | US FCC Part 101A @

Page 1 of 5

VHLPX3-11W/A

Antenna Dimensions and Mounting Information



Dimension in Inches (mm)					
Antenna size, ft (m)	A	B	C	D	E
3 (1.0)	39.3 (999)	16 (407)	15.2 (387)	2.4 (60)	17.2 (437)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 2903 N | 652.321 lbf
Angle α for MT Max 0°
Side Force (FS) 1439 N | 323.5 lbf
Twisting Moment (MT) 1179 N-m | 10,435.029 in lb
Zcg without Ice 135 mm | 5.315 in
Zcg with 1/2 in (12 mm) Radial Ice 84 mm | 3.307 in
Weight with 1/2 in (12 mm) Radial Ice 46 kg | 101.413 lb

Page 3 of 5

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NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.



PROJECT INFORMATION:

**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON, OR 97381

DATE	RELEASE
05-16-24	ITE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-06-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-19-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



Cushing
Civil Engineers

12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 387-4331

www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**RF TOWER
APPURTENANCES II**

SHEET NUMBER:

RF-1.1

VHLPX4-11W/A

Base Product



1.2 m | 4 ft ValuLine® High Performance Low Profile Antenna, dual-polarized, 10.125–11.700 GHz

Product Classification

Product Type Microwave antenna
Product Brand ValuLine®

General Specifications

Antenna Type VHLPX - ValuLine® High Performance Low Profile Antenna, dual-polarized
Polarization Dual
Side Siruts, Included 1 inboard
Side Siruts, Optional 1 inboard

Dimensions

Diameter, nominal 1.2 m | 4 ft

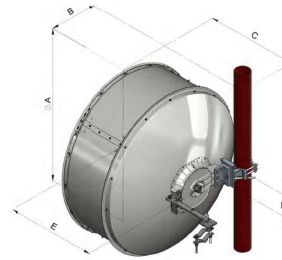
Electrical Specifications

Operating Frequency Band 10.125 – 11.700 GHz
Gain, Low Band 40.2 dBi
Gain, Mid Band 40.7 dBi
Gain, Top Band 41 dBi
Boresite Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 66 dB
Beamwidth, Horizontal 1.6 °
Beamwidth, Vertical 1.6 °
Return Loss 17.7 dB
VSWR 1.3
Radiation Pattern Envelope Reference (RPE) 7185A
Electrical Compliance Brazil Anatel Class 2 | Canada SRSP 310.5 | Canada SRSP 310.7 Part A | Canada SRSP 310.7 Part B | ETSI 302 217 Class

Page 1 of 5

VHLPX4-11W/A

Antenna Dimensions and Mounting Information



Antenna size, ft (m)	Dimensions in inches (mm)				
	A	B	C	D	E
4 (1.2)	50.6 (1291)	16 (407)	30.2 (767)	7.2 (183)	29.5 (748)

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA) 5326 N | 1,197.333 lbf
Side Force (FS) 2638 N | 593.046 lbf
Twisting Moment (MT) 2102 N·m | 19,135.312 in·lb
Force on Inboard Strut Side 2862 N | 643.403 lbf
Zcg without Ice 43 mm | 1.693 in
Zcg with 1/2 in (12 mm) Radial Ice 284 mm | 11.181 in
Weight with 1/2 in (12 mm) Radial Ice 74 kg | 163.142 lb

Page 3 of 5

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PROJECT INFORMATION:

MARION COUNTY
EASTVIEW LANE

4830 EASTVIEW LN NE
 SILVERTON, OR 97381

DATE	RELEASE
05-16-24	RTE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-06-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-19-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



Cushing
 Civil Engineers
 12725 SW MILLIKAN WAY
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 BEAVERTON, OR 97005
 (503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

RF TOWER
APPURTENANCES III

SHEET NUMBER:

RF-1.2

SE414-SWBALDF(D00) Enclosed dipole, 8-11.5 dBd, adj. beamwidth, Low PIM, 746-960MHz

- Wide band design covers whole 746-960 MHz band, PIP rated
- Horizontal beamwidth can be adjusted (60°/90°/105°/130°/160°)
- Gain depends on horizontal beamwidth setting (11.5/10/9/8.5/8 dBd)
- 0-10° electrical downtilt available

One wideband antenna for your 700, 800, 900 MHz systems. Sinclair's SE414-WBL series of enclosed dipole arrays offer excellent intermodulation performance covering 746-960 MHz in a single antenna. These highly versatile antennas are particularly well suited to communication systems where a specific coverage pattern is required. These include cellular systems, trunked radio, paging, and data transmission, where predictable and highly reliable performance is a must.

The SE414-WBAL series come with field adjustable reflectors that provide horizontal beamwidths between 60 and 160 degrees. The creative design and construction permits excellent pattern control and greater efficiency.

This antenna shall be mounted in an upright position. Clamps for mechanical downtilt can be ordered separately. Electrical downtilt is available upon request.



Antenna may not appear exactly as picture.

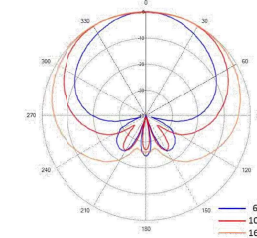
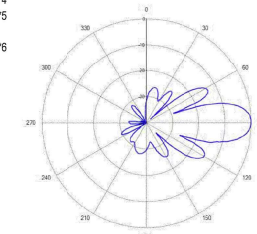
Electrical Specifications			
Frequency Range	MHz	746 to 960	
Bandwidth	MHz	214	
Connector		7/16 DIN-Female	
Gain (nominal)	dBd (dBi)	11.5 (13.6)	*1
Input VSWR (max)		1.5:1	
Polarization		vertical	
Impedance	Ω	50	
Pattern		Directional and Adjustable	
Horizontal beamwidth (typ)	degrees	60	*2
Vertical beamwidth (typ)	degrees	20	
Average Power Input (max)	W	500	
Passive intermod. (2x20W, 3rd ord.)	dBc	-150	*3
PIP(KW, max)		25	
Lightning protection		DC ground	
Electrical tilt (available)		0 to 10 degrees	
Front-to-back ratio (min)	dB	20	

Mechanical Specifications			
Width	in (mm)	25 (635)	*4
Depth	in (mm)	8.5 (216)	*5
Length/ Height	in (mm)	53 (1346)	
Base pipe diameter	in (mm)	2.88 (73)	*6
Base pipe mounting length	in (mm)	30.5 (775)	
Radiating element material		printed circuit bd	
Weight	lbs (kg)	19.5 (8.85)	
Mounting Hardware (Included)		#130 clamp	
Mounting configurations		upright	
Actual shipping weight	lbs (kg)	24.5 (11.12)	
Shipping dimensions	in (mm)	58x14x17 (1473x356x432)	

Environmental Specifications			
Temperature range	°F (°C)	-40 to +140 (-40 to +60)	
Wind Loading Area (Flat Plate Equivalent)	ft² (m²)	4.8 (0.45)	
Wind Loading Area (1/2" ice)	ft² (m²)	5.7 (0.53)	
Rated wind velocity (no ice)	mph (km/h)	155 (250)	
Rated wind velocity (1/2" radial ice)	mph (km/h)	140 (225)	
Lateral Thrust (100 mph No Ice)	lbs (N)	180 (800.6)	
Torsional moment (100 mph No Ice)	ft-lbs (Nm)	93 (125.6)	

Notes

- 1: Dependant on reflector setting 10/9/8.5/8 dBd
- 2: 90/105/130/160
- 3: Measured in the receive band: 2 - 20W carriers
- 4: 90° beamwidth configuration, clamp not included in measurement
- 5: 90° beamwidth configuration, clamp not included in measurement
- 6: Ref. clamp maximum



PROJECT INFORMATION:

**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON, OR 97381

DATE	RELEASE
07-16-24	RFTE SKETCH
10-24-24	PRELIMINARY ZONING DRAWINGS
11-06-25	PRELIMINARY CONSTRUCTION DRAWINGS
11-19-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



Cushing
Civil Engineers

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SUITE 300
BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



RENEWAL DATE 12/31/26

SHEET TITLE:

**RF TOWER
APPURTENANCES IV**

SHEET NUMBER:

RF-1.3

NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.

Region	United States	Europe, Middle East and Africa	Caribbean and Latin America	Canada and rest of the world
Telephone	USA: 1 800 263 3275	International: +44 (0) 1467 84 28 19	International: +1 905 726 7676	Canada: 1 800 263 3275 International: +1 905 727 0165
E-mail	salesusa@sinctech.com	salesuk@sinctech.com	salesla@sinctech.com	salescan@sinctech.com
Product Specification Sheet	SE414-SWBALDF(D00)		Issue: 2	
Customer Tech Manual	005044		Dated: 24-07-17 Dated: 16-12-14	
Sinclair's commitment to product leadership may result in improvement or change to this product Copyright © Sinclair Technologies				

Region	United States	Europe, Middle East and Africa	Caribbean and Latin America	Canada and rest of the world
Telephone	USA: 1 800 263 3275	International: +44 (0) 1467 84 28 19	International: +1 905 726 7676	Canada: 1 800 263 3275 International: +1 905 727 0165
E-mail	salesusa@sinctech.com	salesuk@sinctech.com	salesla@sinctech.com	salescan@sinctech.com
Product Specification Sheet	SE414-SWBALDF(D00)		Issue: 2	
Customer Tech Manual	005044		Dated: 24-07-17 Dated: 16-12-14	
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800MHz Corporate Collinear Antennas
748-870MHz
CC807 Series



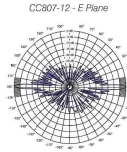
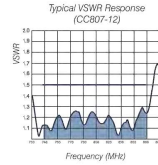
These industry leading, full featured corporate collinear arrays allow site operators to combine, with complete integrity, a large number of communications services into a single, low profile antenna solution.

The corporate feed design employed by RFI maintains superior pattern control, allowing gain to be maximised with zero tilt variation over a very broad bandwidth, comparable to that only previously available in exposed dipole array configurations. This is achieved in the preferred form factor of a fully enclosed fibreglass radome, providing a reduction in wind loading, ice loading and tower loading in comparison.

The CC807 series have been designed with an exceptional power rating of 50kW across the band as well as a Peak Instantaneous Power (PIP) rating of 25kW to cater for the peak voltage levels present in large multi-carrier combining environments. RFI's refined design processes and proven construction methods achieve a PIM rating of -150dBc , further ensuring performance is maintained for the service life of the antenna.

Features:

- 500W Continuous Power rating
- -150dBc Passive Intermodulation (PIM) rating, 100% PIM tested
- 25 kW Peak Instantaneous Power (PIP) rating
- DC grounding on all elements for the ultimate in lightning protection and dissipation of static noise.
- Light weight dipole construction using RFI's patented flexi-PCB architecture, maintains a low centre of gravity reducing tip deflection and sway
- Field invertible (excluding tilt models)
- Preset downtilt variations of 2 and 4 degrees available, see note (1)



Electrical Specifications

Model Number	CC807-09-P	CC807-12-P
Nominal Gain dBi (dB)	9.0 (11.1)	11.5 (13.6)
Frequency MHz	748-870	
Tuned Bandwidth MHz	Full	
VSWR (Return Loss)	1.5:1	
Nominal Impedance Ω	50	
Downtilt*	0 Std 2, 4 (1)	
Vertical Beamwidth*	6	4
Horizontal Beamwidth*	Omni +/- 0.5dB	
Input Power W	500	
Passive IM 3rd order (2x20W) dBc	-150	
Peak Instantaneous Power kW	25	

Mechanical

Model Number	CC807-09-P	CC807-12-P
Construction	Sky blue fibreglass radome	
Radome Diameter mm (inches)	76 (3.0)	
Length mm (inches)	3135 (123.4)	6235 (245.5)
Weight kg (lbs)	14 (30.9)	25.5 (56.2)
Termination	Integrated 4.3-10 Female	
Mounting Area mm (inches)	75x x 90 (30 x 3.5) diameter Ecolim™ plated aluminium	
Suggested Clamps	3 x UC-114	
Shipping Dimensions mm (inches)	H	115 (4.5)
	W	115 (4.5)
	L	6435 (253.3)
Shipping Weight kg (lbs)	36.5 (80.5)	
	3335 (131.3)	
Projected area cm ² (ft ²)	No Ice	2597 (2.8)
	With Ice	3192 (3.4)
Lateral Thrust @160km/h N (100 mph lbs)	308 (69)	659 (148)
Wind Gust Rating km/h (mph)	No Ice	>240 (150)
Torque @ 160km/h Nm (100mph ft-lbs)	413 (305)	1823 (1345)

(1) To order pre-set downtilt versions available, simply add a -T2 or -T4 towards the end of the part number to denote downtilt model required. For eg. CC807-12-T2-P to order CC807-12-P with 2deg of downtilt. Please note Models with downtilt are NOT field invertible. Eg. CC807-12-T2-P

NOTE: MODEL SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE UPON FINAL RF CONFIGURATION.



PROJECT INFORMATION:

**MARION COUNTY
EASTVIEW LANE**

4830 EASTVIEW LN NE
SILVERTON, OR 97381

DATE	RELEASE
07/16/24	RFE SKETCH
10/24/24	PRELIMINARY ZONING DRAWINGS
11/06/25	PRELIMINARY CONSTRUCTION DRAWINGS
11/16/25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:



Cushing
Civil Engineers

12725 SW MILLKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



SHEET TITLE:

**RF TOWER
APPURTENANCES V**

SHEET NUMBER:

RF-1.4



SITE NAME:
METCOM911

1060 MT HOOD AVE, WOODBURN, OR 97071



PROJECT INFORMATION:
**MARION COUNTY
METCOM911**

1060 MT HOOD AVE
WOODBURN, OR 97071

DATE	RELEASE
07-19-24	SITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
06-25-25	PRELIMINARY CONSTRUCTION DRAWINGS
10-15-25	FINAL CONSTRUCTION DRAWINGS

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Civil Engineers
12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 387-4331
www.cushingcivilengineers.com

LICENSURE:



SHEET TITLE:

**COVER
SHEET**

SHEET NUMBER:

T-1

SHEET INDEX PROJECT INFORMATION PROJECT INFORMATION CONTINUED DRIVING DIRECTIONS PROJECT DESCRIPTION

CONSTRUCTION SUBMITTAL:

T-1 COVER SHEET

EX-1 EXISTING CONDITIONS

G-1 GENERAL NOTES

ER-1 GRADING & EROSION CONTROL PLAN

ER-2 GRADING & EROSION CONTROL DETAILS

C-1 OVERALL SITE PLAN

C-2 ENLARGED SITE PLAN

C-3 ELEVATIONS

C-4 COMPOUND DETAILS

C-6 HVAC DETAILS

C-6 EQUIPMENT SHELTER FOUNDATION PLAN

E-1 SITE GROUNDING PLAN & DETAILS

E-2 GROUNDING DETAILS I

E-3 GROUNDING DETAILS II

RF-1,0 RF TOWER APPURTENANCES I

RF-1,1 RF TOWER APPURTENANCES II

SHELTER ONE PREFABRICATED SHELTER DRAWINGS (REFER TO STATE OF OREGON BUILDING CODES DIVISION FOR STATE INSIGNIA):

SH-1 EQUIPMENT SHELTER EXTERIOR ELEVATIONS

SH-2 EQUIPMENT SHELTER INTERIOR ELEVATIONS

SH-3 ELECTRICAL ONE-LINE DRAWING

SH-4 ELECTRICAL PANEL SCHEDULE

PROPERTY OWNER:
CITY OF WOODBURN
270 MONTGOMERY ST
WOODBURN, OR 97071

TOWER OWNER:
METCOM911
1060 MT HOOD AVE
WOODBURN, OR 97071

COUNTY: MARION **JURISDICTION:** CITY OF WOODBURN

ZONING:
P/SP (SPECIAL AGRICULTURE)

PARCEL NUMBER(S) & AREA:
ACCOUNT #: 108897
TAXLOT #: 051W08CB04800
399,000.0 SQ FEET ±
9.16 ACRES ±

PROJECT AREA:
TOTAL COMPOUND AREA - 200 SQ FEET ±
ACCESS DRIVE AND PARKING - EXISTING
TOTAL - 200 SQ FEET ±

PROJECT LOCATION:
*LAT: N 45° 09'03.4" (N5,150950)
*LONG: W 122° 59'36.5" (W122,843472)
*GROUND ELEVATION (ASML) = 199 ±

*INFORMATION OBTAINED FROM GOOGLE EARTH

APPLICANT:
MARION COUNTY PUBLIC WORKS
5155 SILVERTON RD NE
SALEM, OR 97305
CONTACT:
BRIAN NICHOLAS
(503) 588-7943
bnicholas@comarion.or.us

PROJECT MANAGER:
PATRICK HOOVER
(971) 295-0152
phoover@tspnw.com

ZONING CONTACT:
CUSHING CIVIL ENGINEERS
12725 SW MILLIKAN WAY, STE 300
BEAVERTON, OR 97005
CONTACT:
ROB HOWE
(503) 387-5331
rob@cushingcivilengineers.com

CONSTRUCTION MANAGER:
PATRICK HOOVER
(971) 295-0152
phoover@tspnw.com

ENGINEER OF RECORD:
CUSHING CIVIL ENGINEERS
12725 SW MILLIKAN WAY, STE 300
BEAVERTON, OR 97005
CONTACT:
KENNY McMANNANWAY
(503) 387-5331
kenny@cushingcivilengineers.com

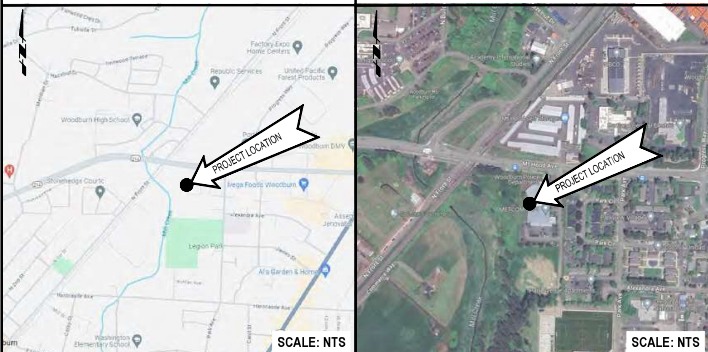
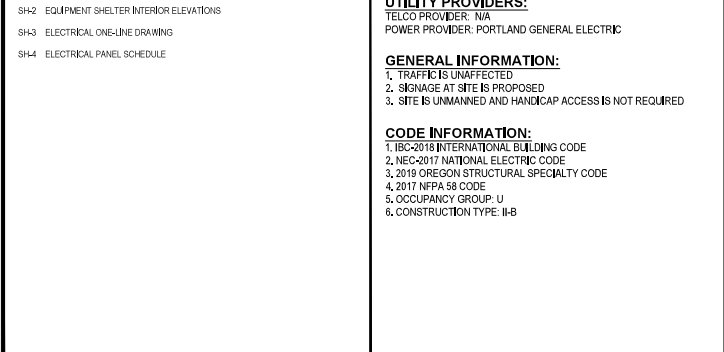
FROM MARION COUNTY PUBLIC WORKS BUILDING:

- GET ON I-5 N IN SALEM FROM CORDON RD NE AND HAZELGREEN RD NE
9 MN (4.9 MI)
- MERGE ONTO I-5 N
10.9 MI
- TAKE EXIT 271 FOR OR-214/OR-219 TOWARD WOODBURN/MOLALLA
0.3 MI
- TURN RIGHT ONTO OR-214 SHILLSBORO-SILVERTON HWY NE, PASS BY DAIRY QUEEN GRILL & CHILL (ON THE RIGHT IN 0.2 MI)
1.8 MI
- TURN RIGHT AND TAKE ANOTHER RIGHT TURN. DESTINATION WILL BE ON THE RIGHT.
262 FT

EST. TIME: 28 MINS.
EST. MILEAGE: 18.1 MI

- PROPOSED MODIFICATION OF AN EXISTING PUBLIC SAFETY COMMUNICATIONS FACILITY FOR MARION COUNTY, OREGON.
- PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT ON AN EXISTING 150' MONOPOLE TOWER:
 - ANTENNAS W/ ASSOCIATED ANCILLARY EQUIPMENT
- PROPOSED INSTALLATION OF THE FOLLOWING EQUIPMENT WITHIN EXISTING GROUND SPACE:
 - (1) 10x12' EQUIPMENT SHELTER
 - (1) ICE BRIDGE

VICINITY MAP LOCATOR MAP



GENERAL NOTES:

- DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSE ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE INSTALLATION AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS AND STANDARDIZED DETAILS THAT REQUIRE MODIFICATIONS DUE TO ACTUAL FIELD CONDITIONS AND REQUIREMENTS MUST BE SUBMITTED TO AND APPROVED BY OWNERS REPRESENTATIVE PRIOR TO START OF WORK.
- PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
- THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, SAFETY, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED IN RED INK "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S/ENGINEER'S SIGNED WET STAMP.
- THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC., ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THE CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING CONSTRUCTION AND REPAIR ALL DAMAGES TO EQUAL OR BETTER NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER OF ANY DAMAGE TO THE BUILDING SITE OR ANY ADJACENT STRUCTURES AROUND THE PROJECT. THE OWNERS REPRESENTATIVE SHALL BE SOLE AND FINAL JUDGE AS TO THE QUALITY OF THE REPAIRED CONSTRUCTION. ANY ADDITIONAL MODIFICATIONS WHICH MUST BE MADE SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- WHERE NEW PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- THE CONTRACTOR SHALL MODIFY THE EXISTING FLOORS, WALL, CEILING, OR OTHER CONSTRUCTION AS REQUIRED TO GAIN ACCESS TO AREAS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, OR STRUCTURAL MODIFICATIONS. WHERE THE EXISTING CONSTRUCTION DOORS, PARTITIONS, CEILING, ETC., ARE TO BE REMOVED, MODIFIED, OR REARRANGED OR WHERE THE EXPOSED OR HIDDEN MECHANICAL, ELECTRICAL, SYSTEMS ARE ADDED OR MODIFIED, THE GENERAL CONTRACTOR SHALL REPAIR, PATCH AND MATCH ALL EXISTING CONSTRUCTION AND FINISHES OF ALL FLOORS WALLS AND CEILINGS, WHERE CONCRETE MASONRY CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL TOOTH IN ALL NEW CONSTRUCTION TO MATCH THE EXISTING BOND. WHERE CONCRETE CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL VERIFY THE EXACT DETAILS TO BE USED FOR CONSTRUCTION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.
- IF CONTRACTOR OR SUBCONTRACTOR FIND IT NECESSARY TO DEVIATE FROM ORIGINAL APPROVED PLANS, THEN IT IS THE CONTRACTOR'S AND THE SUBCONTRACTOR'S RESPONSIBILITY TO PROVIDE THE PROJECT MANAGER WITH 4 COPIES OF THE PROPOSED CHANGES FOR HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. IN ADDITION THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.
- CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
- THIS IS AN ESSENTIAL FACILITY THEREFORE SHALL STRICTLY MEET ALL APPLICABLE CODE AND JURISDICTIONAL REQUIREMENTS.

GENERAL NOTES CONTINUED:

- THE CONTRACTOR SHALL PERFORM WORK DURING SITE/PROPERTY OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
 - SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHAL APPROVED MATERIALS AS APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY LOCATES, SCHEDULING, COORDINATING SPECIAL AND BUILDING DEPARTMENT INSPECTIONS.
 - ROUTING OF ALL CONDUITS, CABLES, CABLE TRAYS ETC ARE INDICATED AS PROPOSED LOCATION ONLY. CONFIRM THE EXACT LOCATION AND ROUTING WITH THE ON SITE PROJECT MANAGER PRIOR TO STARTING WORK.
- CONCRETE NOTES:**
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
 - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (UNO).
 - REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD (UNO).
 - THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST EARTH - 3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #4 AND LARGER 2 IN. #5 AND SMALLER & W/F 1-1/2 IN.
 - A 1/2" TROWELED RADIUS SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE (UNO). HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MFR RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS, AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN THE ELEVATED SLAB.
 - INSTALLATION OF CONCRETE EXPANSION AND WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.
 - FLOAT SURFACE SHALL BE A SMOOTH FINISH. SURFACE SHALL BE FREE OF ALL OBVIOUS DEPRESSIONS. SURFACE SHALL BE SLOPED AT 2% TO PROMOTE DRAINAGE AWAY FROM EQUIPMENT.

SITE WORK NOTES:

- RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY UNLESS OTHERWISE REQUIRED TO BE LEFT AS DEFINED BY LAND/PROPERTY OWNER.
 - THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT, EQUIPMENT SHELTER, GENERATOR, FUEL TANK, TOWER AREAS, AND ADJACENT BUILDINGS, ETC.
 - NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND, FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
 - THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO THE CRUSHED STONE APPLICATION. FABRIC USE AS REQUIRED.
 - ALL APPLICABLE LOCATES SHALL BE PERFORMED PRIOR TO ANY EXCAVATION OR SITE GRADING, ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
 - ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND SHALL BE CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
 - THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING DRIVEWAY OR CRUSHED STONE, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION LANDSCAPE WORK.
 - BEDDING MATERIAL FOR UTILITY LINES, CULVERTS AND PIPING: CLEAN SAND, MEDIUM TP COARSE, SUB ROUNDED NATURAL RIVER OR BANK SAND, WASHED, FREE OF SILT OR CLAY, LOAM, FRIBLOR OR SOLUBLE MATERIALS, AND ORGANIC MATTER. GRADED IN ACCORDANCE WITH THE FOLLOWING GRAIN SIZE DISTRIBUTION:
- | SEIVE SIZE | PERCENT PASSING |
|--------------|-----------------|
| NO. 4 MESH | 100 |
| NO. 6 MESH | 60-80 |
| NO. 8 MESH | 0-45 |
| NO. 16 MESH | 0-25 |
| NO. 100 MESH | 0-2 |
| NO. 200 MESH | 0-2 |
- BMP'S FOR TEMPORARY EROSION/SEDIMENTATION CONTROL SHALL BE IMPLEMENTED PER LOCAL, CITY OR COUNTY GUIDELINES AND PER PLAN IF APPLICABLE.

SITE WORK NOTES CONTINUED:

- ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH INDUSTRY STANDARDS AND BE ALIGNED WITH BMP GUIDELINES AS TECHNICALLY APPLICABLE. EACH SITE MUST BE PM APPROVED BEFORE IT SHALL BE CONSIDERED COMPLETE AND ACCEPTED.
 - IF UNADVERTENT DISCOVERIES OF NATIVE AMERICAN CULTURAL MATERIALS OR HUMAN REMAINS ARE MADE DURING CONSTRUCTION, ALL WORK SHOULD CEASE AND POTENTIALLY AFFECTED TRIBES, AS WELL AS THE STATE HISTORIC PRESERVATION OFFICE, SHOULD BE NOTIFIED IMMEDIATELY.
- TOWER/POLE NOTES:**
- ALL ANTENNAS, LINES AND RELATED INSTALLATION HARDWARE TO BE PROVIDED BY THE LAND MOBILE COMMUNICATIONS PROVIDER.
 - ALL HARDWARE (NUTS AND BOLTS) BE TIGHTENED AND TORQUED IN ACCORDANCE WITH THE TOWER MANUFACTURER'S AND STRUCTURAL ENGINEER'S SPECIFICATIONS.
 - VERIFICATION THAT THE TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.
 - PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ATTENTION (OREGON SITES ONLY):

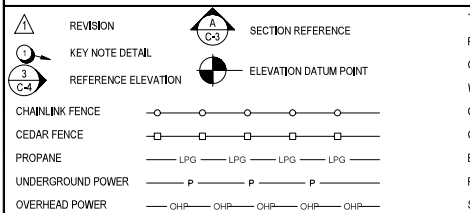
CALL 1-800-332-2344 48 HOURS BEFORE YOU DIG, OREGON LAW REQUIRES YOU TO FOLLOW OAR 852-001-0010 THRU 952-001-0090. COPIES ARE AVAILABLE AT THE OREGON UTILITY NOTIFICATION CENTER 503-232-1987

DESIGN LOADS:

ROOF SNOW LOAD DATA -	GROUND SNOW LOAD:	66 PSF*
	FLAT-ROOF SNOW LOAD:	N/A
	SNOW EXPOSURE FACTOR:	N/A
	SNOW LOAD IMPORTANCE FACTOR:	N/A
	THERMAL FACTOR:	N/A
WIND DESIGN DATA -	ULTIMATE DESIGN WIND SPEED:	107 MPH*
	RISK CATEGORY:	IV, C*
	WIND EXPOSURE:	C*
	INTERNAL PRESSURE COEFFICIENT:	N/A
	DESIGN WIND PRESSURES:	
	WIND LOAD HORIZONTAL (MMFRS):	N/A
	WIND LOAD (UPLIFT) (MMFRS):	N/A
EARTHQUAKE DESIGN DATA -	RISK CATEGORY:	IV
	SEISMIC IMPORTANCE FACTOR:	N/A
	MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:	
	S:	0.93*
	S:	0.36*
	S:	D*
	SITE CLASS:	
	DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:	
	S:	0.77*
	S:	0.52*
	SEISMIC DESIGN CATEGORY:	D
	BASIC SEISMIC FORCE-RESISTING:	
SYSTEM:	BEARING WALL:	N/A
	DESIGN BASE SHEAR:	N/A
	SEISMIC RESPONSE COEFFICIENT:	N/A
	RESPONSE MODIFICATION COEFFICIENT:	N/A
	ANALYSIS PROCEDURE USED:	N/A
GEOTECHNICAL INFORMATION -	ALLOWABLE BEARING CAPACITY:	N/A

INFORMATION OBTAINED FROM ASCE 7 HAZARD TOOL

SYMBOLS LEGEND



ABBREVIATIONS LEGEND

AC	AIR CONDITIONING	MET, MTL	METAL
ADJ	ADJUSTABLE	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MGR	MANAGER
AGL	ABOVE GRADE LEVEL	MNM	MINIMUM
APPROX	APPROXIMATELY	MSC	MISCELLANEOUS
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	N	NORTH
AWG	AMERICAN WIRE GAUGE	NA	NOT APPLICABLE
BRS	BUILDING BLOCK	NC	NOT IN CONTRACT
BLK	BLOCK	NCS	NOT TO SCALE
BMR	BASE MOBILE RADIO	OC, o/c	ON CENTER
B/S	BUILDING STANDARD	OD	OVERSIDE DIAMETER
CLG	CEILING	OPG	OPENING
CLR	CLEAR	OPP	OPPOSITE
CONC	CONCRETE	OPH	OVERHEAD POWER
CONST	CONSTRUCTION	UGP	UNDERGRND POWER
CONT	CONTINUOUS	OHT	OVERHEAD TELCO
DBL	DOUBLE	UGT	UNDERGRND TELCO
DA, Ø	DIAMETER	PR	PAIR
DIAG	DIAGONAL	PROJ	PROJECT
DM	DIMENSION	PROP P	PROPERTY PROPOSED
DN	DOWN	PT	PRESSURE TREATED
DTL, DETL	DETAIL	REQD	REQUIRED
DWG	DRAWING	RM	ROOM
E	EAST	R.O.	ROUGH OPENING
EACH	EACH	S	SOUTH
EA, EL, ELEV	ELEVATION	SHT	SHEET
ELECT	ELECTRICAL	SIM	SIMILAR
EQ	EQUAL	SPEC	SPECIFICATION
EQUIP	EQUIPMENT	SQ	SQUARE
E.W.	EACH WAY EXISTING	SS	STAINLESS STEEL
EXT	EXTERIOR	STL	STEEL
FIN	FINISH	STRUCT	STRUCTURAL
FLOOR	FLOURESCENT	SUSP	SUSPENDED
FLR	FLOOR	S.V.	SHEET VINYL
FT	FOOT	THRU	THROUGH
GA	GALVANIZE	TND	TINNED
GALV	GALVANIZE(D)	T.O.C.	TOP OF CONCRETE
GC	GENERAL CONTRACTOR	T.O.M.	TOP OF MASONRY
GRND	GROUND	TYP	TYPICAL
GWB	GYPSPUM WALL BOARD	UNO,	UNLESS NOTED OTHERWISE
GYP BD	GYPSPUM BOARD	VERT	VERTICAL
HARDWD	HARDWOOD	VIF	VERIFY IN FIELD
HORIZ	HORIZONTAL	VT	VINYL TILE
HR	HOUR	W	WEST
HT	HEIGHT	W	WITH
HVAC	HEATING, VENTING AND AIR CONDITIONING	WIN	WINDOW
I.D.	INSIDE DIA.	WO	WITHOUT
IN	INCH	WP	WATERPROOF
INFO	INFORMATION	Z4	ZONE 4
INSUL	INSULATION	Ø	AND
INT	INTERIOR	CL	CENTER LINE
LS(D)	LOUD(S)	PL	PROPERTY LINE
LNA	ANTENNA AMPLIFIER	R	RADIUS
MAX	MAXIMUM	@	AT
MECH	MECHANICAL	#	NUMBER



MARION COUNTY METCOM911

1060 MT HOOD AVE
WOODBURN, OR 97071

DATE	RELEASE
05-19-24	ITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
06-25-25	PRELIMINARY CONSTRUCTION DRAWINGS
10-15-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:

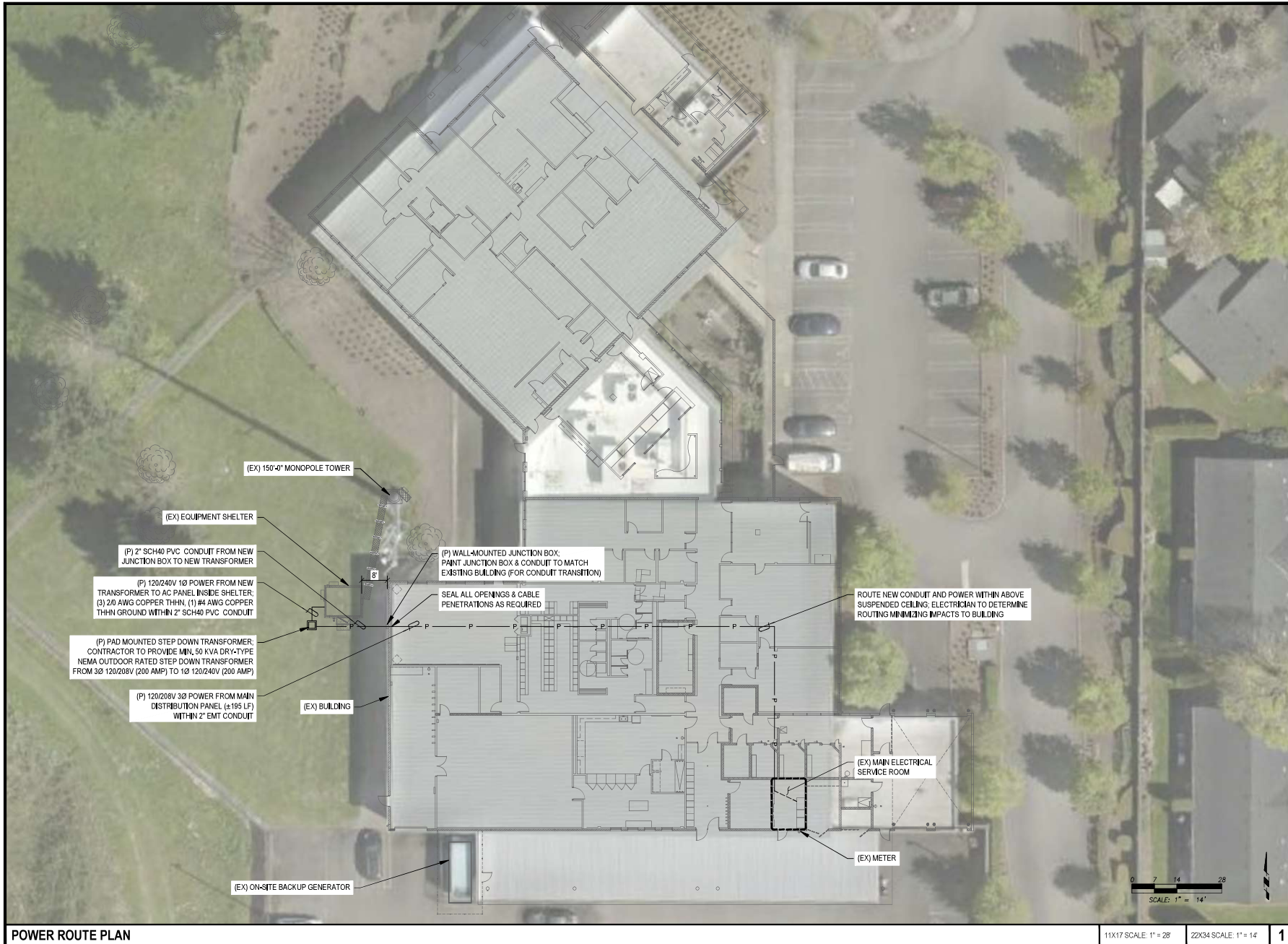
Cushing Civil Engineers
12725 SW MILLIKAN WAY
SUITE 300
BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

LICENSURE:

REGISTERED PROFESSIONAL ENGINEER
83233
OREGON
JUNE 7, 2017
KEVIN McMANNAN
RENEWAL DATE 12/31/26

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
G-1



PROJECT INFORMATION:
MARION COUNTY
METCOM911

1060 MT HOOD AVE
 WOODBURN, OR 97071

DATE	RELEASE
07-19-24	SITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
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10-15-25	FINAL CONSTRUCTION DRAWINGS
11-11-25	POWER ROUTE PLAN

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PLANS PREPARED BY:



Cushing
 Civil Engineers
 12725 SW MILLIKAN WAY
 SUITE 300
 BEAVERTON, OR 97005
 (503) 381-4331
www.cushingcivilengineers.com

LICENSURE:



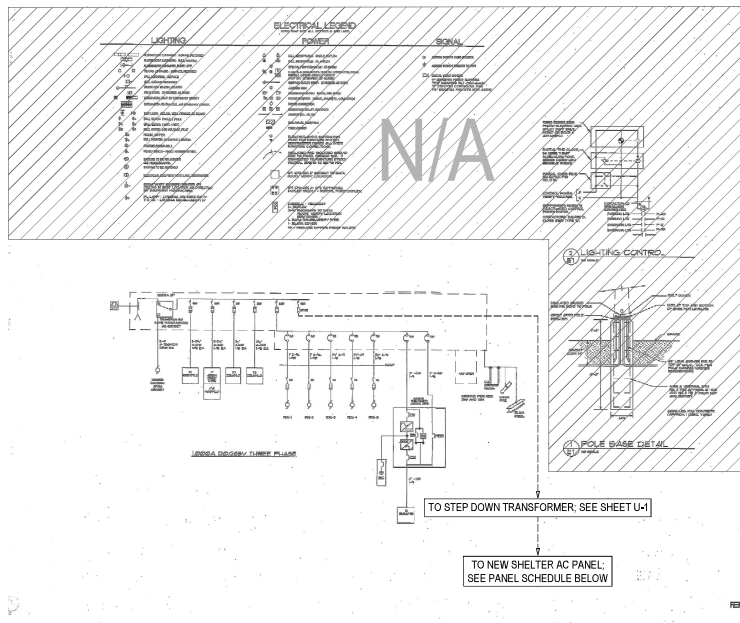
RENEWAL DATE 12/31/26

SHEET TITLE:

POWER ROUTE PLAN

SHEET NUMBER:

U-1



SEAL

APPROVED:

DATE:

PROJECT INFORMATION:
25027 MARION COUNTY
OR 97112

FLORIANC
25027 Marion County OR 97112

DRAWN BY: NJY **DATE:** 7/24/25

CHECKED BY: **DATE:**

DSG NO: 25028

SCALE: NOT TO SCALE

TITLE: PANEL SCHEDULE

SHEET: E2 **REV:**



PROJECT INFORMATION:

**MARION COUNTY
METCOM911**

1060 MT HOOD AVE
WOODBURN, OR 97071

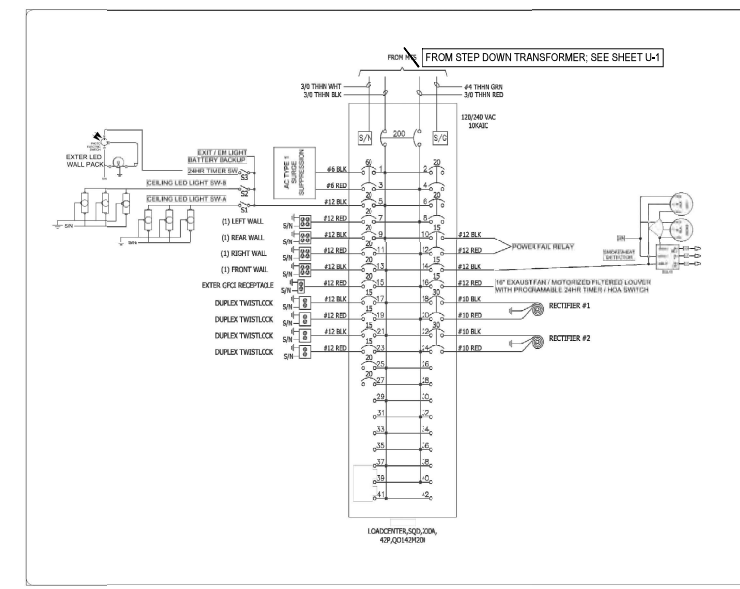
DATE	RELEASE
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PLANS PREPARED BY:

EXISTING BUILDING ONE-LINE DIAGRAM

SCALE: NTS 1



SEAL

APPROVED:

DATE:

PROJECT INFORMATION:
25027 MARION COUNTY
OR 97112

FLORIANC
25027 Marion County OR 97112

DRAWN BY: NJY **DATE:** 7/24/25

CHECKED BY: **DATE:**

DSG NO: 25028

SCALE: NOT TO SCALE

TITLE: PANEL SCHEDULE

SHEET: E2 **REV:**



**Cushing
Civil Engineers**

12725 SW MILLIKAN WAY
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BEAVERTON, OR 97005
(503) 381-4331
www.cushingcivilengineers.com

LICENSURE:

REGISTERED PROFESSIONAL ENGINEER 83233

OREGON
JUNE 7, 2012
KENNY McMANAWAY

RENEWAL DATE 12/31/26

SHEET TITLE:

**ONE-LINE
DIAGRAM**

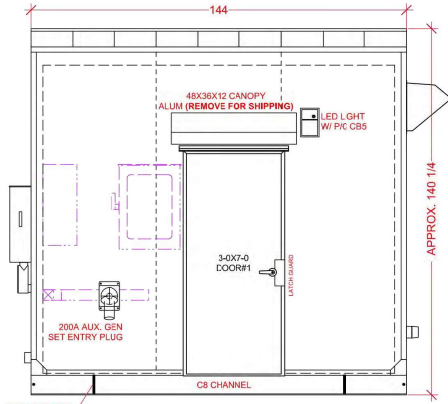
SHEET NUMBER:

U-2

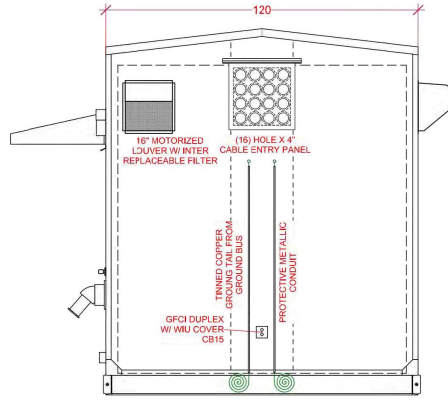
NEW SHELTER PANEL SCHEDULE

SCALE: NTS 2

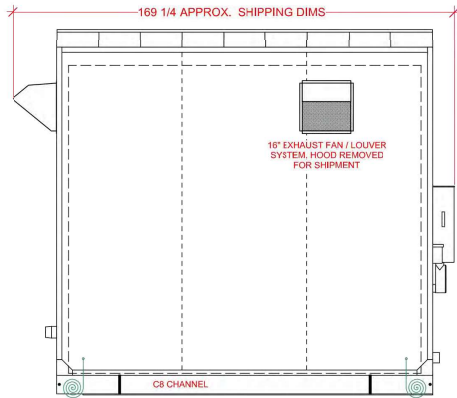
NOTE:
 INFORMATION BASED ON SHELTER ONE PREFABRICATED EQUIPMENT
 SHELTER DRAWINGS, REFER TO STATE OF OREGON BUILDING CODES
 DIMENSION FOR STATE INSIGNA.



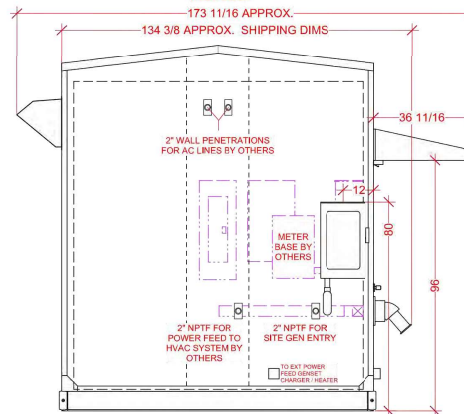
FRONT



RIGHT

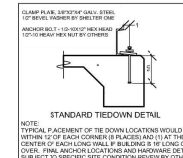


REAR



LEFT

- NOTES:
1. SHELTER IS DESIGNED FOR A SLAB TYPE FOUNDATION.
 2. EXTERIOR CLADDING TO BE 24 GA. PREFINISHED STEEL, COLOR - (TBD).
 3. EXTERIOR TRIM TO BE MATCHING 24GA STEEL TRIM
 4. SKID TO BE EPOXY PAINTED COLOR - (TBD).
 5. 24GA PRE-FINISHED STEEL STANDING SEAM ROOF SYSTE - COLOR - (TBD)



SEAL	
APPROVED:	
DATE:	
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<p>SHELTER ONE</p> <p>Headquarters & Manufacturing 587 Monument Drive Grants Pass, OR 97526 541/479-4622 F:541/479-5289 www.shelter1.com</p>	
<p>PROJECT INFORMATION</p> <p>25028 MARION COUNTY OR 10x12</p>	
<p>FILENAME</p> <p>25028 Marion County OR 10x12.wxw</p>	
DRAWN BY:	DATE:
NJY	7/24/25
CHECKED BY:	DATE:
<p>DWG NO: 25028</p>	
<p>SCALE: 1:40</p>	
<p>TITLE:</p> <p>EXTERIOR ELEVATIONS</p>	
SHEET	REV.
A1	



PROJECT INFORMATION:
**MARION COUNTY
 METCOM911**

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 WOODBURN, OR 97071

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10-15-25	FINAL CONSTRUCTION DRAWINGS

DRAWING INFORMATION:
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PLANS PREPARED BY:

cushing
 Civil Engineers

Cushing
 Civil Engineers
 12725 SW MILLKAN WAY
 SUITE 300
 BEAVERTON, OR 97005
 (503) 381-4331
 www.cushingcivilengineers.com

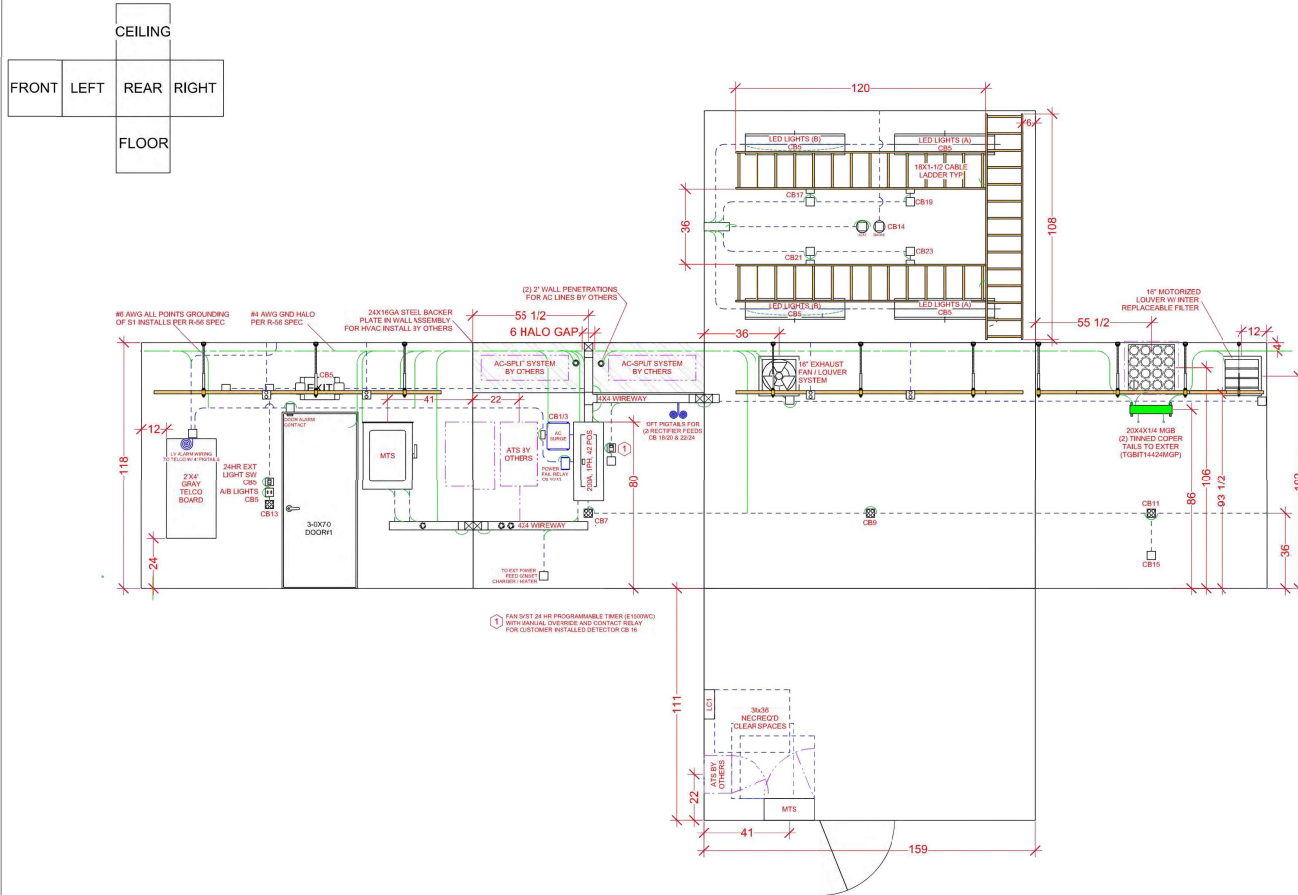
LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
**EQUIPMENT
 SHELTER EXTERIOR
 ELEVATIONS**

SHEET NUMBER:
SH-1

NOTE:
 INFORMATION BASED ON SHELTER ONE PREFABRICATED EQUIPMENT
 SHELTER DRAWINGS, REFER TO STATE OF OREGON BUILDING CODES
 DIVISION FOR STATE INSIGNIA.



- NOTES:
1. ALL CONDUIT TO BE TYPE EMT, SURFACE MOUNTED, MINIMUM SIZE 1/2" UNLESS NOTED OTHERWISE; UPSIZING PERMITTED.
 2. CONDUIT LOCATIONS INDICATED BY DASHED LINES ARE SUGGESTED AND MAY BE MODIFIED (+ or - 3").
 3. DIRECTIONS ARE ARBITRARY FOR SHOP ORIENTATION ONLY AND DO NOT RELATE TO ACTUAL SITE DIRECTIONS.
 4. INTERIOR CLADDING TO BE FRP - COLOR - (STANDARD WHITE).
 5. FLOORING TO BE COMMERCIAL GRADE VINYL TILE OVER 1/4" STEEL FLOOR PLATE.
 6. GROUNDING HALO AND ALL POINTS GROUNDING TO MEET R-56 STANDARDS

SEAL

APPROVED:

DATE:

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SHELTER ONE

Headquarters & Manufacturing
 5837 Monument Drive
 Grants Pass, OR 97526
 541/479-4622
 F:541/479-5289
 www.shelter1.com

PROJECT INFORMATION
25028 MARION COUNTY
OR 10x12

FILENAME
 25027 Marion County OR 12x16.vwx

DRAWN BY: NJY DATE: 7/24/25

CHECKED BY: DATE:

DWG NO: 25028

SCALE: 1:50

TITLE:
INTERIOR ELEVATIONS

SHEET **A2** REV.



PROJECT INFORMATION:
MARION COUNTY
METCOM911

1060 MT HOOD AVE
 WOODBURN, OR 97071

DATE	RELEASE
07-19-24	SITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
06-25-25	PRELIMINARY CONSTRUCTION DRAWINGS
10-15-25	FINAL CONSTRUCTION DRAWINGS

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PLANS PREPARED BY:

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 Civil Engineers

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 BEAVERTON, OR 97005
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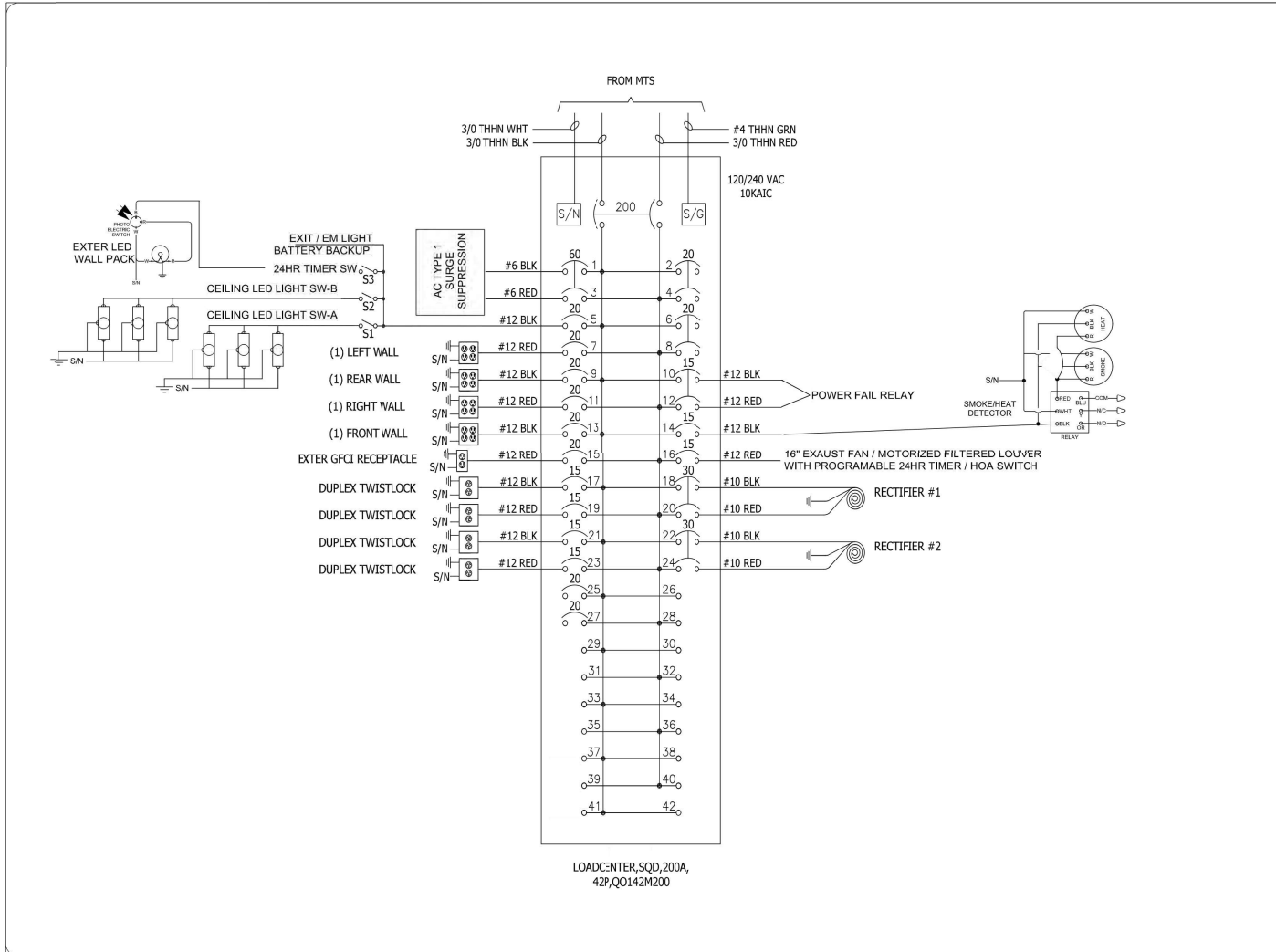
LICENSURE:

RENEWAL DATE 12/31/26

SHEET TITLE:
EQUIPMENT
SHELTER INTERIOR
ELEVATIONS

SHEET NUMBER:
SH-2

NOTE:
 INFORMATION BASED ON SHELTER ONE PREFABRICATED EQUIPMENT
 SHELTER DRAWINGS, REFER TO STATE OF OREGON BUILDING CODES
 DIVISION FOR STATE INSIGNA.



LOADCENTER, SQD, 200A,
 427, Q0142M200

SEAL	
APPROVED:	
DATE:	
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<p>SHELTER ONE</p> <p>Headquarters & Manufacturing 5887 Monument Drive Grants Pass, OR 97526 541/479-4622 F: 541/479-5289 www.shelter1.com</p>	
<p>PROJECT INFORMATION</p> <p>25028 MARION COUNTY OR 10x12</p>	
<p>FILENAME</p> <p>25027 Marion County OR 12x16.wvx</p>	
<p>DRAWN BY:</p> <p>NJY</p>	<p>DATE:</p> <p>7/24/25</p>
<p>CHECKED BY:</p>	<p>DATE:</p>
<p>DWG NO: 25028</p>	
<p>SCALE: NOT TO SCALE</p>	
<p>TITLE:</p> <p>PANEL SCHEDULE</p>	
<p>SHEET</p> <p>E2</p>	<p>REV.</p>



PROJECT INFORMATION:
MARION COUNTY
METCOM911

1060 MT HOOD AVE
 WOODBURN, OR 97071

DATE	RELEASE
07-19-24	ITE SKETCH
10-29-24	PRELIMINARY ZONING DRAWINGS
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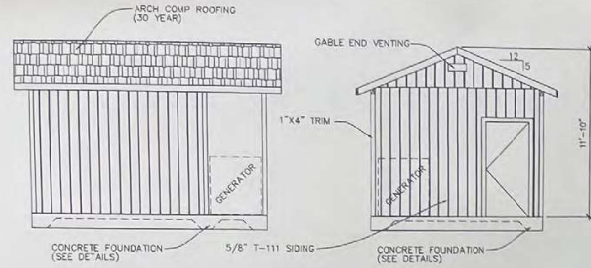
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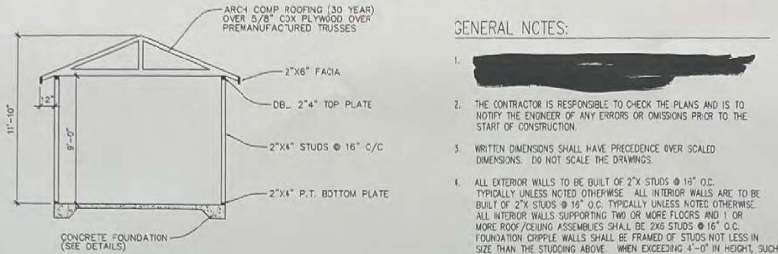
SHEET TITLE:
ELECTRICAL PANEL
SCHEDULE

SHEET NUMBER:
SH-4

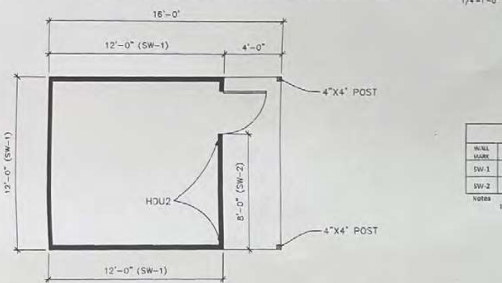
PW1791-26 ATTACHMENT C



SIDE/FRONT ELEVATIONS



CROSS SECTION



FLOOR PLAN/SW LAY-OUT

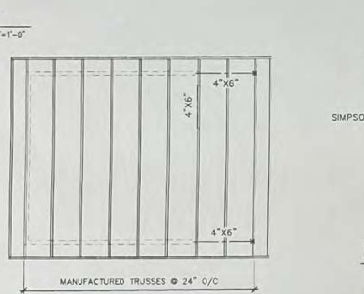
ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. These rules are set forth in OAR 15-00-0010 through 15-00-0060. You may obtain copies of the rules by calling the center. Please see the website www.oucn.org for the Oregon Utility Notification Center at 1-503-233-7517

Shear Wall Schedule					
WALL TYPE	SECTIONING	EDGE REINFORCING	REINFORCING BARS	REINFORCING BARS	ALLOWABLE SHEAR (KIP)
SW-1	7/16" DIA	#4 @ 12"	12#3 @ 48" O/C	NONE	270
SW-2	7/16" DIA	#4 @ 12"	12#3 @ 48" O/C	#4 @ 12"	305

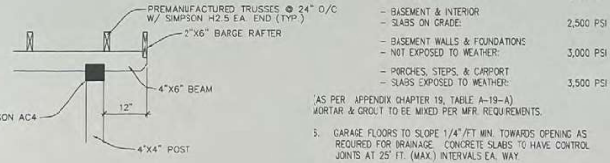
1. UNLESS TREATED SILL PLATE, USE 5/8" X 12" L2X2 WASHERS WITH ALL ANCHOR BOLTS

REVIEWED FOR CODE COMPLIANCE - 2010 OREGON STRUCTURAL SPECIALTY CODE

Read all Applicable SEE PLAN REVIEW

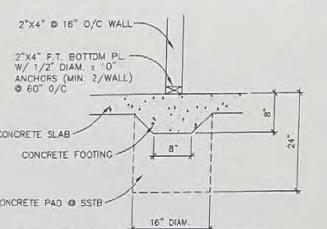


ROOF FRAMING PLAN

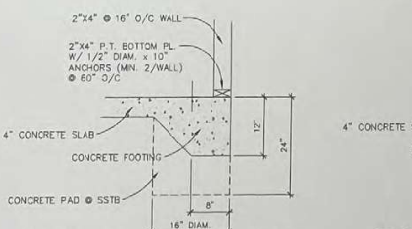


DETAIL "C"

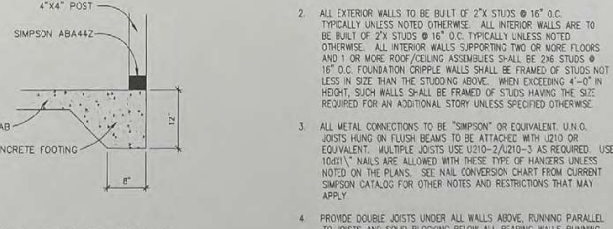
FOUNDATION PLAN



INTERIOR FOOTING



PERMETER FOOTING



POST FOOTING

GENERAL NOTES:

- THE CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND IS TO NOTIFY THE ENGINEER OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION.
- WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.
- ALL EXTERIOR WALLS TO BE BUILT OF 2"x4" STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS ARE TO BE BUILT OF 2"x4" STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SUPPORTING TWO OR MORE FLOORS AND 1" OR MORE ROOF/CEILING ASSEMBLIES SHALL BE 2"x6" STUDS @ 16" O.C. FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDGING ABOVE. WHEN EXCEEDING 4'-0" IN HEIGHT, SUCH WALL SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY.
- DESIGN LOADS:
 - ROOF (LIVE LOAD) 25 PSF
 - ROOF TOTAL LOAD (SHAKE/COMP) 40 PSF
 - FLOOR TOTAL LOAD (TILE MATERIAL) 49 PSF
 - FLOOR STAIRS 100 PSF
 - GARAGE FLOOR (2000# POINT) 50 PSF
 - DECKS 40 PSF
 - BALCONIES (EXT.) 60 PSF
 - ATTIC STORAGE (C.G. JST) 30 PSF

FOUNDATION NOTES:

- FOOTINGS ARE TO BEAR ON UNDISTURBED LEVEL SOIL DEVOID OF ANY ORGANIC MATERIAL AND STEPPED AS REQUIRED TO MAINTAIN THE REQUIRED DEPTH BELOW THE FINAL GRADE.
- SOIL BEARING PRESSURE ASSUMED TO BE 1500 PSF.
- MAXIMUM SLOPE OF CUTS AND FILLS TO BE TWO (2) HORIZONTAL TO ONE (1) VERTICAL FOR BUILDING, STRUCTURES, FOUNDATIONS AND RETAINING WALLS.
- ANY FILL UNDER GRADE SUPPORTED SLABS TO BE A MIN. OF 4" IN GRANULAR MATERIAL COMPACTED TO 95%.
- CONCRETE:
 - MIX AND 28 DAY STRENGTH OF CONCRETE.
 - BASEMENT WALLS & FOUNDATIONS - 2,500 PSI
 - BASEMENT & INTERIOR SLABS ON GRADE - 2,500 PSI
 - BASEMENT WALLS & FOUNDATIONS - NOT EXPOSED TO WEATHER - 3,000 PSI
 - PORCHES, STEPS, & PORCH STAIRS EXPOSED TO WEATHER - 3,500 PSI

- GARAGE FLOORING TO SLOPE 1/4" FT MIN. TOWARDS OPENING AS REQUIRED FOR DRAINAGE. CONCRETE SLABS TO HAVE CONTROL JOINTS AT 25' FT. (MAX.) INTERVALS EA. WAY.
- CONCRETE SIDEWALKS TO HAVE 1/2" IN TOOLED JOINTS AT 5' FT. (MIN.) O.C.
- REINFORCING STEEL TO BE A-615 GRADE 60. WELDED OPTIONAL WIRE MESH TO BE A-105.
- EXCAVATE SITE TO PROVIDE A MIN. OF 18" CLEARANCE UNDER ALL FLOOR BEAMS.
- ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED OR PROTECTED WITH 55# ROLL ROOFING.

FRAMING NOTES:

- ALL EXTERIOR WALL OPENINGS & BEARING WALL OPENINGS TO HAVE HEADERS AS SHOWN ON THE PLANS.
- ALL EXTERIOR WALLS TO BE BUILT OF 2"x4" STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS ARE TO BE BUILT OF 2"x4" STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SUPPORTING TWO OR MORE FLOORS AND 1" OR MORE ROOF/CEILING ASSEMBLIES SHALL BE 2"x6" STUDS @ 16" O.C. FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDGING ABOVE. WHEN EXCEEDING 4'-0" IN HEIGHT, SUCH WALLS SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY UNLESS SPECIFIED OTHERWISE.
- ALL METAL CONNECTIONS TO BE "SIMPSON" OR EQUIVALENT. U.N.G. JOISTS HANG ON FLUSH BEAMS TO BE ATTACHED WITH U210 OR EQUIVALENT. MULTIPLE JOISTS USE U210-2/U210-3 AS REQUIRED. USE OF 10G11" NAILS ARE ALLOWED WITH THESE TYPE OF HANGERS UNLESS NOTED ON THE PLANS. SEE NAIL CONVERSION CHART FROM CURRENT SIMPSON CATALOG FOR OTHER NOTES AND RESTRICTIONS THAT MAY APPLY.
- PROVIDE DOUBLE JOISTS UNDER ALL WALLS ABOVE, RUNNING PARALLEL TO JOISTS AND SOLID BLOCKING BELOW ALL BEARING WALLS RUNNING PERPENDICULAR TO FLOOR JOISTS.

- PROVIDE POSITIVE VENTILATION AT EACH END OF EACH RAFTER SPACE AT VAULTED C.G. AREAS, AND INSULATION Baffles AT EAVE VENTS BETWEEN RAFTERS. RAFTERS VENTILATION IS ALSO REQUIRED AT BLOCKING LOCATIONS ABOVE THE PLATE.
- RIDGE BOARDS, HIPs, AND VALLEYS SHALL BE NOT LESS THAN IN DEPTH THAN THE CUT END OF THE RAFTER.
- PROVIDE FIRE BLOCKING, DRAFT STOPS, & FIRE STOPS AS PER THE ORSC.
- HIPS, VALLEYS & RIDGES SHALL NOT BE LESS IN DEPTH THAN THE END OUT OF THE RAFTER.
- LUMBER SPECS:
 - A. POSTS, BEAMS, HEADERS, JOISTS AND RAFTERS: NO. 2 DOUGLAS FIR
 - B. SILLS, PLATES, BLOCKING BRIDGING ETC. NO. 3 DOUGLAS FIR
 - C. STUDS NO. 2 OR BETTER D/F
 - D. POST & BEAM BLOCKING UTILITY GRADE D/F
 - E. FPLYWOOD SHEATHING 1" COX PLY 3276
 - F. G. QU-LAM BEAMS PB-2400, DRY ADH.
 - H. EXL ADH @ EXT. CONDITIONS
 - I. PSL MATERIALS ** Fb = 2900 E = 2.0 Fv = 290
 - J. LVL MATERIALS ** Fb = 2600 E = 1.8 Fv = 385
- NAILING SCHEDULE:
 - JOIST TO SILL OR GROSS BRIDGING TO JOIST 3-8d TOE NAIL
 - 2" SUBFLOOR TO GROSS BRIDGING TO JOIST 2-15d BLIND & FACE
 - SOLE PL. TO JOIST 16d @ 16" O.C. FACE NAIL
 - TOP PL. TO STUDS 2-15d END NAIL
 - STUD TO SOLE PL. 2-15d TOE NAIL OR END NAIL
 - DOUBLE STUDS 16d @ 16" O.C. FACE NAIL
 - DOUBLE TOP PL. CONTINUOUS HEADER (2 PC) 16d @ 16" O.C. EDGE NAIL
 - C.G. JST TO PL. 4-8d TOE NAIL
 - C.G. JST LAP OVER PL. 3-15d FACE NAIL
 - C.G. JST TO RAFTER 3-15d FACE NAIL
 - RAFTED TO TOP PL. 3-8d TOE NAIL
 - COLLAR TIES (EA. END) 6-12d (U.N.O.) FACE NAIL
 - BUILT-UP CORNER STUDS 16d @ 24" O.C. FACE NAIL
 - PLYWOOD SUBFLOOR 8d @ 6" O.C. EDGE NAIL
 - SOLID BLOCKING & BEARING PLY WALL & ROOF SHEATHING 8d @ 10" O.C. FIELD NAIL
 - 8d @ 8" O.C. TOE NAIL
 - 8d @ 12" O.C. EDGE NAIL
 - STAPLED ROOF SHEATHING 13 ga. 7/16" CROWN 1" MIN TOP PL. AT INTERSECTIONS 6" O.C. FIELD NAIL
 - MULTIPLE JOISTS (UP TO 3) 12" O.C. FACE NAIL
 - MULTIPLE JOISTS (OVER 3) 16d @ 15" O.C. STAGGERED U-BOLTS W/ WASHERS
 - 16S SPACED SHEATHING 2-8d FACE NAIL
 - RAFTERS TO HIPS, VALLEY OR RIDGES 4-15d TOE NAIL
 - RAFTER/DECK LEDGERS 3-15d FACE NAIL
 - 3-2d EACH STD

LATERAL ENGINEERING NOTES:

IF SPALLING IS NOTED AND IT EXCEEDS ONE INCH (AS MEASURED FROM THE TOP OF THE CONCRETE FOUNDATION TO THE BOTTOM OF THE SPALL) THEN THE ENGINEER OF RECORD MUST BE CONSULTED. ACCEPTANCE OF THE REPAIR WORK FOR ANY AREA NOT MEETING THE FORGOING REQUIREMENT REQUIRES THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

DO NOT INSTALL W-WHERE A HORIZONTAL COLD JOINT EXISTS WITHIN THE EMBEDMENT DEPTH OF THE FOUNDATION WALL (OR BETWEEN THE SLAB AND FOUNDATION WALL) WITHOUT WRITTEN DIRECTION FROM THE ENGINEER OF RECORD.

REINFORCING STEEL MUST BE INSTALLED AS PER THE MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS.

ALL WOOD MEMBERS RECEIVING 16d NAILING MUST BE A MINIMUM OF 3" IN THICKNESS TO INSURE THAT THE NAILS ARE FULLY EMBEDDED AND NOT PROTRUDING FROM THE BACK SIDE. ALL NAIL HOLES IN THE STRIP MUST BE FILLED.

NEVER IS THE PLACEMENT FROM THE CORNER OF ANY WALL TO BE LESS THAN 1.5".

AT ALL LOCATIONS INVOLVING A SIM JOIST SHALL USE THE STRAPS HAVING THE DESIGNATION "R".

ALL EDGES OF SHEARWALLS MUST BE BLOCKED WITH A MIN OF 2" x MATERIAL AND NAILED AS PER THE SCHEDULE (U.N.O.).

WHEN "A. BOLTS" ARE DESIGNATED ON THE SCHEDULE, 1" DIAMETER x 12" ANCHOR BOLTS AT A SPACING OF 36" MAX. ARE TO BE USED.

STATE CERTIFIED PLUMBING CONTRACTOR

3-13-2014
4830687 Use 1/4" SILVER



Pacific Northwest Engineering, Inc.
4242 Silver Falls Dr. N., Silverton, OR 97381
Ph. (503) 873-3184 Fax. (503) 873-3907



City of Silverton
Silverton, OR 97381

DATE: 03-11-14
SCALE: Varies
DRAWN: MSE
CHECKED: MSE
JOB: 14-078
SHEET 1



Marion County

Prepared for:

Brian Nicholas
Marion County Public Works
555 CT ST NE
Salem, OR 97301-3980

Cummins Salesperson:

Mark Wahlberg CS931@cummins.com 503-307-7529

Cummins Project Manager:

Samantha Norman samantha.norman@cummins.com (425) 902-9513

PLEASE COMPLETE THIS SECTION OR PROVIDE SIGNOFF TO PROCEED

Revise with corrections provided

Date: 6/23/2025

Approved and released for production

By (name and company): Brian Nicholas, Marion County Public Works Department

Requested delivery date: December 15, 2025

Requested delivery address: 5155 Silverton Road NE, Salem, OR 97305

Contact person and phone # for deliveries: Michael Pierce, 408.857.2040

Salesforce O# n/a

BMS #

Customer PO#

Date 6/16/25

Rev_1

SUBMITTAL PACKAGE

Serving Cummins Customers

Cummins power solutions are supported by the largest and best-trained worldwide-certified sales/distributor network in the industry. This network will help you select and install the critical power solution to meet the requirements of your specific application. This same network provides experts with advanced technology to make your life easier while providing a seamless support experience.

IMPORTANT: *The critical power solution information and specifications included in this pdf can be used by the site contractor(s) and/or engineer(s) to assist with planning for and accomplishing the overall power solution installation. Please forward this document to the appropriate personnel, as necessary.*

It is the obligation of the electrical contractor and reviewing engineer to determine that the item quantities and accuracy of this submittal is correct as required for the job. Any inaccuracies or deviations must be addressed with Cummins Inc. before release to manufacturing. Any releases of material to manufacturing by the above parties constitute an acceptance of the accuracy of the submittal. Any changes after release will be viewed as a change order, subject to pricing changes. Please take the time to review this package for accuracy to prevent any after-shipment problems that could cause delay in energization.

Cummins certifies that these drawings, material lists, specification and datasheets have been checked prior to submittal and they:

- accurately depict the proposed equipment*
- provide current information to the date of the submittal and*
- present true and accurate equipment information.*

This Approval Drawing Package is submitted as our interpretation of the project requirements and/or the specifications for this job. Please note that issuance of these submittals shall not be deemed or interpreted as performance nor acceptance of your purchase order terms and conditions.

For questions or comments regarding this submittal, please contact the Cummins Project Manager listed on the title page.

13 June 2025

Qty	Submittal Applies to:
1	Eastview Lane
1	Crooked Finger
1	Lower Prospect
1	Mad Creek
1	McCully
Total 4	

The Mad Creek site has been eliminated from the project. The total order quantity will be reduced by one (1), from the initial quantity of five (5) to the final quantity of four (4) outdoor generators.

Bill-of Material

Feature Code	Description	Qty
C36N6	C36N6, 36kW, 60Hz, Standby, Natural Gas/Propane Genset, 1800rpm engine	1
Install-US-Stat	U.S. EPA, Stationary Emergency Application	
C36N6_C36 N6	C36N6, 36kW, 60Hz, Standby, Natural Gas/Propane Genset, 1800rpm engine	
C36N6_A331-2	Duty Rating - Standby Power (ESP)	
C36N6_L155-2	Emissions Certification - SI, EPA, Emergency, Stationary, 40CFR60	
C36N6_L090-2	Listing - UL 2200	
C36N6_L193-2	NFPA 110 Type 10 Level 1 Capable	
C36N6_L225-2	HCAI (formerly OSHPD) Seismic Pre-Approval Certification	
C36N6_L228-2	Cert - Seismic, IBC2000, IBC2003, IBC2006, IBC2009, IBC2011	
C36N6_B240-2	Exciter/Reg - Torque Match	
C36N6_R104-2	Voltage - 120/240, 1 Phase, 3 Wire	
C36N6_B949-2	Alternator - 60Hz, 4L, 240/120V, 1 Phase, 120C, 40C Ambient	
C36N6_A292-2	Alternator Heater, 120 Volt AC	
C36N6_F231-2	Aluminum Sound Attenuated Level 1 Enclosure, with Exhaust System	
C36N6_P176-2	Enclosure Color - Green, Aluminum	
C36N6_F252-2	Enclosure - Wind Load 180 MPH, ASCE7-10	
C36N6_F179-2	Skidbase - Housing Ready	
C36N6_H608-2	Control Mounting - Right Facing	
C36N6_H700-2	PowerCommand 1.1 Controller	
C36N6_KV03-2	Load Connection - Single	
C36N6_H012-2	Gauge - Oil Pressure	
C36N6_K796-2	Stop Switch - Emergency	
C36N6_H536-2	Control Display Language - English	
C36N6_KV17-2	Circuit Breaker, Location A, 150A, 2P, 600 Volts AC, 80%, UL	
C36N6_A366-2	Engine Governor - Electronic, Isochronous	
C36N6_C284-2	Single Gas Fuel - NG or LP Vapor	
C36N6_A422-2	Engine Starter - 12 Volt DC Motor	
C36N6_D041-2	Engine Air Cleaner - Normal Duty	
C36N6_A333-2	Battery Charging Alternator	
C36N6_BB89-2	Battery Charger - 6 Amp, Regulated	
C36N6_E125-2	Engine Cooling - Radiator, High Ambient Air Temperature, Ship Fitted	
C36N6_H389-2	Shutdown - Low Coolant Level	
C36N6_E089-2	Extension - Coolant Drain	
C36N6_H669-2	Engine Coolant - 50% Antifreeze, 50% Water Mixture	
C36N6_E154-2	Coolant Heater, Extreme Cold Ambient	
C36N6_H706-2	Engine Oil	
C36N6_L028-2	Genset Warranty - 2 Years Base	
C36N6_L050-2	Literature - English	
C36N6_A322-2	Packing - Skid, Poly Bag	
C36N6_F253-2	Larger Battery Rack	
C36N6_H268-2	Extension - Oil Drain	
A045P632	Battery-Wet, 12V, Group 34, 850CCA [Shipped Loose]	1
Miscellaneous	Pilla Remote E-Stop [Shipped Loose]	1

A054V134	PC Lon Gateway, Lon Modbus, Lon Modbus/TCP Gateway	1
Miscellaneous	Acumen Telematics – Cloud - Wi-Fi + Cellular + Ethernet connectivity – Modbus + J1939 (Private – NA variant) - A068E639 [Shipped Loose]	1
Service - start up & testing	Service - Standard Start Up Service (no spec) and System Testing	1

NOTES:

Cummins quote is valid for 30 days. This quotation is based on the bill of materials from the ESCO 911 project and email dated 4.30.25. Contractor to verify application meets requirements. All other specifications and drawings are excluded. We know of no addenda.

Specification sheet



Spark-ignited generator set

20-40 kW Standby
EPA emissions



Description

Cummins® generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary Standby applications.

Features

Gas engine - Rugged 4-cycle Cummins QSJ2.4 spark-ignited engine delivers reliable power. The electronic air/fuel ratio control provides optimum engine performance and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® 1.1 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard cooling package provides reliable running at up to 50° C (122° F) ambient temperature.

Enclosures - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminium material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been evaluated to withstand 180 MPH wind loads in accordance with ASCE7-10. The intelligent design has removable panels and service doors to provide easy access for service and maintenance.

NFPA - The generator set accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

Model	Natural gas		Propane		Data sheets 60 Hz
	Standby 60 Hz		Standby 60 Hz		
	kW	kVA	kW	kVA	
C20 N6	20	25	20	25	NAD-5693-EN
C25 N6	25	31	25	31	NAD-5695-EN
C30 N6	30	38	30	38	NAD-5696-EN
C36 N6	36	45	36	45	NAD-5697-EN
C40 N6	40	50	40	50	NAD-5698-EN

Generator set specifications

Governor regulation class	ISO8528 Part 1 Class G3*
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	Isochronous
Random frequency variation	± 0.25% @ 60 Hz
Radio frequency emissions compliance	Meets requirements of most industrial and commercial applications

* C36 N6 and C40 N6 are Class G2

Engine specifications

Aspiration	Naturally Aspirated (25kW), Turbocharged (30kW), Turbocharged and Aftercooled (36kW/40kW)
Bore	86.5 mm (3.4 in.)
Stroke	100.0 mm (3.94 in.)
Displacement	2.4 L (143.5 in ³)
Cylinder block	Cast iron, in-line 4 cylinder
Battery capacity	550 amps at ambient temperature of 0° F to 32° F (-18° C to 0° C)
Battery charging alternator	50 amps
Starting voltage	12 volt, negative ground
Lube oil filter type(s)	Spin-on with relief valve
Standard cooling system	50° C (122° F) ambient cooling system
Rated speed	1800 rpm

Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	120° C (248° F) Standby
Exciter type	Torque match (shunt) with EBS as option
Alternator cooling	Direct drive centrifugal blower
AC waveform Total Harmonic Distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone Influence Factor (TIF)	< 50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	< 3%

Available voltages

1-phase	3-phase			
• 120/240	• 120/208	• 120/240 delta	• 277/480	• 347/600

Generator set options

Fuel system

- **Single fuel** - natural gas or **propane** vapor, field selectable
- Dual fuel – natural gas and propane vapor auto changeover
- Low fuel gas pressure warning

Engine

- **Engine air cleaner – normal** or heavy duty
- Shut down – low oil pressure
- **Extension – oil drain**

Alternator

- **120° C (248° F) temperature rise alternator**
- 105° C (221° F) temperature rise alternator
- PMG available on 36 kW and 40 kW
- **Alternator heater, 120 V**

Control

- AC output analog meters (bargraph)
- **Stop switch – emergency**
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)

Electrical

- **Single circuit breaker**
- Dual circuit breakers
- **80% rated circuit breakers**
- 100% rated circuit breakers

Enclosure

- **Aluminium enclosure Sound Level 1** or Level 2, with muffler installed, sandstone or **green color**
- Open set

Cooling system

- **Shutdown – low coolant level**
- Warning – low coolant level
- **Extension – coolant drain**
- Cold weather options:
 - < 4° C (40° F) – cold weather
 - < -17° C (0° F) – **extreme cold weather**

Exhaust system

- Exhaust connector NPT

Generator set application

- Base barrier – elevated generator set
- **Battery rack, larger battery**
- Radiator outlet duct adapter

Generator set options (continued)

Warranty

- Base warranty – 2 year, 1000 hour, Standby
- Standby, 3 year, 1500 hour, parts
- Standby, 5 year, 2500 hour, parts
- Standby, 3 year, 1500 hour, parts and labor
- Standby, 5 year, 2500 hour, parts and labor
- Standby, 3 year, 1500 hour, parts, labor and travel
- Standby, 5 year, 2500 hour, parts, labor and travel

Note: Some options may not be available on all models - consult factory for availability.

Generator set accessories

- Extreme cold weather kit
- Battery rack, larger battery
- Battery heater kit
- HMI211RS in-home display, including pre-configured 12-inch harness
- HMI211 remote display, including pre-configured 12-inch harness
- HMI220 remote display
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)
- Annunciator – RS485
- Remote monitoring device – Acumen®
- Battery charger – stand-alone, 12 V
- Circuit breakers
- Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- Enclosure paint touch up kit
- Base barrier – elevated generator set
- Mufflers – industrial, residential or critical
- PMG available on 36 kW and 40 kW
- Alternator heater
- Maintenance and service kit
- Engine lift kit

Control system PowerCommand 1.1



PowerCommand control is an integrated generator set control system providing voltage regulation, engine protection, operator interface and isochronous governing (optional). Major features include:

- Battery monitoring and testing features and smart starting control system.
- Standard PCCNet interface to devices such as remote annunciator for NFPA 110 applications.
- Control boards potted for environmental protection.
- Control suitable for operation in ambient temperatures from -40 °C to +70 °C (-40 °F to +158 °F) and altitudes to 5000 meters (13,000 feet).
- Prototype tested; UL, CSA, and CE compliant.
- InPower™ PC-based service tool available for detailed diagnostics.

Operator/display panel

- Manual off switch
- Alpha-numeric display with pushbutton access for viewing engine and alternator data and providing setup, controls and adjustments (English or international symbols)
- LED lamps indicating generator set running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from -40 °C to +70 °C
- Bargraph display (optional)

AC protection

- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown

Alternator data

- Line-to-Line and Line-to-Neutral AC volts
- 3-phase AC current
- Frequency

Engine data

- Total kVa
- DC voltage
- Lube oil pressure
- Coolant temperature
- Engine speed

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Other data

- Generator set model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)

Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 2-phase Line-to-Line sensing
- Configurable torque matching

Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic Transfer Switch (ATS) control
- Generator set exercise, field adjustable

Options

- Auxiliary output relays (2)
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation available on 36 kW and 40 kW
- Acumen® telematics for remote monitoring and control via Cummins PowerCommand Cloud
- Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- Digital governing
- AC output analog meters (bargraph)
 - Color-coded graphical display of:
 - 3-phase AC voltage
 - 3-phase current
 - Frequency
 - kVa
- Remote operator panel

Ratings definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

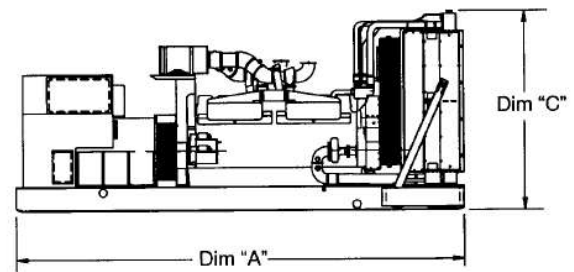
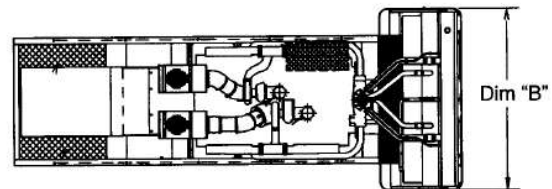
Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design




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Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set weight* dry kg (lbs)	Set weight* wet kg (lbs)
Open set					
C20 N6	1669 (65.7)	864 (34)	1123 (44.2)	423 (933)	440 (969)
C25 N6	1669 (65.7)	864 (34)	1123 (44.2)	441 (972)	457 (1008)
C30 N6	2225 (87.6)	864 (34)	1123 (44.2)	491 (1083)	508 (1119)
C36 N6	2225 (87.6)	864 (34)	1123 (44.2)	520 (1146)	536 (1182)
C40 N6	2225 (87.6)	864 (34)	1123 (44.2)	548 (1208)	564 (1244)
Sound attenuated enclosure Level 1					
C20 N6	1829 (72)	864 (34)	1156 (45.5)	469 (1034)	485 (1070)
C25 N6	1829 (72)	864 (34)	1156 (45.5)	487 (1073)	503 (1109)
C30 N6	2388 (94)	864 (34)	1156 (45.5)	542 (1195)	558 (1231)
C36 N6	2388 (94)	864 (34)	1156 (45.5)	571 (1258)	587 (1294)
C40 N6	2388 (94)	864 (34)	1156 (45.5)	599 (1320)	615 (1356)
Sound attenuated enclosure Level 2					
C20 N6	2073 (81.6)	864 (34)	1156 (45.5)	474 (1045)	490 (1081)
C25 N6	2073 (81.6)	864 (34)	1156 (45.5)	492 (1084)	508 (1120)
C30 N6	2626 (103.4)	864 (34)	1156 (45.5)	547 (1206)	563 (1242)
C36 N6	2626 (103.4)	864 (34)	1156 (45.5)	576 (1269)	592 (1305)
C40 N6	2626 (103.4)	864 (34)	1156 (45.5)	604 (1331)	620 (1367)

* Weights based on 1-phase generator set. Weights may vary with a different configuration.

Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

ISO 9001 ISO 14001 ISO 45001	This product was manufactured in a facility whose quality management system is certified to ISO 9001 and its Health Safety Environmental Management Systems certified to ISO 14001 and ISO 45001.		This product is listed to UL 2200, Stationary Engine Generator Assemblies
	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.		Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60. U.S. applications must be applied per this EPA regulation.
	All low voltage models are CSA certified to product class 4215-01 and available with CSA B149.1 fuel train.		The generator set package is available certified for seismic application in accordance with International Building Code.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

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Generator set data sheet



Model: C36 N6
kW rating: 36.0 natural gas Standby
 36.0 propane Standby
Frequency: 60 Hz
Fuel type: Natural gas/propane
Emissions level: EPA emissions

	Natural gas				Propane			
	Standby				Standby			
Fuel consumption	kW (kVA)				kW (kVA)			
Ratings	36.0 (45.0)				36.0 (45.0)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
scfh	202.3	292.3	382.3	472.3	79.8	114.1	148.4	182.7
m³/hr	5.73	8.28	10.83	13.3	2.26	3.23	4.20	5.17

Engine	Natural gas		Propane
	Standby rating		Standby rating
Engine model	QSJ2.4G-G6		
Configuration	Cast iron, in-line 4 cylinder		
Aspiration	Turbo		
Gross engine power output, kW _m (bhp)	36.0 (48.1)		52 (70)
Bore, mm (in.)	86.5 (3.41)		
Stroke, mm (in.)	100.0 (3.94)		
Rated speed, rpm	1800		
Compression ratio	9.5:1		
Lube oil capacity, L (qt)	4 (4.54)		
Overspeed limit, rpm	2250		

Fuel supply pressure	
Minimum operating pressure, kPa (in H ₂ O)	1.5 (6.0)
Maximum operating pressure, kPa (in H ₂ O)	3.2 (13.0)

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Air	Natural gas	Propane
	Standby rating	Standby rating
Combustion air, m ³ /min (scfm)	1.8 (62.5)	1.8 (62.5)
Maximum air cleaner restriction, kPa (in H ₂ O)	1.49 (6.0)	
Alternator cooling air, m ³ /min (scfm)	N/A	

Exhaust		
Exhaust flow at rated load, m ³ /min (cfm)	6.3 (260.2)	6.3 (225.9)
Exhaust temperature, °C (°F)	632 (1169)	638 (1181)
Exhaust back pressure (maximum allowable at engine), kPa (in H ₂ O)	5.0 (20)	5.0 (20)
Exhaust back pressure (actual with factory fitted muffler), kPa (in H ₂ O)	1.47 (5.9)	

Standard set-mounted radiator cooling	
Ambient design, °C (°F)	50 (122)
Fan load, kW (HP)	2.2 (3.0)
Coolant capacity (with radiator), L (US gal)	10 (2.7)
Cooling system air flow, m ³ /min (scfm)	144.2 (5150)
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)

Weights²	
Unit dry weight kgs (lbs)	548 (1294)
Unit wet weight kgs (lbs)	603 (1330)

Notes:

¹For non-standard remote installations contact your local Cummins representative.

²Weights represent a set with 1-phase with sound level 1 enclosure.

Alternator data

Standard alternators		Natural gas/ propane single phase table	Natural gas/propane three phase table			
Maximum temperature rise above 40 °C ambient		120 °C	120 °C	120 °C	120 °C	120 °C
Feature code		B949-2	B986-2	B946-2	B943-2	B952-2
Alternator data sheet number		ADS-579	ADS-577	ADS-577	ADS-577	ADS-577
Voltage ranges		120/240	120/240	120/208	277/480	347/600
Voltage feature code		R104-2	R106-2	R098-2	R002-2	R114-2
Surge kW		43.0/43.0	43.1/43.1	43.1/43.1	43.1/43.1	43.1/43.1
Motor starting kVA (at 90% sustained voltage)	Shunt	68	86	86	86	86
	EBS	112	135	135	135	135
Full load current amps at Standby rating		150	108	125	54	43

Optional alternators for improved motor starting capability		Natural gas/ propane single phase table	Natural gas/propane three phase table			
Maximum temperature rise above 40 °C ambient		105 °C	105 °C	105 °C	105 °C	105 °C
Feature code		BB96-2	BB94-2	BB93-2	BB95-2	BB92-2
Alternator data sheet number		ADS-580	ADS-579	ADS-579	ADS-579	ADS-579
Voltage ranges		120/240	120/240	120/208	277/480	347/600
Voltage feature code		R104-2	R106-2	R098-2	R002-2	R114-2
Surge kW		41.5/41.5	43.4/43.4	43.4/43.4	43.4/43.4	43.4/43.4
Motor starting kVA (at 90% sustained voltage)	Shunt	76	95	95	95	95
	PMG	120	NA	NA	NA	NA
	EBS	NA	150	150	150	150
Full load current amps at Standby rating		150	108	125	54	43

Derating factors

Natural gas/propane

Standby	<p><u>Natural gas:</u> Engine power available up to 762 m (2500 ft) at ambient temperatures up to 40 °C (104 °F). Above these elevations derate at 4% per 305 m (1000 ft) and 2% per 10 °C above 40 °C (104 °F).</p> <p><u>Propane:</u> Engine power available up to 1005 m (3300 ft) at ambient temperatures up to 40 °C (104 °F). Above these elevations derate at 4% per 305 m (1000 ft) and 2% per 10 °C above 40 °C (104 °F).</p>
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Ratings definitions

Emergency Standby Power (ESP):	Limited-Time Running Power (LTP):	Prime Power (PRP):	Base Load (Continuous) Power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Formulas for calculating full load currents:

Three phase output

Single phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

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Specification Sheet



PowerCommand® 1.1 Control System



Description

The PowerCommand control system is a microprocessor-based generator set monitoring, metering and control system designed to meet the demands of today's engine driven generator sets. The integration of all control functions into a single control system provides enhanced reliability and performance compared to conventional generator set control systems. These control systems have been designed and tested to meet the harsh environment in which gensets are typically applied.

Features

Easy to view: HMI 211RS for residential use. 128 x 64 pixel graphic LED backlight LCD.

Easy to use: Tactile buttons for generator set start/stop. Residential Standby display for convenient use.

Modbus® interface: Eliminates need for MODLON.

Progressive protective functions: Advanced Overcurrent Protection – Generator set monitoring & protection.

Digital voltage regulation: Single phase full wave SCR type regulator compatible with either shunt or PMSG systems.

Digital engine speed governing: Provides isochronous frequency regulation.

12 and 24 VDC battery operation.

Automatic mains failure: Smooth & automatic transfer and re-transfer of load from utility to generator set & vice-versa.

Exerciser clock: Runs generator set exerciser routines for dependability of operation.

Warranty and service: Backed by a comprehensive warranty and worldwide distributor service network.

Certification: Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC Mil Std., CE, UKCA and CSA standards.

PowerCommand Digital Generator Set Control PCC 1302



Description

The PowerCommand generator set control is suitable for use on a wide range of generator sets in non-paralleling applications. The PowerCommand control is compatible with shunt or PMG excitation style. It is suitable for use with reconnectable or non-reconnectable generators, and it can be configured for any frequency, voltage and power connection from 120-600 VAC Line-to-Line.

Power for this control system is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 30 VDC.

Features

- 12 and 24 VDC battery operation.
- Digital voltage regulation.
- Digital engine speed governing (where applicable) - Provides isochronous frequency regulation.
- Full authority engine communications (where applicable) - Provides communication and control with the Engine Control Module (ECM).
- Common harnessing - with higher feature Cummins controls allows for easy field upgrades.
- Generator set monitoring - Monitors status of all critical engine and alternator functions.
- Digital genset metering (AC and DC).
- Genset battery monitoring system - to sense and warn against a weak battery condition.
- Engine starting - Includes relay drivers for starter, fuel shut off (FSO), glow plug/spark ignition power and switch B+ applications.
- Generator set protection - Protects engine and alternator.
- Advanced serviceability - using InPower™, a PC-based software service tool.
- Environmental protection - The control system is designed for reliable operation in harsh environments. The main control board is a fully encapsulated module that is protected from the elements.
- Exerciser function – Routine exercising of generator set.
- Supports dual fuel control.
- Automatic Mains Failure function built in generator set controller. Modbus interface - for interconnecting to customer equipment.

- Configurable inputs and outputs - Four discrete inputs and two dry contact relay outputs.
- Warranty and service - Backed by a comprehensive warranty and worldwide distributor service network.
- Certifications - Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE, UKCA and CSA standards.

Base Control Functions

HMI capability

Operator adjustments - The HMI includes provisions for many set up and adjustment functions.

Generator set hardware data - Access to the control and software part number, generator set rating in kVA and generator set model number is provided from the HMI or InPower™.

Data logs - Includes engine run time, controller on time, number of start attempts.

Fault history - Provides a record of the most recent fault conditions with control hours time stamp. Up to 10 events are stored in the control non-volatile memory.

Alternator data

- Voltage (single or three phase Line-to-Line and Line-to-Neutral)
- Current (single or three phase)
- kVA (three phase and total)
- Frequency
- Engine data
- Starting battery voltage
- Engine speed
- Engine temperature
- Engine oil pressure
- Partial Full Authority Engine (FAE) data (where applicable)
- Service adjustments - The HMI includes provisions for adjustment and calibration of generator set control functions. Adjustments are protected by a password. Functions include:
 - Engine speed governor adjustments
 - Voltage regulation adjustments
 - Cycle cranking
 - Configurable fault set up
 - Configurable output set up
 - Meter calibration
 - Units of measurement

Engine control

SAE-J1939 CAN interface to full authority ECMs (where applicable) - Provides data swapping between genset and engine controller for control, metering and diagnostics.

12 VDC/24 VDC battery operations - PowerCommand will operate either on 12 VDC or 24 VDC batteries.

Isochronous governing (where applicable) - Capable of controlling engine speed within +/-0.25% for any steady state load from no load to full load. Frequency drift will not exceed +/-0.5% for a 33 °C (60 °F) change in ambient temperature over an 8 hour period.

Temperature dependent governing dynamics (with electronic governing) - Modifies the engine governing control parameters as a function of engine temperature. This allows the engine to be more responsive when warm and more stable when operating at lower temperature levels.

Remote start mode - Accepts a ground signal from remote devices to automatically start the generator set and immediately accelerate to rated speed and voltage. The remote start signal will also wake up the control from sleep mode. The control can incorporate a time delay start and stop.

Remote and local Emergency stop - The control accepts a ground signal from a local (genset mounted) or remote (facility mounted) Emergency stop switch to cause the generator set to immediately shut down. The generator set is prevented from running or cranking with the switch engaged. If in sleep mode, activation of either Emergency stop switch will wake up the control.

Sleep mode - The control includes a configurable low current draw state to minimize starting battery current draw when the genset is not operating. The control can also be configured to go into a low current state while in auto for Prime applications or applications without a battery charger.

Engine starting - The control system supports automatic engine starting. Primary and backup start disconnects are achieved by one of three methods: magnetic pickup, battery charging alternator feedback or main alternator output frequency. The control also supports configurable glow plug control when applicable.

Cycle cranking - Configurable for the number of starting cycles (1 to 7) and duration of crank and rest periods. Control includes starter protection algorithms to prevent the operator from specifying a starting sequence that might be damaging.

Time delay start and stop (cooldown) - Configurable for time delay of 0-300 seconds prior to starting after receiving a remote start signal and for time delay of 0-600 seconds prior to shut down after signal to stop in normal operation modes. Default for both time delay periods is 0 seconds.

Alternator control

The control includes an integrated line-to-line sensing voltage regulation system that is compatible with shunt or PMG excitation systems. The voltage regulation system is full wave rectified and has an SCR output for good motor starting capability. Major system features include:

Digital output voltage regulation - Capable of regulating output voltage to within +/-1.0% for any loads between no load and full load. Voltage drift will not exceed +/-1.5% for a 40 °C (104 °F) change in temperature in an eight hour period. On engine starting or sudden load acceptance, voltage is controlled to a maximum of 5% overshoot over nominal level.

The automatic voltage regulator feature can be disabled to allow the use of an external voltage regulator.

Torque-matched V/Hz overload control - The voltage roll-off set point and rate of decay (i.e. the slope of the V/Hz curve) is adjustable in the control.

Protective Functions

On operation of a protective function the control will indicate a fault by illuminating the appropriate status LED on the HMI, as well as display the fault code and fault description on the LCD. The nature of the fault and time of occurrence are logged in the control. The service manual and InPower service tool provide service keys and procedures based on the service codes provided. Protective functions include:

Battle short mode

When enabled and the battle short switch is active, the control will allow some shutdown faults to be bypassed. If a bypassed shutdown fault occurs, the fault code and description will still be annunciated, but the genset will not shutdown. This will be followed by a fail to shutdown fault. Emergency stop shutdowns and others that are critical for proper operation are not bypassed. Please refer to the Control Application Guide or Manual for list of these faults.

Configurable alarm and status inputs

The control accepts up to four alarm or status inputs (configurable contact closed to ground or open) to indicate a configurable (customer-specified) condition. The control is programmable for warning, shutdown or status indication and for labelling the input.

Emergency stop

Annunciated whenever either Emergency stop signal is received from external switch.

General engine protection

Low and high battery voltage warning - Indicates status of battery charging system (failure) by continuously monitoring battery voltage.

Weak battery warning - The control system will test the battery each time the generator set is signaled to start and indicate a warning if the battery indicates impending failure.

Fail to start (overcrank) shutdown - The control system will indicate a fault if the generator set fails to start by the completion of the engine crank sequence.

Fail to crank shutdown - Control has signaled starter to crank engine but engine does not rotate.

Cranking lockout - The control will not allow the starter to attempt to engage or to crank the engine when the engine is rotating.

Hydro mechanical fuel system engine protection

Overspeed shutdown - Default setting is 115% of nominal.

Low lube oil pressure warning/shutdown - Level is pre-set (configurable with InPower) to match the capabilities of the engine used. Control includes time delays to prevent nuisance alarms.

High lube oil temperature warning/shutdown - Level is pre-set (configurable with InPower) to match the capabilities of the engine used. Control includes time delays to prevent nuisance alarms.

High engine temperature warning/shutdown - Level is pre-set (configurable with InPower) to match the capabilities of the engine used. Control includes time delays to prevent nuisance alarms.

Low coolant temperature warning - Indicates that engine temperature may not be high enough for a 10 second start or proper load acceptance.

Sensor failure indication - Logic is provided on the base control to detect analog sensor or interconnecting wiring failures.

Full authority electronic engine protection

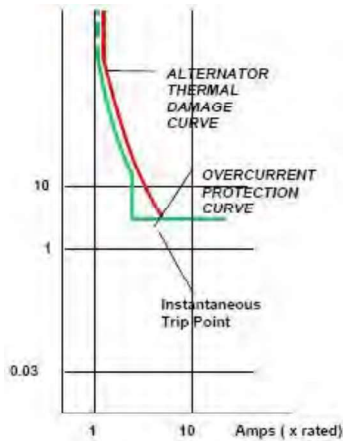
Engine fault detection is handled inside the engine ECM. Fault information is communicated via the SAE-J1939 data link for annunciation in the HMI

Alternator protection

High AC voltage shutdown (59) - Output voltage on any phase exceeds pre-set values. Time to trip is inversely proportional to amount above threshold. Values adjustable from 105-130% of nominal voltage, with time delay adjustable from 0.1-10 seconds. Default value is 110% for 10 seconds.

Low AC voltage shutdown (27) - Voltage on any phase has dropped below a pre-set value. Adjustable over a range of 50-95% of reference voltage, time delay 2-20 seconds. Default value is 85% for 10 seconds.

Overcurrent warning/shutdown - Implementation of the thermal damage curve with instantaneous trip level calculated based on current transformer ratio and application power rating.



Under frequency shutdown (81 u) - Generator set output frequency cannot be maintained. Settings are adjustable from 2-10 Hz below nominal governor set point, for a 5-20 second time delay. Default: 6 Hz, 10 seconds.

Over frequency shutdown/warning (81o) - Generator set is operating at a potentially damaging frequency level. Settings are adjustable from 2-10 Hz above nominal governor set point for a 1-20 second time delay. Default: 6 Hz, 10 seconds, enabled.

Loss of sensing voltage shutdown - Shutdown of generator set will occur on loss of voltage sensing inputs to the control.

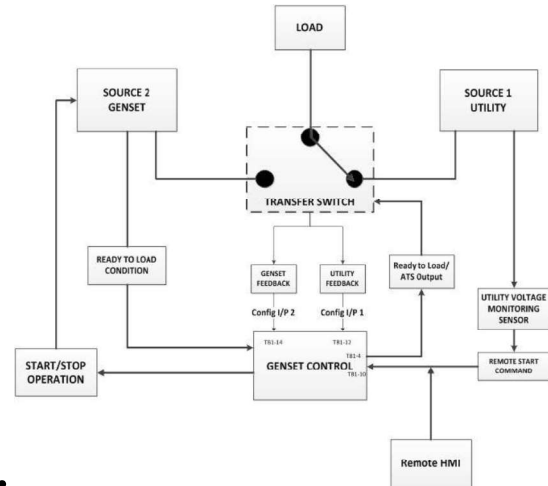
Field overload shutdown - Uses field voltage to shutdown generator set when a field overload condition occurs.

Advanced Functions

Automatic mains failure*

The built in AMF feature provides the automatic transfer and re-transfer of the load from utility to generator set and vice-versa.

- Automatically starts-stops the generator set in the event of utility failure.
- Annunciates faults.



- * A utility voltage monitoring sensor (as shown in the AMF diagram above) must be connected in order to use the AMF feature on the 1302 control. Use Schneider Electric Relay RSB1A120U7 and Socket RSZE1S35M.

Exerciser clock

The exerciser dock runs the generator set exerciser routines for dependability of operation.

Field Control Interface

Input signals to the base control include:

- Remote start
- Local and Emergency stop
- Configurable inputs: Control includes (4) input signals from customer discrete devices that are configurable for warning, shutdown or status indication, as well as message displayed.

Output signals from the PowerCommand control include:

- Configurable relay outputs: Control includes (2) relay output contacts rated at 2 A. These outputs can be configured to activate on any control warning or shutdown fault as well as ready to load, not in auto, common alarm, common warning and common shutdown.
- Ready to load (generator set running) signal: Operates when the generator set has reached 90% of rated speed and voltage and latches until generator set is switched to off or idle mode.

PowerCommand Human Machine Interface HMI211



Description

This control system includes an intuitive operator interface panel that allows for complete genset control as well as system metering, fault annunciation, configuration and diagnostics. The interface includes five generator set status LED lamps with both internationally accepted symbols and English text to comply with customer needs. The interface also includes an LED backlit LCD display with tactile feel soft-switches for easy operation and screen navigation. It is configurable for units of measurement and has adjustable screen contrast and brightness.

The *run/off/auto* switch function is integrated into the interface panel.

All data on the control can be viewed by scrolling through screens with the navigation keys. The control displays the current active fault and a time-ordered history of the five previous faults.

Features

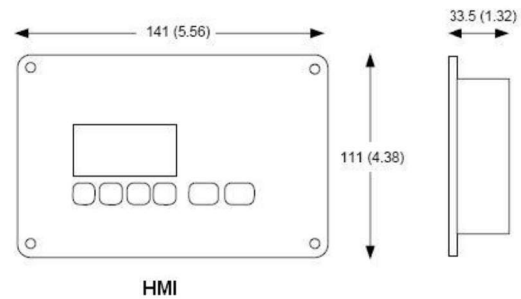
- LED indicating lamps:
 - Remote start
 - Not in auto
 - Shutdown
 - Warning
 - Auto
 - Run
- 128 x 64 pixels graphic LED backlight LCD.
- Four tactile feel membrane switches for LCD defined operation. The functions of these switches are defined dynamically on the LCD.
- Two tactile feel membrane switches dedicated for off and back.
- Allows for complete genset control setup.
- Certifications: Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE, UKCA and CSA standards.
- HMI 211RS provides convenience for residential use.

Communications Connections

PC tool interface - This RS-485 communication port allows the HMI to communicate with a personal computer running InPower.

This RS-485 communication port allows the HMI to communicate with the main control board.

Mechanical Drawing



Dimensions: mm (inches)

Software

InPower (beyond 6.0 version) is a PC-based software service tool that is designed to directly communicate to PowerCommand generator sets and transfer switches, to facilitate service and monitoring of these products.

Environment

The control is designed for proper operation without recalibration in ambient temperatures from -40 °C (-40 °F) to +70 °C (158 °F), and for storage from -55 °C (-67 °F) to +80 °C (176 °F). Control will operate with humidity up to 95%, non-condensing.

The HMI is designed for proper operation in ambient temperatures from -40 °C* (-40 °F) to +70 °C (158 °F), and for storage from -40 °C* (-40 °F) to +80 °C (176 °F).

The control board is fully encapsulated to provide superior resistance to dust and moisture. Display panel has a single membrane surface, which is impervious to effects of dust, moisture, oil and exhaust fumes. This panel uses a sealed membrane to provide long reliable service life in harsh environments.

The control system is specifically designed and tested for resistance to RFI/EMI and to resist effects of vibration to provide a long reliable life when mounted on a generator set. The control includes transient voltage surge suppression to provide compliance to referenced standards.

* Heater accessory (pn: A040H853) is available for enhanced operation below -20 °C

Certifications

PowerCommand meets or exceeds the requirements of the following codes and standards:

- NFPA 110 for level 1 and 2 systems.
- ISO 8528-4: 1993 compliance, controls and switchgear.
- CE and UKCA marking: The control system is suitable for use on generator sets to be CE and UKCA-marked.
- EN 50081-1,2 residential/light industrial emissions or industrial emissions.
- EN 50082-1,2 residential/light industrial or industrial susceptibility.
- ISO 7637-2, level 2; DC supply surge voltage test.
- Mil Std. 202C, Method 101 and ASTM B117: Salt fog test.
- PowerCommand control systems and generator sets are designed and manufactured in ISO 9001 certified facilities.
- UL 6200 recognized and suitable for use on UL 2200 Listed generator sets.
- CSA C282-M1999 compliance.
- CSA 22.2 No. 14 M91 industrial controls.

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Warranty

All components and subsystems are covered by an express limited one year warranty. Other optional and extended factory warranties and local distributor maintenance agreements are available

Accessories

1301-1302 Upgrade Kit (HM)	0541-1431
PowerCommand 500 (LAN)	A040X126
Remote HMI 211	0541-1394
Remote HMI 211RS	A046K103
I/O Expansion (Aux 101)	0541-1291
HMI Heater Accessory Kit	A040H853

Parts Ordering Information

1302 Control Board	0327-1617-02
1302 control Board – Arrow	A043W505
Aux 104 (Governor Control)	0327-1507
HMI 211 Without Heater	0300-6014
HMI 211 with Heater	A026G237

Additional Resources

Resource	Where to find
1302 Service Manual	QSOL
Accessories Catalog	cumminspower.com
Additional Controls Information	PowerSuite Library



For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™





Alternator data sheet

Frame size: CA115-V14

Characteristics						
No of bearings:		1				
Weights:	Stator assembly:	289.5 lb				131.3 kg
	Rotor assembly:	147.8 lb				67 kg
	Complete assembly:	437 lb				198 kg
Maximum speed:		2250 rpm				
Insulation system:		Class H throughout				
		60 Hz (winding no)				
		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Excitation current:	Full load	2.12	1.89	2.10	1.47	2.12
Excitation current:	No load	0.47	0.45	0.57	0.69	0.47
3 Ø Ratings (0.8 power factor)		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
(Based on specific temperature rise at 40 °C ambient temperature)						
120 °C Rise peak Standby ratings	kW	40	40	40		40
	kVA	50	50	50		50
105 °C Rise peak Standby ratings	kW	36.6	36.60	36.60		36.6
	kVA	45.75	45.75	45.75		45.75
1 Ø Ratings (1.0 power factor)		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
(Based on specific temperature rise at 40 °C ambient temperature)						
120 °C Rise peak Standby ratings					36	
	kW				36	
105 °C Rise peak Standby ratings	kW				33	
	kVA				33	
Reactances (per unit ± 30%)		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
(Based on full load at 105 °C rise rating)						
Synchronous		2.02	2.06	2.06	1.22	2.02
Transient		0.12	0.12	0.12	0.10	0.12
Subtransient		0.08	0.08	0.08	0.07	0.08
Negative sequence		0.16	0.16	0.16	0.16	0.16
Zero sequence		0.08	0.10	0.09	0.08	0.08
Motor starting		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Maximum kVA (90% sustained voltage)						
(At 20°C nominal generator & ambient temperature)						
	(EBS)	150	150	150	112	150
	(Shunt)	95	95	95	68	95



Alternator data sheet

Frame size: CA115-V14

Time constants (sec)	<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Transient	0.026	0.026	0.026	0.026	0.026
Subtransient	0.006	0.006	0.006	0.006	0.006
Open circuit	0.62	0.62	0.62	0.52	0.62
DC	0.006	0.005	0.005	0.006	0.006
Windings (@ 20° C)	<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Stator resistance (Ohms per phase)	0.238	0.350	0.518	0.048	0.238
Rotor resistance (Ohms)	0.944	0.944	0.944	0.944	0.944
Number of leads	12	12	12	4	12



Data Sheet

Circuit Breakers

Description

This Data sheet provides circuit breaker manufacturer part numbers and specifications. The Circuit breaker box description is the rating of that breaker box installation on a Cummins Generator. Please refer to the website of the circuit breaker manufacturer for breaker specific ratings and technical information.

Applicable Models

Engine	Models					
Kubota	C10D6	C15D6	C20D6			
QSJ2.4	C20N6	C25N6	C30N6	C30N6H	C36N6	C36N6H
	C40N6	C40N6H	C50N6H	C60N6H		
B3,3	C25D6	C30D6	C35D6	C40D6	C50D6	C60D6
QSJ5.9G	C45N6	C50N6	C60N6	C70N6	C80N6	C100N6
QSJ8.9G	C125N6	C150N6	C175N6B	C200N6B		
QSB5	DSFAC	DSFAD	DSFAE	C50D6C	C60D6C	C80D6C
	C100D6C	C125D6C				
QSB7	DSGAA	DSGAB	DSGAC	DSGAD	DSGAE	
		C125D6D	C150D6D	C175D6D	C200D6D	
QSL9	DSHAD	DQDAA	DQDAB	DQDAC		
QSM11	DQHAB					
QSX15	DFEJ	DFEK				

Instructions

1. Locate the circuit breaker feature code or part number and use the charts below to find the corresponding manufacturer circuit breaker catalog number.
2. Use the first letter of the circuit breaker catalog number to determine the "frame" of the breaker. If the first letter is an "N", use the second letter. Then follow the corresponding website link from the table below to find the breaker catalog number description.

Please refer to the catalog numbering systems page, which is given in the chart, to understand the nomenclature of the catalog number.

Frame	Catalog name*	Catalog number description page(s)
P	0612CT0101 http://www.schneider-electric.us/en/download/document/0612CT0101/	16-17
H, J, and L	0611CT1001 http://www.schneider-electric.us/en/download/document/0611CT1001/	8-9
Q	0734CT0201 http://www.schneider-electric.us/en/download/document/0734CT0201/	4

*The following link may also be used to search specifically by the breaker part number or for the catalog name listed above. <http://products.schneider-electric.us/technical-library/>

3. Search the catalog by using the first 3 letters of the breaker catalog number and the first 5 numbers to find information such as trip curves, accessories, and dimensional details regarding the circuit breaker.

*If the catalog number starts with "N", skip the N and begin your search with the second letter.

*If the first 3 letters are "PJP," the search will not work. You will need to start with just "PJ" and use the description pages to obtain the information you are looking for on the "PJP."

Example

After finding your circuit breaker catalog number to be "PJL36120U33EACUKMOYB," navigate to the P-frame catalog by using the link provided.

Look at pages 16-17 of the pdf catalog to find the nomenclature of the breaker.

Search the P-frame spec sheet using the search "PJL36120."

P	J	L	3	6	120	U33	E	AC	UK	MO	YB
P-Frame	Interrupting Rating	Lug Connection	Poles	Voltage Rating	Ampere Rating	Trip System	Rating Plug	Auxiliary Switch	24 Vac/dc LVR	24 Vdc Spring charging motor	Pad lockable Push-button cover

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Feature Code	Breaker Box Description	Cummins Part #	Manufacturer	Breaker Catalog Number	Trip Unit	Plug Type
KV10-2	CB, Loc A, 50A, 2P, 600VAC, 80%, UL	A043E181	Schneider Electric	HDL26050	Thermal Magnetic	N/A
KV11-2	CB, Loc A, 60A, 2P, 600VAC, 80%, UL	A043E179	Schneider Electric	HDL26060	Thermal Magnetic	N/A
KV12-2	CB, Loc A, 70A, 2P, 600VAC, 80%, UL	A043E169	Schneider Electric	HDL26070	Thermal Magnetic	N/A
KV13-2	CB, Loc A, 80A, 2P, 600VAC, 80%, UL	A043D328	Schneider Electric	HDL26080	Thermal Magnetic	N/A
KV14-2	CB, Loc A, 90A, 2P, 600VAC, 80%, UL	A043D326	Schneider Electric	HDL26090	Thermal Magnetic	N/A
KV15-2	CB, Loc A, 100A, 2P, 600VAC, 80%, UL	A043D324	Schneider Electric	HDL26100	Thermal Magnetic	N/A
KV16-2	CB, Loc A, 125A, 2P, 600VAC, 80%, UL	A043D274	Schneider Electric	HDL26125	Thermal Magnetic	N/A
KV17-2	CB, Loc A, 150A, 2P, 600VAC, 80%, UL	A043C676	Schneider Electric	HDL26150	Thermal Magnetic	N/A
KV18-2	CB, Loc A, 175A, 2P, 600VAC, 80%, UL	A043E202	Schneider Electric	JDL26175	Thermal Magnetic	N/A
KV19-2	CB, Loc A, 200A, 2P, 600VAC, 80%, UL	A043E199	Schneider Electric	JDL26200	Thermal Magnetic	N/A
KV20-2	CB, Loc A, 225A, 2P, 600VAC, 80%, UL	A043E195	Schneider Electric	JDL26225	Thermal Magnetic	N/A
KV21-2	CB, Loc A, 250A, 2P, 600VAC, 80%, UL	A043E193	Schneider Electric	JDL26250	Thermal Magnetic	N/A
KV30-2	CB, Loc A, 15A, 3P, 600VAC, 80%, UL	A043L506	Schneider Electric	HDL36015	Thermal Magnetic	N/A
KV31-2	CB, Loc A, 20A, 3P, 600VAC, 80%, UL	A043L480	Schneider Electric	HDL36020	Thermal Magnetic	N/A
KV32-2	CB, Loc A, 25A, 3P, 600VAC, 80%, UL	A043L508	Schneider Electric	HDL36025	Thermal Magnetic	N/A
KV33-2	CB, Loc A, 30A, 3P, 600VAC, 80%, UL	A043L475	Schneider Electric	HDL36030	Thermal Magnetic	N/A
KV34-2	CB, Loc A, 40A, 3P, 600VAC, 80%, UL	A043L464	Schneider Electric	HDL36040	Thermal Magnetic	N/A



High ambient air temperature radiator cooling system

	Fuel type	Duty	Rating (Kw)	Max cooling @ air flow static restriction, unhooded (inches water/mm water)					Housed in free air, no air discharge restriction	
				0.0/0.0	0.25/6.4	0.5/12.7	0.75/19.1	1.0/25.4	F231	F217
				Maximum allowable ambient temperature, degree C						
60 Hz	Natural Gas	Standby	36	55	55	55	N/A	N/A	55	55

High ambient air temperature radiator cooling system

	Fuel type	Duty	Rating (Kw)	Max cooling @ air flow static restriction, unhooded (inches water/mm water)					Housed in free air, no air discharge restriction	
				0.0/0.0	0.25/6.4	0.5/12.7	0.75/19.1	1.0/25.4	F231	F217
				Maximum allowable ambient temperature, degree C						
60 Hz	Propane	Standby	36	55	55	55	N/A	N/A	55	55

Notes:

1. Data shown are anticipated cooling performance for typical generator set.
2. Cooling data is based on 1000 ft (305 m) site test location.
3. Generator set power output may need to be reduced at high ambient conditions. Refer generator set data sheet for derate schedules.
4. Cooling performance may be reduced due to several factors including but not limited to: Incorrect installation, improper operation, fouling of the cooling system, and other site installation variables.



Sound Pressure Level @ 7 meters, dB(A)

See notes 1-6 listed below

Configuration		Position (note 1)								8 Position Average
		1	2	3	4	5	6	7	8	
Standard – unhoused	Infinite Exhaust	77.9	79.7	76.2	76.1	75.1	78.4	77.6	76.5	77.4
F231-2 – sound attenuated level 1	Mounted	71.0	68.8	65.2	65.2	65.7	65.8	65.0	67.6	67.3
F217-2 – sound attenuated level 2	Mounted	65.4	67.2	64.8	65.7	65.8	66.6	63.8	64.5	65.6

Sound Power Level, dB(A)

See notes 2-4, 7, 8 listed below

Configuration		Octave band center frequency (Hz)										Overall Sound Power Level
		31.5	63	125	250	500	1000	2000	4000	8000	16000	
Standard – unhoused	Infinite Exhaust	45.9	63.8	76.0	87.4	100.8	99.7	96.5	95.3	93.2	85.5	105.1
F231-2 – sound attenuated level 1	Mounted	49.1	75.7	77.7	87.8	89.8	85.1	83.5	81.0	81.1	73.5	95.0
F217-2 – sound attenuated level 2	Mounted	49.6	77.3	76.4	87.9	91.2	86.9	84.5	83.5	83.3	72.1	94.1

Exhaust Sound Power Level, dB(A)

See notes 2, 9 listed below

Open Exhaust (no muffler) @ rated load	Octave band center frequency (Hz)										Overall Sound Power Level
	31.5	63	125	250	500	1000	2000	4000	8000	16000	
	36.9	80.3	93.4	104.1	99.9	104.3	106.1	102.7	100.7	93.7	

Note:

1. Position 1 faces the generator front per ISO 8528-10. The positions proceed around the generator set in a counter-clockwise direction in 45° increments. All position are at 7 m (23 ft) from surface of the generator set and 1.2 m (48 in.) from floor level.
2. Sound levels are subject to instrumentation, measurement, installation and manufacturing variability.
3. Data based on full rated load.
4. Sound data with generator sets with infinite exhaust do not include exhaust noise.
5. Sound pressure levels are measured per ANSI S1.13 and ANSI S12.18, as applicable.
6. Reference sound pressure is 20 µPa.
7. Sound power levels per ISO 3744 and ISO 8528-10, as applicable.
8. Reference power = 1 pw (10⁻¹² W).
9. Exhaust sound power levels are per ISO 6798, as applicable.



Exhaust emission data sheet

C36 N6

60 Hz Spark ignited generator set

EPA emissions

Engine information:			
Model:	QSJ2.4	Bore:	3.41 in. (86.5 mm)
Type:	4 cycle, in-line, 4 cylinder	Stroke:	3.94 in. (100 mm)
Aspiration:	Naturally aspirated	Displacement:	146.46 cu. in. (2.4 liters)
Compression ratio:	9.5:1		
Emission control device:	Electronic air/fuel ratio control, and closed-loop breather system.		

Performance data	Natural gas	Propane
	Standby	Standby
BHP @ 1800 RPM (60 Hz)	70	70
Fuel consumption (SCFH)	47.3	182.7
Air to fuel ratio	14	14.6
Exhaust gas flow (CFM)	26.2	225.9
Exhaust gas temperature (°F)	1400	1475
Exhaust emission data		
HC (Total unburned hydrocarbons)*	89	419
NOx (Oxides of nitrogen as NO2)	1.60	1188
CO (Carbon monoxide)	9.72	17657
		Values are ppmvd
HC (Total unburned hydrocarbons)*	0.06	0.52
NOx (Oxides of nitrogen as NO2)	5.09	4.04
CO (Carbon monoxide)	2.30	42.43
		Values are Grams per HP-Hour
*HC includes all NMHC, VOC, POC, and ROC constituents (Non-Methane HC, Volatile Organic Compounds, Precursor Organic Compounds, and Reactive Organic Compounds).		

Test conditions	
Data was recorded during steady-state rated engine speed (± 25 RPM) with full load (± 2%). Pressures, temperatures, and emission rates were stabilized.	
Fuel specification:	
Natural gas	Dry gas as received from Supplier (1000 BTU/SCF).
Propane	Meets the requirements for Commercial Grade Propane under the ASTM D1835 Standard Specification for Liquefied Gases
Fuel temperature	60 ± 9 °F at Flow Transmitter
Fuel pressure	14.73 PSIA ± 0.5 PSIA at Flow Transmitter
Intake air temperature:	77 ± 9 °F at inlet
Barometric pressure:	29.92 in. Hg ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
The NOx, HC, and CO emission data tabulated here were from a single engine under the test conditions shown above. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limit, or with improper maintenance, may result in elevated emission levels.	



VMC GROUP
THE POWER OF TOGETHER™



CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS



Certification No.

VMA-51070-01C (Revision 11)

Expiration Date: 4/30/2026

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED¹ FOR SEISMIC APPLICATIONS in accordance with the following building code² releases.

IBC 2018, 2015, 2012

The following model designations, options, and accessories are included in this certification. Reference report number VMA-51070-01 as issued by VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

Cummins Power Generation, Inc.; Gas Generators
C20-200N6 Series; 20kW - 200kW

The above referenced equipment is APPROVED for seismic application when properly installed³, used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance⁴. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as $I_p=1.5$. The equipment is qualified by successful seismic shake table testing at the nationally recognized Dynamic Certification Laboratories under the review of the ISO Accredited Product Certification Agency, the VMC Group.

Certified Seismic Design Levels			
Certified IBC	Importance $I_p \leq 1.5$ Soil Classes A-E Risk Categories I-IV Design Categories A-F	z/h ≤ 1.0	z/h = 0.0
		$S_{DS} \leq 2.500 \text{ g}$	$S_{DS} \leq 2.500 \text{ g}$

Certified Seismic Installation Methods
Rigid Mounting From Unit Base To Rigid Structure

HEADQUARTERS
113 Main Street
Bloomington, NJ 07403
Phone: 973.838.1780
Toll Free: 800.569.8423
Fax: 973.492.8430

CALIFORNIA
180 Promenade Circle
Suite 300
Sacramento, CA 95834
Phone: 916.634.7771

TEXAS
11930 Brittmoore Park Drive
Houston, TX 77041
Phone: 713.466.0003
Fax: 713.466.1355

thevmcgroup.com





CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certified Product Table:

Model	Max Rating [kW]	Max Depth [in]	Max Width [in]	Max Height [in]	Max Weight [lb]
C20N6	20	82	34	46	1,110
C22N6	22				1,150
C25N6	25				1,300
C30N6, C30N6H	30	104	40	58	1,380
C36N6, C36N6H	36				1,420
C40N6, C40N6H	40				2,580
C45N6, C45N6H	45				2,600
C50N6, C50N6H	50	136	40	72	2,900
C60N6, C60N6H	60				2,870
C70N6	70				3,030
C80N6	80	160	40	83	3,170
C100N6	100				3,770
C125N6	125				4,350
C150N6	150				4,663
C175N6, C200N6	200	160	40	83	4,140
C200N6					4,140

Note: "H" indicates high speed (3600RPM, as opposed to the standard 1800RPM)
 Note: Dimensions and Weight include sound level 2 (SL2) enclosure baffle

Group	Type	S _{DS} (z/h=0)	S _{DS} (z/h=1)	A _{Flex-H}	A _{Rig-H}	A _{Flex-V}	A _{Rig-V}	F _p /W _p
Seismic	AC156	2.500	2.500	4.000	3.000	1.667	0.667	1.875

This certification includes the open generator set and the enclosed generator set. The generator set and included options shall be a catalogue design and factory supplied. The generator set and applicable options shall be installed as attached to the building structure per the manufacturer supplied seismic installation instructions. This certification excludes all non-factory supplied accessories, including but not limited to mufflers, isolation/restraint devices, remote control panels, remote radiators, pumps and other electrical/mechanical components.



VMA-51070-01C (Revision 11)
 Issue Date: Friday, July 3, 2015
 Revision Date: Friday, April 28, 2023
 Expiration Date: Thursday, April 30, 2026



VMC GROUP
THE POWER OF TOGETHER™



CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Notes & Comments:

1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The tested units were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/Ice loads have been neglected and thus limit the unit to be installed both indoors (covered by an independent protective structure) and out of doors (exposed to accumulating snow/ice) for ground snow loads no greater than 30 psf for all applications.
2. The following building codes are addressed under this certification:
 - IBC 2018 referencing ASCE7-16 and ICC-ES AC-156
 - IBC 2015 referencing ASCE7-10 and ICC-ES AC-156
 - IBC 2012 referencing ASCE7-10 and ICC-ES AC-156
3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for ensuring the proper installation of all anchors and mounting hardware.
4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, the VMC Group, and meets the seismic design levels claimed by this certificate.
5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification makes no statements of compliance in regards to NEMA, IP, UL, CSA, or other relevant standards after a seismic event. For compliance to other relevant standards, please contact the manufacturer.
6. This certificate applies to units manufactured at:
 - Cummins Power Generation Inc., 1400 73rd Ave. NE, Minneapolis, MN 55432
7. This certification follows the VMC Group's ISO-17065 Scheme.

John P. Giuliano, PE
President, VMC Group



VMA-51070-01C (Revision 11)
Issue Date: Friday, July 3, 2015
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Prototype Test Support (PTS) 60 Hz test summary



<u>Generator set models</u>		<u>Representative prototype</u>	
C20 N6	C30 N6H	Model:	C40 N6H
C22 N6	C36 N6H	Alternator:	CA115-T12
C25 N6	C40 N6H	Engine:	QSJ2.4
C30 N6	C45 N6H		
C36 N6	C50 N6H		
C40 N6	C60 N6H		

The following summarizes prototype testing conducted on the designated representative prototype of the specified models. This testing is conducted to verify the complete generator set electrical and mechanical design integrity. Prototype testing is conducted only on generator sets not sold as new equipment.

Maximum surge power: 52.3 kW

The generator set was evaluated to determine the stated maximum surge power.

Maximum motor starting: 76 kVA

The generator set was tested to simulate motor starting by applying the specified kVA load at low lagging power factor (0.4 or lower). With this load applied, the generator set recovered to a minimum of 90% rated voltage.

Alternator temperature rise:

The highest rated temperature rise (120 °C) test results are reported as follows to verify that worst case temperature rises do not exceed allowable NEMA MG1 limits for class H insulation. Tests were conducted per IEEE 115, rise by resistance and embedded detector, with the rated voltages. Only the highest temperatures are reported.

<u>Location</u>	<u>Maximum rise (°C)</u>
Alternator stator	103
Alternator rotor	101
Exciter stator	53
Exciter rotor	65

Torsional analysis and testing:

The generator set was tested to verify that the design is not subjected to harmful torsional stresses. A spectrum analysis of the transducer output was conducted over the speed range of 1650 to 1950 RPM.

Cooling system: 50 °C ambient
0.5 in. H₂O restriction

The cooling system was tested to determine ambient temperature and static restriction capabilities. The test was performed at full rated load in elevated ambient temperature under static restriction conditions.

Durability:

The generator set was subjected to a minimum 1000 hour endurance test operating at variable load up to the Standby rating based upon MIL-STD-705 to verify structural soundness and durability of the design.

Electrical and mechanical strength:

The generator set was tested to several single phase and three phase faults to verify that the generator can safely withstand the forces associated with short circuit conditions. The generator set was capable of producing full rated output at the conclusion of the testing.

Steady state performance:

The generator set was tested to verify steady state operating performance was within the specified maximum limits.

Voltage regulation:	± 1%
Random voltage variation:	± 1%
Frequency regulation:	± 0.25%
Random frequency variation:	± 0.25%

Transient performance:

The generator set was tested to verify single step loading capability as required by NFPA 110 and verify acceptable voltage and frequency response on load addition or rejection. The following results were recorded at 0.8 power factor :

Full load acceptance:

Voltage dip:	14.4%
Recovery time:	2.6 seconds
Frequency dip:	4.6%
Recovery time:	2.7 seconds

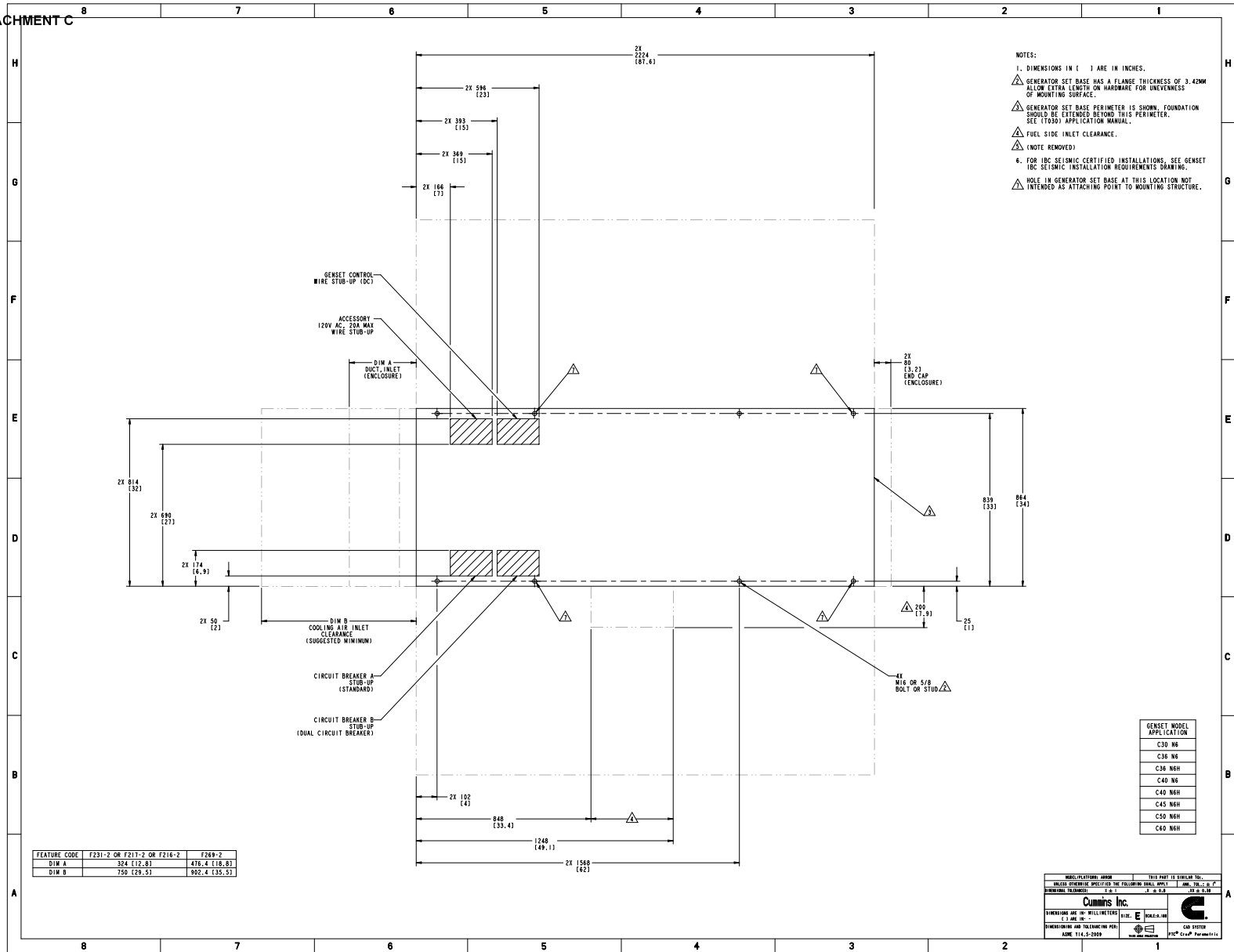
Full load rejection:

Voltage rise:	11.5%
Recovery time:	3.4 seconds
Frequency rise:	5.6%
Recovery time:	3.4 seconds

Harmonic analysis:

(per MIL-STD-705B, method 601.4)

<u>Harmonic</u>	<u>Line to Line</u>		<u>Line to Neutral</u>	
	<u>No load</u>	<u>Full load</u>	<u>No load</u>	<u>Full load</u>
3	0.3	3.5	0.3	3.2
5	1.1	1.0	0.9	0.9
7	0.7	0.4	0.7	0.3
9	0.0	0.5	0.0	0.4
11	0.2	0.1	0.1	0.1
13	0.1	0.1	0.0	0.0
15	0.0	0.1	0.0	0.1

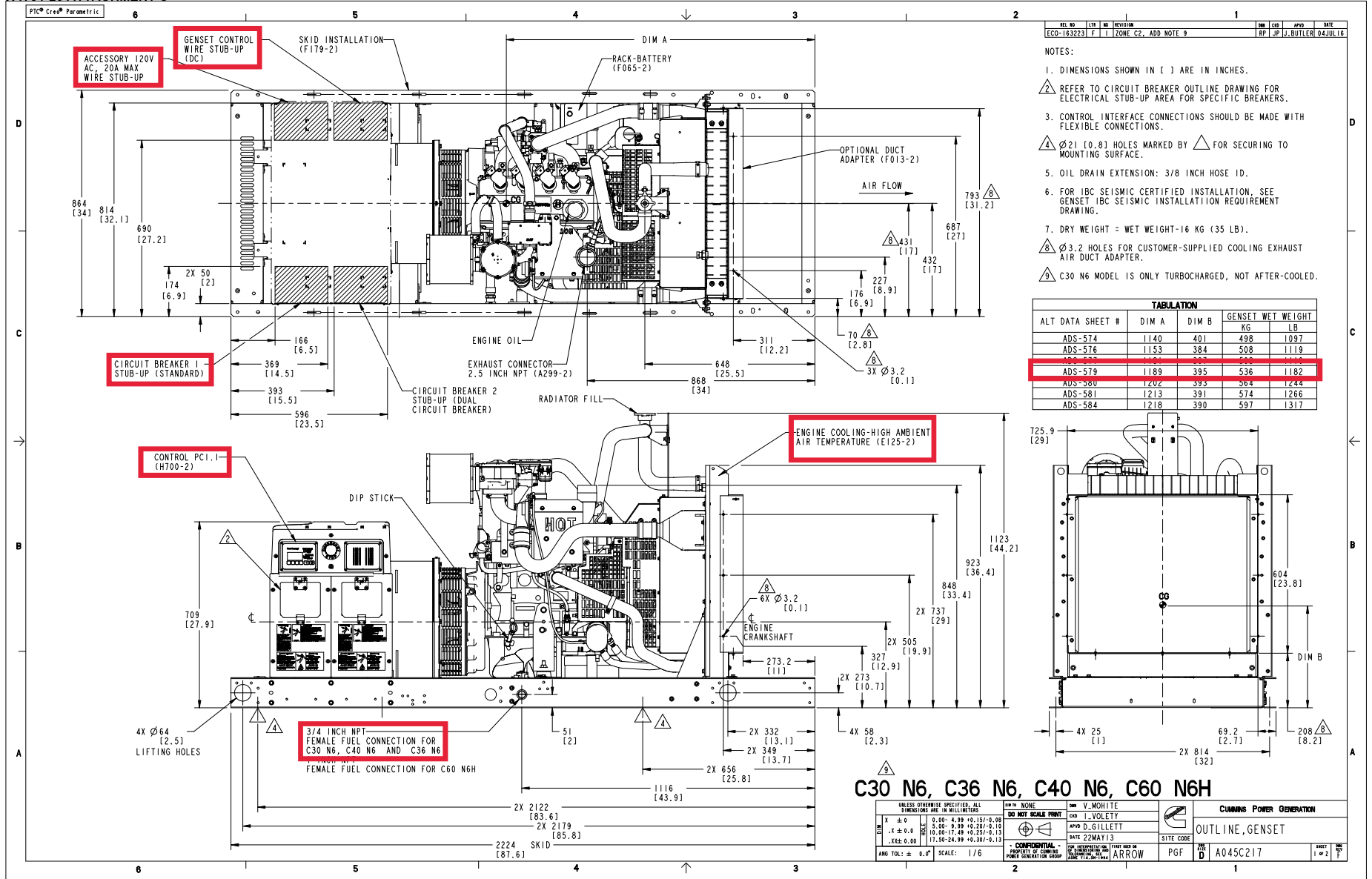


Cummins Data Classification:
Cummins Confidential

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Part Number: **A044T182** Part Revision: **H**
 Part Name: **OUTLINE,GENSET**
 Drawing Category: **Detail** State: **Released** Sheet 1 of 2

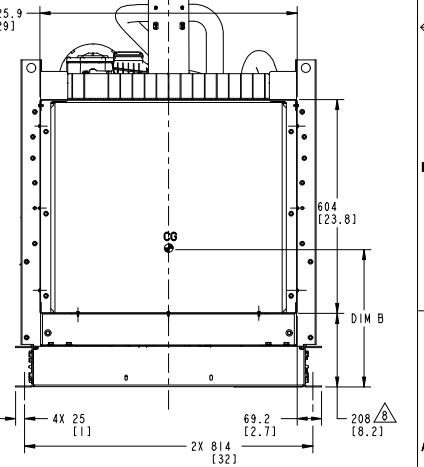
PW1791-26 ATTACHMENT C



REV NO	REV	NO	REVISION	REV	NO	DATE
ECO-163223	F	1	ZONE C2, ADD NOTE 9	RP	J.P. BUTLER	04JUL16

- NOTES:
1. DIMENSIONS SHOWN IN [] ARE IN INCHES.
 2. REFER TO CIRCUIT BREAKER OUTLINE DRAWING FOR ELECTRICAL STUB-UP AREA FOR SPECIFIC BREAKERS.
 3. CONTROL INTERFACE CONNECTIONS SHOULD BE MADE WITH FLEXIBLE CONNECTIONS.
 4. Δ ϕ 21 [0.8] HOLES MARKED BY Δ FOR SECURING TO MOUNTING SURFACE.
 5. OIL DRAIN EXTENSION: 3/8 INCH HOSE ID.
 6. FOR IBC SEISMIC CERTIFIED INSTALLATION, SEE GENSET IBC SEISMIC INSTALLATION REQUIREMENT DRAWING.
 7. DRY WEIGHT = WET WEIGHT-16 KG (35 LB).
 8. Δ ϕ 3.2 HOLES FOR CUSTOMER-SUPPLIED COOLING EXHAUST AIR DUCT ADAPTER.
 9. Δ C30 N6 MODEL IS ONLY TURBOCHARGED, NOT AFTER-COOLED.

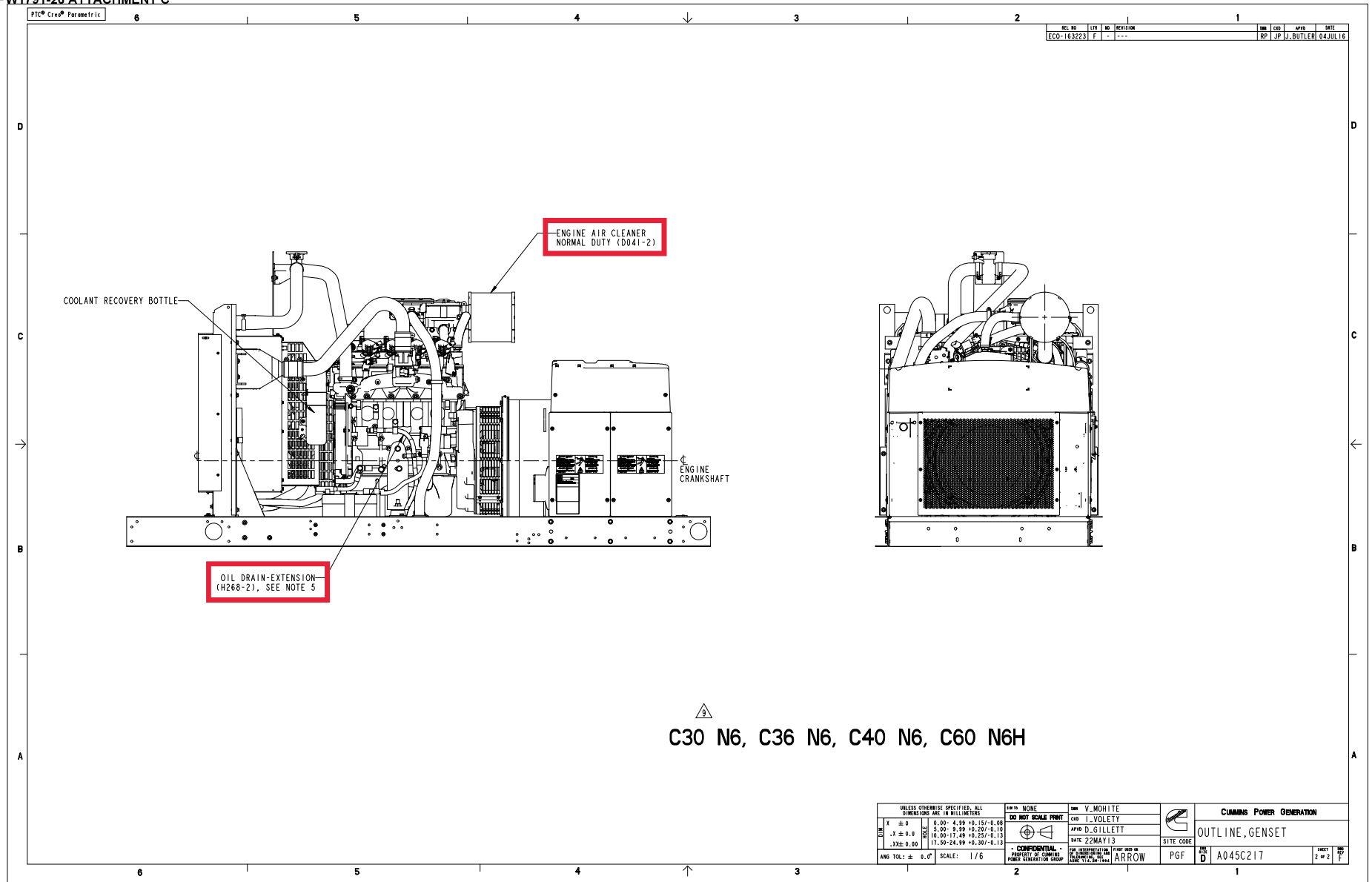
TABULATION					
ALT DATA SHEET #	DIM A	DIM B	GENSET WET WEIGHT KG	GENSET WET WEIGHT LB	
ADS-574	1140	401	498	1097	
ADS-576	1153	384	508	1119	
ADS-579	1189	395	536	1182	
ADS-580	1202	393	564	1244	
ADS-581	1213	391	574	1266	
ADS-584	1218	390	597	1317	



C30 N6, C36 N6, C40 N6, C60 N6H

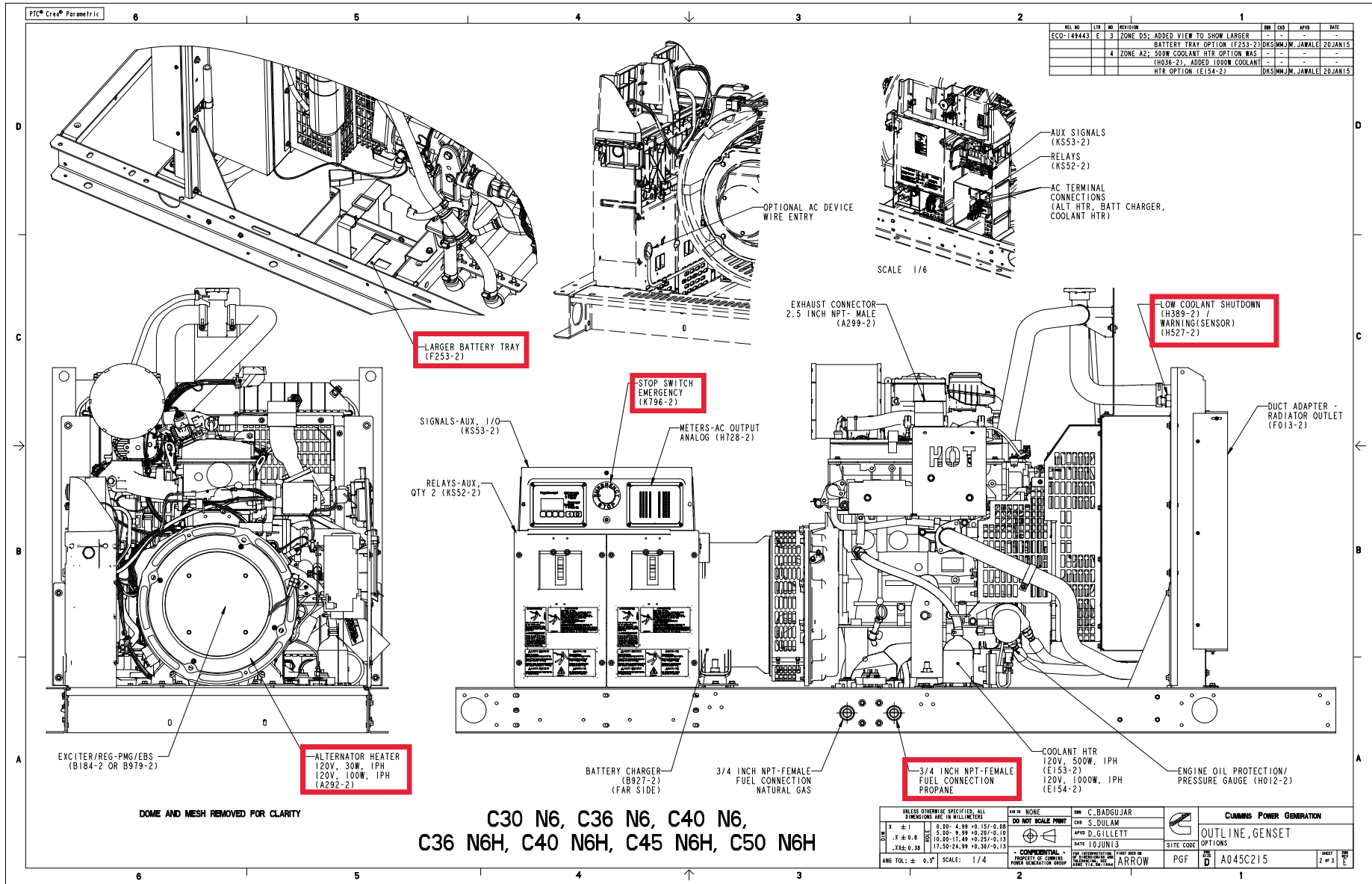
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		REV NONE	REV V. MOHITE	CUMMINS POWER GENERATION	
1 ± 0.1	0.00-4.99 ± 0.15/-0.08	DO NOT SCALE PRINT	REV I. VOILETY	OUTLINE, GENSET	
2 ± 0.0	5.00-9.99 ± 0.20/-0.10		APPD D. GILLETT		
3 ± 0.0	10.00-17.99 ± 0.25/-0.13		DATE 22MAY13		
4 ± 0.0	17.99-24.99 ± 0.30/-0.13		SITE CODE		
ANG TOL: ± 0.0°		SCALE: 1/6	COMPROMENTAL	PGF	A045C217
			PROPERTY OF CUMMINS POWER GENERATION GROUP	REV D	1

PW1791-26 ATTACHMENT C



△
C30 N6, C36 N6, C40 N6, C60 N6H

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		FORM NONE	DESIGN V_MOHITE	CUMMINS POWER GENERATION	
DO NOT SCALE PRINT		APPROVED I_VOLETTY	DATE 22MAY13	OUTLINE, GENSET	
ANG. TOL: ± 0.0°		SCALE: 1/6	DATE 22MAY13	SITE CODE	
CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP		APPROVED BY D_GILLETTY	DATE 22MAY13	PART NO. A045C217	
CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP		DATE 22MAY13	DATE 22MAY13	SHEET 2 OF 2	



C30 N6, C36 N6, C40 N6,
C36 N6H, C40 N6H, C45 N6H, C50 N6H

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	BY: C. BADGUJAR	DATE: 10 JUN 13	PROJECT: A045C215	REV: D	DATE: 10 JUN 13
±.1	0.50-4.99 ±0.15/-0.04	CHKD: S. DULAM		PROPERTY OF CUMMINS INC. (SEE TITLE BLOCK)	PGF	DATE: 10 JUN 13
±.1 ±0.4	5.00-9.99 ±0.25/-0.10	APPD: D. GILLETT		ARROW		
±.1 ±0.38	10.00-17.99 ±0.25/-0.13					
	17.50-24.99 ±0.30/-0.13					
ANG TOL: ± 0.5°	SCALE: 1/4					

PW1791-26 ATTACHMENT C

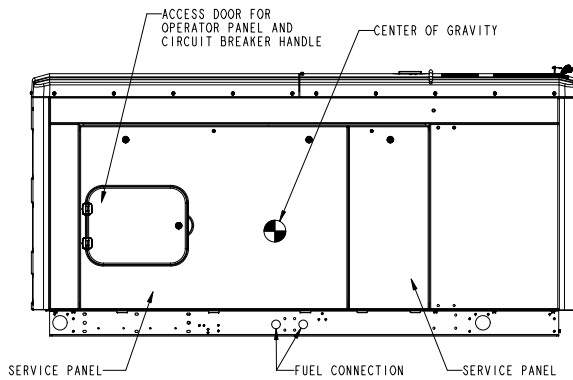
REV. NO.	REV. DATE	REV. BY	REV. DESCRIPTION	APP'D.	DATE
ECO-178681	E	1	ZONE A4; F231-2 AND F216-2... CONFIGURATIONS WAS F231-2...	---	---
			CONFIGURATION	PPP/KAMM, WINGFIELD	09JUL18
		2	UPDATE VIEWS PICTORIALLY	PPP/KAMM, WINGFIELD	09JUL18

NOTES:

1. DIM [] IN INCHES
2. 120° AND 170° ARE DETENTED OPEN ANGLE FOR HINGE.
3. WHEN THE HOUSING INSTALLED ON AN OPEN GENERATOR SET, THE TOTAL WEIGHT WILL INCREASE BY 98 KG (216 LBS). THIS INCLUDES THE MUFFLER.
4. THE CENTER OF GRAVITY (CG) OF THE GENERATOR SET WHEN EQUIPPED WITH THIS HOUSING SHIFTS APPROXIMATELY 8MM (0.31 INCH) TOWARDS THE AIR DISCHARGE END OF THE HOUSING AND 38MM (1.5 INCH) HIGHER FROM THE GROUND, COMPARED TO THE EQUIVALENT NON-HOUSED PRODUCT WITH THE F179 SKID. SEE HOUSING READY SKID BASE OUTLINE DRAWING FOR CG LOCATION OF NON HOUSED PRODUCT.

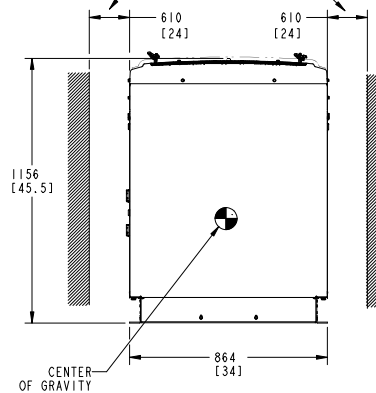


TOP VIEW

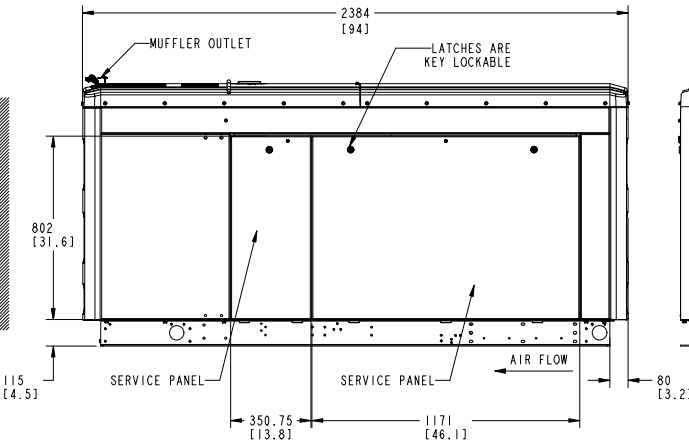


RIGHT SIDE VIEW

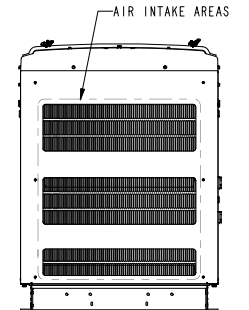
DISTANCE REQUIRED TO LIFT OFF SERVICE PANELS



OUTLET VIEW



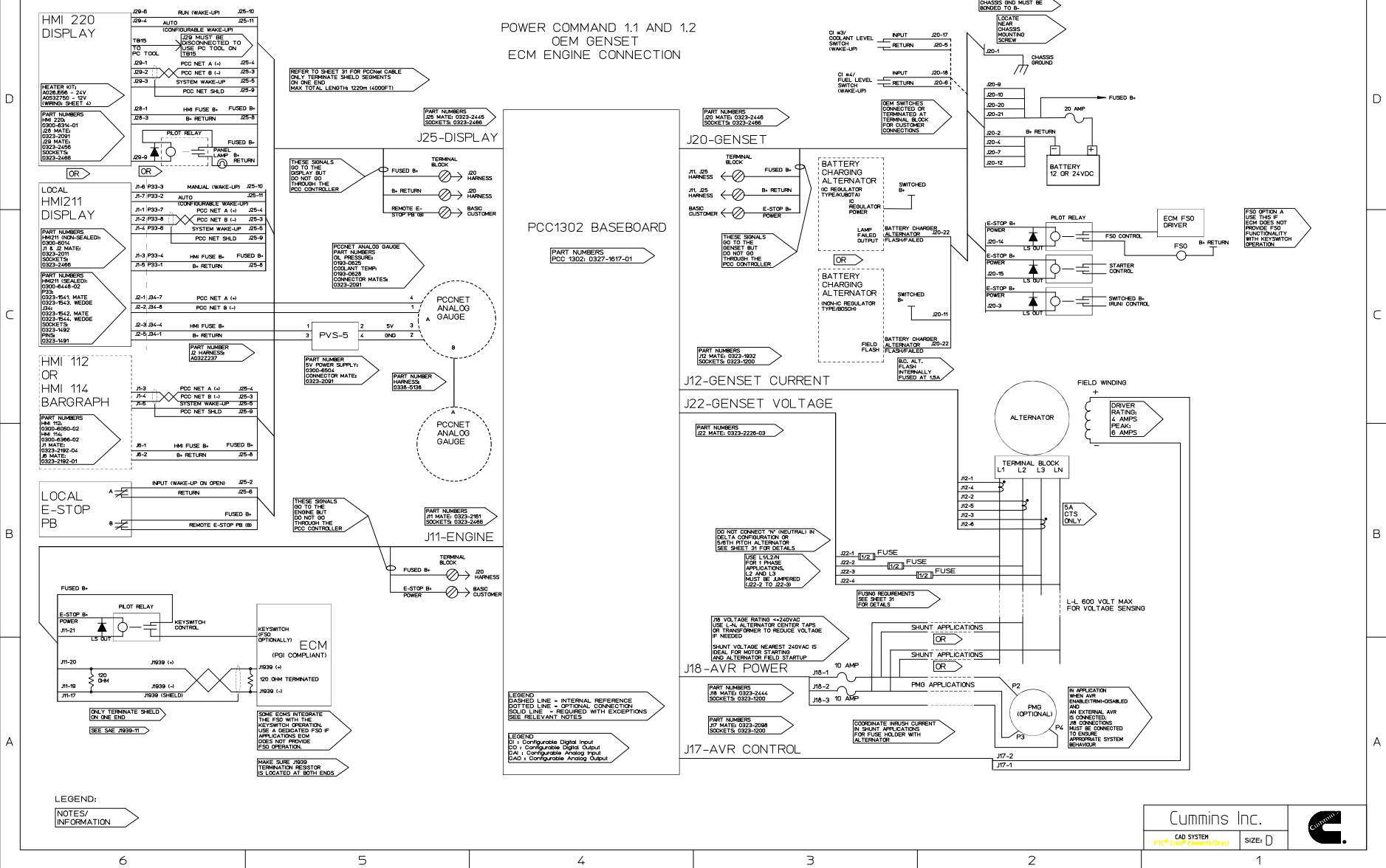
LEFT SIDE VIEW



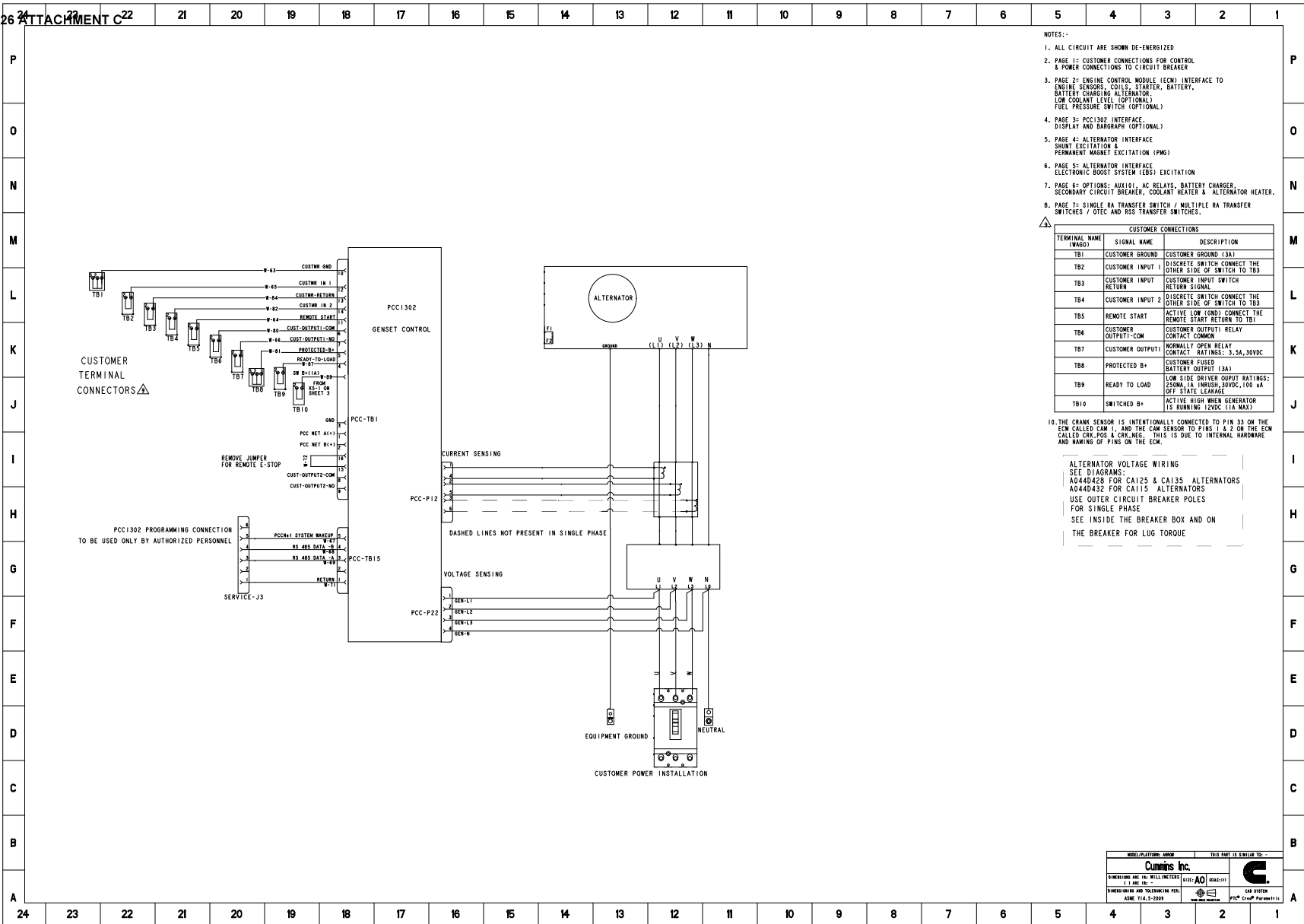
INLET VIEW

F231-2 AND F216-2 ENCLOSURE CONFIGURATIONS

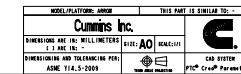
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		DRW: NONE	DRW: S. GAMBHIRE		CUMMINS POWER GENERATION
DO NOT SCALE PRINT		CHK: T. RADKE	APPV: J. MATTHEWS		
DATE	SCALE: 1/10	DATE: 17 JAN 13	DATE: 17 JAN 13	SITE CODE:	OUTLINE, ENCLOSURE
ANG TOL: ± 0.5°				PGF	A043J729 SHEET 1 OF 2

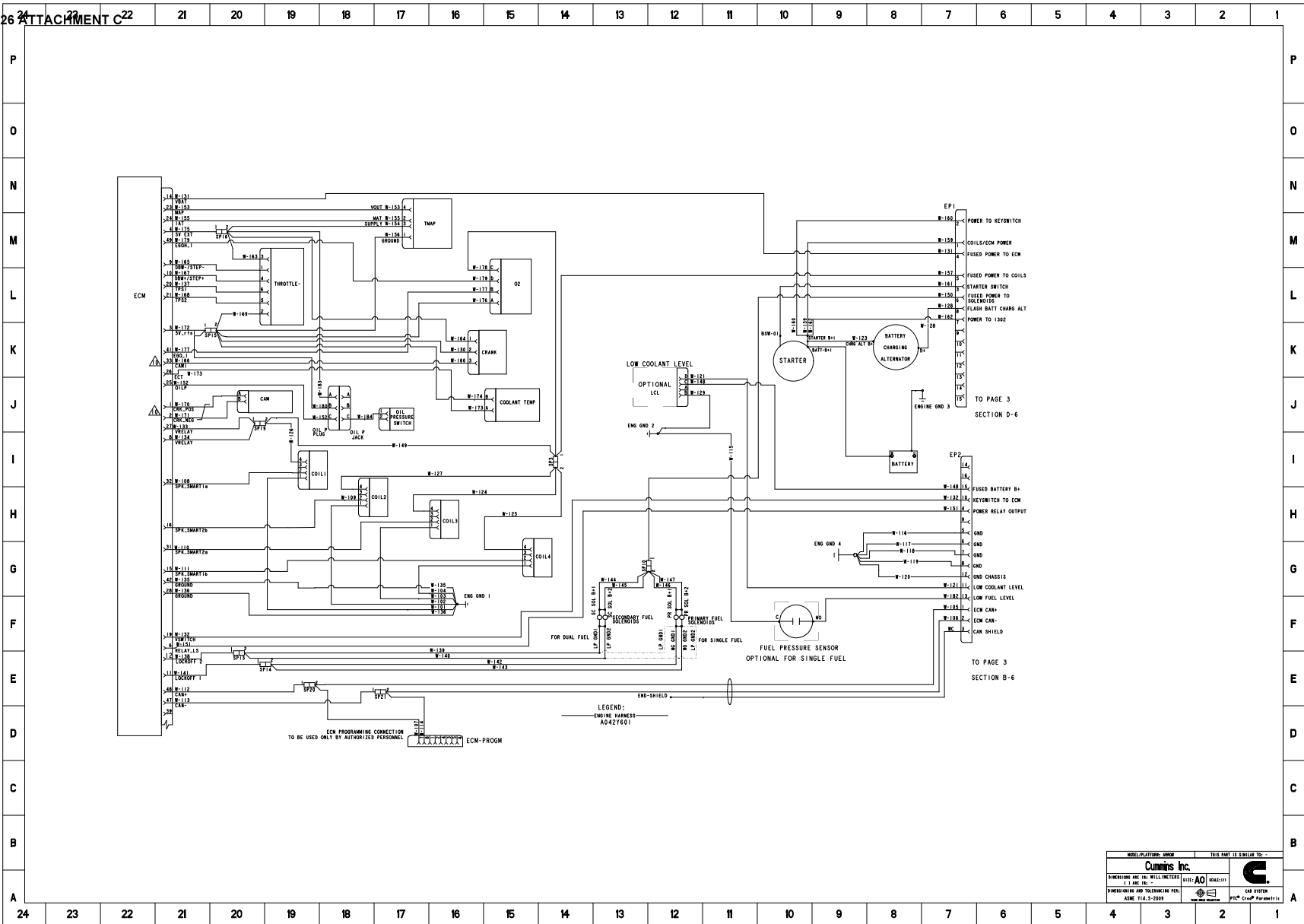


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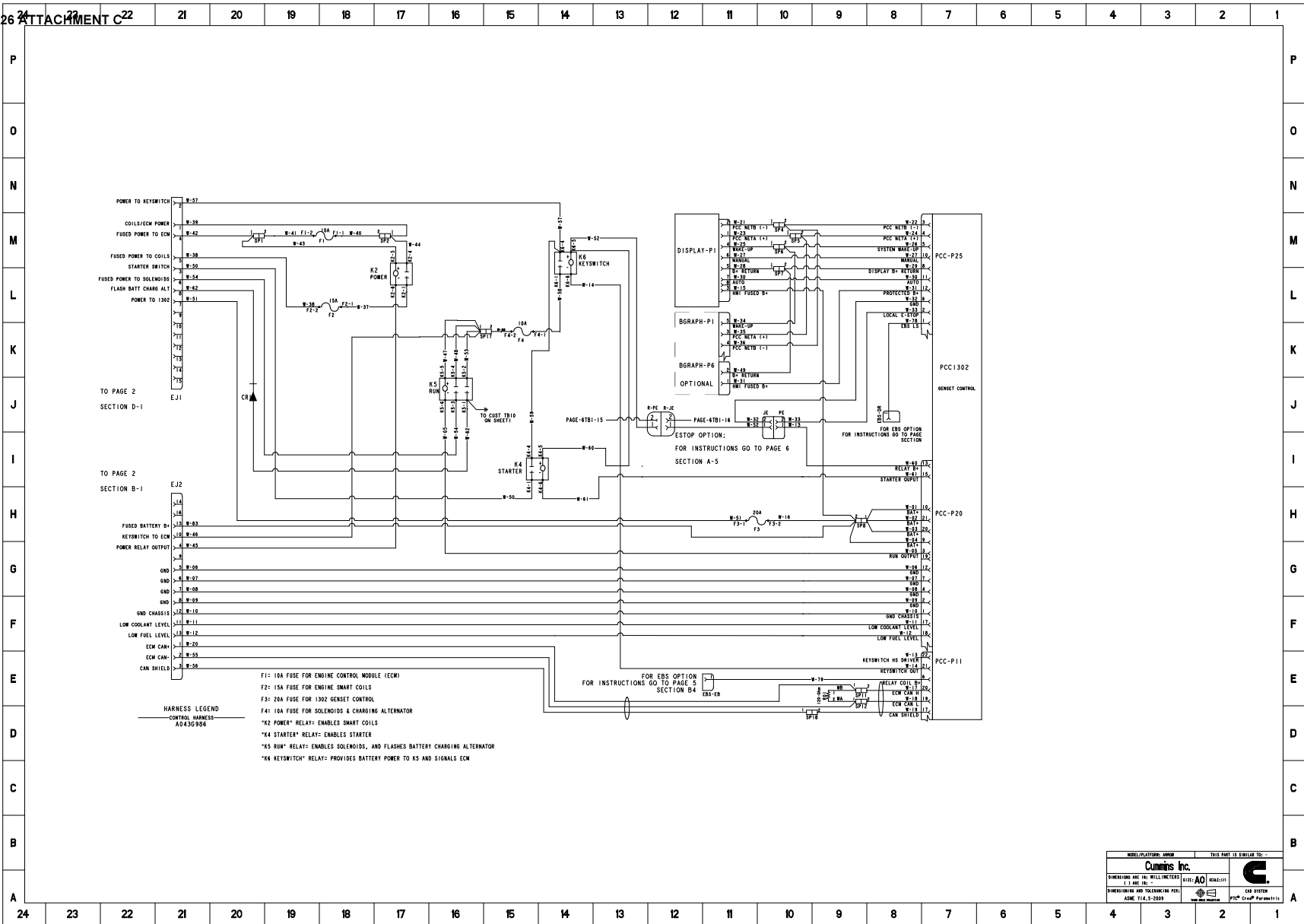
MODEL/PLATFORM: 4400W	THIS PART IS DERIVED TO: 1
Cummins Inc.	
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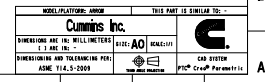
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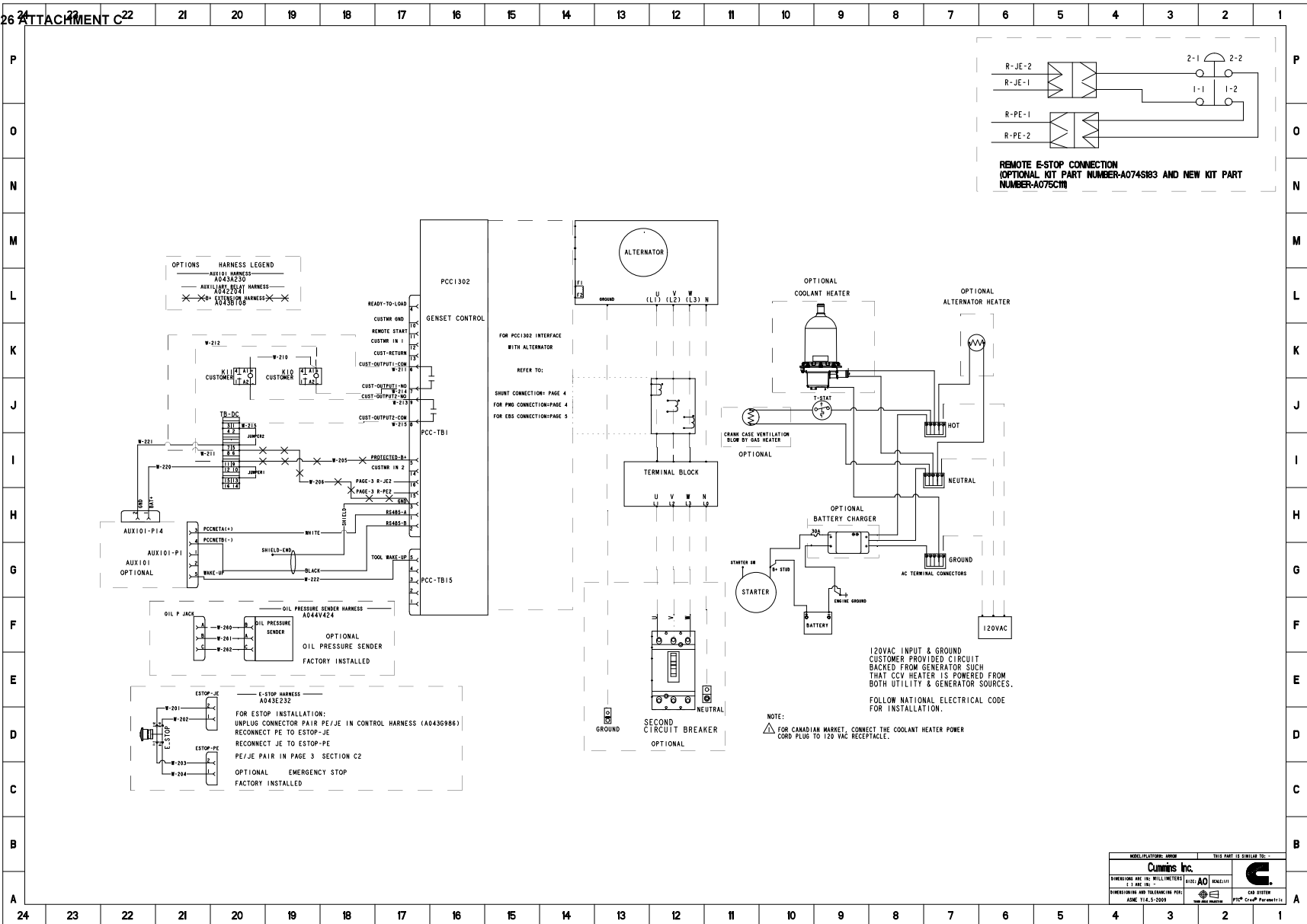
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Part Number: **A044K485** Part Revision: **N**
 Part Name: **DIAGRAM, WIRING**
 Drawing Category: **Detail** State: **Released** Sheet 2 of 8

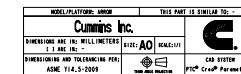


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Commercial Extended Warranty Statements

Our energy working for you.™



Commercial Extended Warranty Statements

Feature Codes

L040

L093

L028

L030

L031

L041



Our energy working for you.™

Limited Standby 2 Year or 1,500 hour Comprehensive Extended Warranty – L028

Commercial Generating Set

When purchased, this limited extended warranty applies to Cummins Power Generation® branded commercial generating sets and associated accessories (hereinafter referred to as "Product").

This warranty covers any failures of the Product, under normal use and service, which result from a defect in material or factory workmanship.

Warranty Period:

The warranty start date is the date of initial start up, first rental, demonstration or 18 months after factory ship date, whichever is sooner. The coverage duration is 2 years from warranty start date or 1,500 hours or whichever occurs first.

Emergency Standby Power (ESP) is defined as the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage. The permissible average power output over 24 hours of operation shall not exceed 70% of the ESP.

Cummins Power Generation® Responsibilities:

In the event of a failure of the Product during the extended warranty period due to defects in material or workmanship, Cummins Power Generation® will only be responsible for the following costs:

- All parts and labor required to repair the Product.
- Reasonable travel expenses to and from the Product site location.
- Maintenance items that are contaminated or damaged by a warrantable failure.

Owner Responsibilities:

The owner will be responsible for the following:

- Notifying Cummins Power Generation® distributor or dealer within 30 days of the discovery of failure.
- Installing, operating, commissioning and maintaining the Product in accordance with Cummins Power Generation®'s published policies and guidelines.
- Providing evidence for date of commissioning.
- Providing sufficient access to and reasonable ability to remove the Product from the installation in the event of a warrantable failure.

In addition, the owner will be responsible for:

- Incremental costs and expenses associated with Product removal and reinstallation resulting from non-standard installations.
- Costs associated with rental of generating sets used to replace the Product being repaired.
- Costs associated with labor overtime and premium shipping requested by the owner.
- All downtime expenses, fines, all applicable taxes, and other losses resulting from a warrantable failure.

Limitations:

This limited extended warranty does not cover Product failures resulting from:

- Inappropriate use relative to designated power rating.
- Inappropriate use relative to application guidelines.
- Normal wear and tear.
- Improper and/or unauthorized installation.
- Owner's or operator's negligence, accidents or misuse.
- Lack of maintenance or unauthorized repair.
- Noncompliance with any Cummins Power Generation® published guideline or policy.
- Use of improper or contaminated fuels, coolants or lubricants.
- Improper storage before and after commissioning.
- Owner's delay in making Product available after notification of potential Product problem.

PW1791-26 ATTACHMENT C

- Use of steel enclosures within 60 miles of the coast of salt water when aluminum or an alternate non-corrosive material enclosure option is available.
- Replacement parts and accessories not authorized by Cummins Power Generation®.
- Use of Battle Short Mode.
- Owner or operator abuse or neglect such as: operation without adequate coolant or lubricants; overfueling; overspeeding; lack of maintenance to lubricating, cooling or air intake systems; late servicing and maintenance; improper storage, starting, warm-up, run-in or shutdown practices, or for progressive damage resulting from a defective shutdown or warning device.
- Damage to parts, fixtures, housings, attachments and accessory items that are not part of the generating set.

This limited extended warranty does not cover costs resulting from:

- Difficulty in gaining access to the Product.
- Repair of cosmetic damage to enclosures.

Items not covered by this limited extended warranty:

- Batteries
- Enclosures
- Coolant heating elements
- Maintenance items

Aftertreatment component failures

www.cumminspower.com

CUMMINS POWER GENERATION® RIGHT TO FAILED COMPONENTS:

Failed components claimed under warranty remain the property of Cummins Power Generation®. Cummins Power Generation® has the right to reclaim any failed component that has been replaced under warranty.

THE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY CUMMINS POWER GENERATION ® IN REGARD TO THE PRODUCT. CUMMINS POWER GENERATION® MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT IS CUMMINS POWER GENERATION® LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This limited extended warranty shall be enforced to the maximum extent permitted by applicable law. This limited extended warranty gives the owner specific rights that may vary from state to state or from jurisdiction to jurisdiction.

Product Model Number: _____

Product Serial Number: _____

Date in Service: _____



Marion County

Prepared for:

Brian Nicholas
Marion County Public Works
555 CT ST NE
Salem, OR 97301-3980

Cummins Salesperson:

Mark Wahlberg CS931@cummins.com 503-307-7529

Cummins Project Manager:

Samantha Norman samantha.norman@cummins.com (425) 902-9513

PLEASE COMPLETE THIS SECTION OR PROVIDE SIGNOFF TO PROCEED

Revise with corrections provided

Date: 6/23/2025

Approved and released for production

By (name and company): Brian Nicholas, Marion County Public Works Department

Requested delivery date: December 15, 2025

Requested delivery address: 5155 Silverton Road NE, Salem, OR 97305

Contact person and phone # for deliveries: Michael Pierce, 408.857.2040

Salesforce O# n/a

BMS #

Customer PO#

Date 6/16/25

Rev_1

SUBMITTAL PACKAGE

Serving Cummins Customers

Cummins power solutions are supported by the largest and best-trained worldwide-certified sales/distributor network in the industry. This network will help you select and install the critical power solution to meet the requirements of your specific application. This same network provides experts with advanced technology to make your life easier while providing a seamless support experience.

IMPORTANT: *The critical power solution information and specifications included in this pdf can be used by the site contractor(s) and/or engineer(s) to assist with planning for and accomplishing the overall power solution installation. Please forward this document to the appropriate personnel, as necessary.*

It is the obligation of the electrical contractor and reviewing engineer to determine that the item quantities and accuracy of this submittal is correct as required for the job. Any inaccuracies or deviations must be addressed with Cummins Inc. before release to manufacturing. Any releases of material to manufacturing by the above parties constitute an acceptance of the accuracy of the submittal. Any changes after release will be viewed as a change order, subject to pricing changes. Please take the time to review this package for accuracy to prevent any after-shipment problems that could cause delay in energization.

Cummins certifies that these drawings, material lists, specification and datasheets have been checked prior to submittal and they:

- accurately depict the proposed equipment*
- provide current information to the date of the submittal and*
- present true and accurate equipment information.*

This Approval Drawing Package is submitted as our interpretation of the project requirements and/or the specifications for this job. Please note that issuance of these submittals shall not be deemed or interpreted as performance nor acceptance of your purchase order terms and conditions.

For questions or comments regarding this submittal, please contact the Cummins Project Manager listed on the title page.

13 June 2025

Bill of Material

Feature Code	Description	Qty
C35D6 Install-US-Stat C35 D6_C35 D6 C35 D6_A331-2 C35 D6_L169-2 C35 D6_L090-2 C35 D6_L193-2 C35 D6_L225-2 C35 D6_L228-2 C35 D6_B240-2 C35 D6_R104-2 C35 D6_B949-2 C35 D6_A292-2 C35 D6_F231-2 C35 D6_P176-2 C35 D6_F252-2 C35 D6_F253-2 C35 D6_F179-2 C35 D6_C301-2 C35 D6_C310-2 C35 D6_C312-2 C35 D6_C315-2 C35 D6_C318-2 C35 D6_H608-2 C35 D6_H700-2 C35 D6_H012-2 C35 D6_K796-2 C35 D6_H536-2 C35 D6_KV03-2 C35 D6_KV17-2 C35 D6_1850 C35 D6_A366-2 C35 D6_A422-2 C35 D6_D041-2 C35 D6_A333-2 C35 D6_BB89-2 C35 D6_E125-2 C35 D6_H389-2 C35 D6_E089-2 C35 D6_H669-2 C35 D6_E153-2 C35 D6_H268-2 C35 D6_H706-2 C35 D6_L028-2 C35 D6_L050-2	C35D6, Diesel Genset, 60Hz, 35kW U.S. EPA, Stationary Emergency Application C35D6, 35kW, 60Hz, Standby, Diesel Genset Duty Rating - Standby Power (ESP) Emission Certification, EPA, Tier 3, NSPS CI Stationary Emergency Listing - UL 2200 NFPA 110 Type 10 Level 1 Capable HCAI (formerly OSHPD) Seismic Pre-Approval Certification Cert - Seismic, IBC2000, IBC2003, IBC2006, IBC2009, IBC2011 Exciter/Reg - Torque Match Voltage - 120/240, 1 Phase, 3 Wire Alternator - 60Hz, 4L, 240/120V, 1 Phase, 120C, 40C Ambient Alternator Heater, 120 Volt AC Aluminum Sound Attenuated Level 1 Enclosure, with Exhaust System Enclosure Color - Green, Aluminum Enclosure - Wind Load 180 MPH, ASCE7-10 Larger Battery Rack Skidbase - Housing Ready Fuel Tank - Regional, Dual Wall, Sub Base, 24 Hour Minimum Low Fuel Level Switch, 40% Mechanical Fuel Gauge Fuel Tank Vent Extension Kit, 12ft External Vents, 1 Normal, 2 Emergency Switch - Fuel Tank, Rupture Basin Control Mounting - Right Facing PowerCommand 1.1 Controller Gauge - Oil Pressure Stop Switch - Emergency Control Display Language - English Load Connection - Single Circuit Breaker, Location A, 150A, 2P, 600 Volts AC, 80%, UL Right CB - None Engine Governor - Electronic, Isochronous Engine Starter - 12 Volt DC Motor Engine Air Cleaner - Normal Duty Battery Charging Alternator Battery Charger - 6 Amp, Regulated Engine Cooling - Radiator, High Ambient Air Temperature, Ship Fitted Shutdown - Low Coolant Level Extension - Coolant Drain Engine Coolant - 50% Antifreeze, 50% Water Mixture Coolant Heater, Cold Ambient Extension - Oil Drain Engine Oil Genset Warranty - 2 Years Base Literature - English	1

C35 D6_A322-2 C35 D6_L261-2 A048C539-FRD	Packing - Skid, Poly Bag Ship Loose - Vent Kit A Fuel Tank, Extension Kit-1 Normal, 2 Emergency, 12ft	
0416-1051	Battery-Wet, 12V, Group 26, 530Amp	1
Miscellaneous	Pilla Remote E-Stop [Shipped Loose]	1
A054V134	PC Lon Gateway, Lon Modbus, Lon Modbus/TCP Gateway	1
Miscellaneous	Acumen Telematics – Cloud - Wi-Fi + Cellular + Ethernet connectivity – Modbus + J1939 (Private – NA variant) - A068E639 [Shipped Loose]	1
Service - start up & testing	Service - Standard Start Up Service (no spec) and System Testing	1

NOTES:

Cummins quote is valid for 30 days. This quotation is based on the bill of materials from the ESCO 911 project and email dated 4.30.25. Contractor to verify application meets requirements. All other specifications and drawings are excluded. We know of no addenda.

Specification sheet



Diesel generator set

25 kW - 40 kW
EPA emissions
stationary Standby



Description

Cummins® generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary Standby applications.

Features

Cummins heavy-duty engine - Rugged 4-cycle, liquid-cooled, industrial diesel engine delivers reliable power, low emissions and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® 1.1 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard cooling package provides reliable running at up to 50 °C (122 °F) ambient temperature.

Enclosures - The aesthetically appealing enclosure incorporates special designs that deliver one of the quietest generators of its kind. Aluminum material plus durable powder coat paint provides the best anti-corrosion performance. The generator set enclosure has been evaluated to withstand 180 MPH wind loads in accordance with ASCE7-10. The intelligent design has removable panels and service doors to provide easy access for service and maintenance.

Fuel tanks - Two dual wall sub-base fuel tank series are offered as optional features, providing economical and flexible solutions to meet extensive code requirements on diesel fuel tanks.

NFPA - The generator set accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

Model	Standby rating 60 Hz		Prime rating 60 Hz		Data sheets 60 Hz
	kW	kVA	kW	kVA	
C25 D6	25	31.3	22.7	28.4	NAD-5860
C30 D6	30	37.5	27	33.8	NAD-5861
C35 D6	35	43.8	32	40	NAD-5862
C40 D6	40	50	36	45	NAD-5863

Generator set specifications

Governor regulation class	ISO8528 Part 1 Class G2
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 0.5% - 3 Phase only
Frequency regulation	Isochronous
Random frequency variation	± 0.5%
Radio frequency emissions compliance	FCC code Title 47 Part 15 Class B

Engine specifications

Bore	95.0 mm (3.74 in.)
Stroke	115.1 mm (4.53 in.)
Displacement	3.3 litres (199 in ³)
Configuration	Cast iron, in-line, 4 cylinder
Battery capacity	550 amps at ambient temperature of 0 °F to 32 °F (-18 °C to 0 °C)
Battery charging alternator	40 amps
Starting voltage	12 volt, negative ground
Fuel system	Indirect injection, number 2 diesel fuel, fuel filter, electric fuel shut off
Fuel filter	Single element, 10 micron filtration, spin-on fuel filter with water separator
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Spin-on, full flow
Standard cooling system	50 °C (122 °F) ambient cooling system

Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Direct coupled, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	120 °C (248 °F) Standby
Exciter type	Torque match (shunt) with PMG/EBS as option
Alternator cooling	Direct drive centrifugal blower
AC waveform Total Harmonic Distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone Influence Factor (TIF)	< 50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	0.03

Available voltages

Single phase	3 phase				
• 120/240	• 120/208	• 120/240 delta	• 277/480	• 347/600	

Note: Consult factory for other voltages.

Generator set options

Fuel system

- Basic fuel tanks
- **Regional fuel tanks**

Engine

- **Engine air cleaner – normal** or heavy duty
- Shut down – low oil pressure
- **Extension – oil drain**

Alternator

- **120 °C (248 °F) temperature rise alternator**
- 105 °C (221 °F) temperature rise alternator
- Excitation Boost System (EBS) or PMG
- Alternator heater, 120 V

Control

- AC output analog meters (bargraph)
- Stop switch – emergency
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)

Electrical

- **Single circuit breaker**
- Dual circuit breakers
- **80% rated circuit breakers**
- 100% rated circuit breakers

Enclosure

- **Aluminum enclosure sound level 1** or level 2, with muffler installed, sandstone or green color
- Open set

Cooling system

- **Shutdown – low coolant level**
- Warning – low coolant level
- Extension – coolant drain
- Cold weather option for operating at <4 °C (40 °F)

Exhaust system

- Exhaust connector - NPT
- Open set with muffler mounted

Generator set application

- Battery rack, **larger battery**
- Radiator outlet duct adapter

Generator set options (continued)

Warranty

- Base warranty – 2 year, 1000 hour, Standby
- Standby, 3 year, 1500 hour, parts
- Standby, 5 year, 2500 hour, parts
- Standby, 3 year, 1500 hour, parts and labor
- Standby, 5 year, 2500 hour, parts and labor
- Standby, 3 year, 1500 hour, parts and travel
- Standby, 5 year, 2500 hour, parts, labor and travel

Generator set accessories

- Coolant heater kit
- Battery rack, larger battery
- Battery heater kit
- HMI211RS in-home display, including pre-configured 12" harness
- HMI211 remote display, including pre-configured 12" harness
- HMI220 remote display
- Auxiliary output relays (2)
- Auxiliary configurable signal inputs (8) and relay outputs (8)
- Annunciator – RS485
- Remote monitoring device – PowerCommand 500
- Battery charger – stand-alone, 12 V
- Circuit breakers
- Enclosure Sound Level 1 to Sound Level 2 upgrade kit
- Enclosure paint touch up kit
- Mufflers – industrial, residential or critical
- Alternator Excitation Boost System (EBS) or PMG
- Alternator heater
- Maintenance and service kit
- Engine lift kit
- Various fuel tanks and accessories

Control system PowerCommand 1.1



PowerCommand control is an integrated generator set control system providing voltage regulation, engine protection, operator interface and isochronous governing (optional). Major features include:

- Battery monitoring and testing features and smart starting control system.
- Standard PCCNet interface to devices such as remote annunciator for NFPA 110 applications.
- Control boards potted for environmental protection.
- Control suitable for operation in ambient temperatures from -40 °C to +70 °C (-40 °F to +158 °F) and altitudes to 5000 meters (13,000 feet).
- Prototype tested; UL, CSA, and CE compliant.
- InPower™ PC-based service tool available for detailed diagnostics.

Operator/display panel

- Manual off switch
- Alpha-numeric display with pushbutton access for viewing engine and alternator data and providing setup, controls and adjustments (English or international symbols)
- LED lamps indicating generator set running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from -40 °C to +70 °C
- Bargraph display (optional)

AC protection

- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown

Alternator data

- Line-to-Line and Line-to-Neutral AC volts
- 3-phase AC current
- Frequency
- Total kVa

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature
- Engine speed

PW1791-26 ATTACHMENT C

Other data

- Generator set model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)

Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 2-phase Line-to-Line sensing
- Configurable torque matching

Control functions

- Time delay start and cooldown
- Cycle cranking
- PCCNet interface
- (2) Configurable inputs
- (2) Configurable outputs
- Remote emergency stop
- Automatic Transfer Switch (ATS) control
- Generator set exercise, field adjustable

Options

- Auxiliary output relays (2)
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation
- PowerCommand 500/550 for remote monitoring and alarm notification (accessory)
- Auxiliary, configurable signal inputs (8) and configurable relay outputs (8)
- Digital governing
- AC output analog meters (bargraph)
 - Color-coded graphical display of:
 - 3-phase AC voltage
 - 3-phase current
 - Frequency
 - kVa
- Remote operator panel

Ratings definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

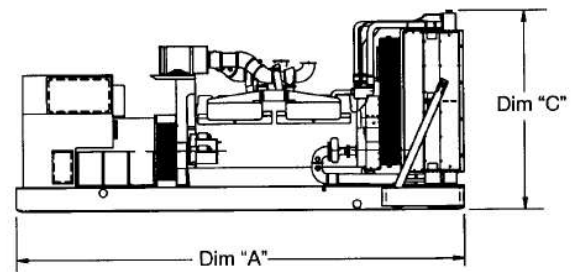
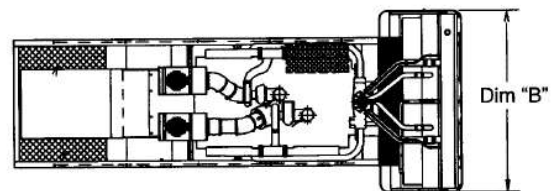
Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design





PW1791-26 ATTACHMENT C

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set weight* dry kg (lbs)	Set weight* wet kg (lbs)
Open set					
C25 D6	2224 (87.5)	864 (34)	1121 (44.13)	504 (1115)	525 (1161)
C30 D6	2224 (87.5)	864 (34)	1121 (44.13)	533 (1178)	553 (1224)
C35 D6	2224 (87.5)	864 (34)	1121 (44.13)	552 (1221)	573 (1267)
C40 D6	2224 (87.5)	864 (34)	1121 (44.13)	566 (1252)	587 (1298)
Sound attenuated enclosure Level 1					
C25 D6	2384 (93.8)	864 (34)	1156 (45.5)	551 (1219)	572 (1265)
C30 D6	2384 (93.8)	864 (34)	1156 (45.5)	580 (1282)	600 (1328)
C35 D6	2384 (93.8)	864 (34)	1156 (45.5)	599 (1325)	620 (1371)
C40 D6	2384 (93.8)	864 (34)	1156 (45.5)	613 (1356)	634 (1402)
Sound attenuated enclosure Level 2					
C25 D6	2629 (103.5)	864 (34)	1156 (45.5)	570 (1261)	591 (1307)
C30 D6	2629 (103.5)	864 (34)	1156 (45.5)	599 (1324)	619 (1370)
C35 D6	2629 (103.5)	864 (34)	1156 (45.5)	618 (1367)	639 (1413)
C40 D6	2629 (103.5)	864 (34)	1156 (45.5)	632 (1398)	653 (1444)

* Weights represent a set with standard features. See outline drawings for weights of other configurations.

Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.		The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.
	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.	U.S. EPA	Engine certified to U.S. EPA SI Stationary Emission Regulation 40 CFR, Part 60.
	All low voltage models are CSA certified to product class 4215-01.	International Building Code	The generator set is certified for seismic application in accordance with International Building Code (IBC) 2012.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™





Generator set data sheet

Model: C35 D6
Frequency: 60 Hz
Fuel type: Diesel
KW rating: 35 standby
 32 prime
Emissions level: EPA Emission Stationary Standby

Exhaust emission data sheet:	EDS-1184
Exhaust emission compliance sheet:	EPA-1253
Sound performance data sheet:	MSP-1182
Cooling performance data sheet:	MCP-264
Prototype test summary data sheet:	PTS-322

Fuel consumption	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	35 (43.75)				32 (40)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	1.15	1.80	2.47	3.16	1.05	1.64	2.25	2.87
L/hr	4.35	6.81	9.35	11.96	3.97	6.21	8.52	10.6

Engine	Standby rating	Prime rating
Engine manufacturer	Cummins Inc.	
Engine model	4BT3.3-G5	
Configuration	Cast iron, in-line, 4 cylinder	
Aspiration	Turbocharged	
Gross engine power output, kWm (bhp)	51 (69)	47 (63)
BMEP at set rated load, kPa (psi)	855.63 (124.1)	777.72 (111.6)
Bore, mm (in)	95 (3.74)	
Stroke, mm (in)	115 (4.53)	
Rated speed, rpm	1800	
Piston speed, m/s (ft/min)	6.9 (1359)	
Compression ratio	20.8:1	
Lube oil capacity, L (qt)	7.9 (8.35)	
Overspeed limit, rpm	2250	

Fuel flow	
Maximum fuel flow, L/hr (US gph)	49.5 (13.1)
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	58.42 (2.3)
Maximum return restriction, mm Hg (in Hg)	375.92 (14.8)

Air	Standby rating	Prime rating
Combustion air, m ³ /min (scfm)	3.74 (132)	
Maximum air cleaner restriction with clean filter, kPa (in H ₂ O)	1.25 (5)	
Alternator cooling air, m ³ /min (cfm)	16.84 (595)	

Exhaust

Exhaust flow at set rated load, m ³ /min (cfm)	9.62 (340)	11.20 (325)
Exhaust temperature, °C (°F)	500.5 (933)	480 (901)
Maximum back pressure, kPa (in H ₂ O)	10.22 (41)	10.22 (41)
Actual exhaust back pressure with CPG fitted muffler, kPa (in H ₂ O)	4.56 (18.3)	4.24 (17)

Standard set-mounted radiator cooling

Ambient design, °C (°F)	50 (122)	
Fan load, kW _m (HP)	2.79 (3.8)	
Coolant capacity (with radiator), L (US Gal)	14.8 (3.9)	
Cooling system air flow, m ³ /min (scfm)	93.2 (3290)	
Total heat rejection, MJ/min (Btu/min)	2.15 (2038.75)	
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)	

Weights²

Unit dry weight kgs (lbs)	601 (1325)
Unit wet weight kgs (lbs)	622 (1371)

Notes:

¹ For non-standard remote installations contact your local Cummins Power Generation representative.

² Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available up to 2900m (9500 ft) and ambient temperatures up to 40 °C (104 °F). Above these conditions, derate at 3% per 300m (985 ft) and 6% per 10 °C (18 °F).
Prime	Engine power available up to 2400m (7870 ft) and ambient temperatures up to 40 °C (104 °F). Above these conditions, derate at 5% per 300m (985 ft) and 9% per 10 °C (18 °F).

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Standard Alternators		Single phase table	Three phase table			
Maximum temperature rise above 40 °C ambient		120 °C	120 °C	120 °C	120 °C	120 °C
Feature code		B949-2	B946-2	B986-2	B943-2	B952-2
Alternator data sheet number		ADS-579	ADS-577	ADS-577	ADS-577	ADS-577
Voltage ranges		120/240	120/208	120/240	277/480	347/600
Voltage feature code		R104-2	R098-2	R106-2	R002-2	R114-2
Surge kW		39.72	39.76	39.76	39.76	40.03
Motor starting kVA (at 90% sustained voltage)	Shunt	68	86	86	86	86
	EBS	112	135	135	135	135
Full load current amps at standby rating		145.8	121.6	105.4	52.7	42.1

Special alternators for improved motor starting capability		Single phase table	Three phase table			
Maximum temperature rise above 40 °C ambient		105 °C	105 °C	105 °C	105 °C	105 °C
Feature code		BB96-2	BB93-2	BB94-2	BB95-2	BB92-2
Alternator data sheet number		ADS-580	ADS-579	ADS-579	ADS-579	ADS-579
Voltage ranges		120/240	120/208	120/240	277/480	347/600
Voltage feature code		R104-2	R098-2	R106-2	R002-2	R114-2
Surge kW		38.28	39.76	40.03	40.03	40.03
Motor starting kVA (at 90% sustained voltage)	Shunt	76	95	95	95	95
	PMG	120	NA	NA	NA	NA
	EBS	NA	150	150	150	150
Full load current amps at standby rating		145.8	121.6	105.4	52.7	42.1

Notes:

¹ Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor. Also see Note 3 below.

² The broad range alternators can supply single phase output up to 2/3 set rated 3-phase kW at 1.0 power factor.

³ The extended stack (full single phase output) and 4 lead alternators can supply single phase output up to full set rated 3-phase kW at 1.0 power factor.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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 NAD-5862b-EN (10/14)



Specification Sheet



PowerCommand® 1.1 Control System



Description

The PowerCommand control system is a microprocessor-based generator set monitoring, metering and control system designed to meet the demands of today's engine driven generator sets. The integration of all control functions into a single control system provides enhanced reliability and performance compared to conventional generator set control systems. These control systems have been designed and tested to meet the harsh environment in which gensets are typically applied.

Features

Easy to view: HMI 211RS for residential use. 128 x 64 pixel graphic LED backlight LCD.

Easy to use: Tactile buttons for generator set start/stop. Residential Standby display for convenient use.

Modbus® interface: Eliminates need for MODLON.

Progressive protective functions: Advanced Overcurrent Protection – Generator set monitoring & protection.

Digital voltage regulation: Single phase full wave SCR type regulator compatible with either shunt or PMSG systems.

Digital engine speed governing: Provides isochronous frequency regulation.

12 and 24 VDC battery operation.

Automatic mains failure: Smooth & automatic transfer and re-transfer of load from utility to generator set & vice-versa.

Exerciser clock: Runs generator set exerciser routines for dependability of operation.

Warranty and service: Backed by a comprehensive warranty and worldwide distributor service network.

Certification: Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC Mil Std., CE, UKCA and CSA standards.

PowerCommand Digital Generator Set Control PCC 1302



Description

The PowerCommand generator set control is suitable for use on a wide range of generator sets in non-paralleling applications. The PowerCommand control is compatible with shunt or PMG excitation style. It is suitable for use with reconnectable or non-reconnectable generators, and it can be configured for any frequency, voltage and power connection from 120-600 VAC Line-to-Line.

Power for this control system is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 30 VDC.

Features

- 12 and 24 VDC battery operation.
- Digital voltage regulation.
- Digital engine speed governing (where applicable) - Provides isochronous frequency regulation.
- Full authority engine communications (where applicable) - Provides communication and control with the Engine Control Module (ECM).
- Common harnessing - with higher feature Cummins controls allows for easy field upgrades.
- Generator set monitoring - Monitors status of all critical engine and alternator functions.
- Digital genset metering (AC and DC).
- Genset battery monitoring system - to sense and warn against a weak battery condition.
- Engine starting - Includes relay drivers for starter, fuel shut off (FSO), glow plug/spark ignition power and switch B+ applications.
- Generator set protection - Protects engine and alternator.
- Advanced serviceability - using InPower™, a PC-based software service tool.
- Environmental protection - The control system is designed for reliable operation in harsh environments. The main control board is a fully encapsulated module that is protected from the elements.
- Exerciser function – Routine exercising of generator set.
- Supports dual fuel control.
- Automatic Mains Failure function built in generator set controller. Modbus interface - for interconnecting to customer equipment.

- Configurable inputs and outputs - Four discrete inputs and two dry contact relay outputs.
- Warranty and service - Backed by a comprehensive warranty and worldwide distributor service network.
- Certifications - Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE, UKCA and CSA standards.

Base Control Functions

HMI capability

Operator adjustments - The HMI includes provisions for many set up and adjustment functions.

Generator set hardware data - Access to the control and software part number, generator set rating in kVA and generator set model number is provided from the HMI or InPower™.

Data logs - Includes engine run time, controller on time, number of start attempts.

Fault history - Provides a record of the most recent fault conditions with control hours time stamp. Up to 10 events are stored in the control non-volatile memory.

Alternator data

- Voltage (single or three phase Line-to-Line and Line-to-Neutral)
- Current (single or three phase)
- kVA (three phase and total)
- Frequency
- Engine data
- Starting battery voltage
- Engine speed
- Engine temperature
- Engine oil pressure
- Partial Full Authority Engine (FAE) data (where applicable)
- Service adjustments - The HMI includes provisions for adjustment and calibration of generator set control functions. Adjustments are protected by a password. Functions include:
 - Engine speed governor adjustments
 - Voltage regulation adjustments
 - Cycle cranking
 - Configurable fault set up
 - Configurable output set up
 - Meter calibration
 - Units of measurement

Engine control

SAE-J1939 CAN interface to full authority ECMs (where applicable) - Provides data swapping between genset and engine controller for control, metering and diagnostics.

12 VDC/24 VDC battery operations - PowerCommand will operate either on 12 VDC or 24 VDC batteries.

Isochronous governing (where applicable) - Capable of controlling engine speed within +/-0.25% for any steady state load from no load to full load. Frequency drift will not exceed +/-0.5% for a 33 °C (60 °F) change in ambient temperature over an 8 hour period.

Temperature dependent governing dynamics (with electronic governing) - Modifies the engine governing control parameters as a function of engine temperature. This allows the engine to be more responsive when warm and more stable when operating at lower temperature levels.

Remote start mode - Accepts a ground signal from remote devices to automatically start the generator set and immediately accelerate to rated speed and voltage. The remote start signal will also wake up the control from sleep mode. The control can incorporate a time delay start and stop.

Remote and local Emergency stop - The control accepts a ground signal from a local (genset mounted) or remote (facility mounted) Emergency stop switch to cause the generator set to immediately shut down. The generator set is prevented from running or cranking with the switch engaged. If in sleep mode, activation of either Emergency stop switch will wake up the control.

Sleep mode - The control includes a configurable low current draw state to minimize starting battery current draw when the genset is not operating. The control can also be configured to go into a low current state while in auto for Prime applications or applications without a battery charger.

Engine starting - The control system supports automatic engine starting. Primary and backup start disconnects are achieved by one of three methods: magnetic pickup, battery charging alternator feedback or main alternator output frequency. The control also supports configurable glow plug control when applicable.

Cycle cranking - Configurable for the number of starting cycles (1 to 7) and duration of crank and rest periods. Control includes starter protection algorithms to prevent the operator from specifying a starting sequence that might be damaging.

Time delay start and stop (cooldown) - Configurable for time delay of 0-300 seconds prior to starting after receiving a remote start signal and for time delay of 0-600 seconds prior to shut down after signal to stop in normal operation modes. Default for both time delay periods is 0 seconds.

Alternator control

The control includes an integrated line-to-line sensing voltage regulation system that is compatible with shunt or PMG excitation systems. The voltage regulation system is full wave rectified and has an SCR output for good motor starting capability. Major system features include:

Digital output voltage regulation - Capable of regulating output voltage to within +/-1.0% for any loads between no load and full load. Voltage drift will not exceed +/-1.5% for a 40 °C (104 °F) change in temperature in an eight hour period. On engine starting or sudden load acceptance, voltage is controlled to a maximum of 5% overshoot over nominal level.

The automatic voltage regulator feature can be disabled to allow the use of an external voltage regulator.

Torque-matched V/Hz overload control - The voltage roll-off set point and rate of decay (i.e. the slope of the V/Hz curve) is adjustable in the control.

Protective Functions

On operation of a protective function the control will indicate a fault by illuminating the appropriate status LED on the HMI, as well as display the fault code and fault description on the LCD. The nature of the fault and time of occurrence are logged in the control. The service manual and InPower service tool provide service keys and procedures based on the service codes provided. Protective functions include:

Battle short mode

When enabled and the battle short switch is active, the control will allow some shutdown faults to be bypassed. If a bypassed shutdown fault occurs, the fault code and description will still be annunciated, but the genset will not shutdown. This will be followed by a fail to shutdown fault. Emergency stop shutdowns and others that are critical for proper operation are not bypassed. Please refer to the Control Application Guide or Manual for list of these faults.

Configurable alarm and status inputs

The control accepts up to four alarm or status inputs (configurable contact closed to ground or open) to indicate a configurable (customer-specified) condition. The control is programmable for warning, shutdown or status indication and for labelling the input.

Emergency stop

Annunciated whenever either Emergency stop signal is received from external switch.

General engine protection

Low and high battery voltage warning - Indicates status of battery charging system (failure) by continuously monitoring battery voltage.

Weak battery warning - The control system will test the battery each time the generator set is signaled to start and indicate a warning if the battery indicates impending failure.

Fail to start (overcrank) shutdown - The control system will indicate a fault if the generator set fails to start by the completion of the engine crank sequence.

Fail to crank shutdown - Control has signaled starter to crank engine but engine does not rotate.

Cranking lockout - The control will not allow the starter to attempt to engage or to crank the engine when the engine is rotating.

Hydro mechanical fuel system engine protection

Overspeed shutdown - Default setting is 115% of nominal.

Low lube oil pressure warning/shutdown - Level is pre-set (configurable with InPower) to match the capabilities of the engine used. Control includes time delays to prevent nuisance alarms.

High lube oil temperature warning/shutdown - Level is pre-set (configurable with InPower) to match the capabilities of the engine used. Control includes time delays to prevent nuisance alarms.

High engine temperature warning/shutdown - Level is pre-set (configurable with InPower) to match the capabilities of the engine used. Control includes time delays to prevent nuisance alarms.

Low coolant temperature warning - Indicates that engine temperature may not be high enough for a 10 second start or proper load acceptance.

Sensor failure indication - Logic is provided on the base control to detect analog sensor or interconnecting wiring failures.

Full authority electronic engine protection

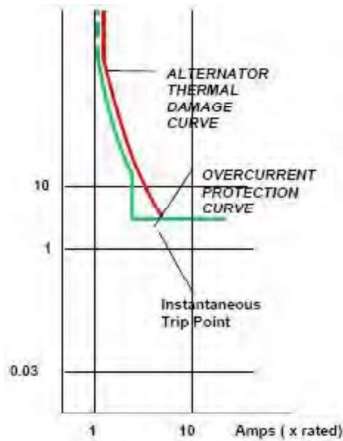
Engine fault detection is handled inside the engine ECM. Fault information is communicated via the SAE-J1939 data link for annunciation in the HMI

Alternator protection

High AC voltage shutdown (59) - Output voltage on any phase exceeds pre-set values. Time to trip is inversely proportional to amount above threshold. Values adjustable from 105-130% of nominal voltage, with time delay adjustable from 0.1-10 seconds. Default value is 110% for 10 seconds.

Low AC voltage shutdown (27) - Voltage on any phase has dropped below a pre-set value. Adjustable over a range of 50-95% of reference voltage, time delay 2-20 seconds. Default value is 85% for 10 seconds.

Overcurrent warning/shutdown - Implementation of the thermal damage curve with instantaneous trip level calculated based on current transformer ratio and application power rating.



Under frequency shutdown (81 u) - Generator set output frequency cannot be maintained. Settings are adjustable from 2-10 Hz below nominal governor set point, for a 5-20 second time delay. Default: 6 Hz, 10 seconds.

Over frequency shutdown/warning (81o) - Generator set is operating at a potentially damaging frequency level. Settings are adjustable from 2-10 Hz above nominal governor set point for a 1-20 second time delay. Default: 6 Hz, 10 seconds, enabled.

Loss of sensing voltage shutdown - Shutdown of generator set will occur on loss of voltage sensing inputs to the control.

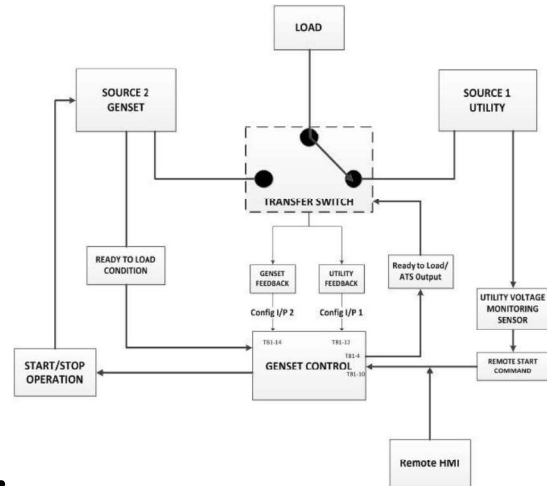
Field overload shutdown - Uses field voltage to shutdown generator set when a field overload condition occurs.

Advanced Functions

Automatic mains failure*

The built in AMF feature provides the automatic transfer and re-transfer of the load from utility to generator set and vice-versa.

- Automatically starts-stops the generator set in the event of utility failure.
- Annunciates faults.



* A utility voltage monitoring sensor (as shown in the AMF diagram above) must be connected in order to use the AMF feature on the 1302 control. Use Schneider Electric Relay RSB1A120U7 and Socket RSZE1S35M.

Exerciser clock

The exerciser dock runs the generator set exerciser routines for dependability of operation.

Field Control Interface

Input signals to the base control include:

- Remote start
- Local and Emergency stop
- Configurable inputs: Control includes (4) input signals from customer discrete devices that are configurable for warning, shutdown or status indication, as well as message displayed.

Output signals from the PowerCommand control include:

- Configurable relay outputs: Control includes (2) relay output contacts rated at 2 A. These outputs can be configured to activate on any control warning or shutdown fault as well as ready to load, not in auto, common alarm, common warning and common shutdown.
- Ready to load (generator set running) signal: Operates when the generator set has reached 90% of rated speed and voltage and latches until generator set is switched to off or idle mode.

PowerCommand Human Machine Interface HMI211



Description

This control system includes an intuitive operator interface panel that allows for complete genset control as well as system metering, fault annunciation, configuration and diagnostics. The interface includes five generator set status LED lamps with both internationally accepted symbols and English text to comply with customer needs. The interface also includes an LED backlit LCD display with tactile feel soft-switches for easy operation and screen navigation. It is configurable for units of measurement and has adjustable screen contrast and brightness.

The *run/off/auto* switch function is integrated into the interface panel.

All data on the control can be viewed by scrolling through screens with the navigation keys. The control displays the current active fault and a time-ordered history of the five previous faults.

Features

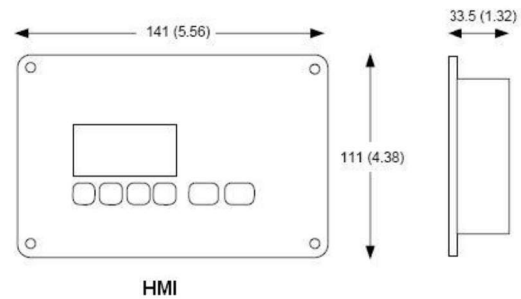
- LED indicating lamps:
 - Remote start
 - Not in auto
 - Shutdown
 - Warning
 - Auto
 - Run
- 128 x 64 pixels graphic LED backlight LCD.
- Four tactile feel membrane switches for LCD defined operation. The functions of these switches are defined dynamically on the LCD.
- Two tactile feel membrane switches dedicated for off and back.
- Allows for complete genset control setup.
- Certifications: Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC, Mil Std., CE, UKCA and CSA standards.
- HMI 211RS provides convenience for residential use.

Communications Connections

PC tool interface - This RS-485 communication port allows the HMI to communicate with a personal computer running InPower.

This RS-485 communication port allows the HMI to communicate with the main control board.

Mechanical Drawing



Dimensions: mm (inches)

Software

InPower (beyond 6.0 version) is a PC-based software service tool that is designed to directly communicate to PowerCommand generator sets and transfer switches, to facilitate service and monitoring of these products.

Environment

The control is designed for proper operation without recalibration in ambient temperatures from -40°C (-40°F) to $+70^{\circ}\text{C}$ (158°F), and for storage from -55°C (-67°F) to $+80^{\circ}\text{C}$ (176°F). Control will operate with humidity up to 95%, non-condensing.

The HMI is designed for proper operation in ambient temperatures from -40°C * (-40°F) to $+70^{\circ}\text{C}$ (158°F), and for storage from -40°C * (-40°F) to $+80^{\circ}\text{C}$ (176°F).

The control board is fully encapsulated to provide superior resistance to dust and moisture. Display panel has a single membrane surface, which is impervious to effects of dust, moisture, oil and exhaust fumes. This panel uses a sealed membrane to provide long reliable service life in harsh environments.

The control system is specifically designed and tested for resistance to RFI/EMI and to resist effects of vibration to provide a long reliable life when mounted on a generator set. The control includes transient voltage surge suppression to provide compliance to referenced standards.

* Heater accessory (pn: A040H853) is available for enhanced operation below -20°C

Certifications

PowerCommand meets or exceeds the requirements of the following codes and standards:

- NFPA 110 for level 1 and 2 systems.
- ISO 8528-4: 1993 compliance, controls and switchgear.
- CE and UKCA marking: The control system is suitable for use on generator sets to be CE and UKCA-marked.
- EN 50081-1,2 residential/light industrial emissions or industrial emissions.
- EN 50082-1,2 residential/light industrial or industrial susceptibility.
- ISO 7637-2, level 2; DC supply surge voltage test.
- Mil Std. 202C, Method 101 and ASTM B117: Salt fog test.
- PowerCommand control systems and generator sets are designed and manufactured in ISO 9001 certified facilities.
- UL 6200 recognized and suitable for use on UL 2200 Listed generator sets.
- CSA C282-M1999 compliance.
- CSA 22.2 No. 14 M91 industrial controls.

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Warranty

All components and subsystems are covered by an express limited one year warranty. Other optional and extended factory warranties and local distributor maintenance agreements are available

Accessories

1301-1302 Upgrade Kit (HM)	0541-1431
PowerCommand 500 (LAN)	A040X126
Remote HMI 211	0541-1394
Remote HMI 211RS	A046K103
I/O Expansion (Aux 101)	0541-1291
HMI Heater Accessory Kit	A040H853

Parts Ordering Information

1302 Control Board	0327-1617-02
1302 control Board – Arrow	A043W505
Aux 104 (Governor Control)	0327-1507
HMI 211 Without Heater	0300-6014
HMI 211 with Heater	A026G237

Additional Resources

Resource	Where to find
1302 Service Manual	QSOL
Accessories Catalog	cumminspower.com
Additional Controls Information	PowerSuite Library



For more information contact your local Cummins distributor or visit power.cummins.com

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Data Sheet

Circuit Breakers

Description

This Data sheet provides circuit breaker manufacturer part numbers and specifications. The Circuit breaker box description is the rating of that breaker box installation on a Cummins Generator. Please refer to the website of the circuit breaker manufacturer for breaker specific ratings and technical information.

Applicable Models

Engine	Models					
Kubota	C10D6	C15D6	C20D6			
QSJ2.4	C20N6	C25N6	C30N6	C30N6H	C36N6	C36N6H
	C40N6	C40N6H	C50N6H	C60N6H		
B3,3	C25D6	C30D6	C35D6	C40D6	C50D6	C60D6
QSJ5.9G	C45N6	C50N6	C60N6	C70N6	C80N6	C100N6
QSJ8.9G	C125N6	C150N6	C175N6B	C200N6B		
QSB5	DSFAC	DSFAD	DSFAE	C50D6C	C60D6C	C80D6C
	C100D6C	C125D6C				
QSB7	DSGAA	DSGAB	DSGAC	DSGAD	DSGAE	
		C125D6D	C150D6D	C175D6D	C200D6D	
QSL9	DSHAD	DQDAA	DQDAB	DQDAC		
QSM11	DQHAB					
QSX15	DFEJ	DFEK				

Instructions

1. Locate the circuit breaker feature code or part number and use the charts below to find the corresponding manufacturer circuit breaker catalog number.
2. Use the first letter of the circuit breaker catalog number to determine the "frame" of the breaker. If the first letter is an "N", use the second letter. Then follow the corresponding website link from the table below to find the breaker catalog number description.

Please refer to the catalog numbering systems page, which is given in the chart, to understand the nomenclature of the catalog number.

Frame	Catalog name*	Catalog number description page(s)
P	0612CT0101 http://www.schneider-electric.us/en/download/document/0612CT0101/	16-17
H, J, and L	0611CT1001 http://www.schneider-electric.us/en/download/document/0611CT1001/	8-9
Q	0734CT0201 http://www.schneider-electric.us/en/download/document/0734CT0201/	4

*The following link may also be used to search specifically by the breaker part number or for the catalog name listed above. <http://products.schneider-electric.us/technical-library/>

3. Search the catalog by using the first 3 letters of the breaker catalog number and the first 5 numbers to find information such as trip curves, accessories, and dimensional details regarding the circuit breaker.

*If the catalog number starts with "N", skip the N and begin your search with the second letter.

*If the first 3 letters are "PJP," the search will not work. You will need to start with just "PJ" and use the description pages to obtain the information you are looking for on the "PJP."

Example

After finding your circuit breaker catalog number to be "PJL36120U33EACUKMOYB," navigate to the P-frame catalog by using the link provided.

Look at pages 16-17 of the pdf catalog to find the nomenclature of the breaker.

Search the P-frame spec sheet using the search "PJL36120."

P	J	L	3	6	120	U33	E	AC	UK	MO	YB
P-Frame	Interrupting Rating	Lug Connection	Poles	Voltage Rating	Ampere Rating	Trip System	Rating Plug	⊕ Auxiliary Switch	24 Vac/dc LVR	24 Vdc Spring charging motor	Pad lockable Push-button cover

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Feature Code	Breaker Box Description	Cummins Part #	Manufacturer	Breaker Catalog Number	Trip Unit	Plug Type
KV10-2	CB, Loc A, 50A, 2P, 600VAC, 80%, UL	A043E181	Schneider Electric	HDL26050	Thermal Magnetic	N/A
KV11-2	CB, Loc A, 60A, 2P, 600VAC, 80%, UL	A043E179	Schneider Electric	HDL26060	Thermal Magnetic	N/A
KV12-2	CB, Loc A, 70A, 2P, 600VAC, 80%, UL	A043E169	Schneider Electric	HDL26070	Thermal Magnetic	N/A
KV13-2	CB, Loc A, 80A, 2P, 600VAC, 80%, UL	A043D328	Schneider Electric	HDL26080	Thermal Magnetic	N/A
KV14-2	CB, Loc A, 90A, 2P, 600VAC, 80%, UL	A043D326	Schneider Electric	HDL26090	Thermal Magnetic	N/A
KV15-2	CB, Loc A, 100A, 2P, 600VAC, 80%, UL	A043D324	Schneider Electric	HDL26100	Thermal Magnetic	N/A
KV16-2	CB, Loc A, 125A, 2P, 600VAC, 80%, UL	A043D274	Schneider Electric	HDL26125	Thermal Magnetic	N/A
KV17-2	CB, Loc A, 150A, 2P, 600VAC, 80%, UL	A043C676	Schneider Electric	HDL26150	Thermal Magnetic	N/A
KV18-2	CB, Loc A, 175A, 2P, 600VAC, 80%, UL	A043E202	Schneider Electric	JDL26175	Thermal Magnetic	N/A
KV19-2	CB, Loc A, 200A, 2P, 600VAC, 80%, UL	A043E199	Schneider Electric	JDL26200	Thermal Magnetic	N/A
KV20-2	CB, Loc A, 225A, 2P, 600VAC, 80%, UL	A043E195	Schneider Electric	JDL26225	Thermal Magnetic	N/A
KV21-2	CB, Loc A, 250A, 2P, 600VAC, 80%, UL	A043E193	Schneider Electric	JDL26250	Thermal Magnetic	N/A
KV30-2	CB, Loc A, 15A, 3P, 600VAC, 80%, UL	A043L506	Schneider Electric	HDL36015	Thermal Magnetic	N/A
KV31-2	CB, Loc A, 20A, 3P, 600VAC, 80%, UL	A043L480	Schneider Electric	HDL36020	Thermal Magnetic	N/A
KV32-2	CB, Loc A, 25A, 3P, 600VAC, 80%, UL	A043L508	Schneider Electric	HDL36025	Thermal Magnetic	N/A
KV33-2	CB, Loc A, 30A, 3P, 600VAC, 80%, UL	A043L475	Schneider Electric	HDL36030	Thermal Magnetic	N/A
KV34-2	CB, Loc A, 40A, 3P, 600VAC, 80%, UL	A043L464	Schneider Electric	HDL36040	Thermal Magnetic	N/A



Dual wall sub-base diesel fuel tanks - 10-200 kW generator sets



Description

Cummins® offers two series of fuel tanks (basic series and regional series) for the 10~125 kW diesel generator sets. The “basic” series of fuel tanks provide economical solutions for areas with no or minimal local/regional code requirements on diesel fuel tanks. The footprint of “basic” tanks matches the generator set’s footprint. The “regional” series of fuel tanks provide flexible and upgradable solutions for areas with extensive local/regional code requirements on diesel fuel tanks. The footprint of the “regional” series of fuel tanks extends beyond the generator set to allow room for installation of optional features at factory or accessories in the field for meeting local/regional code requirements or customer specification on diesel fuel tanks. All fuel tanks and optional features are compatible with factory installed enclosures.

These tanks are constructed of heavy gauge steel and include an internally reinforced baffle structure for supporting the generator set. The fuel tank design features fewer seams and welds for better corrosion resistance performance.

These tanks are pre-treated with a conversion coating and then finished with a textured powder paint. The paint has superior UV and chemical resistance with best-in-class adhesion, flexibility, and durability to resist chipping and substrate corrosion. Both interior compartments are treated with a rust preventative for extended corrosion protection.

These tanks are UL and ULC Listed as secondary containment generator base tanks. Inner and outer containments are leak checked per UL and ULC testing procedures to ensure their integrity.

These fuel tanks are offered in various sizes to satisfy different fuel capacities requirements.

Compatible generator set model

Engine	D1703M	V2203M	4BT3.3-G5	4BTAA3.3-G7	QSB5-G5	QSB7-G5
Generator set model names	C10D6	C20D6	C25D6	C50D6	C50D6C	C125D6D
	C15D6		C30D6	C60D6	C60D6C	C150D6D
			C35D6		C80D6C	C175D6D
			C40D6		C100D6C	C200D6D
					C125D6C	

Regional fuel tanks

Standard features:

UL 142 and ULC-S601 listed - Minimum 110% secondary IBC 2012 and 2015 certified - All optional features are seismically certified with this range of tanks and generator sets. Requires factory-installed 2 ft vent extensions or higher.

UL 142 & ULC-S601 listed - Minimum 125% secondary containment capacity.

NFPA & IFC - Capable of meeting NFPA 30, NFPA 110, and IFC codes with available factory-installed optional features.

Emergency pressure relief vents - Ensure adequate ventilation of the primary and secondary tank compartments under extreme temperature and emergency conditions.

Normal atmospheric vent - "Mushroom" style vent ensures adequate venting of the primary tank during fill, generator set running, and temperature variations. Raised above fuel fill.

Raised fuel fill - Includes lockable sealed fuel cap.

Lifting eyes - Allow lifting of fuel tank with generator set installed.

Optional features:

Secondary containment basin switch (rupture switch) - Activates a warning in the event of a primary tank leak. Side Mounted.

Low fuel level switch - Activates a warning when 40% of the fuel is left in the tank.

Fuel level gauge - Provides direct reading of fuel level. Top mounted.

Electric fuel level sender with gauge - Allows remote electrical monitoring of fuel tank level. Flying leads for customer connection.

Tank to foundation clearance - 2-inch bolt-thru risers allow visual inspection under tank including rodent barrier.

Spill containment box for fuel fill - 5 gallon capacity with integral drain (to tank). Lockable lid.

Overfill prevention valve - Shuts off fuel flow during filling at approximately 95% full*. Includes fill down tube, as needed, to terminate within 6" of the bottom of the fuel tank. Uses a 2 inch type "F" cam lock adapter for filling.

High fuel switch - Activates at 90% of full fuel level. Flying leads for customer connection.

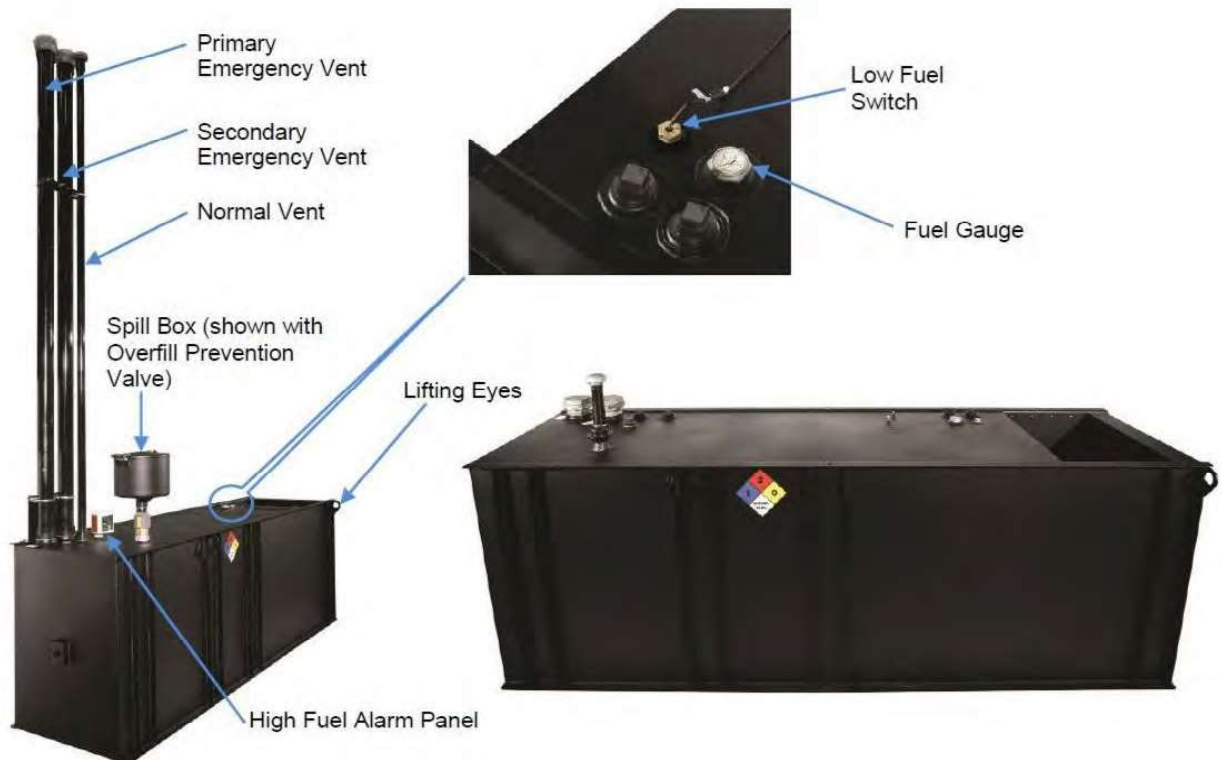
High fuel alarm panel - Provides audible & visual alarm when fuel level reaches 90% of full fuel level.

Fill drop tube - Terminates fuel fill location within 6" of the bottom of the fuel tank.

Vent extensions - Terminate normal and emergency vents (both primary and secondary) a minimum of 12 ft above the bottom of tank.

Seismic vent extensions - 2 ft normal and emergency (both primary & secondary) extensions to meet IBC/OSHPD seismic requirements.

* The OFPV inherently shuts off fuel at approximately 2" below the top of the fuel tank. Some tanks will shut off below this 95% fill level.



*Picture is for reference only. See outline drawing for tank specific information by model.

Regional tanks

Generator set Standby power output	Generator set model	Engine model	Fuel consumption (100% load, Standby)	Tank feature code	Minimum run time feature	Tank dimensions (L x W x H)	Nominal dry weight*	Tank usable volume	Actual run time w/o OFPV	Actual run time w/OFPV
kW			gal/hr		hr	inch	lbs	gal	hr	hr
10	C10 D6	D1703M	1.12	C301-2	24	87.6 x 34 x 15	510	74	66	56
				C303-2	48	87.6 x 34 x 15	510	74	66	56
				C305-2	72	87.6 x 34 x 23	723	132	118	107
				C307-2	96	87.6 x 34 x 23	723	132	118	107
15	C15 D6	D1703M	1.38	C301-2	24	87.6 x 34 x 15	510	74	53	45
				C303-2	48	87.6 x 34 x 15	510	74	53	45
				C305-2	72	87.6 x 34 x 23	723	132	95	86
				C307-2	96	87.6 x 34 x 32	962	195	141	132
20	C20 D6	V2203M	1.81	C301-2	24	87.6 x 34 x 15	510	74	41	35
				C303-2	48	87.6 x 34 x 23	723	132	73	66
				C305-2	72	87.6 x 34 x 32	962	195	108	101
				C307-2	96	87.6 x 34 x 32	962	195	108	101
25	C25 D6	4BT3.3-G5	2.42	C301-2	24	121 x 34 x 10.5	514	74	31	25
				C303-2	48	121 x 34 x 16.2	686	132	54	47
				C305-2	72	121 x 34 x 22.1	879	195	80	73
				C307-2	96	121 x 34 x 29.5	1120	263	109	101
30	C30 D6	4BT3.3-G5	2.81	C301-2	24	121 x 34 x 10.5	514	74	26	21
				C303-2	48	121 x 34 x 22.1	879	195	69	63
				C305-2	72	121 x 34 x 29.5	1120	263	94	87
				C307-2	96	121 x 34 x 42.0	1461	389	138	132
35	C35 D6	4BT3.3-G5	3.16	C301-2	24	121 x 34 x 16.2	686	132	42	36
				C303-2	48	121 x 34 x 22.1	879	195	62	56
				C305-2	72	121 x 34 x 29.5	1120	263	83	77
				C307-2	96	121 x 34 x 42.0	1461	389	123	117
40	C40 D6	4BT3.3-G5	3.66	C301-2	24	121 x 34 x 16.2	686	132	36	31
				C303-2	48	121 x 34 x 22.1	879	195	53	48
				C305-2	72	121 x 34 x 42.0	1461	389	106	101
				C307-2	96	121 x 34 x 42.0	1461	389	106	101
50	C50 D6	4BTAA3.3-G7	4.25	C301-2	24	121 x 34 x 16.2	686	132	31	27
				C303-2	48	121 x 34 x 29.5	1120	263	62	58
				C305-2	72	121 x 34 x 42.0	1461	389	92	87
60	C60 D6	4BTAA3.3-G7	5.04	C301-2	24	121 x 34 x 16.2	686	132	26	23
				C303-2	48	121 x 34 x 29.5	1120	263	52	49
				C305-2	72	121 x 34 x 42.0	1461	389	77	73
50	C50D6C	QSB5-G5	5.30	C301-2	24	154 x 40 x 22	1388	250	47	45
				C303-2	48	154 x 40 x 32	1657	425	80	76
				C305-2	72	154 x 40 x 32	1657	425	80	76
				C307-2	96	154 x 40 x 46	2096	625	118	112
60	C60D6C	QSB5-G5	6.10	C301-2	24	154 x 40 x 22	1388	250	41	39
				C303-2	48	154 x 40 x 32	1657	425	70	66
				C305-2	72	154 x 40 x 46	2096	625	102	97
				C307-2	96	154 x 40 x 46	2096	625	102	97
80	C80D6C	QSB5-G5	7.30	C301-2	24	154 x 40 x 22	1388	250	34	33
				C303-2	48	154 x 40 x 32	1657	425	58	55
				C305-2	72	154 x 40 x 46	2096	625	85	81
100	C100D6C	QSB5-G5	8.90	C301-2	24	154 x 40 x 22	1388	250	28	27
				C303-2	48	154 x 40 x 32	1657	425	48	45
				C305-2	72	154 x 40 x 46	2096	625	70	66
125	C125D6C	QSB5-G6	10.30	C301-2	24	154 x 40 x 22	1388	250	24	23
				C303-2	48	154 x 40 x 46	2096	625	60	58

* All weights are approximate.

Regional tanks

Generator set Standby power output kW	Generator set model	Engine model	Fuel consumption (100% load, Standby) gal/hr	Tank feature code	Minimum run time feature hr	Tank dimensions (L x W x H) inch	Nominal dry weight* lbs	Tank usable volume gal	Actual run time w/o OFFV hr	Actual run time w/OFPV hr
125	C125D6D	QSB7-G5	10.1	C301-2	24	180x40x21	1477	351	34	30
				C303-2	48	180x40x42	2302	737	72	69
				C305-2	72	180x40x42	2302	737	72	69
				C307-2	96	180x65.5x35.3	3552	1055	104	98
150	C150D6D		11.7	C301-2	24	180x40x21	1477	351	30	26
				C303-2	48	180x40x42	2302	737	63	59
				C305-2	72	180x65.5x35.3	3552	1055	90	84
175	C175D6D		13.3	C301-2	24	180x40x21	1477	351	26	23
				C303-2	48	180x40x42	2302	737	55	52
				C305-2	72	180x65.5x35.3	3552	1055	79	74
200	C200D6D		14.9	C301-2	24	180x40x21	1477	351	21	21
				C303-2	48	180x40x42	2302	737	49	47
		C305-2		72	180x65.5x35.3	3552	1055	72	66	

Certifications/standards/codes



UL 142 Listed - Cummins dual wall sub-base tanks are UL Listed and constructed in accordance with Underwriters Laboratories Standard UL 142 "steel aboveground tanks for flammable and combustible liquids," as a "secondary containment generator base tank"



NFPA - Cummins tanks are built in accordance with all applicable NFPA codes:

- NFPA 30 - Flammable and Combustible Liquids code
- NFPA 37 - Standard for Installation and use of Stationary Combustible Engine and Gas Turbines
- NFPA 110 - Standard for Emergency and Standby Power Systems



ISO9001 - This product was designed and manufactured in facilities certified to ISO9001.



ULC - Cummins tanks are built in accordance with all applicable ULC codes

For more information contact your local Cummins distributor or visit power.cummins.com

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Sound pressure level @ 7 meters, dB(A)

See notes 1-6 listed below

Configuration		Position (note 1)								8 position average
		1	2	3	4	5	6	7	8	
Standard – unboxed	Infinite exhaust	79.3	80.6	78.3	81.1	78.9	80.4	79.9	79.0	79.8
F217-2 – sound attenuated level 2	Mounted	67.1	69.5	67.0	68.7	67.9	68.6	66.2	68.0	68.0
F231-2 – sound attenuated level 1	Mounted	74.0	70.5	66.6	67.6	68.3	69.7	66.5	71.9	70.2

Sound power level, dB(A)

See notes 2-4, 7, 8 listed below

Configuration		Octave band center frequency (Hz)									Overall sound power level
		31.5	63	125	250	500	1000	2000	4000	8000	
Standard – unboxed	Infinite exhaust	47.4	68.6	75.2	95.8	97.4	99.2	100.5	96.8	90.4	105.5
F217-2 – sound attenuated level 2	Mounted	50.7	81.4	78.6	91.0	88.9	87.5	86.1	84.3	79.3	95.6
F231-2 – sound attenuated level 1	Mounted	50.2	81.0	77.5	92.8	89.7	88.2	87.5	85.4	80.1	96.7

Exhaust sound power level, dB(A)

See notes 2, 9 listed below

Open exhaust (no muffler) @ rated load	Octave band center frequency (Hz)									Overall sound power level
	31.5	63	125	250	500	1000	2000	4000	8000	
	47.2	83.4	87.3	94.9	103.2	107.4	111.5	109.1	105.0	115.3

Note:

1. Position 1 faces the generator front per ISO 8528-10. The positions proceed around the generator set in a counter-clockwise direction in 45° increments. All position are at 7 m (23 ft) from surface of the generator set and 1.2 m (48 in.) from floor level.
2. Sound levels are subject to instrumentation, measurement, installation and manufacturing variability.
3. Data based on full rated load.
4. Sound data with generator sets with infinite exhaust do not include exhaust noise.
5. Sound pressure levels are measured per ANSI S1.13 and ANSI S12.18, as applicable.
6. Reference sound pressure is 20 µPa.
7. Sound power levels per ISO 3744 and ISO 8528-10, as applicable.
8. Reference power = 1 pw (10⁻¹²W).
9. Exhaust sound power levels are per ISO 6798, as applicable.



Cooling system data

C35 D6

High ambient air temperature radiator cooling system

	Fuel type	Duty	Rating (Kw)	Max cooling @ air flow static restriction, unhoued (inches water/mm water)					Housed in free air, no air discharge restriction	
				0.0/0.0	0.25/6.4	0.5/12.7	0.75/19.1	1.0/25.4	F231	F217
				Maximum allowable ambient temperature, degree C						
60 Hz	Diesel	Standby	35	55	55	55	N/A	N/A	53	50

Notes:

1. Data shown are anticipated cooling performance for typical generator set.
2. Cooling data is based on 1000 ft (305 m) site test location.
3. Generator set power output may need to be reduced at high ambient conditions. Refer generator set data sheet for derate schedules.
4. Cooling performance may be reduced due to several factors including but not limited to: Incorrect installation, improper operation, fouling of the cooling system, and other site installation variables.



VMC GROUP
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CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS



Certification No.

VMA-51071-01C (Revision 11)

Expiration Date: 6/30/2027

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED¹ FOR SEISMIC APPLICATIONS in accordance with the following building code² releases.

IBC 2018, 2015, 2012

The following model designations, options, and accessories are included in this certification. Reference report number VMA-51071-01 as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

**Cummins Power Generation, Inc.; Diesel Gensets
Commercial Series; 10kW-200kW**

The above referenced equipment is APPROVED for seismic application when properly installed³, used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance⁴. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as $I_p=1.5$. The equipment is qualified by successful seismic shake table testing at the nationally recognized Dynamic Certification Laboratories under the witness of the ISO Accredited Product Certification Agency, the VMC Group.

Certified Seismic Design Levels			
Certified IBC	Importance $I_p \leq 1.5$ Soil Classes A-E Risk Categories I-IV Design Categories A-F	z/h ≤ 1.0	z/h = 0.0
		$S_{DS} \leq 2.000 \text{ g}$	$S_{DS} \leq 2.500 \text{ g}$

Certified Seismic Installation Methods
Rigid Mounting From Unit Base To Rigid Structure

HEADQUARTERS
113 Main Street
Bloomington, NJ 07403
Phone: 973.838.1780
Toll Free: 800.569.8423
Fax: 973.492.8430

CALIFORNIA
180 Promenade Circle
Suite 300
Sacramento, CA 95834
Phone: 916.634.7771

TEXAS
11930 Brittmoore Park Drive
Houston, TX 77041
Phone: 713.466.0003
Fax: 713.466.1355

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CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certified Product Table:

Model	Power Rating	RPM	Max Length (in)	Max Width (in)	Max Height (in)	Max Weight with Enclosure (lbs.)	S _{DS} (g) @ z/h = 0.0	S _{DS} (g) @ z/h = 1.0
C10 D6	10 kW	1800	98			4300	2	2
C15 D6	15 kW					4400		
C20 D6	20 kW		34	88	4470			
C25 D6	25 kW				5890			
C30 D6	30 kW		131		5930			
C35 D6	35 kW				5960			
C40 D6	40 kW		6140					
C50 D6	50 kW		6260					
C60 D6	60 kW							
C50 D6C	50 kW		170	40	104	8943		
C60 D6C	60 kW	8990						
C80 D6C	80 kW	9040						
C100 D6C	100 kW	9216						
C125 D6C	125 kW	9300						
C125 D6D		180	71	111	14300			
C150 D6D	150 kW							
C175 D6D	175 kW							
C200 D6D	200 kW							

Group	Type	S _{DS} (z/h=0)	S _{DS} (z/h=1)	A _{Flex-H}	A _{Rig-H}	A _{Flex-V}	A _{Rig-V}	F _p /W _p
Seismic	AC156	2.00	2.00	3.20	2.40	1.33	0.53	1.44
		2.50				1.67	0.67	

This certification includes the open generator set and the enclosed generator set when installed with or without the sub-base tank. This certification also includes the sub-base tank as a stand-alone accessory. The generator set and included options shall be a catalogue design and factory supplied. The generator set and applicable options shall be installed and attached to the building structure per the manufacturer supplied seismic installation instructions. This certification excludes all non-factory supplied accessories, including but not limited to mufflers, isolation/restraint devices, remote control panels, remote radiators, pumps and other electrical/mechanical components.



VMA-51071-01C (Revision 11)
Issue Date: Friday, July 3, 2015
Revision Date: Thursday, May 16, 2024
Expiration Date: Wednesday, June 30, 2027



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CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Notes & Comments:

1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The tested units were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/Ice loads have been neglected and thus limit the unit to be installed both indoors (covered by an independent protective structure) and out of doors (exposed to accumulating snow/ice) for ground snow loads no greater than 30 psf for all applications.
2. The following building codes are addressed under this certification:
 - IBC 2018 referencing ASCE7-16 and ICC-ES AC-156
 - IBC 2015 referencing ASCE7-10 and ICC-ES AC-156
 - IBC 2012 referencing ASCE7-10 and ICC-ES AC-156
 - Italian Eurocode 8 Annex Published 2012 (Building Code Annex)
3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for ensuring the proper installation of all anchors and mounting hardware.
4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, the VMC Group, and meets the seismic design levels claimed by this certificate.
5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification makes no statements of compliance in regards to NEMA, IP, UL, CSA, or other relevant standards after a seismic event. For compliance to other relevant standards, please contact the manufacturer.
6. This certificate applies to units manufactured at:
 - 1400 73rd Ave NE, OF 143, Minneapolis, MN 55432
7. This certification follows the VMC Group's ISO-17065 Scheme.

John P. Giuliano, PE
President, VMC Group



VMA-51071-01C (Revision 11)
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Exhaust emission data sheet

C35 D6

60 Hz Diesel generator set

EPA emission

Engine information:

Model:	Cummins 4BT3.3-G5	Bore:	3.74 in. (95 mm)
Type:	4 cycle, in-line, 4 cylinder diesel	Stroke:	4.53 in. (115 mm)
Aspiration:	Turbocharged	Displacement:	199 cu. in. (3.3 liters)
Compression ratio:	20.8:1		
Emission control device:			

	<u>1/4</u>	<u>1/2</u>	<u>3/4</u>	<u>Full</u>	<u>Full</u>
Performance data	Standby	Standby	Standby	Standby	Prime
BHP @ 1800 RPM (60 Hz)	14.7	29.3	44	58.6	65
Fuel consumption (gal/Hr)	1.77	2	2.53	3.44	3.94
Exhaust gas flow (CFM)	154.7	207.5	271.1	331	370.7
Exhaust gas temperature (°F)	404	592.3	775.5	917	899
Exhaust emission data					
HC (Total unburned hydrocarbons)	3.25	1.35	0.16	0.05	0.1
NOx (Oxides of nitrogen as NO2)	3.58	2.78	2.71	2.81	2.7
CO (Carbon monoxide)	2.81	1.42	0.84	0.54	0.7
PM (Particular Matter)	0.26	0.14	0.1	0.09	0.09
SO2 (Sulfur dioxide)	0.23	0.18	0.17	0.17	0.17
Smoke (Bosch)	0.18	0.34	0.48	0.73	0.53

All values are Grams per HP - Hour

Test conditions

Data is representative of steady-state engine speed (± 25 RPM) at designated genset loads. Pressures, temperatures, and emission rates were stabilized.

Fuel specification:	ASTM D975 No. 2-D diesel fuel with 0.03-0.05% sulfur content (by weight), and 40-48 cetane number.
Fuel temperature:	99 ± 9 °F (at fuel pump inlet)
Intake air temperature:	77 ± 9 °F
Barometric pressure:	29.6 ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
Reference standard:	ISO 8178

The NOx, HC, CO and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.



Prototype Test Support (PTS) 60 Hz test summary



<u>Generator set models</u>		<u>Representative prototype</u>	
C25 D6	C40 D6	Model:	C40 D6
C30 D6	C35 D6	Alternator:	CA125-G14
		Engine:	4BT3.3-G5

The following summarizes prototype testing conducted on the designated representative prototype of the specified models. This testing is conducted to verify the complete generator set electrical and mechanical design integrity. Prototype testing is conducted only on generator sets not sold as new equipment.

Maximum surge power: 40.34 kW
The generator set was evaluated to determine the stated maximum surge power.

Maximum motor starting: 80 kVA
The generator set was tested to simulate motor starting by applying the specified kVA load at low lagging power factor (0.4 or lower). With this load applied, the generator set recovered to a minimum of 90% rated voltage.

Alternator temperature rise:
The highest rated temperature rise (120 °C) test results are reported as follows to verify that worst case temperature rises do not exceed allowable NEMA MG1 limits for class H insulation. Tests were conducted per IEEE 115, rise by resistance and embedded detector, with the rated voltages. Only the highest temperatures are reported.

<u>Location</u>	<u>Maximum rise (°C)</u>
Alternator stator	63.5
Alternator rotor	106
Exciter stator	16.6
Exciter rotor	52.5

Torsional analysis and testing:
The generator set was tested to verify that the design is not subjected to harmful torsional stresses. A spectrum analysis of the transducer output was conducted over the speed range of 1650 to 1950 RPM.

Cooling system: 50 °C ambient
0.5 in. H₂O restriction
The cooling system was tested to determine ambient temperature and static restriction capabilities. The test was performed at full rated load in elevated ambient temperature under static restriction conditions.

Durability:
The C40 D6 generator set was subjected to a minimum 1000 hour endurance test operating at variable load up to the Standby rating based upon MIL-STD-705 to verify structural soundness and durability of the design.

Electrical and mechanical strength:
The generator set was tested to several single phase and three phase faults to verify that the generator can safely withstand the forces associated with short circuit conditions. The generator set was capable of producing full rated output at the conclusion of the testing.

Steady state performance:
The generator set was tested to verify steady state operating performance was within the specified maximum limits.

Voltage regulation:	± 1%
Random voltage variation:	± 1%
Frequency regulation:	± 0.5%
Random frequency variation:	± 0.5%

Transient performance:
The generator set was tested to verify single step loading capability as required by NFPA 110 and verify acceptable voltage and frequency response on load addition or rejection. The following results were recorded at 1.0 power factor:

Full load acceptance:

Voltage dip:	15.05%
Recovery time:	4.45 seconds
Frequency dip:	5.65%
Recovery time:	2.05 seconds

Full load rejection:

Voltage rise:	10.55%
Recovery time:	2.1 seconds
Frequency rise:	5.65%
Recovery time:	1.8 seconds

Harmonic analysis:
(per MIL-STD-705B, method 601.4)

<u>Harmonic</u>	<u>Line to Line</u>		<u>Line to Neutral</u>	
	<u>No load</u>	<u>Full load</u>	<u>No load</u>	<u>Full load</u>
3	0.4	3.32	1.2	3.4
5	1.1	1.09	1.5	1.1
7	1.0	0.49	1.7	0.6
9	0.0	0.7	0.3	0.8
11	0.48	0.41	0.7	0.4
13	0.38	0.24	0.5	0.1
15	0.0	0.0	0.1	0.1



Alternator data sheet

Frame size: CA115-V14

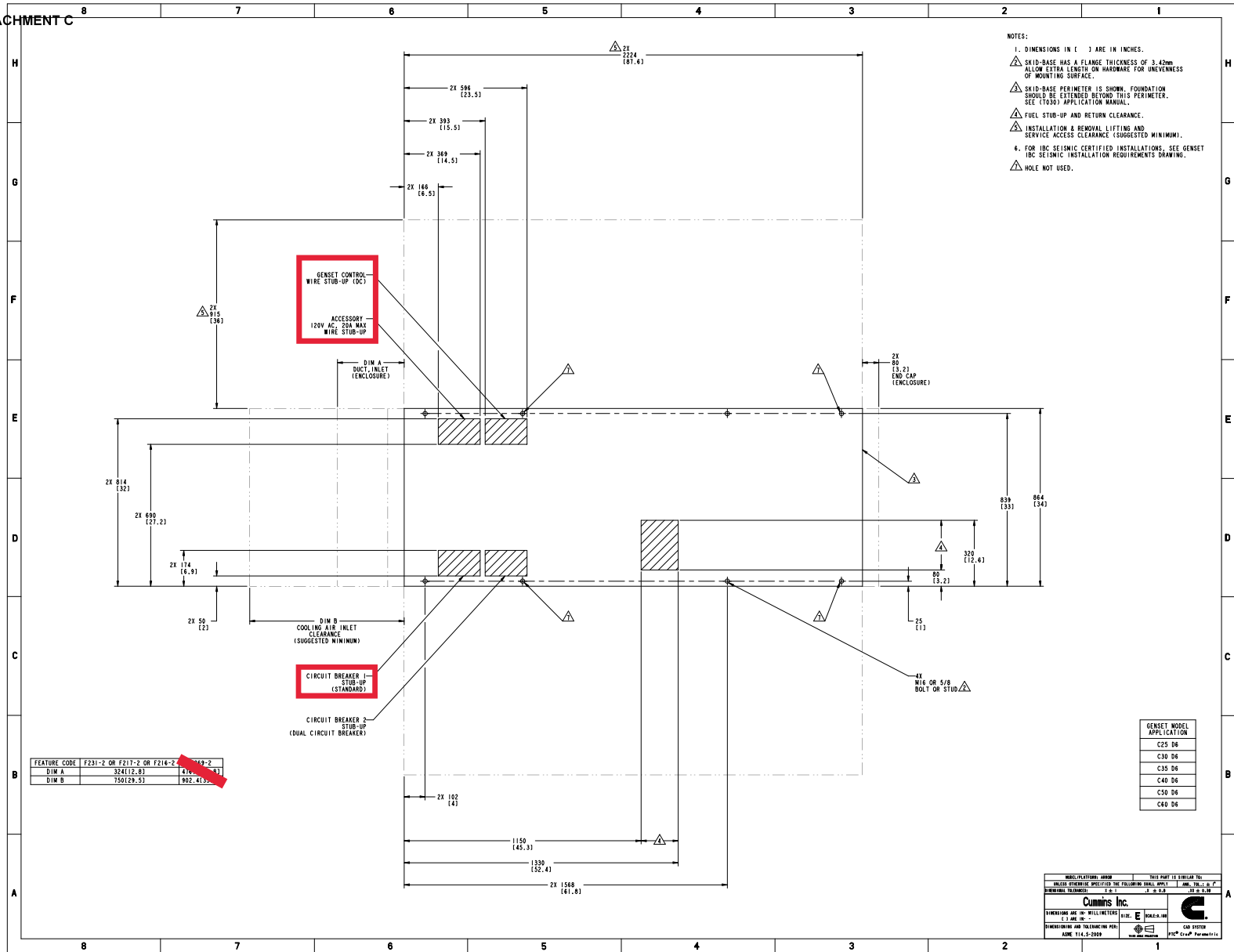
Characteristics						
No of bearings:		1				
Weights:	Stator assembly:	289.5 lb				131.3 kg
	Rotor assembly:	147.8 lb				67 kg
	Complete assembly:	437 lb				198 kg
Maximum speed:		2250 rpm				
Insulation system:		Class H throughout				
		60 Hz (winding no)				
		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Excitation current:	Full load	2.12	1.89	2.10	1.47	2.12
Excitation current:	No load	0.47	0.45	0.57	0.69	0.47
3 Ø Ratings (0.8 power factor)		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
(Based on specific temperature rise at 40 °C ambient temperature)						
120 °C Rise peak Standby ratings	kW	40	40	40		40
	kVA	50	50	50		50
105 °C Rise peak Standby ratings	kW	36.6	36.60	36.60		36.6
	kVA	45.75	45.75	45.75		45.75
1 Ø Ratings (1.0 power factor)		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
(Based on specific temperature rise at 40 °C ambient temperature)						
120 °C Rise peak Standby ratings	kW				36	
	kVA				36	
105 °C Rise peak Standby ratings	kW				33	
	kVA				33	
Reactances (per unit ± 30%)		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
(Based on full load at 105 °C rise rating)						
Synchronous		2.02	2.06	2.06	1.22	2.02
Transient		0.12	0.12	0.12	0.10	0.12
Subtransient		0.08	0.08	0.08	0.07	0.08
Negative sequence		0.16	0.16	0.16	0.16	0.16
Zero sequence		0.08	0.10	0.09	0.08	0.08
Motor starting		<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Maximum kVA (90% sustained voltage)						
(At 20°C nominal generator & ambient temperature)						
	(EBS)	150	150	150	112	150
	(Shunt)	95	95	95	68	95



Alternator data sheet

Frame size: CA115-V14

Time constants	(sec)	<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Transient		0.026	0.026	0.026	0.026	0.026
Subtransient		0.006	0.006	0.006	0.006	0.006
Open circuit		0.62	0.62	0.62	0.52	0.62
DC		0.006	0.005	0.005	0.006	0.006
Windings	(@ 20° C)	<u>208</u> (311)	<u>600</u> (17)	<u>480</u> (41)	<u>240</u> (06)	<u>240</u> (311)
Stator resistance	(Ohms per phase)	0.238	0.350	0.518	0.048	0.238
Rotor resistance	(Ohms)	0.944	0.944	0.944	0.944	0.944
Number of leads		12	12	12	4	12

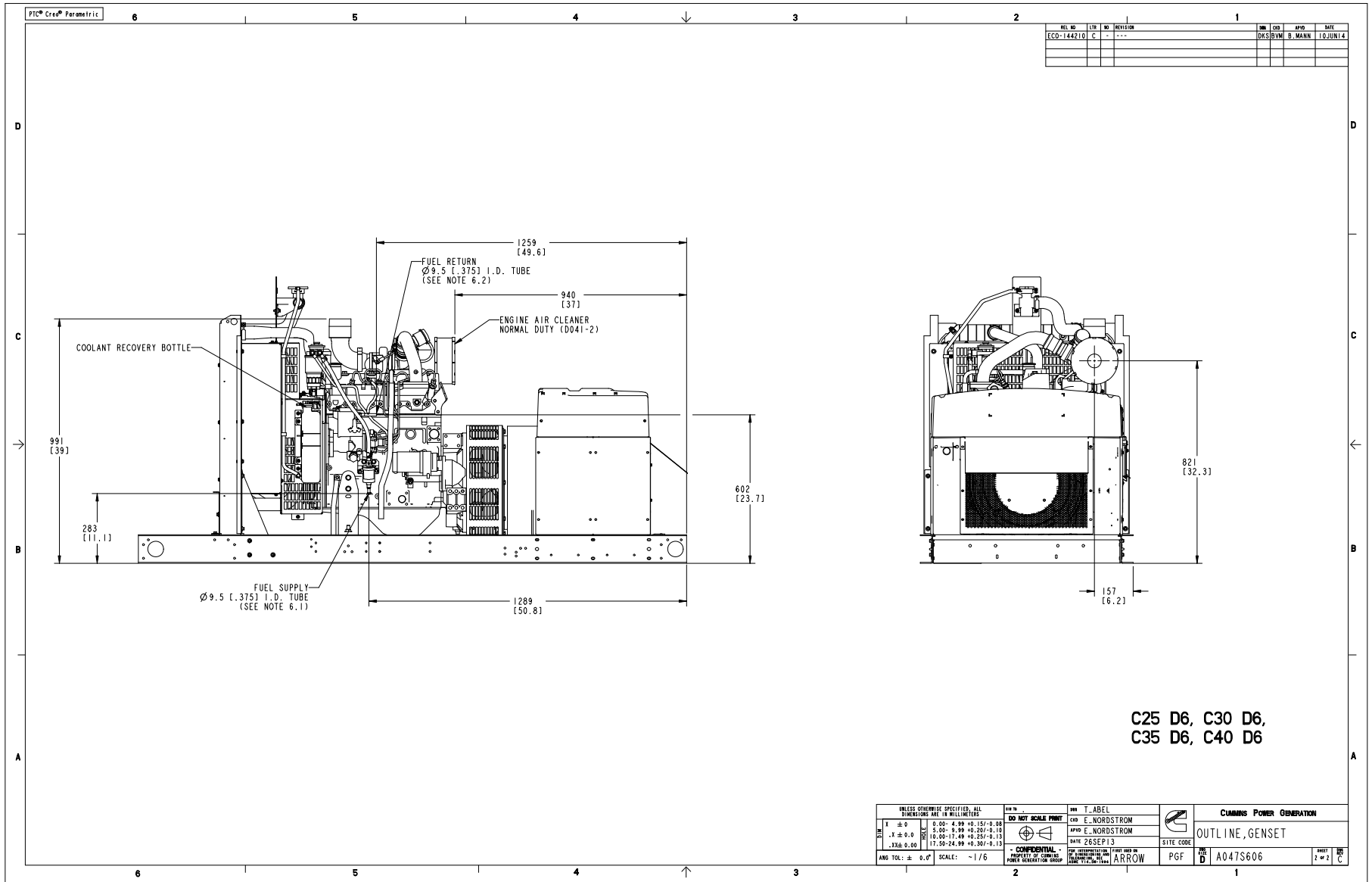


Cummins Data Classification:
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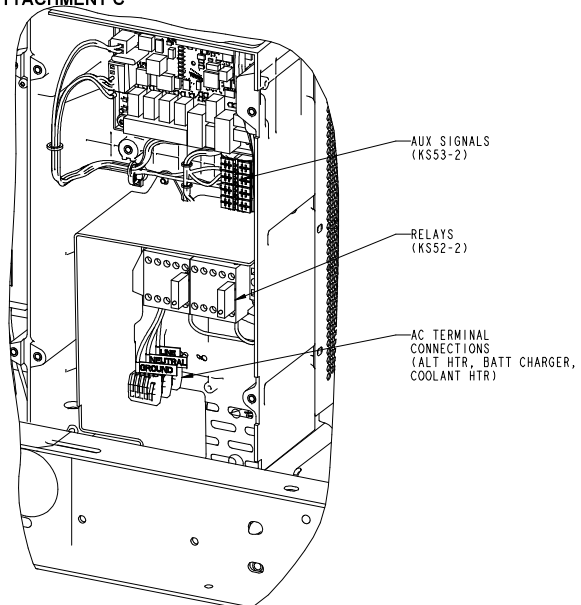
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 Part Name: **OUTLINE,GENSET**
 Drawing Category: **Detail** State: **Released** Sheet 1 of 2

PW1791-26 ATTACHMENT C

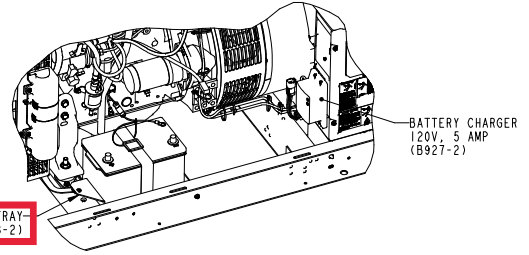


PW1791-26 ATTACHMENT C

REV NO	REV	NO	REVISION	DRW	CHK	APPD	DATE
ECCO-170663	E	1	UPDATE VIEWS TO SHOW DUCT ADAPTER	NAS	JBP	J. BUTLER	10JUL17
		2	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		3	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		4	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		5	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		6	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		7	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		8	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17
		9	SEE SHEET 2	NAS	JBP	J. BUTLER	10JUL17

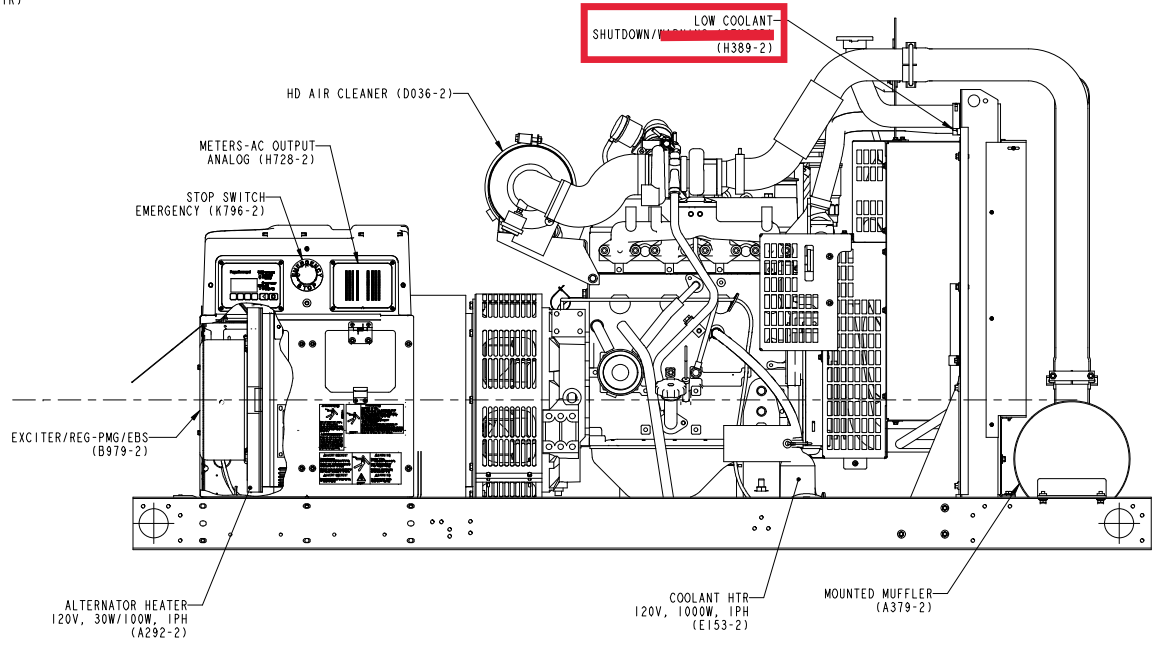
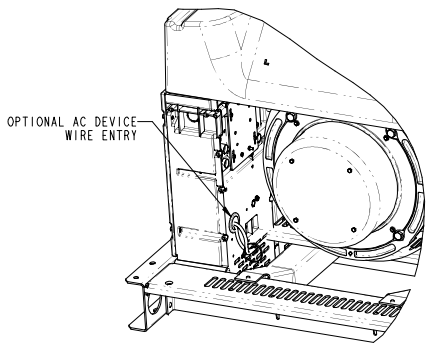


SCALE 1/2



SCALE 3/20

NOTE:
1. REFER TO SUBBASE FUEL TANK OPTIONS OUTLINE DRAWING FOR FUEL TANK SPECIFIC OPTIONS.



C25 D6, C30 D6,
C35 D6, C40 D6,
C50 D6, C60 D6

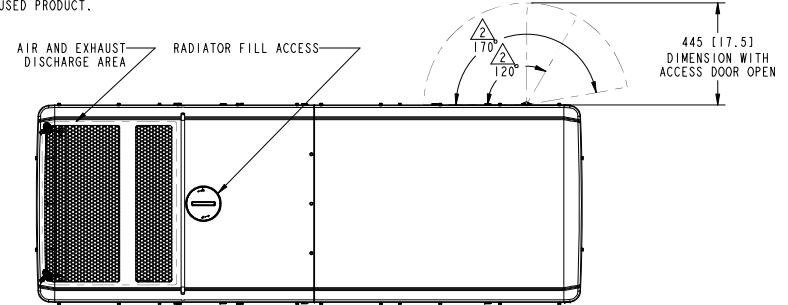
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		DRW NO.	DRW	CUMMINS POWER GENERATION	
SIZE	TOLERANCE	DO NOT SCALE PRINT	TABEL	OUTLINE, GENSET	
.X ± 0.8	0.00-4.99 +0.15/-0.08		E_NORDSTROM	PGF	
.XX ± 0.38	5.00-9.99 +0.20/-0.10		E_NORDSTROM	A047U816	
.XXX ± 0.38	10.00-17.49 +0.25/-0.13		DATE: 26SEP13	1 of 2	
	17.50-24.99 +0.30/-0.13		DATE: 26SEP13	E	
ANG TOL: ± 1.0°	SCALE: 1/5	CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	ARROW		

PW1791-26 ATTACHMENT C

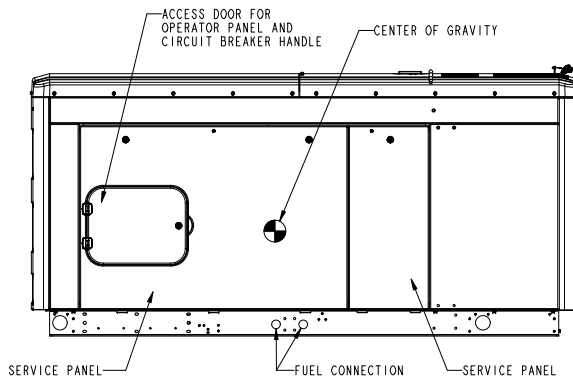
REV NO	REV	NO	REVISION	DRW	CDR	APPD	DATE
ECO-178681	E	1	ZONE A4; F231-2 AND F216-2... CONFIGURATIONS WAS F231-2...	--	--	--	--
			CONFIGURATION	PPP	KAM	W	09 JUL 18
		2	UPDATE VIEWS PICTORIALLY	PPP	KAM	W	09 JUL 18

NOTES:

1. DIM [] IN INCHES
2. 120° AND 170° ARE DETENTED OPEN ANGLE FOR HINGE.
3. WHEN THE HOUSING INSTALLED ON AN OPEN GENERATOR SET, THE TOTAL WEIGHT WILL INCREASE BY 98 KG (216 LBS). THIS INCLUDES THE MUFFLER.
4. THE CENTER OF GRAVITY (CG) OF THE GENERATOR SET WHEN EQUIPPED WITH THIS HOUSING SHIFTS APPROXIMATELY 8MM (0.31 INCH) TOWARDS THE AIR DISCHARGE END OF THE HOUSING AND 38MM (1.5 INCH) HIGHER FROM THE GROUND, COMPARED TO THE EQUIVALENT NON-HOUSED PRODUCT WITH THE F179 SKID. SEE HOUSING READY SKID BASE OUTLINE DRAWING FOR CG LOCATION OF NON HOUSED PRODUCT.

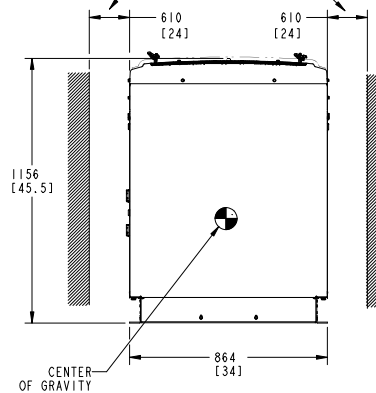


TOP VIEW

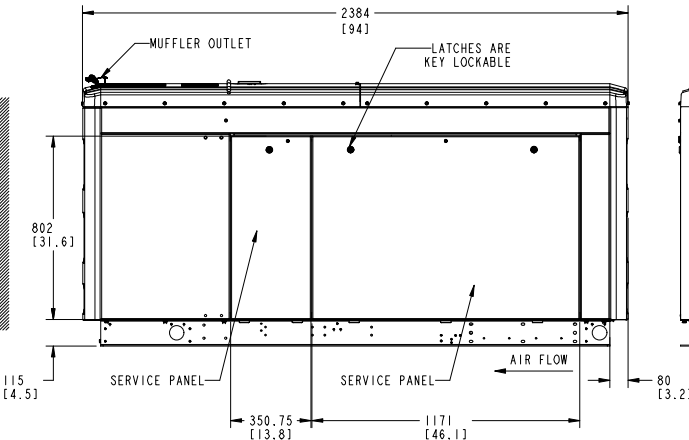


RIGHT SIDE VIEW

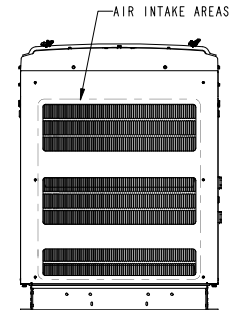
DISTANCE REQUIRED TO LIFT OFF SERVICE PANELS



OUTLET VIEW



LEFT SIDE VIEW



INLET VIEW

F231-2 AND F216-2 ENCLOSURE CONFIGURATIONS

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		DRW: NONE	DRW: S. GAMBIRE		CUMMINS POWER GENERATION
DO NOT SCALE PRINT		DRW: T. RADKE	APPD: J. MATTHEWS		
DEC	X ± 1	0.00-4.99	+0.15/-0.08	DATE: 17 JAN 13	SITE CODE:
	.X ± 0.8	5.00-9.99	+0.20/-0.10	PGF	D
	.XX ± 0.38	10.00-17.49	+0.25/-0.13		
		17.50-24.99	+0.30/-0.13		
ANG TOL: ± 0.5°		SCALE: 1/10	PROPERTY OF CUMMINS POWER GENERATION GROUP		



Marion County

Prepared for:

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Samantha Norman samantha.norman@cummins.com (425) 902-9513

PLEASE COMPLETE THIS SECTION OR PROVIDE SIGNOFF TO PROCEED

Revise with corrections provided

Date: 6/23/2025

Approved and released for production

By (name and company): Brian Nicholas, Marion County Public Works Department

Requested delivery date: December 15, 2025

Requested delivery address: 5155 Silverton Road NE, Salem, OR 97305

Contact person and phone # for deliveries: Michael Pierce, 408.857.2040

Serving Cummins Customers

Cummins power solutions are supported by the largest and best-trained worldwide-certified sales/distributor network in the industry. This network will help you select and install the critical power solution to meet the requirements of your specific application. This same network provides experts with advanced technology to make your life easier while providing a seamless support experience.

IMPORTANT: *The critical power solution information and specifications included in this pdf can be used by the site contractor(s) and/or engineer(s) to assist with planning for and accomplishing the overall power solution installation. Please forward this document to the appropriate personnel, as necessary.*

It is the obligation of the electrical contractor and reviewing engineer to determine that the item quantities and accuracy of this submittal is correct as required for the job. Any inaccuracies or deviations must be addressed with Cummins Inc. before release to manufacturing. Any releases of material to manufacturing by the above parties constitute an acceptance of the accuracy of the submittal. Any changes after release will be viewed as a change order, subject to pricing changes. Please take the time to review this package for accuracy to prevent any after-shipment problems that could cause delay in energization.

Cummins certifies that these drawings, material lists, specification and datasheets have been checked prior to submittal and they:

- accurately depict the proposed equipment*
- provide current information to the date of the submittal and*
- present true and accurate equipment information.*

This Approval Drawing Package is submitted as our interpretation of the project requirements and/or the specifications for this job. Please note that issuance of these submittals shall not be deemed or interpreted as performance nor acceptance of your purchase order terms and conditions.

For questions or comments regarding this submittal, please contact the Cummins Project Manager listed on the title page.

13 June 2025

Bill of Material

Feature Code	Description	Qty
OTECB	OTECB, OTEC Transfer Switch-Electronic Control: 150A/225A/260A	8
OTECB_OTEC150	Otec150, Transfer Switch, PowerCommand, 150 Amp	7
OTECB_M086-7	Interface - Communication Network, MODBUS TCP Module	
OTECB_A046-7	Listing - UL 1008/CSA Certification	
OTECB_A080-7	IBC Seismic Certification	
OTECB_A035-7	Application - Utility to Genset	
OTECB_B001-7	Cabinet - Type 1	
OTECB_A028-7	Poles - 3 (Solid Neutral)	
OTECB_A044-7	Frequency - 60 Hz	
OTECB_A041-7	System - Single Phase, 2 or 3 Wire	
OTECB_R023-7	Voltage - 240 Volts AC	
OTECB_M033-7	Genset Starting Battery - 12V DC	
OTECB_C110-7	PC40 Control	
OTECB_G004-7	Transfer Switch Warranty - 2 Year Comprehensive	

Note: due to elimination of the Mad Creek site, the quantity of ATS released for production is reduced by one (1), from the original Purchase Order quantity of eight (8) to the new quantity of seven (7) ATS.

POWERCOMMAND® OTEC TRANSFER SWITCH

**POWERCOMMAND® 40-11 CONTROL | OPEN TRANSITION | 40 A-1200 A
AUTOMATIC TRANSFER SWITCH**

DESCRIPTION

The OTEC series transfer switch provides the basic features typically required for primary source and generator set monitoring, generator set starting and load transfer functions for emergency standby power applications. They are suitable for use in emergency, legally required, and optional standby circuits in commercial and light industrial applications. The OTEC transfer switch features the new PowerCommand® 40-11 control with a comprehensive feature list to suit a wide variety of ATS applications.

FEATURES

PowerCommand® 40-11 control – A fully featured microprocessor-based control with LCD digital display and tactile-feel soft-switches for easy operation and screen navigation. Control highlights include front panel PC software configuration, three phase sensing on both sources, sync check, phase rotation and imbalance sensing, and event logging. Additional optional features include load shed from standby source, Modbus RTU and TCP network communication, and configurable output contact modules. Completely network compatible with the new Cummins transfer switch remote annunciator. Please see the S-6560 PowerCommand® 40-11 control specification sheet for the full description, benefits, and features.

Programmed transition – Open transition timing can be adjusted to completely disconnect the load from both sources for a programmed time period, as recommended by NEMA MG-1 for transfer of inductive loads.

Advanced transfer switch mechanism – Unique bi-directional linear actuator provides virtually frictionless constant force, straight-line transfer switch action during automatic operation.

Positive interlocking – Mechanical and electrical interlocking prevent source-to-source connection through the power or control wiring.

Main contacts – Heavy-duty silver alloy contacts used with multi-leaf arc chutes are rated for motor loads or total system load transfer. They require no routine contact maintenance. Continuous load current not to exceed 100% of switch rating and tungsten loads not to exceed 30% of switch rating.

Ease of service and access – Single-plug harness connection and compatible terminal markings simplify servicing. Access space is ample. Door-mounted controls are field-programmable; no special tools are required.

Complete product line – Cummins is a single source supplier with a wide range of equipment, accessories, and services to suit virtually any backup power application.

Warranty and service - Products are backed by a comprehensive warranty and a worldwide network of distributors with factory-trained service technicians.



TRANSFER SWITCH MECHANISM

- Transfer switch mechanism is electrically operated and mechanically held in the Source 1 and Source 2 positions. The transfer switch incorporates electrical and mechanical interlocks to prevent inadvertent interconnection of the sources.
- Independent break-before-make action is used for both 3-pole and 4-pole simultaneously switched neutral. This design allows use of sync check operation when required, or control of the operating speed of the transfer switch for proper transfer of motor and rectifier-based loads (programmed transition feature).
- True 4-pole switching allows for proper ground (earth) fault sensing and consistent, reliable operation for the life of the transfer switch. The neutral poles of the transfer switch have the same ratings as the phase poles and are operated by a common crossbar mechanism, eliminating the possibility of incorrect neutral operation at any point in the operating cycle, or due to failure of a neutral operator.
- Electrical interlocks prevent simultaneous closing signals to normal and emergency contacts and interconnection of normal and emergency sources through the control wiring.
- High pressure silver alloy contacts resist burning and pitting. Separate arcing surfaces further protect the main contacts. Contact wear is reduced by multiple leaf arc chutes that cool and quench the arcs. Barriers



separate the phases to prevent interphase flashover. A transparent protective cover allows visual inspection while inhibiting inadvertent contact with energized components.

- Switch mechanism, including contact assemblies, is UL 1008 certified to verify suitability for applications requiring high endurance switching capability for the life of the transfer switch. Withstand and closing ratings are validated using the same set of contacts, further demonstrating the robust nature of the design.

SPECIFICATIONS

Voltage rating	Up to 600 V AC, 50 or 60 Hz.
Arc interruption	Multiple leaf arc chutes provide dependable arc interruption.
Neutral bar	A full current-rated neutral bar with lugs is standard on enclosed 3-pole transfer switches.
Auxiliary contacts	Two isolated contacts (one for each source) indicating switch position are provided for customer use. Contacts are normally open, and close to indicate connection to the source. Wired to terminal block for easy access. Rated at 10 A Continuous and 250 V AC maximum.
Operating temperature	-22 °F (-30 °C) to 140 °F (60 °C)
Storage temperature	-40 °F (-40 °C) to 140 °F (60 °C)
Humidity	Up to 95 % relative, non-condensing
Altitude	Up to 10,000 ft (3,000 m) without derating
Surge withstand ratings	Voltage surge performance and testing in compliance with the requirements of IEEE C62.41 (Category B3) and IEEE C62.45.
Total transfer time (source-to-source)	Will not exceed 6 cycles at 60 Hz with normal voltage applied to the actuator and without programmed transition enabled.
Manual operation*	Transfer switch mechanisms are equipped with means to manually transfer. All sources must be de-energized before manual operation is attempted.

*See Operator Manual for further details.

TRANSITION MODES

Open delayed transition – In this transition mode the time required for the transfer switch to transfer between sources is adjustable so that the load-generated voltages decay to a safe level before connecting to an energized source. Recommended by NEMA MG-1 to prevent nuisance tripping breakers and load damage. Adjustable 0.5 secs - 10 minutes, and default 0.5 seconds.

Open in-phase translation – Initiates open transition transfer when in-phase monitor senses both sources are in phase (voltage, phase, and frequency). Operates in a break-before-make sequence. Includes ability to enable programmed transition as a backup. The module waits indefinitely for synchronization unless the 'Return to programmed transition' function is active in which case after 2 minutes it performs a programmed delayed transfer.

UL 1008 WITHSTAND AND CLOSING RATINGS (WCR)

The transfer switches listed below must be protected by circuit breakers or fuses. Referenced drawings include detailed listings of specific breakers or fuse types that must be used with the respective transfer switches. Consult with your distributor/dealer to obtain the necessary drawings. Withstand and Closing Ratings (WCR) are stated in symmetrical RMS amperes.

BREAKER PROTECTION								
Frame	Amperage rating (A)	MOLDED CASE CIRCUIT BREAKER (MCCB) PROTECTION				SPECIAL CIRCUIT BREAKER PROTECTION		
		With specific manufacturers MCCB (kA at 480V)	With specific manufacturers MCCB (kA at 600V)	Max MCCB ratings (A)	Drawing reference	With specific Current limiting breakers (kA at 600V)	Max. Current limiting breakers CLB rating (A)	Drawing reference
A	40, 70, 125 (3-pole only)	14	14	225	A050J441	200	225	A048J566
	40, 70, 125 (4-pole only)	30	30	400	A048E949	200	400	A051D533
B	150, 225, 260	30	30	400	A048E949	200	400	A051D533
C	300, 400, 600	65	65	1200	A056M829	200	1200	A048J564
D	800, 1000	65	50	1400	A056M821	200	1400	A048J562
E	1200	85	65	1600	A056M825	200	1600	A048P186

FUSE PROTECTION				
Frame	Amperage rating (A)	WCR with current limiting fuses (kA)	Fuse size and type	Drawing reference
A	40, 70, 125 (3-pole only)	200	200 A, Class: J, RK1, RK5	A050J441
	40, 70, 125 (4-pole only)	200	1200 A Class L or T, or 600A class J, RK1, RK5	A048E949
B	150, 225, 260	200	1200 A Class L or T, or 600A class J, RK1, RK5	A048E949
C	300, 400, 600	200	1200 A Class L or T, or 600A class J, RK1, RK5	A056M829
D	800, 1000	200	2000 A Class L or 1200 A Class T or 600 A Class J, RK1, RK5	A056M821
E	1200	200	2000 A Class L or 1200 A Class T or 600 A Class J, RK1, RK5	A056M825

All WCR values are at 600 V

TIME-BASED RATINGS: 0.05S (3-CYCLES AT 60 HZ)

Frame	Amperage rating (A)	MCCB (kA at Vmax and below)	Max. MCCB rating (A)	Drawing reference
C	300, 400, 600	25 at 600 V	1200	A056M829
D	800, 1000	35 at 600 V	1600	A056M821
E	1200	42 at 600 V	1600	A056M825

TRANSFER SWITCH LUG CAPACITIES

Frame	Amperage rating (A)	Cables per phase	Certified Cable Size	Part Number
A	40, 70, 3-pole	1	#14 AWG - 2/0	0332-3084 **
			#12 AWG - 2/0	0332-3085 ***
	40, 4-pole	1	#14 AWG - 2/0	0332-3514-01
			#6 AWG - 300MCM	0332-3038
	70, 4-pole	1	#14 AWG - 2/0	0332-3084 **
#12 AWG - 2/0			0332-3085 ***	
125, 3-pole	1	#6 AWG - 300MCM	0332-3038	
B	150, 225	1	#6 AWG - 300MCM	0332-3038
	260	1	#6 AWG - 400MCM	0332-3039
C	300, 400	2*	3/0 - 600MCM & #4 AWG - 250MCM	0332-2704
	600	2	250 - 500MCM	0332-2660
D	800, 1000	4	250 - 500MCM	0332-2736
			500-750MCM ^	0332-2736 ****
E	1200	4	#2 AWG - 600MCM ^^	0332-1557 ****
			1/0 - 750MCM ^^	0332-3036

All lugs 90°C rated and accept copper or aluminum wire unless indicated otherwise.
Refer to the latest NFPA 70 Article 310 - Conductors for general wiring for the ampacity calculations.

* One cable for each lug range listed

** Load

*** Emergency and normal

**** See A030H735 drawing for lugs specifications

^ Compression lug adapter suitable for 500-750MCM (Optional feature N032-7)

^^ #2 AWG - 600MCM (Standard feature N045-7)

^^^ 1/0 - 750MCM (Optional feature N066-7)

ENCLOSURE

The transfer switch and control are wall-mounted in a key-locking enclosure. Wire bend space complies with NEC.

DIMENSIONS – TRANSFER SWITCH IN UL TYPE 1 ENCLOSURE

Frame	Amperage rating (A)	Height		Width		Depth		Weight	
		in	mm	in	mm	in	mm	lb	kg
A	40, 70, 125 3-pole	27	686	20.5	521	12	305	148	67
	40, 70, 125 4-pole	35.5	902	26	660	16	406	214	97
B	150, 225	35.5	902	26	660	16	406	214	97
	260	43.5	1105	28.5	724	16	406	238	108
C	300, 400, 600	54	1372	25.5	648	18	457	322	146
D	800, 1000	68	1727	30	762	19.5	495	448	203
E	1200	90	2286	39	991	27	698	862	391

PW1791-26 ATTACHMENT C
POWERCOMMAND® OTEC TRANSFER SWITCH SPEC SHEET

DIMENSIONS – TRANSFER SWITCH IN UL TYPE 3R, 4, 4X, OR 12 ENCLOSURES

Frame	Amperage rating (A)	Height		Width		Depth		Weight		Cabinet Type
		in	mm	in	mm	in	mm	lb	kg	
A	40, 70, 125 3-pole	34	864	26.5	673	12.5	318	220	100	3R, 4
		46	1168	32	813	16	406	307	139	4X
		34	864	26.5	673	12.5	318	201	91	12
	40, 70, 125 4-pole	42.5	1080	30.5	775	16	406	304	138	3R, 4
		46	1168	32	813	16	406	335	152	4X
		42.5	1080	30.5	775	16	406	287	130	12
B	150, 225	42.5	1080	30.5	775	16	406	304	138	3R, 4
		46	1168	32	813	16	406	335	152	4X
		42.5	1080	30.5	775	16	406	287	130	12
	260	46	1168	32	813	16	406	322	146	3R, 4
		46	1168	32	813	16	406	335	152	4X
		46	1168	32	813	16	406	304	138	12
C	300, 400, 600	59	1499	27.5	699	16.5	419	415	188	3R, 4
		73.5	1867	32.5	826	19.5	495	520	236	4X
		59	1499	27.5	699	16.5	419	397	180	12
D	800, 1000	73.5	1867	32.5	826	19.5	495	588	267	3R, 4
		73.5	1867	32.5	826	19.5	495	588	267	4X
		73.5	1867	32.5	826	19.5	495	556	252	12
E	1200	90	2286	39	991	27	698	891	404	3R, 4
		90	2286	39	991	27	698	891	404	4X
		90	2286	39	991	27	698	873	396	12

ENCLOSURE ACCESS FOR CABLE INSTALLATION AND MAINTENANCE

All frames allow for top, side, and bottom cable entry. NEC Requires Minimum 36" Front Access. Additional front clearance is needed to remove the mechanism. Refer to the outline drawing.

OTEC DRAWING PART NUMBERS

Frame	Amperage rating (A)	Outline Drawing		
		Type 1, 3R, 12, 4, 4X (3 Pole)	Type 1, 3R, 12, 4, 4X (4 Pole)	Open Construction
A	40, 70, 125	A074K565	A074K632	A074K681
B	150, 225	A074K575	A074K587	
	260	A074K613	A074K634	
C	300, 400, 600	A074K635	A074K645	
D	800, 1000	A074K646	A074K658	
E	1200	A074K659		A074K695

PW1791-26 ATTACHMENT C
POWERCOMMAND® OTEC TRANSFER SWITCH SPEC SHEET

WIRING DIAGRAM PART NUMBERS

Frame	Amperage rating (A)	Wiring Diagram				
		Utility to Genset (120 – 480 V)	Utility to Genset (600 V)	Interconnection	Utility to Genset, Open Construction (120 – 480 V)	Utility to Genset, Open Construction (600 V)
A	40, 70, 125 (3-pole)	A074P733	A074P730	A065H780	A074P731	A074P732
	40, 70, 125 (4-pole)					
B	150, 225					
	260					
C	300, 400, 600					
D	800, 1000	A074P729				
E	1200					

SUBMITTAL DETAIL

Model

- 40, 70, 125 A, (3- and 4-pole)
- 150, 225, 260 A
- 300, 400, 600 A
- 800, 1000 A
- 1200 A

Poles

- A028 Poles – 3 (solid neutral)
- A029 Poles – 4 (switched neutral)

Application

- A035 Utility-to-genset

Frequency

- A044 60 Hz
- A045 50 Hz

Phase

- A041 single phase, 2-wire or 3-wire
- A042 three phase, 3-wire or 4-wire

Voltage ratings

- R020 120V
- R038 190V
- R021 208V
- R022 220V
- R023 240V
- R024 380V
- R025 416V
- R035 440 V
- R026 480 V
- R027 600 V

Enclosure

- B001 Type 1: Indoor use, provides some protection against dirt (similar to IEC type IP30)
- B002 Type 3R: Intended for outdoor use, provides some protection from dirt, rain, and snow (similar to IEC type IP34)
- B003 Type 4: Indoor or outdoor use, provides some protection from wind-blown dust and water spray (similar to IEC type IP65)
- B004 open construction: no enclosure - includes automatic transfer switch and controls.
- B010 Type 12: Indoor use, some protection from dust (similar to IEC type IP61).
- B025 Type 4X: Stainless steel, indoor or outdoor use, provides some protection from corrosion (similar to IEC type IP65).

Standards

- A046 UL 1008/CSA certification
- A080 IBC seismic certification

Control voltage

- M033 12V, Genset starting voltage.
- M034 24V, Genset starting voltage.

Control options

- M032 Elevator signal relay
- M081 MODBUS RS485 Communication module
- M079 integral control power supply provides DC voltage to control from source power.
- M086 Ethernet communication module
- L216 1X auxiliary relay I/O module
- L217 2X auxiliary relay I/O module

Auxiliary relays

- Relays are UL Listed, and factory installed. All relays provide (2) normally closed isolated contacts rated 10A @ 600 VAC. Relay terminals accept (1) 18 gauge to (2) 12-gauge wires per terminal.
- L101 24 VDC coil - installed, not wired (for customer use).
- L102 24 VDC coil - emergency position – relay energized when switch is in source 2 (emergency) position.
- L103 24 VDC coil - normal position - relay energized when switch is in source 1 (normal) position.
- L201 12 VDC coil installed, not wired (for customer use)
- L202 12 VDC coil - emergency position – relay energized when switch is in source 2 (emergency) position.
- L203 12 VDC coil - normal position - relay energized when switch is in source 1 (normal) position.

Optional Cable Lugs

- N032 Lug adapters, compression, ½ stab (1200A only)
- N045 Cable lugs, mechanical, 600 MCM, 4 per pole (1200A only)
- N066 Cable lugs, mechanical, 750 MCM, 4 per pole (1200A only)

Miscellaneous

- C027 Cover - guard
- M003 Terminal block - 30 points (not wired)

Optional features

- M080 Anti-condensation heater for outdoor enclosures
- L214 Load shed from standby source
- M085 Load power monitoring

Accessories

- AC-170 Accessories specification sheet
- A065L320 Control panel cover guard

Request for quotation (RFQ)

- Z555 Nonconfigurable spec [ETO]






Warranty

- G004 2-years, comprehensive
- G007 5-years, comprehensive
- G014 3-years, comprehensive
- G015 10-years, comprehensive

Shipping

- A051 Packing - export box (800 – 1000 A)

CODES AND STANDARDS

	All switches are UL 1008 Listed with UL 50E Type Rated cabinets and UL Listed CU-AL terminals.	NEC®	Suitable for use in emergency, legally required and Standby and Critical Operations Power Systems (COPS) applications per NEC 700, 701, 702 and 708.
	All switches comply with NEMA ICS 10.	ISO®	All switches are designed and manufactured in facilities certified to ISO 9001.
	All switches are certified to CSA C22.2 No. 178.1 switching of electrical energy in emergency or other systems, up to 600 VAC and 4 kA.	IBC®	All switches are certified to IBC 2018.
	All switches comply with IEEE 446 Recommended Practice for Emergency and Standby Power Systems.	EMC	Display controllers meet the following Electromagnetic Compatibility (EMC) standards: <ul style="list-style-type: none"> • EN 61000-6-2 Generic Immunity Standard for the Industrial Environment. • EN 61000-6-4 Generic Emission Standard for the Industrial Environment.
	All switches comply with NFPA 70, 99 and 110 (Level 1).		

For more information, please contact your local Cummins distributor or visit cummins.com.

Our energy working for you.™

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S-6556 OTEC Spec Sheet NSE - PD00000752 - Rev. 02/25

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POWERCOMMAND® 40-11 TRANSFER SWITCH CONTROL

OTEC TRANSFER SWITCHES

DESCRIPTION

The PowerCommand® 40-11 Transfer Switch Control is a sophisticated microprocessor-based control with the basic features you need for primary source and generator set monitoring, generator set starting and load transfer functions for emergency standby power applications.

The control human machine interface (HMI) includes a LCD display with tactile-feel soft-switches for easy operation and screen navigation. All data on the control can be viewed by scrolling through screens with a display scroll button. The control displays the current active fault, fault occurrences and time ordered history of the 10 previous faults with respect to Real Time Clock Stamp and Engine Running Time.

FEATURES

Digital display – The PowerCommand® 40-11 offers a clear back-lit LCD 4-line text display, showing system status, contextual icons and warnings. The display is also equipped with 5 red and 4 green LEDs indicating operational status.

Modbus network communication – Modbus network communications capable. Optional Modbus RTU RS485 connection (1 serial port) and TCP Ethernet communication module (1 RJ45 port).



Diagnostics and reporting – Detailed event logging with enhanced fault codes, alert lists, power event history, and source statistics enhances diagnostic capability during service events and provides the ability to meet any reporting requirements.

PC & Front Panel Configurations – The modules can be easily configured using the PC software. Selected front panel editing is also available.

Ease of service and access – Built-in plug-and-play control with minimized point-to-point connections and compatible terminal markings simplify servicing.

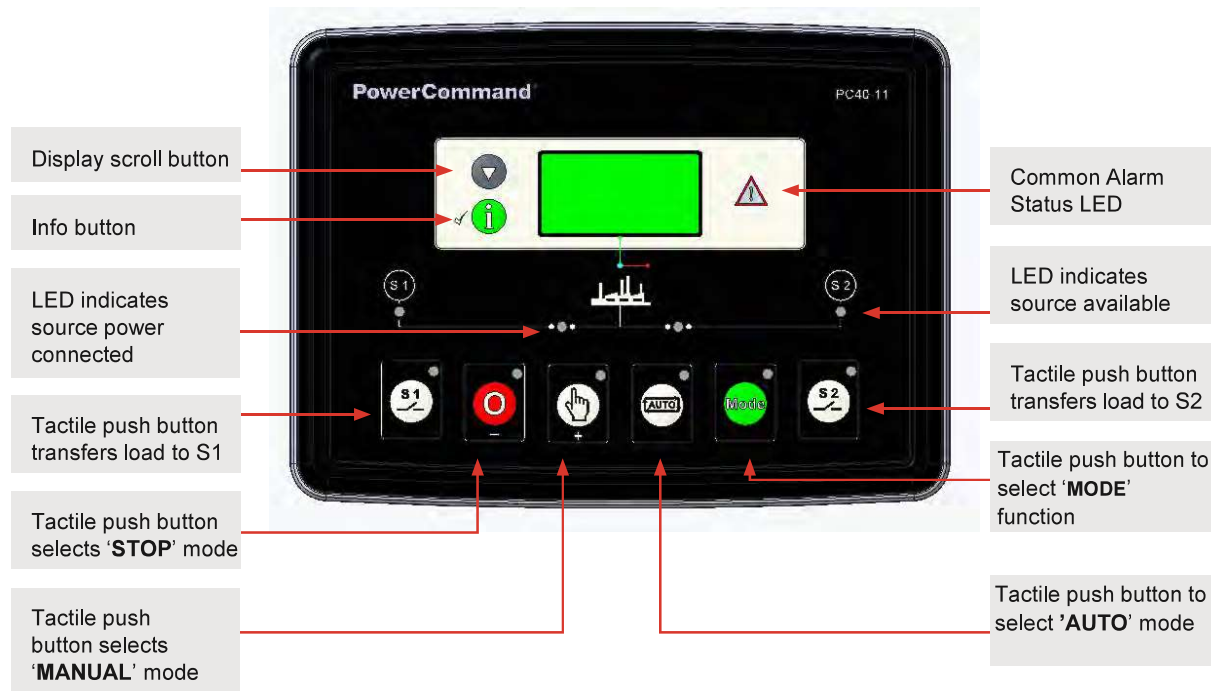


Complete product line – Cummins is a single source supplier with full scope of power system solutions, integration, and service capability, from paralleling to system level controls, switchgear, and remote connectivity.

Warranty and service – Products are backed by a comprehensive warranty and a worldwide network of distributors with factory-trained service technicians.



HUMAN MACHINE INTERFACE (HMI) CAPABILITIES



CONTROL FUNCTIONS

TRANSFER INHIBIT

When transfer inhibit external input is active, the control does not automatically transfer the transfer switch to a standby source even when the preferred source fails.

RETRANSFER INHIBIT

When retransfer inhibit external input is active, the control does not automatically retransfer the transfer switch to a preferred source even when the preferred source returns.

REAL TIME CLOCK

This feature is used by the control for fault and event time stamping and as a reference for exerciser schedules and exception schedules.

TEST – REMOTE

Test feature allows the user to automatically test the standby source and the transfer switch. The test command can be issued from the remote source.

The test has following types available:

- Remote Start On Load
- Remote Start Off Load

ELEVATOR SIGNAL

This optional feature allows an elevator connected to the system to come to a complete stop before the switch transfers.

EXERCISER SCHEDULER

The Scheduler allows the user to configure pre-set automatic starting and stopping of the Generator (when in Auto mode).

BANK 1 / BANK 2

Each Bank of the Exercise Scheduler is used to give up to 8 scheduled runs per bank, 16 in total. This run schedule is configurable to repeat every 7 days (weekly) or every 28 days (monthly). Do Not Transfer, Off Load and On Load. Each scheduler bank configured differently either to weekly or monthly based exercises.

SOURCE AVAILABILITY

This feature monitors the frequency and voltage sensors on the preferred and standby sources to determine and declare the availability status of the two sources, irrespective of which source is connected to the load. It declares the states as event codes. Preferred/Standby Available - active inactive.

VOLTAGE SENSING

3-phase sensing on Source 1 and Source 2 (up to 600 Vac with no need for additional PTs). Plant battery voltage monitoring.

ALPHANUMERIC DISPLAY

- S2 Voltage L1-N
- S2 Voltage L-L
- S2 Frequency
- S1 Voltage L1-N
- S1 Voltage L-L
- S1 Frequency
- Battery voltage
- Current alarms with icons
- Event log
- Scheduler
- About

LOAD SHED

This feature allows the user to shed/disconnect the electrical load from a standby source. This feature is typically used to reduce non-emergency load demand on the generator when the generator is in an overload condition.

LOAD POWER MONITORING

This feature allows the monitoring of the following parameters on the load side of the transfer switch using the display, or remotely via the optional communication modules:

- Amps: L1 - L2 - L3
- Watts: L1 - L2 - L3 - Total
- VA: L1 - L2 - L3 - Total
- Var: L1 - L2 - L3 - Total
- Power Factor: L1 - L2 - L3 - Average

RELAY EXPANSION MODULE DSE2157

This feature allows the user to provide additional output to the control system, up to 16 user configurable dry contact sets - 8 NO, 8 Form-C.

TIME DELAYS

The following adjustable time delays are built into the transfer switch control. External modules to accomplish these delays are not required.

- **Start Delay** (Also known as Time Delay Engine Start, TDES adjustable from 0 to 10 hours)
- **Warming** (Also known as Time Delay Normal to Emergency, TDNE adjustable from 0 to 1 hour)
- **Elevator Delay** (Also known as Time Delay Elevator, TDEL adjustable from 0 to 5 minutes)
- **Non-sync Transfer Time** (Also known as Time Delay Programmed Transition, TDPT adjustable from 0.5 s to 10 minutes)
- **Return Delay** (Also known as Time Delay Emergency to Normal, TDEN adjustable from 0 to 5 hours)
- **Cooling** (Also known as Time Delay Engine Cool-down, TDEC adjustable from 0 to 1 hour)

LED INDICATOR LIGHTS

- Auto mode (RED)
- Source 1 available (GREEN)
- Source 2 available (GREEN)
- Source 1 connected to load (GREEN)
- Source 2 connected to load (GREEN)
- Common Alarm indicator (RED)
- Select Operating mode (RED)
- Stop mode (RED)
- Manual Mode (RED)

EVENTS LOG

The control displays information on up to 10 events displayed in chronological order, beginning with the most recent event, about

either source. The event information includes the following:

- Failure modes
- Warning
- Tests and exercises
- User-driven inputs (e.g., override, transfer inhibit)

SUPPORTED APPLICATIONS**APPLICATION TYPES**

- Utility - Generator Set

COMMUNICATIONS

The PowerCommand® 40-11 Transfer Switch Control features an optional network communication module.

Features include:

- Optional Modbus® RTU RS485 communication module (1 isolated serial port) TCP Ethernet communication module (1 RJ45 port)
- USB port for service tool interface

PROTECTION**PHASE ROTATION AND VOLTAGE IMBALANCE SENSING**

- Source 1 and Source 2

UNDER-VOLTAGE SENSING

- 3-phase normal, 3-phase emergency, Accuracy: ± 2 % of full-scale phase to phase
- Phase to neutral voltage range 50Vac to 414Vac.
- Phase to phase voltage range 86Vac to 717Vac.

OVERVOLTAGE SENSING

- 3-phase normal, 3-phase emergency, Accuracy: ± 2 % of full-scale phase to phase
- Phase to neutral voltage range 52Vac to 416Vac.
- Phase to phase voltage range 90Vac to 720Vac.

OVER/UNDER FREQUENCY SENSING

- Normal and emergency
- Accuracy: ± 0.2 Hz
- Frequency range 3.5 – 75 Hz








SYNC CHECK

- For in-phase transfer

ENVIRONMENT

Operating Temperature Range	Control operates over an ambient temperature range: -30 °C to 70 °C.
Storage Temperature Range	The control operates after being exposed to Storage Temperatures in the range of -40 °C to 85°C.
Ingress Protection	The front panel is to be IP65.
Sun Protection	Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water exposure and Immersion in accordance with UL 746C.

CODES AND STANDARDS

	The PC40-11 control is a UL Recognized Component Marked for United States and Canada.		Capable of being used on systems compliant with NFPA 70, 99 and 110 (Level 1).
	The PC40-11 control fulfills the requirements of UKCA standard product directives.		Control and display as installed in a transfer switch enclosure comply with NEMA 4X and IP65 at the transfer switch level - if the transfer switch enclosure is also NEMA 4X & IP65 compliant.
RoHS	The control is RoHS compliant.	NEC®	Capable of being used on systems suitable for use in emergency, legally required and Standby and Critical Operations Power Systems (COPS) applications per NEC 700, 701, 702 and 708.
	Fulfills the requirements of relevant European product directives.	LVD	The unit is designed to comply with European directive 72/23/EEC by complying with harmonized European safety standard BS EN 60950.
	All switches are certified to CSA C22.2 No. 178.1 switching of electrical energy in emergency or other systems, up to 600 VAC and 4 kA.		The control is IEEE C37.90.2 certified. Capable of being used on IEEE 446 compliant systems; Recommended Practice for Emergency and Standby Power Systems.
EMC	The control is tested to meet the following CE Electromagnetic Compatibility (EMC) standards for EN 61000 series (electromagnetic compatibility): <ul style="list-style-type: none"> • EN 61000-6-2 Generic Immunity Standard • EN 61000-6-4 Generic Emissions 		

For more information, please contact your local Cummins distributor or visit cummins.com Our energy working for you™

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VMC GROUP
THE POWER OF TOGETHER™



CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS



Certification No.

VMA-52956-01C (Revision 7)

Expiration Date: 7/31/2026

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED¹ FOR SEISMIC APPLICATIONS in accordance with the following building code² releases.

IBC 2021, 2018, 2015, 2012

The following model designations, options, and accessories are included in this certification. Reference report number VMA-52956-01 as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

**Cummins Power Generation, Inc.; Automatic & By-Pass Transfer Switches
OTEC, OTECSE, BTPC, CBL; 40-1200 Amp**

The above referenced equipment is APPROVED for seismic application when properly installed³, used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance⁴. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as $I_p=1.5$. The equipment is qualified by successful seismic shake table testing at the nationally recognized Clark Dynamic Test Laboratory, Environmental Testing Laboratories, and Dynamic Certification Laboratories under the review of the ISO Accredited Product Certification Agency, the VMC Group.

Certified Seismic Design Levels ⁸			
Certified IBC	Importance $I_p \leq 1.5$ Soil Classes A-E Risk Categories I-IV Design Categories A-F	z/h ≤ 1.0	z/h = 0.0
		$S_{DS} \leq 2.270\text{ g}$	$S_{DS} \leq 2.500\text{ g}$

The qualified seismic design level stated is the highest for all series this certificate covers. For more information, see the certified product tables on page 2.

Certified Seismic Installation Methods ⁹	
Directly To Structural Wall	Rigid Mounting From Unit Base To Rigid Structure
Combination Rigid Mounting from Unit Base to Rigid Structure and Directly to Structural Wall	

HEADQUARTERS
113 Main Street
Bloomington, NJ 07403
Phone: 973.838.1780
Toll Free: 800.569.8423
Fax: 973.492.8430

CALIFORNIA
180 Promenade Circle
Suite 300
Sacramento, CA 95834
Phone: 916.634.7771

TEXAS
11930 Brittmoore Park Drive
Houston, TX 77041
Phone: 713.466.0003
Fax: 713.466.1355

thevmcgroup.com





CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certified Product Table:

Model	Amp Range	Frame	NEMA Rating	Height [in.]	Width [in.]	Depth [in.]	Max Weight [lbs]	Mounting
OTEC	40, 70, 125	A	1, 3R, 4, 4X, 12	46	32	16	336	Rigid Wall
	150, 225, 260	B		74	21	32.4	521	
	300, 400, 600	C						
	800, 1000	D						
OTECSE	40, 70, 100, 125	A-SE	1, 3R, 12	43.4	32	16.3	364	
	150, 200, 225, 250	B-SE		74	34	20	611	
	300, 400, 600	C-SE		74.5	22.4	34.4	651	
BTPC	150-260	B	1, 3R, 4, 12	72	36	23	564	Rigid Base
	300-600	C		84			639	
	800-1000	D		90			48	
CBL	150-600	C	1, 3R, 4, 12	84	36	23	810	
	800-1000	D					1179	
OTEC	1200	E	1, 3R, 4, 12, 4X	93.3	27.5	39	891	Combination Rigid Base/Wall
OTECSE	800-1000	D-SE	1, 3R, 4, 12	93.3	27.5	39	1034	
OTEC	1200	E	1, 3R, 4, 12, 4X				891	
OTECSE	800-1000	D-SE	1, 3R, 4, 12	1034				

Group	Type	S _{DS} (z/h=0)	S _{DS} (z/h=1)	A _{Flex-H}	A _{Rig-H}	A _{Flex-V}	A _{Rig-V}	F _p /W _p
All Models	AC156	2.50	2.27	3.63	2.72	1.67	0.67	1.70
Any Model with P80 Controller			2.00	3.20	2.40			1.50

This certification includes the Automatic & By-Pass Transfer Switches and included factory supplied options. This certification only covers accessories and options listed on the product matrix. The ATS shall be installed per the manufacturer supplied seismic installation instructions. For a list of certified options please directly contact the manufacturer. This certification excludes all non-factory supplied accessories and options, including but not limited to isolation/restraint devices, other electrical/mechanical components and their connections. Flexibility in the connections must be maintained as to not transmit load into the equipment.



VMA-52956-01C (Revision 7)
Issue Date: Monday, December 16, 2019
Revision Date: Tuesday, October 8, 2024
Expiration Date: Friday, July 31, 2026



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CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Notes & Comments:

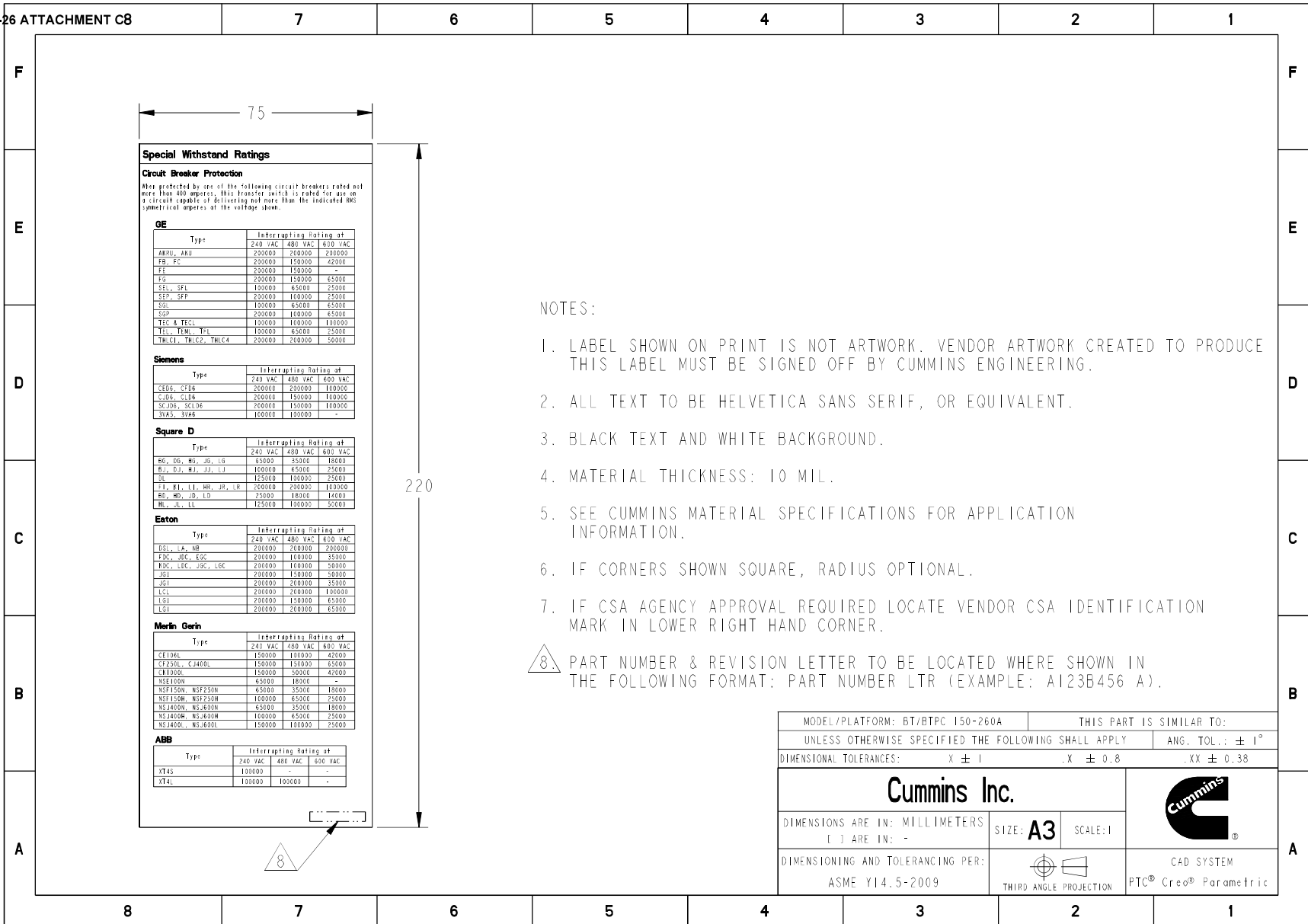
1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The tested units were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/Ice loads have been neglected and thus limit the unit to be installed both indoors (covered by an independent protective structure) and out of doors (exposed to accumulating snow/ice) for ground snow loads no greater than 30 psf for all applications.
2. The following building codes are addressed under this certification:
 - IBC 2021 referencing ASCE7-16 and ICC-ES AC-156
 - IBC 2018 referencing ASCE7-16 and ICC-ES AC-156
 - IBC 2015 referencing ASCE7-10 and ICC-ES AC-156
 - IBC 2012 referencing ASCE7-10 and ICC-ES AC-156
3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for ensuring the proper installation of all anchors and mounting hardware.
4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, the VMC Group, and meets the seismic design levels claimed by this certificate.
5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification makes no statements of compliance in regards to NEMA, IP, UL, CSA, or other relevant standards after a seismic event. For compliance to other relevant standards, please contact the manufacturer.
6. This certificate applies to units manufactured at:
 - Cummins Power Systems Eje 122 # 200 Zona Industrial CP 78395 San Luis Potosi SLP México
 - Cummins Natural Gas Engines 409 S. Norris Street Clovis, NM 88101 U.S.A.
7. This certification follows the VMC Group's ISO-17065 Scheme.
8. The qualified seismic design level stated is the highest for all series this certificate covers. For more information, see the certified product tables on page 2.
9. The certified seismic installation methods stated are a summary for all product lines this certificate covers. For individual certified seismic installation methods, see the certified product tables.

John P. Giuliano, PE
President, VMC Group



VMA-52956-01C (Revision 7)
Issue Date: Monday, December 16, 2019
Revision Date: Tuesday, October 8, 2024
Expiration Date: Friday, July 31, 2026





Special Withstand Ratings

Circuit Breaker Protection
After protected by one of the following circuit breakers rated not more than 400 amperes, this breaker switch is rated for use on a circuit capable of delivering not more than the indicated RMS symmetrical amperes at the voltage shown.

OE	Type	Interrupting Rating at		
		240 VAC	480 VAC	600 VAC
AKRU, AKU		20000	70000	20000
FB, FC		20000	15000	42000
FF		20000	15000	-
Fg		20000	15000	45000
SEL, SFL		10000	6500	2500
SEP, SFP		20000	10000	2500
SP		10000	6500	4500
SP		20000	10000	4500
TEC & FECL		10000	10000	10000
TEL, TELM, TEL		10000	6500	2500
THICL, THIC2, THIC4		20000	20000	5000

Siemens	Type	Interrupting Rating at		
		240 VAC	480 VAC	600 VAC
CEDS, CF6		20000	20000	10000
C,DS, C,DS		20000	15000	10000
SCDS, SCLDS		20000	15000	10000
SVAS, SVAS		10000	10000	-

Square D	Type	Interrupting Rating at		
		240 VAC	480 VAC	600 VAC
RG, DG, MS, JS, LG		6500	2500	1000
RJ, DJ, MJ, JJ, LJ		10000	6500	2500
DL		12500	10000	2500
TL, TL, LL, MR, JR, LR		20000	20000	10000
RD, HD, JD, LD		2500	1800	1400
HL, JL, LL		12500	10000	5000

Eaton	Type	Interrupting Rating at		
		240 VAC	480 VAC	600 VAC
DSL, LA, NP		20000	10000	20000
FDC, JDC, EDC		20000	10000	3500
RDC, LDC, JDC, LDC		20000	10000	5000
JGJ		20000	15000	5000
JGJ		20000	20000	3500
LCL		20000	20000	10000
LGD		20000	15000	4500
LGA		20000	20000	4500

Merlin Gerin	Type	Interrupting Rating at		
		240 VAC	480 VAC	600 VAC
CE10EL		15000	10000	4200
CF25UL, C240UL		15000	10000	6500
CF10UL		15000	5000	4000
NSF100N		6500	1800	-
NSF150N, NSF250N		6500	3500	1800
NSF150R, NSF250R		10000	6500	2500
NS1400N, NS1400R		6500	2500	1800
NS1400N, NS1400R		10000	6500	2500
NS1400L, NS1400L		15000	10000	2500

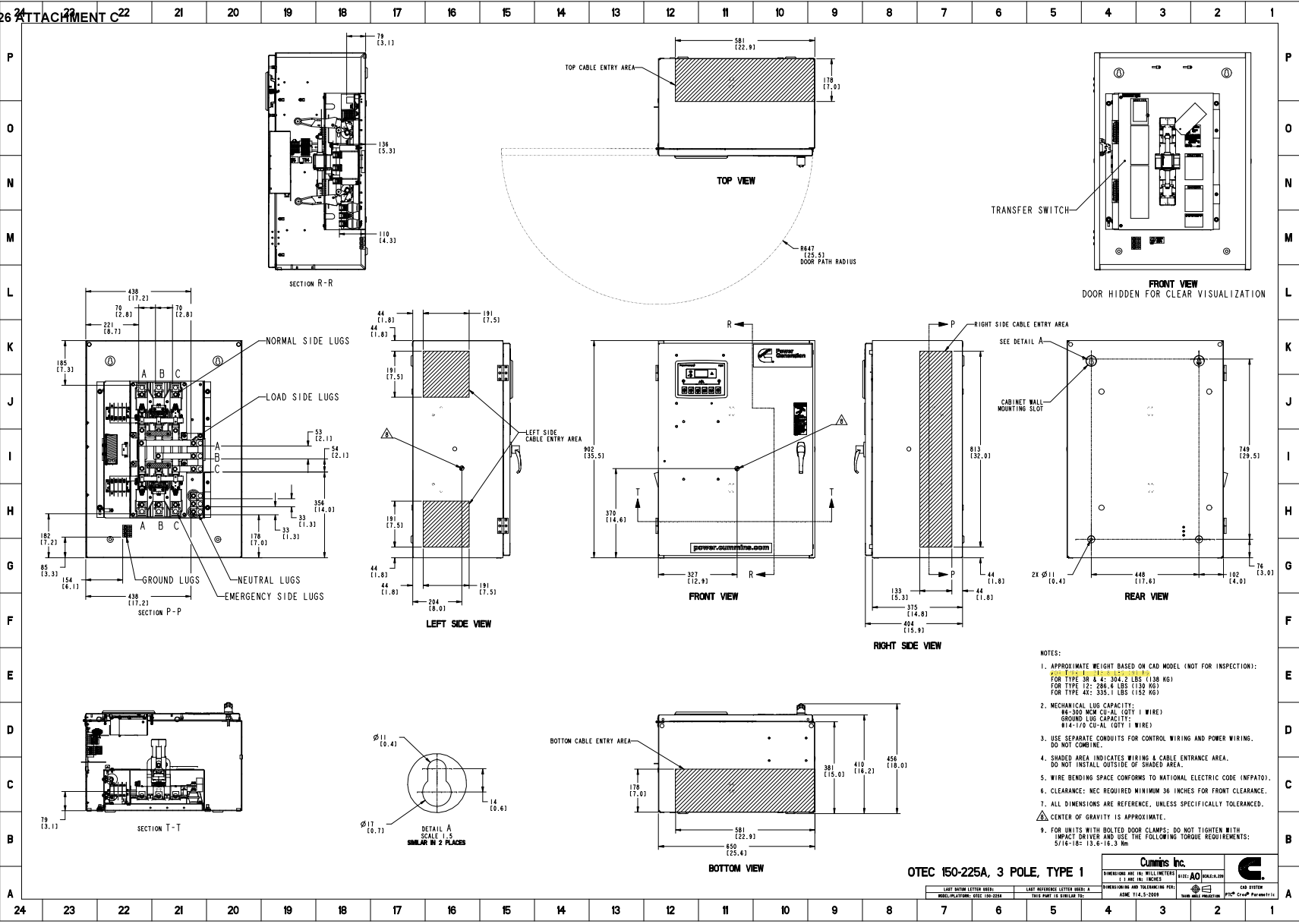
ABB	Type	Interrupting Rating at		
		240 VAC	480 VAC	600 VAC
XT4S		10000	-	-
XT4L		10000	10000	-

- NOTES:
- LABEL SHOWN ON PRINT IS NOT ARTWORK. VENDOR ARTWORK CREATED TO PRODUCE THIS LABEL MUST BE SIGNED OFF BY CUMMINS ENGINEERING.
 - ALL TEXT TO BE HELVETICA SANS SERIF, OR EQUIVALENT.
 - BLACK TEXT AND WHITE BACKGROUND.
 - MATERIAL THICKNESS: 10 MIL.
 - SEE CUMMINS MATERIAL SPECIFICATIONS FOR APPLICATION INFORMATION.
 - IF CORNERS SHOWN SQUARE, RADIUS OPTIONAL.
 - IF CSA AGENCY APPROVAL REQUIRED LOCATE VENDOR CSA IDENTIFICATION MARK IN LOWER RIGHT HAND CORNER.
8. PART NUMBER & REVISION LETTER TO BE LOCATED WHERE SHOWN IN THE FOLLOWING FORMAT: PART NUMBER LTR (EXAMPLE: A123B456 A).

MODEL/PLATFORM: BT/BTPC 150-260A	THIS PART IS SIMILAR TO:	
UNLESS OTHERWISE SPECIFIED THE FOLLOWING SHALL APPLY		ANG. TOL.: ± 1°
DIMENSIONAL TOLERANCES:		X ± 1 .X ± 0.8 .XX ± 0.38
Cummins Inc.		
DIMENSIONS ARE IN: MILLIMETERS () ARE IN: -	SIZE: A3 SCALE: 1	
DIMENSIONING AND TOLERANCING PER: ASME Y14.5-2009		
		CAD SYSTEM PTC® Creo® Parametric

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Part Number: **A051D533** Part Revision: **C**
Part Name: **LABEL, INFORMATION**
Drawing Category: **Detail** State: **Released** Sheet 1 of 2



- NOTES:
- APPROXIMATE WEIGHT BASED ON CAD MODEL (NOT FOR INSPECTION):
 FOR TYPE 1: 114.3 LB (51.8 KG)
 FOR TYPE 3A & 4: 304.2 LB (138 KG)
 FOR TYPE 12: 286.6 LB (130 KG)
 FOR TYPE 4X: 335.1 LB (152 KG)
 - MECHANICAL LUG CAPACITY:
 4#-300 MCM CU-AL, COTS (1 WIRE)
 GROUND LUG CAPACITY:
 #14-1/0 CU-AL, COTS (1 WIRE)
 - USE SEPARATE CONDUITS FOR CONTROL WIRING AND POWER WIRING. DO NOT COMBINE.
 - SHADED AREA INDICATES WIRING & CABLE ENTRANCE AREA. DO NOT INSTALL OUTSIDE OF SHADED AREA.
 - WIRE BENDING SPACE CONFORMS TO NATIONAL ELECTRIC CODE (NFPA70).
 - CLEARANCE: NEC REQUIRED MINIMUM 36 INCHES FOR FRONT CLEARANCE.
 - ALL DIMENSIONS ARE REFERENCE, UNLESS SPECIFICALLY TOLERANCED.
 - CENTER OF GRAVITY IS APPROXIMATE.
 - FOR UNITS WITH BOLTED DOOR CLAMPS: DO NOT TIGHTEN WITH IMPACT DRIVER AND USE THE FOLLOWING TORQUE REQUIREMENTS:
 5/16-18: 13.6-16.3 Nm

OTEC 150-225A, 3 POLE, TYPE 1

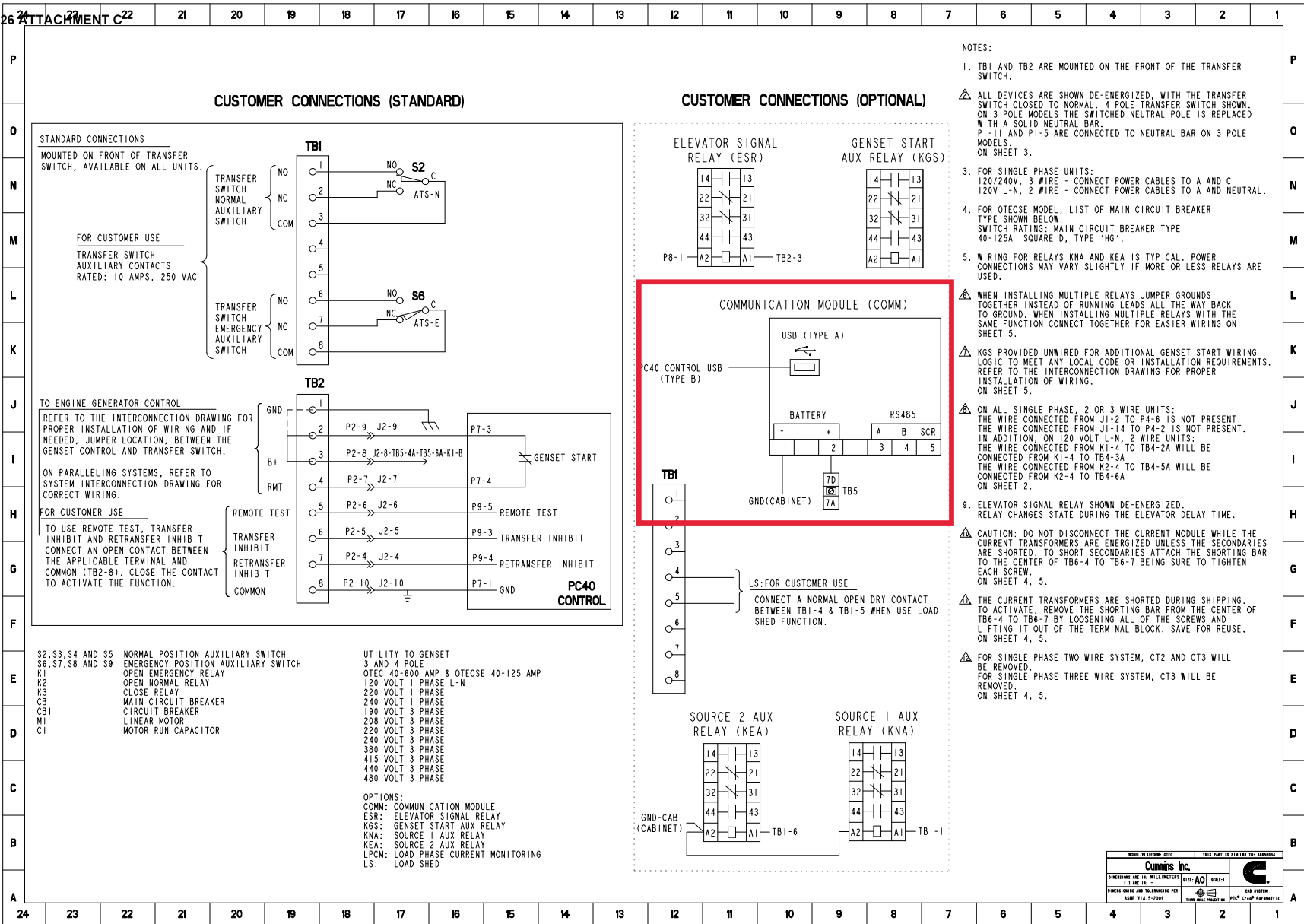
LAST DIMENSION LETTER SERIES: 1	LAST REFERENCE LETTER SERIES: X	LAST DIMENSION LETTER SERIES: 1	LAST REFERENCE LETTER SERIES: X
MANUFACTURING CODE: 18SEP2023	UNIT PART OR SERIAL NO.:	MANUFACTURING AND PACKAGING PART: AO	UNIT PART OR SERIAL NO.:

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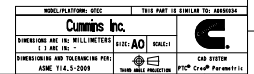
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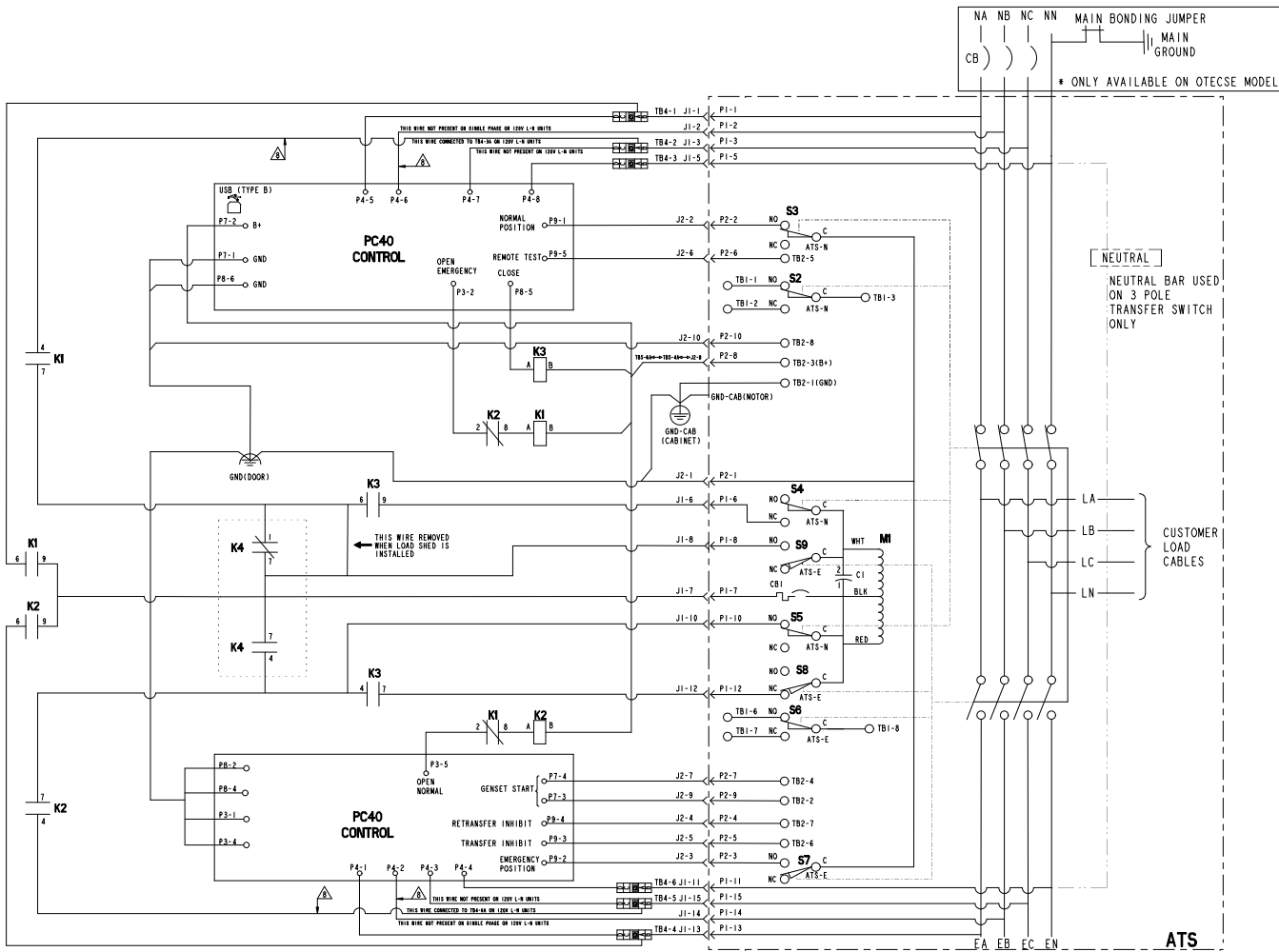
Part Number: **A074K575** Part Revision: **A**
 Part Name: **OUTLINE,ENCLOSURE**
 Drawing Category: **Outline State: Released** Sheet 1 of 5



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STANDARD SCHEMATIC DIAGRAM

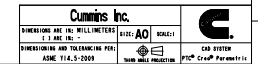
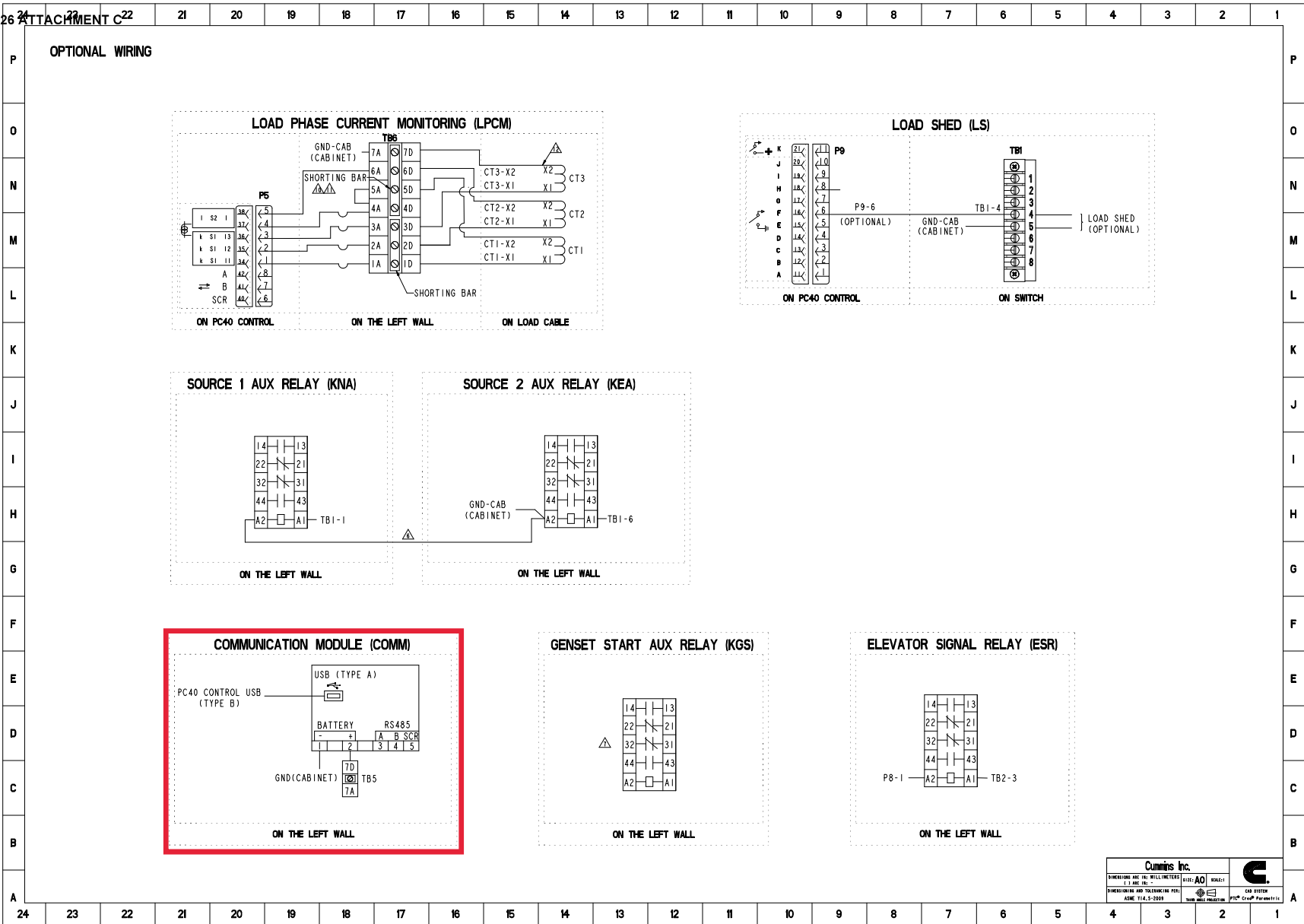


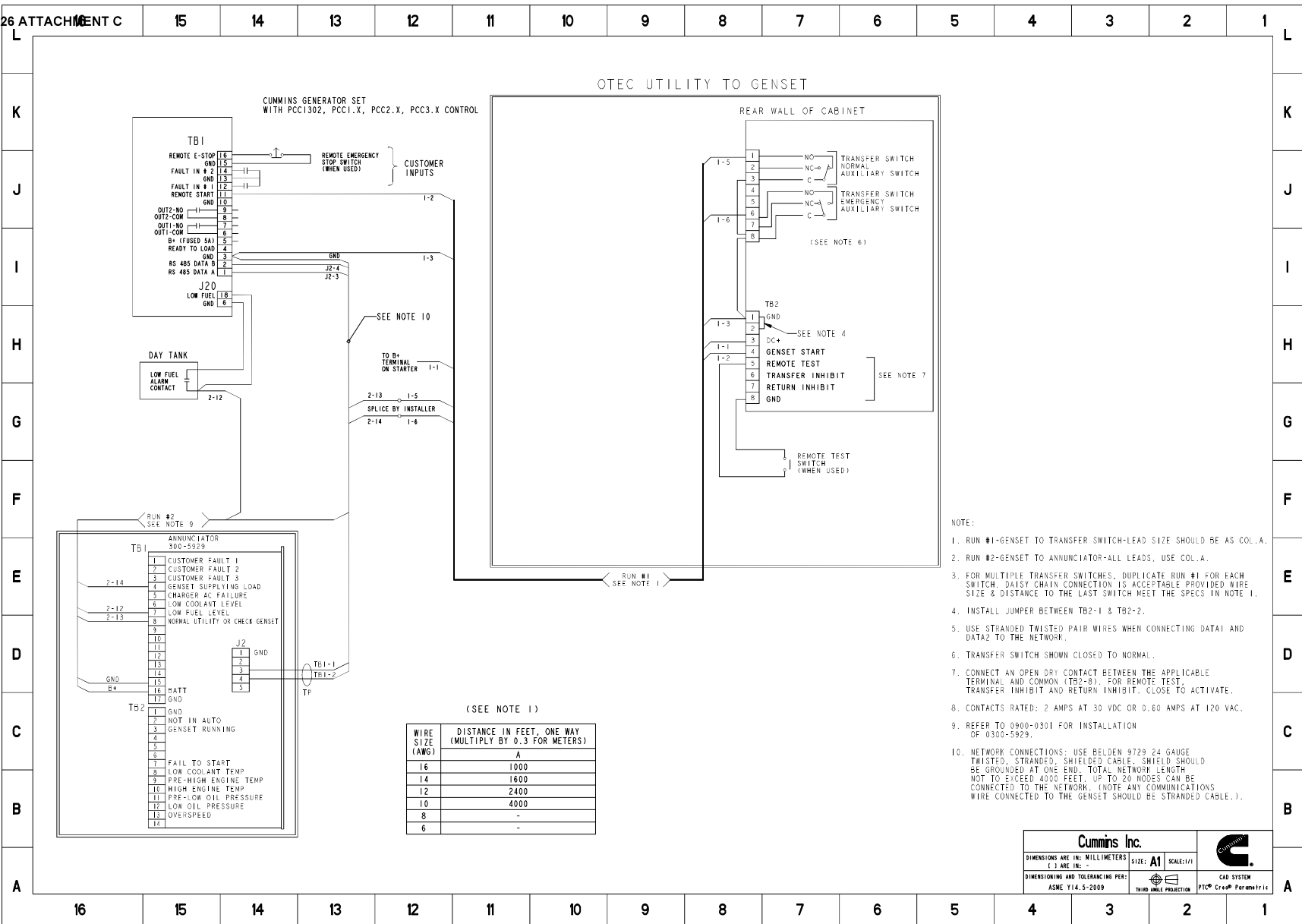
Cummins Inc.		
<small>CONNECTIONS ARE TO BE MADE TO THE FOLLOWING POINTS:</small> <small>1. 120V L-N UNITS</small> <small>2. 120V L-N UNITS</small> <small>3. 120V L-N UNITS</small> <small>4. 120V L-N UNITS</small> <small>5. 120V L-N UNITS</small> <small>6. 120V L-N UNITS</small> <small>7. 120V L-N UNITS</small> <small>8. 120V L-N UNITS</small> <small>9. 120V L-N UNITS</small> <small>10. 120V L-N UNITS</small> <small>11. 120V L-N UNITS</small> <small>12. 120V L-N UNITS</small> <small>13. 120V L-N UNITS</small> <small>14. 120V L-N UNITS</small> <small>15. 120V L-N UNITS</small>	<small>DATE: AO</small> <small>REVISION: 1</small> <small>GROUP: 1</small> <small>DATE: 11-12-2008</small> <small>GROUP: 1</small>	

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Part Number: **A074P733** Part Revision: **B**
 Part Name: **DIAGRAM,SCHEMATIC**
 Drawing Category: **Detail** State: **Released** Sheet 2 of 6



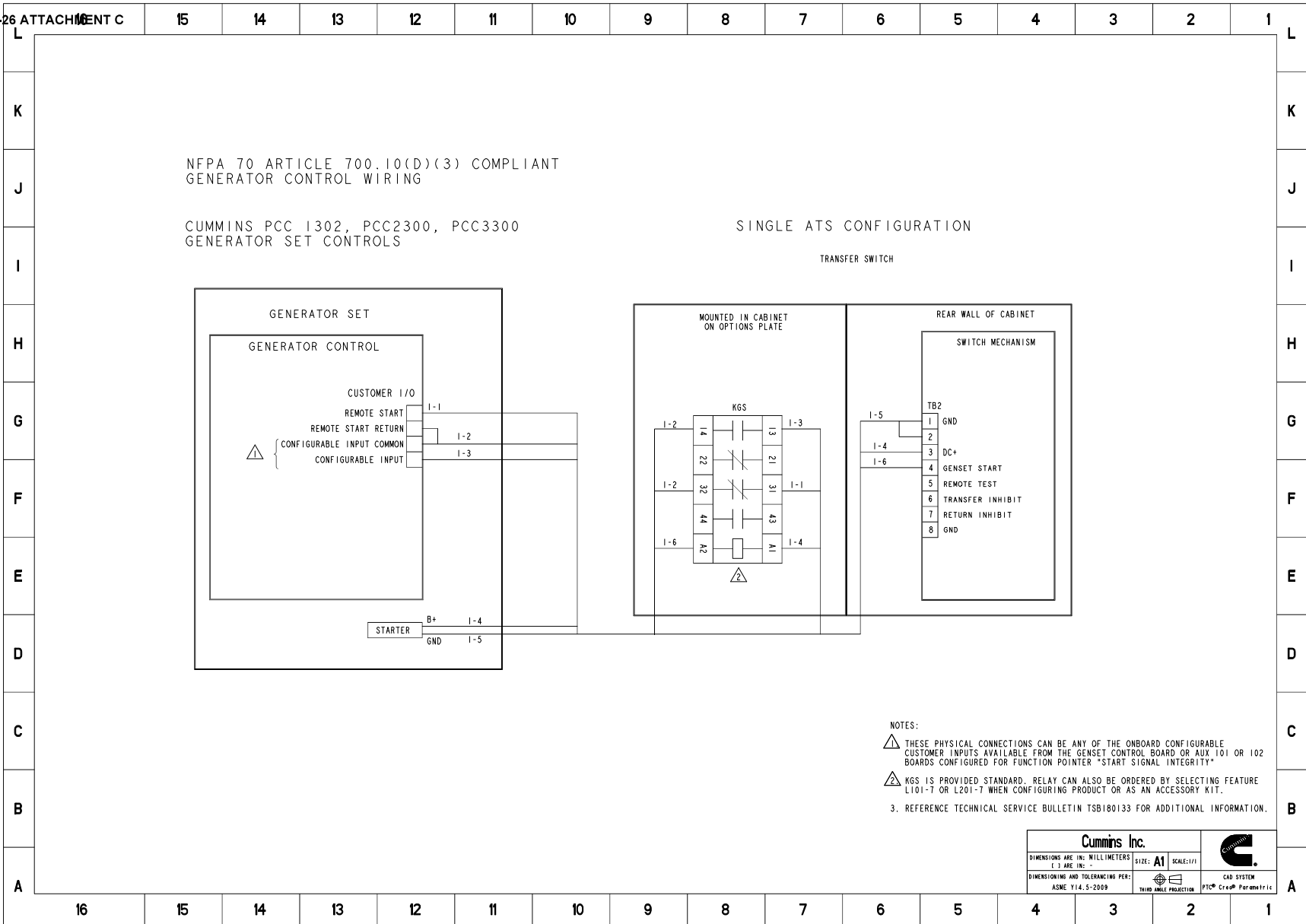


Cummins Inc.		
DIMENSIONS ARE IN: MILLIMETERS 1:8 ARE IN: -		
DIMENSIONING AND TOLERANCING PER: ASME Y14.5-2009	SIZE: A1 SCALE: 1/1	CAD SYSTEM PTC® Creo® Parametric

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Part Number: **A065H780** Part Revision: **B**
Part Name: **DIAGRAM,SCHEMATIC**
Drawing Category: **Detail** State: **Released** Sheet 10 of 14



Power Electronics Extended Warranty Statements

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Power Electronics Extended Warranty Statements

Feature Codes

G004

G006

G007

G008

G013



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Limited 2 Year Comprehensive Extended Warranty – G004

Transfer Switch and Paralleling Systems

When purchased, this limited extended warranty applies to all Cummins Power Generation® branded Transfer Switches, Paralleling Systems and associated accessories (hereinafter referred to as "Product").

This limited extended warranty covers any failures of the Product, under normal use and service, which result from a defect in material or factory workmanship.

Warranty Period:

The limited extended warranty start date is the date of commissioning[†], demonstration or 18 months after factory ship date, whichever is sooner. The coverage duration is 2 years from warranty start date.

[†] Date of commissioning not to exceed date of Generator Set initial start-up.

Cummins Power Generation® Responsibilities:

In the event of a failure of the Product during the limited extended warranty period due to defects in material or workmanship, Cummins Power Generation® will only be responsible for the following costs:

- All parts and labor required to repair the Product
- Reasonable travel expenses to and from the Product site location..

Owner Responsibilities:

The owner will be responsible for the following:

- Notifying Cummins Power Generation® distributor or dealer within 30 days of the discovery of failure.
- Installing, operating, commissioning and maintaining the Product in accordance with Cummins Power Generation®'s published policies and guidelines.
- Providing evidence for date of commissioning.
- Providing sufficient access to and reasonable ability to remove the Product from the installation in the event of a warrantable failure.

In addition, the owner will be responsible for:

- Incremental costs and expenses associated with Product removal and reinstallation resulting from non-standard installations.
- Costs associated with rental of power generating equipment used to replace the Product being repaired.
- Costs associated with labor overtime and premium shipping requested by the owner.
- All downtime expenses, fines, all applicable taxes, and other losses resulting from a warrantable failure.

Limitations:

This limited extended warranty does not cover Product failures resulting from:

- Inappropriate use relative to designated power rating.
- Inappropriate use relative to application guidelines.
- Non-conformance to applicable industry standards for installation
- Normal wear and tear.
- Improper and/or unauthorized installation.
- Owner's or operator's negligence, accidents or misuse.
- Lack of maintenance or unauthorized repair.
- Noncompliance with any Cummins Power Generation® published guideline or policy.
- Improper storage before and after commissioning.
- Owner's delay in making Product available after notification of potential Product problem.

PW1791-26 ATTACHMENT C

- Use of steel enclosures within 60 miles of the coast of salt water when aluminum or an alternate non-corrosive material enclosure option is available.
- Replacement parts and accessories not authorized by Cummins Power Generation®.
- Owner or operator abuse or neglect such as: late servicing and maintenance and improper storage.
- Damage to parts, fixtures, housings, attachments and accessory items that are not part of the transfer switch or paralleling system.

This limited extended warranty does not cover costs resulting from:

- Difficulty in gaining access to the Product.
- Repair of cosmetic damage to enclosures.

CUMMINS POWER GENERATION® RIGHT TO FAILED COMPONENTS:

Failed components claimed under warranty remain the property of Cummins Power Generation®. Cummins Power Generation® has the right to reclaim any failed component that has been replaced under warranty.

www.cumminspower.com

THE WARRANTIES SET FORTH HEREIN ARE THE SOLE WARRANTIES MADE BY CUMMINS POWER GENERATION® IN REGARD TO THE PRODUCT. CUMMINS POWER GENERATION® MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT IS CUMMINS POWER GENERATION® LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This limited extended warranty shall be enforced to the maximum extent permitted by applicable law. This limited warranty gives the owner specific rights that may vary from state to state or from jurisdiction to jurisdiction.

Product Model Number: _____

Product Serial Number: _____

Date in Service: _____